

PUBLIC NOTICE CHECK LIST

PROJECT #: S-511 PROJECT #: S-1123816

System ID#
CA 724903

REQST. COMPL.

ERC PRELIMINARY PUBLIC NOTICE

Newspaper Notice Emailed to Clerical (Check box and tab to generate Notice)

Send email to "OA-PublicNotices" containing the following:

SUBJECT: facility name, facility id#, project #, type of notice (prelim/final)

BODY: project description and why it is being noticed (Emission Reduction Credit Banking)

ENCLOSED DOCUMENTS REQUIRE:

- Enter Correct Date, Print All Documents from File and Obtain Director's Signature
- Determine date comment period will end, enter date on Newspaper Notice and Aviso en Español, and Email **PRELIMINARY** Newspaper Notice for Publication in Bakersfield Californian Pub Date: 5-31-16 Due Date: 10-31-16
- Mail/email **PRELIMINARY** Notice Letter to Applicant (email address: lance.ericksen@chevron.com) with the following attachments:

 - Application Evaluation
 - Newspaper Notice
- Email **PRELIMINARY** Public Notice package to EPA
- Email **PRELIMINARY** Public Notice package to CARB
- Email **PRELIMINARY** Newspaper Notice, Aviso en Español and Public Notice package to "webmaster"
- After posted on website, send email with weblink of Newspaper notice, Aviso en Español, and full public notice package to:

 - specific [C, S, or N] region **and** District wide permitting notification list-serves (both English and Spanish list serves)
 - facility specific distribution list, (AQE – enter email address from PAS facility details notifications tab, if none enter NONE below): [email address]
- Mail the newspaper notice and aviso en español (NN/AE), or full public notice package (FPNP) to the persons on facility specific distribution list, as follows (entered by AQE, if none, enter NONE below):

 - NN/AE or FPNP Name/address: [names]
 - NN/AE or FPNP Name/address: [names]
- Send **PRELIMINARY** Public Notice package to EDMS
- Other Special Instructions (please specify): _____

Date Completed [DATE COMPLETED] /By Dan Klevann

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Artemiza Velasco
SAN JOAQUIN VALLEY AIR POLL CONTROL DIST
1990 E. GETTYSBURG AVE.
FRESNO, CA 93726

CNS 2886724

COPY OF NOTICE

Notice Type: GPN GOVT PUBLIC NOTICE
Ad Description: ERC Preliminary Public Notice for Sycamore

To the right is a copy of the notice you sent to us for publication in the THE BAKERSFIELD CALIFORNIAN. Please read this notice carefully and call us with any corrections. The Proof of Publication will be filed with the County Clerk, if required, and mailed to you after the last date below. Publication date(s) for this notice is (are):

05/31/2016

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THE INTER-CITY EXPRESS, OAKLAND	(510) 272-4747

NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits to Sycamore Cogeneration Facility for reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs proposed for banking is 355,338 metric tons CO2/yr.

The analysis of the regulatory basis for this proposed action, Project #S-1123816, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and at any District office. For additional information, please contact the District at (661) 392-5500. Written comments on this project must be submitted by June 30, 2016 to ARNAUD MARJOLLET, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.
5/31/16
CNS-2886724#
THE BAKERSFIELD CALIFORNIAN



* A 0 0 0 0 0 4 1 1 3 5 6 8 *

Misa Velasco

From: Misa Velasco
Sent: Thursday, May 26, 2016 8:50 AM
To: Gerardo C. Rios - EPA (SJV_T5_Permits@epamail.epa.gov); Tung Le (tle@arb.ca.gov)
Cc: 'lance.ericksen@chevron.com'
Subject: ERC Preliminary Public Notice for Sycamore Cogeneration Facility, Project # S-1123816, Facility ID # S-511
Attachments: Preliminary.S-1123816.pdf; Newspaper.S-1123816_001.pdf
Importance: High

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits to Sycamore Cogeneration Facility for reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs proposed for banking is 355,338 metric tons CO₂e/yr.

Artemiza Velasco
Office Assistant II
San Joaquin Valley Air Pollution Control District
559-230-6009



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Misa Velasco

From: Microsoft Outlook
To: Gerardo C. Rios - EPA (SJV_T5_Permits@epamail.epa.gov)
Sent: Thursday, May 26, 2016 8:51 AM
Subject: Relayed: ERC Preliminary Public Notice for Sycamore Cogeneration Facility, Project # S-1123816, Facility ID # S-511

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

Gerardo C. Rios - EPA ([SJV T5 Permits@epamail.epa.gov](mailto:SJV_T5_Permits@epamail.epa.gov)) ([SJV T5 Permits@epamail.epa.gov](mailto:SJV_T5_Permits@epamail.epa.gov))
<[mailto:SJV T5 Permits@epamail.epa.gov](mailto:SJV_T5_Permits@epamail.epa.gov)>

Subject: ERC Preliminary Public Notice for Sycamore Cogeneration Facility, Project # S-1123816, Facility ID # S-511

Misa Velasco

From: Microsoft Outlook
To: 'lance.ericksen@chevron.com'
Sent: Thursday, May 26, 2016 8:50 AM
Subject: Relayed: ERC Preliminary Public Notice for Sycamore Cogeneration Facility, Project # S-1123816, Facility ID # S-511

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

'lance.ericksen@chevron.com' (lance.ericksen@chevron.com) <<mailto:lance.ericksen@chevron.com>>

Subject: ERC Preliminary Public Notice for Sycamore Cogeneration Facility, Project # S-1123816, Facility ID # S-511

Misa Velasco

From: Misa Velasco
Sent: Thursday, May 26, 2016 9:12 AM
To: WebTeam
Subject: valleyair.org update: ERC Preliminary Public Notice for Sycamore Cogeneration Facility, Facility ID # S-511, Project # S-1123816
Attachments: Preliminary.S-1123816.pdf; Newspaper.S-1123816_001.pdf; Aviso.S-1123816.pdf

May 26, 2016 (Facility S-511 Project S-1123816) NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits to Sycamore Cogeneration Facility for reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs proposed for banking is 355,338 metric tons CO₂e/yr. The comment period ends on June 30, 2016.

Newspaper Notice

Aviso

Public Notice Package

Artemiza Velasco
Office Assistant II
San Joaquin Valley Air Pollution Control District
559-230-6009



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**AVISO DE DECISIÓN PRELIMINAR
PARA LA PROPUESTA OTORGACIÓN DE
CERTIFICADOS DE REDUCCIÓN DE EMISIONES**

POR EL PRESENTE SE NOTIFICA que el Distrito Unificado para el Control de la Contaminación del Aire del Valle de San Joaquín está solicitando comentarios del público para la propuesta emisión de Certificados de Reducción de Emisiones (ERC, por sus siglas en inglés) a Sycamore Cogeneration Facility para la reducción de la operación permitida de cuatro motores de turbina de gasolina en in Central Kern County. La cantidad de ERCs propuestas para almacenar son 355,338 toneladas de CO₂e/año.

El análisis de la base regulatoria para esta acción propuesta, Proyecto #S-1123816, está disponible para la inspección pública en http://www.valleyair.org/notices/public_notices_idx.htm y en cualquiera de las oficinas del Distrito. Para más información en Español, por favor comuníquese con el Distrito al (661) 392-5500. Comentarios por escrito acerca de este propuesto permiso inicial deben de ser sometidos antes del 30 de Junio del 2016 a **ARNAUD MARJOLLET, DIRECTOR DEL DEPARTAMENTO DE PERMISOS, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

**NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
EMISSION REDUCTION CREDITS**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits to Sycamore Cogeneration Facility for reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs proposed for banking is 355,338 metric tons CO₂e/yr.

The analysis of the regulatory basis for this proposed action, Project #S-1123816, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and at any District office. For additional information, please contact the District at (661) 392-5500. Written comments on this project must be submitted by June 30, 2016 to **ARNAUD MARJOLLET, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

See Thao

From: notices_of_permitting_actions-all_regions@lists.valleyair.org
Sent: Tuesday, June 14, 2016 5:07 PM
To: See Thao
Subject: Public Notice on Permitting Action S-1123816
Attachments: ATT00001.txt

The District has posted a new permitting public notice. The public notice can be viewed on our website at: [http://www.valleyair.org/notices/Docs/2016/05-26-16_\(S-1123816\)/Newspaper.pdf](http://www.valleyair.org/notices/Docs/2016/05-26-16_(S-1123816)/Newspaper.pdf)

For a list of public notices and public notice packages, please visit our website at: http://www.valleyair.org/notices/public_notices_idx.htm#PermittingandEmissionReductionCreditCertificateNotices

Thank you.

Artemiza Velasco
Office Assistant II
San Joaquin Valley Air Pollution Control District
559-230-6009



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See Thao


From: avisos_sobre_acciones_de_permisos-todos-bounces@lists02.valleyair.org on behalf of avisos_sobre_acciones_de_permisos-todos@lists02.valleyair.org
Sent: Tuesday, June 14, 2016 5:08 PM
To: See Thao
Subject: Aviso Publico Sobre Acciones de Permisos S-1123816
Attachments: ATT00001.txt

El Distrito del Aire a publicado un nuevo aviso público de permiso. El aviso público se puede ver en nuestro sitio de web en: [http://www.valleyair.org/notices/Docs/2016/05-26-16_\(S-1123816\)/Aviso.pdf](http://www.valleyair.org/notices/Docs/2016/05-26-16_(S-1123816)/Aviso.pdf)

Para obtener una lista de avisos públicos y paquetes de avisos públicos, por favor visite nuestro sitio de web en: http://www.valleyair.org/notices/public_notices_idx.htm#PermittingandEmissionReductionCreditCertificateNotices

Gracias

Artemiza Velasco
Office Assistant II
San Joaquin Valley Air Pollution Control District
559-230-6009


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MAY 26 2016

Carolyn Grant
Sycamore Cogeneration Facility
P O Box 80598
Bakersfield, CA 93380

Re: Notice of Preliminary Decision – Emission Reduction Credits
Facility Number: S-511
Project Number: S-1123816

Dear Ms. Grant:

Enclosed for your review and comment is the District's analysis of Sycamore Cogeneration Facility's application for Emission Reduction Credits (ERCs) resulting from reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs proposed for banking is 355,338 metric tons CO₂e/yr.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice comment period, the District intends to issue the ERCs. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Dan Klevann of Permit Services at (661) 392-5500.

Sincerely,



Arnaud Marjollet
Director of Permit Services

AM:dk

Enclosures

cc: Tung Le, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

San Joaquin Valley Air Pollution Control District
ERC Application Review - Greenhouse Gases
Reduction in Gas Turbine Engine Use

Facility Name: Sycamore Cogeneration Company

Date: May 11, 2016

Mailing Address: P O Box 80598
Bakersfield, CA 93380

Engineer: Dan Klevann

Lead Engineer: *L. Scardina 5/11/16*

Contact Person: Neil Burgess

Telephone: (661) 615-4630

Project #: S-1123816

Received: December 27, 2011

Deemed Complete: March 10, 2014

ERC #: S-4320-24

I. Summary

Sycamore Cogeneration Company (Sycamore) has reduced permitted operation of four gas turbine engines (GTE) at their operation in the Kern River oilfield. Sycamore is requesting an emission reduction credit (ERC) banking certificate for CO₂e. The primary business of this facility is steam and electricity generation. Sycamore has also submitted an application to bank the emission reduction credits (ERCs) for the actual emission reductions (AER) of the NO_x emissions (ERC Project S-1114928).

Selection of Geographical Boundary for Determining Permanence of the GHG Emission Reduction

Rule 2301 contains several eligibility criteria for emission reduction credit banking, including that the emission reduction must be permanent. When determining the geographical boundary in which the emission reduction is determined to be permanent, the applicant may consider how the GHG ERC may likely be used.

Please note that while Rule 2301 allows facilities to receive ERCs for GHG emission reductions, the District does not have any requirements on the use of GHG ERCs. However, it is anticipated that the likely uses of such GHG ERCs would be their future retirement as GHG mitigation in the California Environmental Quality Act (CEQA) process.

Pursuant to CEQA, lead agencies must consider the environmental impact of GHG emissions from a project and may require that such GHG emissions be mitigated. In evaluating various mitigation techniques, including the retirement of GHG ERCs, the lead agency must determine if the proposed mitigation technique adequately mitigates the projects GHG emission increase.

When a lead agency determines if the retirement of a particular GHG ERC provides adequate GHG mitigation for a project, the lead agency may choose to consider the location where the GHG ERC was generated and the geographical boundary used to determine the permanence of the emission reduction. In making this determination, the lead agency may conclude that the retirement of a particular GHG ERC would provide adequate mitigation for projects within that same geographical boundary. Again, that determination will be made by the lead agency for any particular project.

For this application, the facility has selected California as the geographical boundary for which the emission reduction is permanent. Sycamore has provided data showing the decline in California Oil Production from 1995 to 2012. The power and steam produced by the GTE's was used for oil production in the Kern River oilfield(see Appendix B). Additionally, Sycamore is an entity covered by California Cap and Trade (AB32), AB32 requires California to return to 1990 levels of greenhouse gas emissions by 2020. This information validates California as the geographical boundary selection for a permanent GHG emission reduction.

The following emission reductions have been found to qualify for banking:

GHG ERCs		
ERC Certificate	Pollutant	Amount
S-4320-24	CO ₂ e	355,338 metric tons/year

II. Applicable Rules

Rule 2301 Emission Reduction Credit Banking (1/19/12)

III. Location of Reduction

The equipment is located at Sycamore's facility in the Kern River Oilfield within Chevron's Kern County Heavy Oil Central stationary source. The location is below.

ERC: S-4320-24

S-511-1: Section 31, Township 28S, Range 28E

S-511-2: Section 31, Township 28S, Range 28E

S-511-3: Section 31, Township 28S, Range 28E

S-511-4: Section 31, Township 28S, Range 28E

IV. Method of Generating Reductions

The emission reductions are being generated by reducing the allowable usage and resulting NOx emissions from the four natural gas fired GE gas turbines. This NOx limit is only achieved by reducing the fuel combusted in the turbines. The reduction in fuel burned results in a reduction in GHG produced.

Equipment Description

PTO	Equipment
S-511-1	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #1)
S-511-2	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #2)
S-511-3	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #3)
S-511-4	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #4)

V. Calculations

A. Assumptions and Emission Factors

Assumptions

The actual emissions will be calculated annually in the baseline period. The Historical Actual Emissions (HAE) will be calculated using actual fuel use data and actual CO₂ source test emissions factors.

The applicant provided monthly fuel use data for the subject GTE's.

- Units of GHG AER is metric tons of CO₂e per year, rounded to the nearest metric ton
- 1,000 kg = 1 metric ton = 2,205 lbs.
- 1 therm of Natural Gas = 100 scf
- The facility provided actual CO₂ emissions from source tests (see values below). The CH₄ and N₂O portions were not supplied. Therefore, the CH₄ and N₂O portions will not be included in the historical actual emissions calculations.
- The District standard CO₂e emission factor including CH₄ and N₂O portions will be used to calculate the post project potential CO₂e emissions.

Emission Factors (EF)

The facility has provided source test results(see Appendix C) encompassing the baseline period which shows the CO₂ emission factors. We will use the actual CO₂ source test values for calculating the amount of baseline emissions from each unit.

Unit	S-511-1	S-511-2	S-511-3	S-511-4
Source Test	CO ₂ lb/MMBtu			
2/28/06	122	123	122	123
2/20/07	125	126	126	126
4/24/08	119	124	119	118

The District standard CO₂e equivalent emission factor is from the District's Spreadsheet "ARB – Greenhouse Gas Emissions factors" will be used to calculate post project potential CO₂e emissions and is listed below.

$$EF_{CO_2e} = 52.9199 \text{ KG/MMBtu}$$

$$EF_{CO_2e} = 52.9199 \text{ KG/MMBtu} \times (1 \text{ metric ton} / 1000 \text{ kg})$$

$$EF_{CO_2e} = 0.0529 \text{ metric tons/MMBtu}$$

B. Baseline Period Determination

Pursuant to Rule 2301 section 4.5.4, the Baseline Period is the following:

The consecutive 24 month period immediately prior to the date the emission reduction occurred, or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred.

The original ERC Banking Project S-511, 1114928 specified the baseline period. Since the District has already established this as the correct baseline period for the criteria pollutant emission reductions that have already been evaluated and issued, the same baseline period is used for this evaluation.

The following baseline period was calculated (See fuel usage records in Appendix D, Calculations in Appendix E).

Baseline Period		
Location	Permit Unit	Dates
Sycamore Cogeneration (S31, T28S, R28E)	S-511-1	January 2007 – December 2008
	S-511-2	
	S-511-3	
	S-511-4	

C. Baseline Data

The baseline fuel use is determined from the fuel usage records supplied by the applicant(Appendix D).

Baseline Fuel Usage	
Year	Annual Fuel Use (MMBtu)
2007	32,542,838
2008	26,462,122

D. Historical Actual Emissions (HAE)

The HAE from the fuel use is determined by multiplying the fuel-use by the appropriate emission factor from the source test as presented above. The emission factor changes with the source tests as well as with each turbine. Therefore, the HAE will be calculated each month and added together for the yearly HAE. The emissions from each turbine will be calculated and added together to find the total actual annual emissions for the baseline

period then the 2-yr baseline period will be averaged for the yearly actual emissions. A sample calculation is shown below. The full calculations are in Appendix E.

Sample calculation:

Permit S-511-1, January, 2007:

$$\text{CO}_2\text{e} = [(\text{EF}) \times (\text{Fuel Heat Input})]$$

$$\text{CO}_2\text{e} = [(122 \text{ lb/MMbtu}) \times (742,580 \text{ MMbtu}) = 90,594,760 \text{ lb CO}_2\text{e}$$

CO ₂ e HAE		
Total HAE	3,659,338,254	Lb CO ₂ e/yr
Total HAE	1,659,564	Mt CO ₂ e/yr

E. Post Project Potential to Emit (PE2)

As discussed above, the turbines in this project have an annual specific limiting condition on all four units of 271,200 lb NOx/yr. (see Appendix A). The CO₂e emissions are calculated by using the NOx limit, CO₂e emission factor, and NOx emission factor. The potential emissions from all four turbines are 1,304,225 Mt Co₂e / yr. (see Appendix E).

F. Emission Reductions Eligible for Banking

The emission reductions eligible for banking are the difference between the historical actual emissions and the potential to emit after the project.

$$\begin{aligned} \text{ERCs eligible for banking} &= 1,659,564 \text{ Mt CO}_2\text{e/year} - 1,304,225 \text{ Mt CO}_2\text{e/year} \\ &= 355,338 \text{ Mt CO}_2\text{e/year} \end{aligned}$$

VI. Compliance

Rule 2301 – Emission Reduction Credit Banking

Per District Rule Section 4.5, the following criteria must be met in order to deem such reductions eligible for banking:

4.5.1 The greenhouse gas emission reduction must have actually occurred on or after January 1, 2005, except as allowed in specific CARB approved GHG emission reduction project protocols.

The emission reductions occurred when the facility had stopped operating the turbines in a full time status. Sycamore had applied to change the permits in December 2011. As the emission reduction occurred after 1/1/05, this criteria has been satisfied.

4.5.2 The greenhouse gas emission reductions must have occurred within the San Joaquin Valley Unified Air Pollution Control District.

The emissions occurred at Sycamore's facility in the Kern River Oilfield within Chevron's Kern County Heavy Oil Central stationary source. Since this location is within the District, this criteria has been satisfied.

4.5.3 The greenhouse gas emission reductions are real, surplus, permanent, quantifiable, and enforceable, except as provided in Section 4.5.5.

Real:

The GHG emission reductions were generated by limitations of operation of the GTE's. The AER quantified above are based on actual, historical emissions and were calculated from actual fuel use data and source tests emission factors. The gas turbines have a new annual NOx emission limitation that inherently limits fuel use. Therefore, the AER due to limiting the turbines operation is real.

Surplus:

The facility is subject to the CARB cap and trade regulation; however, the reductions occurred prior January 1, 2012; therefore, the emission reductions satisfy the surplus requirement in Section 4.5.3.1.

The facility is subject to the CARB cap and trade regulation; however, the reductions occurred prior to the baseline period of cap and trade. Therefore, the emission reductions satisfy the surplus requirement in Section 4.5.3.2.

The emission reductions are not the result of an action taken by the permittee to comply with any requirement. The emission reductions are surplus and additional of all requirements. Therefore, the emission reductions satisfy the surplus requirement in section 4.5.3.4.

The Certificates will be identified according to Section 6.15.3 below.

Permanent:

When determining the geographical boundary in which the emission reduction is determined to be permanent, the applicant may consider how the GHG ERC may likely be used.

Please note that the while Rule 2301 allows facilities to receive ERCs for GHG emission reductions, the District does not have any requirements on the use of GHG ERCs. However, it is anticipated that the likely uses of such GHG ERCs would be their future retirement as GHG mitigation in the CEQA process.

Pursuant to CEQA, lead agencies must consider the environmental impact of GHG emissions from a project and may require that such GHG emissions be mitigated. In evaluating various mitigation techniques, including the retirement of GHG ERCs, the lead agency must determine if the proposed mitigation technique adequately mitigates the projects GHG emission increase.

When a lead agency determines if the retirement of a particular GHG ERC provides adequate GHG mitigation for a project, the lead agency may choose to consider the location where the GHG ERC was generated and the geographical boundary used to determine the permanence of the emission reduction. Then in making this determination, the lead agency may conclude that the retirement of a particular GHG ERC would provide adequate mitigation for projects within that same geographical boundary. Again, that determination will be made by the lead agency for a particular project.

Sycamore has selected California as the geographical boundary for which the emission reduction is permanent. Sycamore/Chevron has provided information verifying that the total oil production in the state of California has been in decline since 1985 (see graph in Appendix C). Additionally, Sycamore/Chevron is subject to the California Cap-and-Trade regulation which requires Chevron to reduce or mitigate a permanent reduction in GHG emissions. The combination of the decline in oil production in California and the reductions required by California's Cap-and-Trade regulation verify that the reductions are permanent within California. The geographical boundary for the ERCs will be the State of California and the ERC will include the following identifier:

"Shutdown of the gas turbines are verified as permanent within the State of California"

Quantifiable:

The actual emissions were calculated from historic fuel-use records and accepted emission factors. Therefore, the emission reductions are quantifiable and have been quantified.

Enforceable:

The gas turbines have an annual NOx emission limit on their permits which limits the fuel used in the turbines. Operation of the equipment resulting in NOx emissions over the allowable annual limit would subject the permittee to enforcement action. Therefore, the emission reductions are enforceable.

- 4.5.4** Greenhouse gas emission reductions are calculated as the difference between the historic annual average greenhouse gas emissions (as CO2E) calculated using the consecutive 24 month period immediately prior to the date the emission reduction occurred, or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred if determined by the APCO as being more representative of normal operations, and the potential greenhouse gas emissions (as CO2E) after the project is complete, except as provided in section 4.5.5.

The GHG emission reductions were calculated according to the baseline period identified above. The turbines have permit conditions which restrict the NOx emissions and thus the GHG emissions from the four combined units. The post-project GHG emissions are calculated above.

- 4.5.5** Greenhouse gas emission reductions proposed to be quantified using CARB approved emission reduction project protocols shall be calculated in accordance with the applicable protocol.

Since the GHG emission reductions are not subject to an applicable CARB-approved emission reduction project protocol, this section is not applicable.

- 4.5.6** Emission reduction credits shall be made enforceable through permit conditions. If the District, pursuant to state laws, is prohibited from permitting the emission unit, the source creating the greenhouse gas emission reduction shall execute a legal binding contract with the District which ensures that the emission reductions will be generated in accordance with the provisions of this rule, and shall continue for the reasonably

The steam turbines hold a legal District operating permit. Since the operation of the steam turbines more than the allowable NOx limit would require a new Authority to Construct, as discussed above the emission reduction is enforceable.

Section 5 identifies ERC Certificate application procedures.

Section 5.5.2 requires, for emission reductions occurring prior to 1/19/12, applications for ERCs must be submitted by 7/19/12.

The greenhouse gas ERC application was submitted on 12/27/2011 as part of project S1114928, therefore the application is timely.

Section 6.15 specifies the registration requirements for GHG ERCs.

Section 6.15.13 requires, the emission reductions are surplus and additional of all requirements pursuant to Section 4.5.3.4. Therefore the ERC certificate shall include the following notation:

“This emission reduction is surplus and additional to all applicable regulatory requirements.”

Compliance with Rule 2301 has been demonstrated and no adjustments are required under this Rule.

VII. Recommendation

Issue the ERC Certificate in the amount posted in the table below and on the Draft ERC Certificate in Appendix F.

GHG ERCs		
ERC Certificate	Pollutant	Amount
S-4320-24	CO ₂ e	355,338 metric tons/year

List of Appendixes

- A. Current PTO's
- B. California production
- C. Source Test Data
- D. Fuel use data
- E. Calculations
- F. Draft ERC

Appendix A
Current PTO

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-1-17

EXPIRATION DATE: 11/30/2015

SECTION: 31 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #1)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration . [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
51. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
52. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

53. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
55. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
56. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
57. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
59. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
60. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
61. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
63. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
64. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
65. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

66. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
67. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
68. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
70. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. Compliance with permit conditions in the Title V permit shall be deem compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-2-18

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #2)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration . [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NOx, CO and O2 or CO2 concentration. [District Rule 2201] Federally Enforceable Through Title V Permit
51. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
52. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
53. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

54. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
56. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
57. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
59. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
60. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
61. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
63. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
64. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
65. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
66. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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67. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
68. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
71. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
74. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-3-18

EXPIRATION DATE: 11/30/2015

SECTION: 31 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #3)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
9. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NOx, CO and O2 or CO2 concentration. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
21. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
22. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
23. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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24. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
26. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
27. Source testing to determine NO_x and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The owner or operator shall provide source test information annually regarding the exhaust gas NO_x and CO concentration corrected to 15% O₂ (dry). EPA Methods 7E or 20 shall be used for NO_x emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
29. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
30. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
31. The operator shall perform source testing for PM₁₀ concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
32. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
34. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
35. Continuous emission monitoring system for NO_x as NO₂ and continuous monitoring system for CO & CO₂ shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
36. The continuous NO_x and O₂ monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
37. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

38. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NO_x, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O₂, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit
39. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
40. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
41. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NO_x and O₂ or CO₂ concentration . [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
42. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
43. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
44. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
45. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
46. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
47. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
48. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
49. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
50. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
51. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
52. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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53. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit
54. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
56. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
57. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
59. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
60. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
61. The APCO shall be notified no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
62. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
63. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
64. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
65. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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66. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
67. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit
68. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
69. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
72. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
74. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
75. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-4-17

EXPIRATION DATE: 11/30/2015

SECTION: 31 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #4)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
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11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration . [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
51. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
52. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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53. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
55. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
56. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
57. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
59. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
60. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
61. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
63. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
64. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
65. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

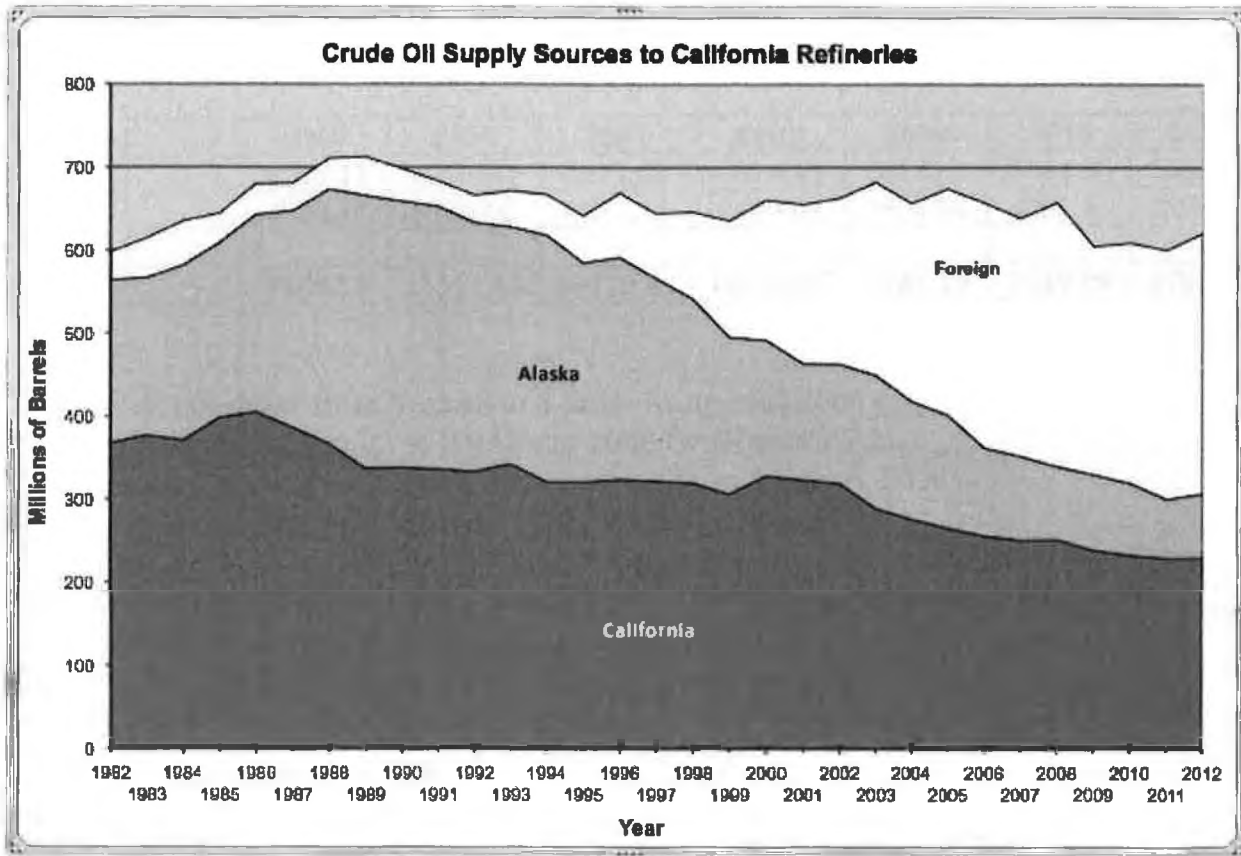
66. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
67. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
68. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

Appendix B
California production

ATTACHMENT 1

Oil Production Graph



http://energyalmanac.ca.gov/petroleum/statistics/crude_oil_receipts.html

ATTACHMENT 2

Historical Fuel Use from Steam Generators/Turbines at S-1127 & S-1131 (Fuel in mmcf)

Facility	2205	2006	2007	2008	2009	2010	2011
S-1127	5237.11	5015.33	3871.22	3911.45	3681.65	3684.86	3540.13
S-1131	4232.48	6496.02	6447.84	6400.62	3854.54	4265.13	3225.11
TOTAL	9469.59	11511.35	10319.06	10312.07	7536.19	7949.99	6765.24

Notes:

- 1) KRCC (S-88) went from 4 units to 3 units in August 2005
- 2) KRCC went from 3 units to 2 units in 2006 (with new PPA)
- 3) Sycamore (S-511) went from 4 units to 3 units in January 2008
- 4) Sycamore went from 3 units to 2 units in 2010 (new PPA)
- 5) Data for S-1131 for 2006 has been adjusted (appears to have been a transposition error in annual emissions inventory)

Appendix C
Source Test Data

TABLE 2-2
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
HRSG OUTLET STACK UNIT NO. 1
AUTHORITY TO CONSTRUCT NO. S-511-1-10
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
MARCH 2, 2006

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0318	0.0317	0.0322	0.0319
lb/MMscf	33.2	33.1	33.6	33.3
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0072	0.0069	0.0066	0.0069
lb/MMscf	7.53	7.21	6.92	7.22
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	121	122	123	122
lb/MMscf	126,029	127,555	128,813	127,466

TABLE 2-5
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-2-10
HRSG OUTLET STACK UNIT NO. 2
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
MARCH 1, 2006

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0249	0.0244	0.0244	0.0246
lb/MMscf	26.0	25.5	25.4	25.6
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0061	0.0066	0.0066	0.0064
lb/MMscf	6.34	6.93	6.92	6.73
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	123	124	123	123
lb/MMscf	128,668	129,052	128,013	128,578

TABLE 2-8
 REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
 AUTHORITY TO CONSTRUCT NO. S-511-3-10
 HRSG OUTLET STACK UNIT NO. 3
 SYCAMORE COGENERATION COMPANY
 BAKERSFIELD, CALIFORNIA
 FEBRUARY 28, 2006

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0318	0.0317	0.0322	0.0319
lb/MMscf	33.2	33.1	33.6	33.3
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0072	0.0069	0.0066	0.0069
lb/MMscf	7.53	7.21	6.92	7.22
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	121	122	123	122
lb/MMscf	126,029	127,555	128,813	127,466

TABLE 2-11
 REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
 AUTHORITY TO CONSTRUCT NO. S-511-4-10
 HRSG OUTLET STACK UNIT NO. 4
 SYCAMORE COGENERATION COMPANY
 BAKERSFIELD, CALIFORNIA
 FEBRUARY 28, 2006

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0317	0.0324	0.0320	0.0320
lb/MMscf	33.0	33.8	33.4	33.4
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0114	0.0110	0.0111	0.0112
lb/MMscf	11.91	11.53	11.60	11.68
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	123	123	123	123
lb/MMscf	128,172	128,604	128,760	128,512

TABLE 2-1
COMPLIANCE DATA SUMMARY
HRSG OUTLET STACK UNIT NO. 1
AUTHORITY TO CONSTRUCT NO. S-511-1-10
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 20, 2007

Parameter	Run 1	Run 2	Run 3	Average	Limits
<u>Oxygen (O₂)</u>					
%	14.82	14.87	14.88	14.86	
<u>Nitrogen Oxides (NO_x)</u>					
ppm	8.92	9.04	9.02	8.99	
ppm @ 15% O ₂	8.66	8.84	8.84	8.78	16.4
lb/hr	26.3	26.7	26.6	26.5	79.7
lb/day	632	640	639	637	1629.6
lb/MMBtu	0.0318	0.0325	0.0325	0.0323	
lb/MMscf	32.8	33.5	33.5	33.2	
<u>Carbon Monoxide (CO)</u>					
ppm	0.59	0.53	0.46	0.53	
ppm @ 15% O ₂	0.58	0.51	0.45	0.51	25.0
lb/hr	1.07	0.95	0.83	0.95	44.0
lb/day	25.6	22.7	20.0	22.8	1,056
lb/MMBtu	0.0013	0.0012	0.0010	0.0012	
lb/MMscf	1.33	1.19	1.05	1.19	
<u>Carbon Dioxide (CO₂)</u>					
%	3.67	3.65	3.63	3.65	
lb/hr	103,637	103,241	102,534	103,137	
lb/day	2,487,280	2,477,787	2,460,817	2,475,295	
lb/MMBtu	125	125	125	125	
lb/MMscf	128,929	128,930	128,930	128,930	
<u>Gas Turbine Efficiency</u>					
(EEF ₁)	33.0	32.8	33.0	32.9	
<u>Mega Watts</u>					
MW	78.9	78.8	79.1	78.9	

TABLE 2-3
COMPLIANCE DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-2-12
HRSG OUTLET STACK UNIT NO. 2
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 20, 2007

Parameter	Run 1	Run 2	Run 3	Average	Limits
<u>Oxygen (O₂)</u>					
%	15.09	15.09	15.09	15.09	
<u>Nitrogen Oxides (NO_x)</u>					
ppm	9.40	9.42	9.52	9.45	
ppm @ 15% O ₂	9.55	9.57	9.67	9.59	16.4
lb/hr	29.5	29.6	30.2	29.8	79.7
lb/day	709	711	725	715	1629.6
lb/MMBtu	0.0351	0.0352	0.0355	0.0353	
lb/MMscf	36.1	36.2	36.6	36.3	
<u>Carbon Monoxide (CO)</u>					
ppm	2.84	2.59	2.66	2.70	
ppm @ 15% O ₂	2.88	2.63	2.70	2.74	25.0
lb/hr	5.44	4.96	5.14	5.18	44.0
lb/day	130	119	123	124	1,056
lb/MMBtu	0.0065	0.0059	0.0060	0.0061	
lb/MMscf	6.64	6.06	6.22	6.31	
<u>Carbon Dioxide (CO₂)</u>					
%	3.53	3.52	3.52	3.52	
lb/hr	106,150	105,850	106,801	106,267	
lb/day	2,547,608	2,540,391	2,563,216	2,550,405	
lb/MMBtu	126	126	126	126	
lb/MMscf	129,759	129,392	129,392	129,514	
<u>Gas Turbine Efficiency</u>					
(BEF _i)	31.5	31.5	31.2	31.4	
<u>Mega Watts</u>					
MW	78.3	77.8	77.7	77.9	

TABLE 2-5
COMPLIANCE DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-3-12
HRSG OUTLET STACK UNIT NO. 3
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 21, 2007

Parameter	Run 1	Run 2	Run 3	Average	Limits
<u>Oxygen (O₂)</u>					
%	15.02	15.04	15.06	15.04	
<u>Nitrogen Oxides (NO_x)</u>					
ppm	8.49	8.41	8.40	8.43	
ppm @ 15% O ₂	8.52	8.47	8.48	8.49	16.4
lb/hr	27.8	27.6	27.4	27.6	79.7
lb/day	668	661	657	662	1629.6
lb/MMBtu	0.0313	0.0311	0.0312	0.0312	
lb/MMscf	32.2	32.0	32.1	32.1	
<u>Carbon Monoxide (CO)</u>					
ppm	2.77	2.71	2.37	2.61	
ppm @ 15% O ₂	2.77	2.73	2.39	2.63	25.0
lb/hr	5.52	5.40	4.69	5.20	44.0
lb/day	132.4	129.7	112.6	124.9	1,056
lb/MMBtu	0.0062	0.0061	0.0053	0.0059	
lb/MMscf	6.39	6.28	5.50	6.06	
<u>Carbon Dioxide (CO₂)</u>					
%	3.55	3.56	3.55	3.55	
lb/hr	111,143	111,738	110,550	111,144	
lb/day	2,667,421	2,681,718	2,653,202	2,667,447	
lb/MMBtu	125	126	126	126	
lb/MMscf	128,781	129,662	129,662	129,369	
<u>Gas Turbine Efficiency</u>					
(EEF ₁)	32.9	32.9	32.8	32.9	
<u>Mega Watts</u>					
M W	85.8	85.4	84.3	85.2	

TABLE 2-7
COMPLIANCE DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-4-10
HRSG OUTLET STACK UNIT NO. 4
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 22, 2007

Parameter	Run 1	Run 2	Run 3	Average	Limits
<u>Oxygen (O₂)</u>					
%	14.97	15.00	15.03	15.00	
<u>Nitrogen Oxides (NO_x)</u>					
ppm	8.60	8.41	8.19	8.40	
ppm @ 15% O ₂	8.56	8.41	8.23	8.40	16.4
lb/hr	27.3	26.7	26.2	26.7	79.7
lb/day	654	640	628	641	1629.6
lb/MMBtu	0.0315	0.0309	0.0303	0.0309	
lb/MMscf	32.4	31.8	31.1	31.8	
<u>Carbon Monoxide (CO)</u>					
ppm	1.36	1.21	1.17	1.25	
ppm @ 15% O ₂	1.35	1.21	1.18	1.25	25.0
lb/hr	2.63	2.34	2.28	2.41	44.0
lb/day	63.0	56.1	54.6	57.9	1,056
lb/MMBtu	0.0030	0.0027	0.0026	0.0028	
lb/MMscf	3.12	2.79	2.71	2.87	
<u>Carbon Dioxide (CO₂)</u>					
%	3.58	3.57	3.57	3.57	
lb/hr	108,583	108,280	109,120	108,661	
lb/day	2,606,002	2,598,723	2,618,878	2,607,868	
lb/MMBtu	125	126	126	126	
lb/MMscf	128,934	129,888	129,888	129,570	
<u>Gas Turbine Efficiency</u>					
(EEF ₁)	33.4	33.2	32.5	33.0	
<u>Mega Watts</u>					
MW	86.1	84.0	82.2	84.1	

TABLE 2-2
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
HRSG OUTLET STACK UNIT NO. 1
AUTHORITY TO CONSTRUCT NO. S-511-1-12
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
JUNE 11, 2008

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0121	0.0123	0.0123	0.0122
lb/MMscf	12.1	12.3	12.3	12.2
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0068	0.0071	0.0073	0.0071
lb/MMscf	6.85	7.08	7.34	7.09
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	118	119	118	119
lb/MMscf	118,654	119,508	118,907	119,023
<u>Volatile Organic Compounds (C₁-C₆, as methane)</u>				
lb/MMBtu	ND<0.0012	ND<0.0012	ND<0.0012	ND<0.0012
lb/MMscf	ND<1.2	ND<1.2	ND<1.2	ND<1.2

TABLE 2-5
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-2-13
HRSG OUTLET STACK UNIT NO. 2
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
APRIL 24, 2008

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0118	0.0120	0.0118	0.0119
lb/MMscf	11.86	12.09	11.83	11.93
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0088	0.0075	0.0066	0.0076
lb/MMscf	8.81	7.56	6.62	7.66
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	124	125	124	124
lb/MMscf	124,277	125,062	124,161	124,500
<u>Volatile Organic Compounds (C₁-C₆, as methane)</u>				
lb/MMBtu	ND<0.0013	ND<0.0013	ND<0.0013	ND<0.0013
lb/MMscf	ND<1.31	ND<1.31	ND<1.31	ND<1.31

TABLE 2-8
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-3-13
HRSG OUTLET STACK UNIT NO. 3
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
MAY 20, 2008

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0112	0.0112	0.0113	0.0112
lb/MMscf	11.23	11.25	11.34	11.27
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0024	0.0020	0.0019	0.0021
lb/MMscf	2.36	2.00	1.90	2.09
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	119.4	119.4	119.4	119.4
lb/MMscf	119,890	119,838	119,894	119,874
<u>Volatile Organic Compounds (C₁-C₄, as methane)</u>				
lb/MMBtu	ND<0.0013	ND<0.0013	ND<0.0013	ND<0.0013
lb/MMscf	ND<1.31	ND<1.31	ND<1.31	ND<1.31

TABLE 2-2
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
HRSG OUTLET STACK UNIT NO. 1
AUTHORITY TO CONSTRUCT NO. S-511-1-12
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
APRIL 24, 2008

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0115	0.0115	0.0116	0.0115
lb/MMscf	11.51	11.58	11.66	11.58
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0095	0.0091	0.0088	0.0091
lb/MMscf	9.51	9.15	8.84	9.16
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	119	119	118	118
lb/MMscf	119,489	118,991	118,393	118,958
<u>Volatile Organic Compounds (C₁-C₆ as methane)</u>				
lb/MMBtu	ND<0.0012	ND<0.0012	0.0022	0.0015
lb/MMscf	ND<1.2	ND<1.2	2.21	1.54

Appendix D
Fuel Use Data

	MMBtu				Total all 4 units					
	Unit 1	Unit 2	Unit 3	Unit 4		Source test	Unit1	Unit 2	Unit 3	Unit4
Jan-97	713,232	668,348	755,824	707,797	2,845,201					
Feb-97	407,072	595,313	651,484	592,355	2,246,224					
Mar-97	159,405	662,182	729,357	654,979	2,205,923					
Apr-97	683,355	602,181	668,509	475,715	2,429,760					
May-97	693,766	597,327	693,348	242,313	2,226,754	2/28/2006	122	123	122	123 lb CO2/ MMBtu
Jun-97	653,569	581,074	648,550	614,005	2,497,198	2/22/2007	125	126	126	126 lb CO2/ MMBtu
Jul-97	695,939	645,442	694,804	616,528	2,652,713	4/24/2008	119	124	119	118 lb CO2/ MMBtu
Aug-97	714,053	653,390	707,375	707,293	2,782,111					
Sep-97	685,977	618,076	673,842	677,523	2,655,418					
Oct-97	700,139	46,268	669,726	715,476	2,131,609					
Nov-97	624,217	577,494	649,417	665,287	2,516,415					
Dec-97	707,084	726,648	717,122	694,384	2,845,238					
Jan-98	721,913	707,341	719,567	723,037	2,871,858					
Feb-98	630,760	655,947	642,254	641,911	2,570,872					
Mar-98	698,238	707,178	694,684	716,927	2,817,027					
Apr-98	696,728	706,008	682,443	702,492	2,787,671					
May-98	692,721	705,959	690,982	683,547	2,773,209					
Jun-98	682,125	689,424	683,056	688,902	2,743,507					
Jul-98	684,488	689,056	664,672	695,025	2,733,241					
Aug-98	686,091	696,754	677,177	694,290	2,754,312					
Sep-98	652,143	673,156	662,708	668,576	2,656,583					
Oct-98	706,794	694,540	647,967	711,645	2,760,946					
Nov-98	689,218	709,098	681,985	705,436	2,795,737					
Dec-98	716,760	724,118	737,561	734,381	2,912,820					
Jan-99	640,123	702,953	689,275	710,943	2,743,294					
Feb-99	655,186	650,585	638,208	653,925	2,597,904					
Mar-99	70,368	701,521	706,330	620,101	2,098,320					
Apr-99	697,951	682,128	687,248	699,305	2,766,632					
May-99	696,247	675,224	678,873	685,628	2,735,972					
Jun-99	668,632	677,895	662,772	670,828	2,680,127					
Jul-99	693,825	690,814	686,354	688,607	2,759,600					
Aug-99	691,514	689,999	691,797	689,538	2,762,848					
Sep-99	669,024	666,505	652,116	670,854	2,658,499					
Oct-99	693,157	589,423	691,093	672,367	2,646,040					
Nov-99	705,313	701,239	686,788	694,693	2,788,033					
Dec-99	726,232	678,818	707,639	700,126	2,812,815					
Jan-00	723,877	714,036	708,708	705,560	2,852,181					
Feb-00	658,116	672,480	671,775	614,843	2,617,214					
Mar-00	721,557	700,256	717,107	715,723	2,854,643					
Apr-00	673,924	672,846	618,061	673,936	2,638,767					
May-00	711,231	703,424	573,430	696,500	2,684,585					
Jun-00	641,356	648,017	657,303	633,140	2,579,816					
Jul-00	695,082	691,797	704,676	665,509	2,757,064					
Aug-00	689,033	696,826	709,579	694,560	2,789,998					
Sep-00	679,367	675,264	688,213	672,377	2,715,221					
Oct-00	690,004	716,758	716,785	707,388	2,830,935					
Nov-00	678,883	702,771	710,839	618,249	2,710,742					
Dec-00	687,522	684,296	689,705	679,085	2,740,608					
Jan-01	554,752	708,101	712,481	701,027	2,676,361					
Feb-01	606,138	605,289	598,275	422,089	2,231,791					
Mar-01	611,549	611,704	616,688	616,443	2,456,384					
Apr-01	679,435	512,681	631,872	659,051	2,483,039					
May-01	700,769	713,956	698,119	689,208	2,802,052					
Jun-01	672,439	676,363	665,834	661,331	2,675,967					
Jul-01	660,995	679,800	655,833	644,905	2,641,533					
Aug-01	687,832	701,556	686,171	683,456	2,759,015					
Sep-01	657,125	673,719	652,118	654,227	2,637,189					
Oct-01	689,040	694,638	681,344	671,601	2,736,623					
Nov-01	674,539	692,491	671,726	664,427	2,703,183					
Dec-01	728,978	485,195	711,344	715,931	2,641,448					
Jan-02	724,733	739,693	726,791	713,937	2,905,154					
Feb-02	641,946	662,873	641,434	628,142	2,574,395					
Mar-02	713,569	735,761	720,485	716,669	2,886,484					
Apr-02	687,193	701,733	562,663	678,108	2,629,697					
May-02	684,675	702,134	421,252	676,848	2,484,909					
Jun-02	665,835	675,947	710,142	660,106	2,712,030					
Jul-02	677,152	694,601	722,426	674,161	2,768,340					
Aug-02	672,581	693,908	719,961	675,710	2,762,160					
Sep-02	644,998	676,363	698,824	655,123	2,675,308					
Oct-02	253,040	714,442	736,185	685,352	2,389,019					
Nov-02	720,151	683,073	695,378	614,316	2,712,918					
Dec-02	691,711	704,320	720,666	291,722	2,408,419					
Jan-03	733,571	706,129	729,611	737,291	2,906,602					
Feb-03	654,000	631,589	660,482	661,621	2,607,692					
Mar-03	694,891	601,468	693,391	698,718	2,688,468					
Apr-03	673,599	684,312	698,533	671,745	2,728,189					
May-03	709,279	672,336	704,645	704,622	2,790,882					
Jun-03	671,667	657,663	680,215	666,500	2,676,045					
Jul-03	701,446	683,586	706,836	700,495	2,792,363					
Aug-03	692,695	692,695	702,906	696,951	2,785,247					
Sep-03	678,230	661,250	674,987	675,176	2,689,643					
Oct-03	724,077	696,934	718,235	711,424	2,850,670					
Nov-03	707,318	691,380	717,969	710,728	2,827,395					
Dec-03	721,473	703,440	725,789	721,937	2,872,639					
Jan-04	738,479	715,773	747,127	740,705	2,942,084					
Feb-04	675,905	661,110	686,122	662,842	2,685,979					
Mar-04	715,235	276,822	724,369	709,645	2,426,071					
Apr-04	676,481	725,438	630,944	687,105	2,719,968					
May-04	705,223	732,273	712,334	699,394	2,849,224					
Jun-04	675,336	699,817	684,677	674,076	2,733,906					
Jul-04	674,900	694,634	683,117	671,721	2,724,372					
Aug-04	704,800	710,700	700,700	690,600	2,806,800					

Appendix E Calculations

CO2e Emissions from Permit S-511-1

	Unit 1 MMBtu	Emission Factor (lb CO2e /MMBtu)	lb/month	lb 1st qtr	2nd qtr	3rd qtr	4th qtr
Jan-07	742,580	122	90,594,732	90,594,732			
Feb-07	618,982	122	75,515,756	75,515,756			
Mar-07	742,046	125	92,755,696	92,755,696			
Apr-07	713,467	125	89,183,419		89,183,419		
May-07	710,255	125	88,781,913		88,781,913		
Jun-07	676,415	125	84,551,866		84,551,866		
Jul-07	702,809	125	87,851,170			87,851,170	
Aug-07	701,455	125	87,681,910			87,681,910	
Sep-07	682,453	125	85,306,656			85,306,656	
Oct-07	699,763	125	87,470,411				87,470,411
Nov-07	689,670	125	86,208,796				86,208,796
Dec-07	745,581	125	93,197,622				93,197,622
Jan-08	735,238	125	91,904,717	91,904,717			
Feb-08	630,734	125	78,841,780	78,841,780			
Mar-08	366,649	125	45,831,069	45,831,069			
Apr-08	576,621	125	72,077,652		72,077,652		
May-08	713,861	125	89,232,565		89,232,565		
Jun-08	660,682	119	78,621,165		78,621,165		
Jul-08	416,290	119	49,538,480			49,538,480	
Aug-08	319,777	119	38,053,463			38,053,463	
Sep-08	407,225	119	48,459,785			48,459,785	
Oct-08	347,324	119	41,331,537				41,331,537
Nov-08	161,092	119	19,169,961				19,169,961
Dec-08	97,140	119	11,559,703				11,559,703

Total	lb/qtr	475,443,751	502,448,581	396,891,465	338,938,029
Historical actual	lb/qtr	237,721,876	251,224,290	198,445,732	169,469,015

CO2e Emissions from Permit S-511-2

	Unit 2 MMBtu	Emission Factor (lb CO2e /MMBtu)	lb/month	lb 1st qtr	2nd qtr	3rd qtr	4th qtr
Jan-07	707,164	123	86,981,182	86,981,182			
Feb-07	635,263	123	78,137,331	78,137,331			
Mar-07	694,759	126	87,539,607	87,539,607			
Apr-07	664,813	126	83,766,449		83,766,449		
May-07	664,313	126	83,703,425		83,703,425		
Jun-07	646,789	126	81,495,392		81,495,392		
Jul-07	650,956	126	82,020,415			82,020,415	
Aug-07	654,862	126	82,512,549			82,512,549	
Sep-07	609,927	126	76,850,743			76,850,743	
Oct-07	465,734	126	58,682,457				58,682,457
Nov-07	597,071	126	75,230,977				75,230,977
Dec-07	741,180	126	93,388,661				93,388,661
Jan-08	682,880	126	86,042,822	86,042,822			
Feb-08	633,736	126	79,850,758	79,850,758			
Mar-08	666,250	126	83,947,474	83,947,474			
Apr-08	418,692	126	52,755,175		52,755,175		
May-08	697,043	124	86,433,313		86,433,313		
Jun-08	685,745	124	85,032,370		85,032,370		
Jul-08	633,526	124	78,557,253			78,557,253	
Aug-08	584,629	124	72,493,969			72,493,969	
Sep-08	609,781	124	75,612,882			75,612,882	
Oct-08	548,798	124	68,050,944				68,050,944
Nov-08	670,669	124	83,162,915				83,162,915
Dec-08	730,887	124	90,629,930				90,629,930

Total	lb/qtr	502,499,174	473,186,124	468,047,812	469,145,885
Historical actual	lb/qtr	251,249,587	236,593,062	234,023,906	234,572,942

CO2e Emissions from Permit S-511-3

	Unit 3 MMBtu	Emission Factor (lb CO2e /MMBtu)	lb/month	lb 1st qtr	2nd qtr	3rd qtr	4th qtr
Jan-07	746,672	122	91,093,948	91,093,948			
Feb-07	669,829	122	81,719,141	81,719,141			
Mar-07	727,596	126	91,677,048	91,677,048			
Apr-07	700,892	126	88,312,453		88,312,453		
May-07	688,332	126	86,729,830		86,729,830		
Jun-07	674,135	126	84,941,057		84,941,057		
Jul-07	690,336	126	86,982,342			86,982,342	
Aug-07	691,824	126	87,169,843			87,169,843	
Sep-07	672,920	126	84,787,937			84,787,937	
Oct-07	624,136	126	78,641,095				78,641,095
Nov-07	597,071	126	75,230,977				75,230,977
Dec-07	447,756	126	56,417,208				56,417,208
Jan-08	712,466	126	89,770,773	89,770,773			
Feb-08	574,152	126	72,343,209	72,343,209			
Mar-08	494,741	126	62,337,395	62,337,395			
Apr-08	540,568	126	68,111,531		68,111,531		
May-08	665,498	126	83,852,786		83,852,786		
Jun-08	557,142	119	66,299,863		66,299,863		
Jul-08	533,301	119	63,462,802			63,462,802	
Aug-08	661,162	119	78,678,223			78,678,223	
Sep-08	400,581	119	47,669,148			47,669,148	
Oct-08	626,288	119	74,528,244				74,528,244
Nov-08	552,719	119	65,773,534				65,773,534
Dec-08	698,098	119	83,073,711				83,073,711
		Total	lb/qtr	488,941,514	478,247,522	448,750,297	433,664,769
		Historical actual	lb/qtr	244,470,757	239,123,761	224,375,148	216,832,385

CO2e Emissions from Permit S-511-4

	Unit 4 MMBtu	Emission Factor (lb CO2e /MMBtu)	lb				
			lb/month	1st qtr	2nd qtr	3rd qtr	4th qtr
Jan-07	760,046	123	93,485,618	93,485,618			
Feb-07	683,259	123	84,040,797	84,040,797			
Mar-07	738,886	126	93,099,654	93,099,654			
Apr-07	708,902	126	89,321,661		89,321,661		
May-07	703,355	126	88,622,706		88,622,706		
Jun-07	678,571	126	85,499,929		85,499,929		
Jul-07	698,910	126	88,062,649			88,062,649	
Aug-07	689,269	126	86,847,902			86,847,902	
Sep-07	674,401	126	84,974,551			84,974,551	
Oct-07	709,291	126	89,370,697				89,370,697
Nov-07	675,217	126	85,077,403				85,077,403
Dec-07	732,925	126	92,348,495				92,348,495
Jan-08	686,469	126	86,495,128	86,495,128			
Feb-08	635,346	126	80,053,612	80,053,612			
Mar-08	711,379	126	89,633,808	89,633,808			
Apr-08	542,205	126	68,317,871		68,317,871		
May-08	-	118	0		0		
Jun-08	208,075	118	24,552,888		24,552,888		
Jul-08	518,565	118	61,190,688			61,190,688	
Aug-08	572,100	118	67,507,762			67,507,762	
Sep-08	636,452	118	75,101,281			75,101,281	
Oct-08	602,687	118	71,117,120				71,117,120
Nov-08	633,163	118	74,713,287				74,713,287
Dec-08	703,696	118	83,036,077				83,036,077

Total	lb/qtr	526,808,618	356,315,056	463,684,834	495,663,081
Historical actual	lb/qtr	263,404,309	178,157,528	231,842,417	247,831,540

Current Permitted limits for S-511-1, '-2, '-3, '-4

NOx limitation

271,200 lb NOx/yr combined 4 turbines

67,800 lb NOx/qtr combined 4 turbines

lb NOx/yr * emission factor 0.011 lb NOx/Mmbtu * 0.0529 metric ton CO2e/MMBtu = metric ton CO2e/yr

$$271200 \div 0.011 \times 0.0529 = 1,304,225 \text{ metric ton CO2e/qtr}$$

Emissions for each permit unit grouped by quarter

	total from all 4 turbines	
1st qtr HAE	452,085	Mt CO2e
1st qtr current permitted	326,056	Mt CO2e
1st qtr AER	126,028	Mt CO2e
2nd qtr HAE	410,476	Mt CO2e
2nd qtr current permitted	326,056	Mt CO2e
2nd qtr AER	84,419	Mt CO2e
3rd qtr HAE	403,033	Mt CO2e
3rd qtr current permitted	326,056	Mt CO2e
3rd qtr AER	76,976	Mt CO2e
4th qtr HAE	393,971	Mt CO2e
4th qtr current permitted	326,056	Mt CO2e
4th qtr AER	67,915	Mt CO2e

All 4 GTE Combined

Annual HAE	1,659,564	Mt CO2e/yr
current permitted	1,304,225	Mt CO2e/yr
Bankable AER	355,338	Mt CO2e/yr

Appendix F
Draft ERC's

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

S-4320-24

ISSUED TO: SYCAMORE COGENERATION CO
ISSUED DATE: <DRAFT>
LOCATION OF REDUCTION: HEAVY OIL CENTRAL
CA
SECTION: 31 TOWNSHIP: 28S RANGE: 28E

For CO2E Reduction In The Amount Of:

355,338 metric tons / year

Method Of Reduction

- Shutdown of Entire Stationary Source
 Shutdown of Emissions Units
 Other

Reduction in permitted usage of gas turbine engines (S-511-1, '-2, '-3, & '-4) verified as permanent within the State of California.

Emission Reduction Qualification Criteria

This emission reduction is surplus and additional to all applicable regulatory requirements.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

Phone Conversation

Date: November 13, 2013

Time: 4:30 pm

Length: 10 min

With: Dale Johnson

Title: HES

Company: Sycamore Cogen CO.

Phone: 661-615-4676

APCD representative: Dan Klevann

Title: Air Quality Engineer

Subject of Conversation: 1114928 and 1123816 NOx and GHG banking apps

Summary of Conversation:

Discussed the projects with Mr. Johnson. That we received the information on the NOx emissions and the fuel usages from the kern river field and that we should be able to process the application that the NOx emissions are permanent since there is a reduction in fuel use and reduction in oil production at the kern river field which coincides with the reduction in fuel use at the cogens.

I also discussed the GHG project with him and indicated that Sycamore would need to identify the geographic boundary for the GHG ERC's. Mr Johnson understood that he would work with identifying the appropriate boundary for the GHG credits. I told him we would be sending an incomplete application letter and that he should reference that when replying to the District.



Sycamore Cogeneration Company

Box 80598, Bakersfield, CA 93380

(661) 615-4630

Kelly S. Lucas, Executive Director

February 13, 2014

SY-10427

Mr. Dan Klevann
Senior Air Quality Engineer
San Joaquin Valley APCD
34946 Flyover Court
Bakersfield, CA 93308

RECEIVED
FEB 13 2014
SJVAPCD
Southern Region

Re: GHG ERC Application S-112816

Dear Mr. Klevann:

Sycamore Cogeneration Company (Sycamore) received the San Joaquin Valley Air Pollution Control District's (District) letter dated November 14, 2013, stating the District's determination of its incomplete GHG ERC Application S-1123816. The District's basis for the incomplete determination was (1) the lack of a geographic boundary in which the GHG emission reduction project is permanent and (2) no explanation or justification on how GHG emission reduction is permanent within the boundary of the emission reduction boundary.

Sycamore provides the following to address the deficiencies cited by the District in Sycamore's GHG ERC Banking Application S-112816:

Geographic Boundary

Sycamore selected the State of California as the geographic boundary for which the emission reduction will be permanent. Attachment 1 depicts the decline in California's oil production between 1982 and 2012. Sycamore, as an entity covered by California Cap and Trade (AB 32), must show a 15% reduction in greenhouse gas emissions compared to the "business-as-usual" scenario by 2020. Therefore, Sycamore believes that it is reasonable that California's borders reflect the geographical boundary selection for a permanent GHG emission reduction.

Permanent

As presented in Sycamore's NOx ERC application (S-1114928), Sycamore's four gas turbines were fully offset when originally permitted. More recently, Sycamore

received permit-enforceable revised-emissions' limits that are significantly lower than historical emissions, and the ATCs have been enacted. Should Chevron seek to replace steam no longer produced by Sycamore, it will be replaced by Chevron's steam generators in stationary source S-1127 or S-1131. All of Chevron's steam generators in S-1127 and S-1131 were subject to NSR and satisfied NSR when permitted. Therefore, any potential replacement steam produced by Chevron, stemming from lower steam production by Sycamore, has been satisfied by offset requirements, and reductions banked in project S-1123816 will not result in an incremental increase in emissions from any Chevron steam generator that has not satisfied offset requirements. Consequently, the Sycamore reductions requested in Project S-1123816 are considered permanent.

Historical data shows that there has been no increase in fuel use from the steam equipment in stationary sources S-1127 and S-1131 due to Sycamore's reduction in steam (see Attachment 2). The need for additional steam generators that have satisfied offset requirements would stem from future demand for oil from the Kern River Field and not from Sycamore's reduced steam production. Additionally, Sycamore, as an entity covered by California Cap and Trade (AB 32), will have to mitigate a 15% reduction in greenhouse gas emissions compared to the "business-as-usual" scenario 2020. Therefore, Sycamore believes that this validates permanent GHG emission reduction.

Please telephone Dale Johnson at (661) 615-4676, if there are any questions or if you would like to meet to discuss.

Sincerely,

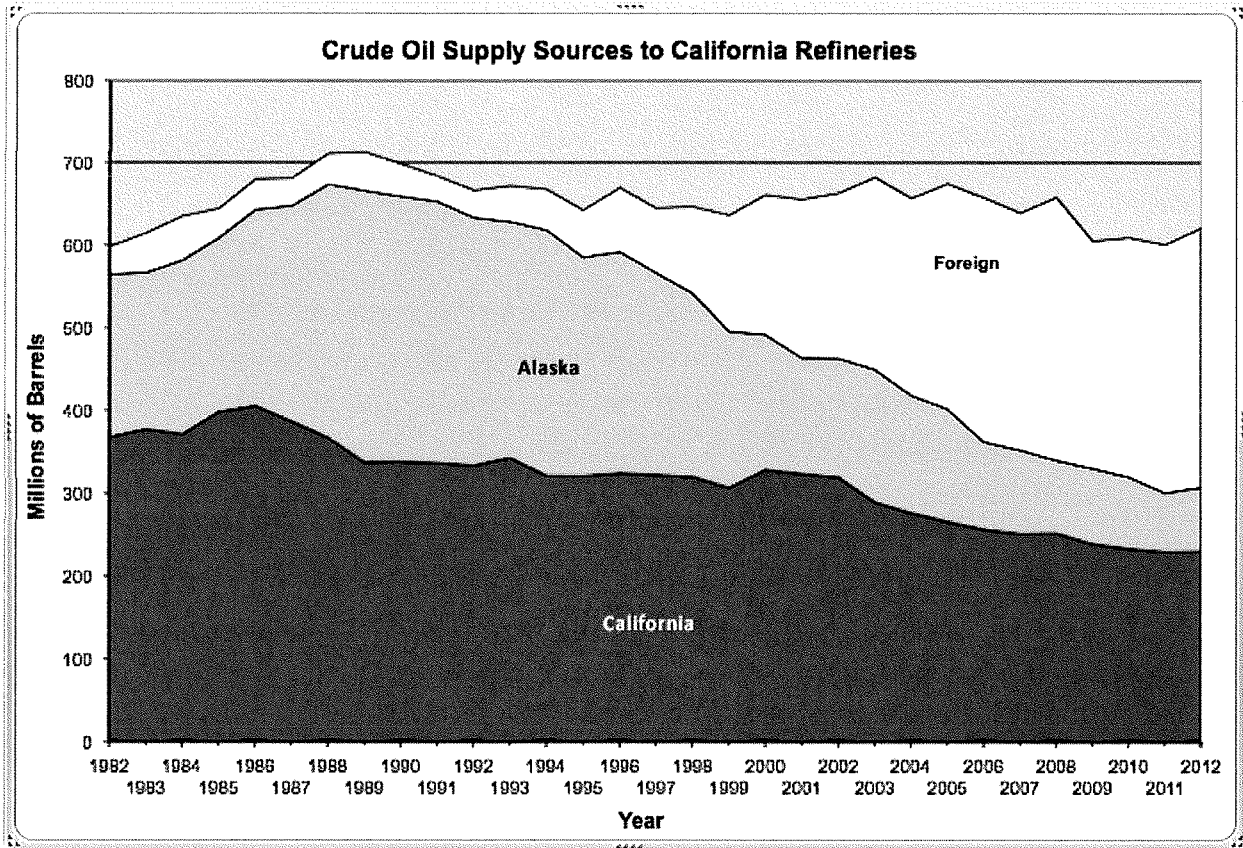
A handwritten signature in cursive script that reads "Kelly S. Lucas". The signature is written in black ink and is positioned above the typed name and title.

Kelly S. Lucas
Executive Director

cc: Mr. Leonard Scandura, SJVAPCD

ATTACHMENT 1

Oil Production Graph



http://energyalmanac.ca.gov/petroleum/statistics/crude_oil_receipts.html

ATTACHMENT 2

Historical Fuel Use from Steam Generators/Turbines at S-1127 & S-1131 (Fuel in mmcf)

Facility	2205	2006	2007	2008	2009	2010	2011
S-1127	5237.11	5015.33	3871.22	3911.45	3681.65	3684.86	3540.13
S-1131	4232.48	6496.02	6447.84	6400.62	3854.54	4265.13	3225.11
TOTAL	9469.59	11511.35	10319.06	10312.07	7536.19	7949.99	6765.24

Notes:

- 1) KRCC (S-88) went from 4 units to 3 units in August 2005
- 2) KRCC went from 3 units to 2 units in 2006 (with new PPA)
- 3) Sycamore (S-511) went from 4 units to 3 units in January 2008
- 4) Sycamore went from 3 units to 2 units in 2010 (new PPA)
- 5) Data for S-1131 for 2006 has been adjusted (appears to have been a transposition error in annual emissions inventory)



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



MAR 10 2014

Neil Burgess
Sycamore Cogeneration CO
PO Box 80598
Bakersfield, CA 93380

Re: Notice of Receipt of Complete Application - Emission Reduction Credits Banking
Facility Number: S-511
Project Number: S-1123816

Dear Mr. Burgess:

The District has completed a preliminary review of your application for Emission Reduction Credits (ERCs) Banking resulting from emission reduction credits for the GHG reductions from reduction in permitted usage of 4 gas turbine engines(GTE) at the Sycamore cogeneration operation in the Kern River oilfield.

Based on this preliminary review, the application appears to be complete. However, during processing of your application, the District may request additional information to clarify, correct, or otherwise supplement, the information on file.

Pursuant to District Rule 3060, your application may be subject to an hourly Engineering Evaluation Fee. If the applicable fees exceed the submitted application filing fee, the District will notify you at the conclusion of our review.

Thank you for your cooperation. Should you have any questions, please contact Mr. Dan Klevann at (661) 392-5607.

Sincerely,

David Warner
Director of Permit Services

Leonard Scandura, P.E.
Permit Services Manager

DW: djc

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

Dan Klevann

From: Ericksen, Lance <Lance.Ericksen@chevron.com>
Sent: Monday, April 28, 2014 10:56 AM
To: Dan Klevann
Subject: RE: GHG ERC banking project Sycamore Cogen (S-511, S-1123816)
Attachments: SCC DataActualCO2e1.xls

Here you go.

From: Dan Klevann [<mailto:Dan.Klevann@valleyair.org>]
Sent: Friday, April 25, 2014 9:40 AM
To: Ericksen, Lance
Subject: RE: GHG ERC banking project Sycamore Cogen (S-511, S-1123816)

Lance,

There wasn't a spreadsheet attached?

Dan

From: Ericksen, Lance [<mailto:Lance.Ericksen@chevron.com>]
Sent: Wednesday, April 23, 2014 4:36 PM
To: Dan Klevann
Subject: RE: GHG ERC banking project Sycamore Cogen (S-511, S-1123816)

I used the CO2 emission factor from the most recent source test to calculate the actual CO2 emissions during the baseline (if you don't already have the source tests I can send the source tests to you) I used 125 lb/MMBtu CO2 to calculate the CO2 emission limit imposed by imposing a NOx emission cap on the Cogens. The 125 lb/MMBtu gives a conservatively high cap resulting in lower creditable emissions. This calculation is highlight in light gray on the attached spreadsheet.

As you can see the 125 is a hard input. If you change it to a lower number the creditable emissions go up.

Probably the best number to use is 123.6 lbCO2/MMBtu which is the actual average of all source test values (shown on the spreadsheet) I think the 124.6 (rounded to 125) is an average of averages.

From: Dan Klevann [<mailto:Daniel.Klevann@valleyair.org>]
Sent: Wednesday, April 23, 2014 9:07 AM
To: Ericksen, Lance
Subject: GHG ERC banking project Sycamore Cogen (S-511, S-1123816)

Lance,
The banking project for GHG portion of the reduction of operation at Sycamore Cogen (S-511, S-1123816) you used 125 lb CO2e/MMBtu based on CO2 source tests (from your June 26, 2012 letter/evaluation). The standard the District usually uses is 116.56 lb CO2e/MMBtu. I need to document where the emissions factors come from if I'm going to use something different from our standard. Do you have documentation of the higher amount or a calculation showing how it was determined from the source test data?
If you have questions let me know.

Thanks,

Dan Klevann
Senior Air Quality Engineer
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308-9725
661-392-5500

Dan Klevann

From: Ericksen, Lance <Lance.Ericksen@chevron.com>
Sent: Monday, April 4, 2016 2:07 PM
To: Dan Klevann
Subject: CO2e Banking for Sycamore Cogen

Conjoined with the NOx ERC banking project for Sycamore cogen we submitted a project for CO2e banking. Since we have resolved all issues for the NOx project and ERCs have been issued I believe we can now proceed with the CO2e project (project S-1114928) . Please let me know if you need anything from Chevron to move forward.

Thank you for your assistance.

Lance Ericksen
Health, Environment, and Safety Specialist/Engineer

Chevron North America Exploration and Production Company
San Joaquin Valley Business Unit (SJVBU)
9525 Camino Media (C-1035)
Bakersfield, CA 93311
Office: (661) 654-7145
Fax: (661) 654-7606
Lance.Ericksen@chevron.com

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PROJECT ROUTING FORM

FACILITY NAME: Sycamore Cogeneration CO

FACILITY ID: S-511 PROJECT NUMBER: S-1123816

PERMIT #'s: _____

DATE RECEIVED: June 26, 2012

PRELIMINARY REVIEW	ENGR	DATE	SUPR	DATE
A. Application Deemed Incomplete				
Second Information Letter				
B. Application Deemed Complete	DK	3-10-14	AP	3-10-14
C. Application Pending Denial				
D. Application Denied				

ENGINEERING EVALUATION	INITIAL	DATE
E. Engineering Evaluation Complete <ul style="list-style-type: none"> • Project triggering Federal Major Modification: <ul style="list-style-type: none"> <input type="checkbox"/> Yes AND Information entered into database (AirNet) <input type="checkbox"/> No (not Fed MMod) • District is Lead Agency for CEQA purposes AND the project GHG emissions increase exceeds 230 metric tons/year: <ul style="list-style-type: none"> <input type="checkbox"/> Yes AND Information Entered in database (AirNet) <input type="checkbox"/> Not Required 	DK	6-4-14
F. Supervising Engineer Approval	AP	7-18-14
G. Compliance Division Approval <input type="checkbox"/> Not Required		
H. Applicant's Review of Draft Authority to Construct Completed <ul style="list-style-type: none"> <input type="checkbox"/> 3-day Review <input type="checkbox"/> 10-day Review <input type="checkbox"/> No Review Requested 		
I. Permit Services Regional Manager Approval	CS	5/9/16

DIRECTOR REVIEW <input type="checkbox"/> Not Required	INITIAL	DATE
J. Preliminary Approval to Director		
K. Final Approval to Director		

San Joaquin Valley Air Pollution Control District
ERC Application Review - Greenhouse Gases
Reduction in Gas Turbine Engine Use

Facility Name: Sycamore Cogeneration Company

Date: May 11, 2016

Mailing Address: P O Box 80598
Bakersfield, CA 93380

Engineer: Dan Klevann

Lead Engineer: *L. Scavone 5/11/16*

Contact Person: Neil Burgess

Telephone: (661) 615-4630

Project #: S-1123816

Received: December 27, 2011

Deemed Complete: March 10, 2014

ERC #: S-4320-24

I. Summary

Sycamore Cogeneration Company (Sycamore) has reduced permitted operation of four gas turbine engines (GTE) at their operation in the Kern River oilfield. Sycamore is requesting an emission reduction credit (ERC) banking certificate for CO₂e. The primary business of this facility is steam and electricity generation. Sycamore has also submitted an application to bank the emission reduction credits (ERCs) for the actual emission reductions (AER) of the NO_x emissions (ERC Project S-1114928).

Selection of Geographical Boundary for Determining Permanence of the GHG Emission Reduction

Rule 2301 contains several eligibility criteria for emission reduction credit banking, including that the emission reduction must be permanent. When determining the geographical boundary in which the emission reduction is determined to be permanent, the applicant may consider how the GHG ERC may likely be used.

Please note that while Rule 2301 allows facilities to receive ERCs for GHG emission reductions, the District does not have any requirements on the use of GHG ERCs. However, it is anticipated that the likely uses of such GHG ERCs would be their future retirement as GHG mitigation in the California Environmental Quality Act (CEQA) process.

Pursuant to CEQA, lead agencies must consider the environmental impact of GHG emissions from a project and may require that such GHG emissions be mitigated. In evaluating various mitigation techniques, including the retirement of GHG ERCs, the lead agency must determine if the proposed mitigation technique adequately mitigates the projects GHG emission increase.

When a lead agency determines if the retirement of a particular GHG ERC provides adequate GHG mitigation for a project, the lead agency may choose to consider the location where the GHG ERC was generated and the geographical boundary used to determine the permanence of the emission reduction. In making this determination, the lead agency may conclude that the retirement of a particular GHG ERC would provide adequate mitigation for projects within that same geographical boundary. Again, that determination will be made by the lead agency for any particular project.

For this application, the facility has selected California as the geographical boundary for which the emission reduction is permanent. Sycamore has provided data showing the decline in California Oil Production from 1995 to 2012. The power and steam produced by the GTE's was used for oil production in the Kern River oilfield(see Appendix B). Additionally, Sycamore is an entity covered by California Cap and Trade (AB32), AB32 requires California to return to 1990 levels of greenhouse gas emissions by 2020. This information validates California as the geographical boundary selection for a permanent GHG emission reduction.

The following emission reductions have been found to qualify for banking:

GHG ERCs		
ERC Certificate	Pollutant	Amount
S-4320-24	CO ₂ e	355,338 metric tons/year

II. Applicable Rules

Rule 2301 Emission Reduction Credit Banking (1/19/12)

III. Location of Reduction

The equipment is located at Sycamore's facility in the Kern River Oilfield within Chevron's Kern County Heavy Oil Central stationary source. The location is below.

ERC: S-4320-24

- S-511-1: Section 31, Township 28S, Range 28E
- S-511-2: Section 31, Township 28S, Range 28E
- S-511-3: Section 31, Township 28S, Range 28E
- S-511-4: Section 31, Township 28S, Range 28E

IV. Method of Generating Reductions

The emission reductions are being generated by reducing the allowable usage and resulting NOx emissions from the four natural gas fired GE gas turbines. This NOx limit is only achieved by reducing the fuel combusted in the turbines. The reduction in fuel burned results in a reduction in GHG produced.

Equipment Description

PTO	Equipment
S-511-1	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #1)
S-511-2	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #2)
S-511-3	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #3)
S-511-4	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #4)

V. Calculations

A. Assumptions and Emission Factors

Assumptions

The actual emissions will be calculated annually in the baseline period. The Historical Actual Emissions (HAE) will be calculated using actual fuel use data and actual CO₂ source test emissions factors.

The applicant provided monthly fuel use data for the subject GTE's.

- Units of GHG AER is metric tons of CO₂e per year, rounded to the nearest metric ton
- 1,000 kg = 1 metric ton = 2,205 lbs.
- 1 therm of Natural Gas = 100 scf
- The facility provided actual CO₂ emissions from source tests (see values below). The CH₄ and N₂O portions were not supplied. Therefore, the CH₄ and N₂O portions will not be included in the historical actual emissions calculations.
- The District standard CO₂e emission factor including CH₄ and N₂O portions will be used to calculate the post project potential CO₂e emissions.

Emission Factors (EF)

The facility has provided source test results(see Appendix C) encompassing the baseline period which shows the CO₂ emission factors. We will use the actual CO₂ source test values for calculating the amount of baseline emissions from each unit.

Unit	S-511-1	S-511-2	S-511-3	S-511-4
Source Test	CO ₂ lb/MMBtu			
2/28/06	122	123	122	123
2/20/07	125	126	126	126
4/24/08	119	124	119	118

The District standard CO₂e equivalent emission factor is from the District's Spreadsheet "ARB – Greenhouse Gas Emissions factors" will be used to calculate post project potential CO₂e emissions and is listed below.

$$EF_{CO_2e} = 52.9199 \text{ KG/MMBtu}$$

$$EF_{CO_2e} = 52.9199 \text{ KG/MMBtu} \times (1 \text{ metric ton} / 1000 \text{ kg})$$

$$EF_{CO_2e} = \mathbf{0.0529 \text{ metric tons/MMBtu}}$$

B. Baseline Period Determination

Pursuant to Rule 2301 section 4.5.4, the Baseline Period is the following:

The consecutive 24 month period immediately prior to the date the emission reduction occurred, or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred.

The original ERC Banking Project S-511, 1114928 specified the baseline period. Since the District has already established this as the correct baseline period for the criteria pollutant emission reductions that have already been evaluated and issued, the same baseline period is used for this evaluation.

The following baseline period was calculated (See fuel usage records in Appendix D, Calculations in Appendix E).

Baseline Period		
Location	Permit Unit	Dates
Sycamore Cogeneration (S31, T28S, R28E)	S-511-1	January 2007 – December 2008
	S-511-2	
	S-511-3	
	S-511-4	

C. Baseline Data

The baseline fuel use is determined from the fuel usage records supplied by the applicant(Appendix D).

Baseline Fuel Usage	
Year	Annual Fuel Use (MMBtu)
2007	32,542,838
2008	26,462,122

D. Historical Actual Emissions (HAE)

The HAE from the fuel use is determined by multiplying the fuel-use by the appropriate emission factor from the source test as presented above. The emission factor changes with the source tests as well as with each turbine. Therefore, the HAE will be calculated each month and added together for the yearly HAE. The emissions from each turbine will be calculated and added together to find the total actual annual emissions for the baseline

period then the 2-yr baseline period will be averaged for the yearly actual emissions. A sample calculation is shown below. The full calculations are in Appendix E.

Sample calculation:

Permit S-511-1, January, 2007:

$$\text{CO}_2\text{e} = [(\text{EF}) \times (\text{Fuel Heat Input})]$$

$$\text{CO}_2\text{e} = [(122 \text{ lb/MMbtu}) \times (742,580 \text{ MMBtu}) = 90,594,760 \text{ lb CO}_2\text{e}$$

CO ₂ e HAE		
Total HAE	3,659,338,254	Lb CO ₂ e/yr
Total HAE	1,659,564	Mt CO ₂ e/yr

E. Post Project Potential to Emit (PE2)

As discussed above, the turbines in this project have an annual specific limiting condition on all four units of 271,200 lb NO_x/yr. (see Appendix A). The CO₂e emissions are calculated by using the NO_x limit, CO₂e emission factor, and NO_x emission factor. The potential emissions from all four turbines are 1,304,225 Mt Co₂e / yr. (see Appendix E).

F. Emission Reductions Eligible for Banking

The emission reductions eligible for banking are the difference between the historical actual emissions and the potential to emit after the project.

$$\begin{aligned} \text{ERCs eligible for banking} &= 1,659,564 \text{ Mt CO}_2\text{e/year} - 1,304,225 \text{ Mt CO}_2\text{e/year} \\ &= 355,338 \text{ Mt CO}_2\text{e/year} \end{aligned}$$

VI. Compliance

Rule 2301 – Emission Reduction Credit Banking

Per District Rule Section 4.5, the following criteria must be met in order to deem such reductions eligible for banking:

4.5.1 The greenhouse gas emission reduction must have actually occurred on or after January 1, 2005, except as allowed in specific CARB approved GHG emission reduction project protocols.

The emission reductions occurred when the facility had stopped operating the turbines in a full time status. Sycamore had applied to change the permits in December 2011. As the emission reduction occurred after 1/1/05, this criteria has been satisfied.

4.5.2 The greenhouse gas emission reductions must have occurred within the San Joaquin Valley Unified Air Pollution Control District.

The emissions occurred at Sycamore's facility in the Kern River Oilfield within Chevron's Kern County Heavy Oil Central stationary source. Since this location is within the District, this criteria has been satisfied.

4.5.3 The greenhouse gas emission reductions are real, surplus, permanent, quantifiable, and enforceable, except as provided in Section 4.5.5.

Real:

The GHG emission reductions were generated by limitations of operation of the GTE's. The AER quantified above are based on actual, historical emissions and were calculated from actual fuel use data and source tests emission factors. The gas turbines have a new annual NOx emission limitation that inherently limits fuel use. Therefore, the AER due to limiting the turbines operation is real.

Surplus:

The facility is subject to the CARB cap and trade regulation; however, the reductions occurred prior January 1, 2012; therefore, the emission reductions satisfy the surplus requirement in Section 4.5.3.1.

The facility is subject to the CARB cap and trade regulation; however, the reductions occurred prior to the baseline period of cap and trade. Therefore, the emission reductions satisfy the surplus requirement in Section 4.5.3.2.

The emission reductions are not the result of an action taken by the permittee to comply with any requirement. The emission reductions are surplus and additional of all requirements. Therefore, the emission reductions satisfy the surplus requirement in section 4.5.3.4.

The Certificates will be identified according to Section 6.15.3 below.

Permanent:

When determining the geographical boundary in which the emission reduction is determined to be permanent, the applicant may consider how the GHG ERC may likely be used.

Please note that the while Rule 2301 allows facilities to receive ERCs for GHG emission reductions, the District does not have any requirements on the use of GHG ERCs. However, it is anticipated that the likely uses of such GHG ERCs would be their future retirement as GHG mitigation in the CEQA process.

Pursuant to CEQA, lead agencies must consider the environmental impact of GHG emissions from a project and may require that such GHG emissions be mitigated. In evaluating various mitigation techniques, including the retirement of GHG ERCs, the lead agency must determine if the proposed mitigation technique adequately mitigates the projects GHG emission increase.

When a lead agency determines if the retirement of a particular GHG ERC provides adequate GHG mitigation for a project, the lead agency may choose to consider the location where the GHG ERC was generated and the geographical boundary used to determine the permanence of the emission reduction. Then in making this determination, the lead agency may conclude that the retirement of a particular GHG ERC would provide adequate mitigation for projects within that same geographical boundary. Again, that determination will be made by the lead agency for a particular project.

Sycamore has selected California as the geographical boundary for which the emission reduction is permanent. Sycamore/Chevron has provided information verifying that the total oil production in the state of California has been in decline since 1985 (see graph in Appendix C). Additionally, Sycamore/Chevron is subject to the California Cap-and-Trade regulation which requires Chevron to reduce or mitigate a permanent reduction in GHG emissions. The combination of the decline in oil production in California and the reductions required by California's Cap-and-Trade regulation verify that the reductions are permanent within California. The geographical boundary for the ERCs will be the State of California and the ERC will include the following identifier:

"Shutdown of the gas turbines are verified as permanent within the State of California"

Quantifiable:

The actual emissions were calculated from historic fuel-use records and accepted emission factors. Therefore, the emission reductions are quantifiable and have been quantified.

Enforceable:

The gas turbines have an annual NOx emission limit on their permits which limits the fuel used in the turbines. Operation of the equipment resulting in NOx emissions over the allowable annual limit would subject the permittee to enforcement action. Therefore, the emission reductions are enforceable.

- 4.5.4** Greenhouse gas emission reductions are calculated as the difference between the historic annual average greenhouse gas emissions (as CO2E) calculated using the consecutive 24 month period immediately prior to the date the emission reduction occurred, or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred if determined by the APCO as being more representative of normal operations, and the potential greenhouse gas emissions (as CO2E) after the project is complete, except as provided in section 4.5.5.

The GHG emission reductions were calculated according to the baseline period identified above. The turbines have permit conditions which restrict the NOx emissions and thus the GHG emissions from the four combined units. The post-project GHG emissions are calculated above.

- 4.5.5** Greenhouse gas emission reductions proposed to be quantified using CARB approved emission reduction project protocols shall be calculated in accordance with the applicable protocol.

Since the GHG emission reductions are not subject to an applicable CARB-approved emission reduction project protocol, this section is not applicable.

- 4.5.6** Emission reduction credits shall be made enforceable through permit conditions. If the District, pursuant to state laws, is prohibited from permitting the emission unit, the source creating the greenhouse gas emission reduction shall execute a legal binding contract with the District which ensures that the emission reductions will be generated in accordance with the provisions of this rule, and shall continue for the reasonably

The steam turbines hold a legal District operating permit. Since the operation of the steam turbines more than the allowable NOx limit would require a new Authority to Construct, as discussed above the emission reduction is enforceable.

Section 5 identifies ERC Certificate application procedures.

Section 5.5.2 requires, for emission reductions occurring prior to 1/19/12, applications for ERCs must be submitted by 7/19/12.

The greenhouse gas ERC application was submitted on 12/27/2011 as part of project S1114928, therefore the application is timely.

Section 6.15 specifies the registration requirements for GHG ERCs.

Section 6.15.13 requires, the emission reductions are surplus and additional of all requirements pursuant to Section 4.5.3.4. Therefore the ERC certificate shall include the following notation:

“This emission reduction is surplus and additional to all applicable regulatory requirements.”

Compliance with Rule 2301 has been demonstrated and no adjustments are required under this Rule.

VII. Recommendation

Issue the ERC Certificate in the amount posted in the table below and on the Draft ERC Certificate in Appendix F.

GHG ERCs		
ERC Certificate	Pollutant	Amount
S-4320-24	CO ₂ e	355,338 metric tons/year

List of Appendixes

- A. Current PTO's
- B. California production
- C. Source Test Data
- D. Fuel use data
- E. Calculations
- F. Draft ERC

Appendix A
Current PTO

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-1-17

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #1)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NO_x and O₂ or CO₂ concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
51. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
52. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

53. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
55. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
56. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
57. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
59. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
60. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
61. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
63. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
64. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
65. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

66. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
67. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
68. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-2-18

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #2)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: SYCAMORE COGENERATION CO

Location: HEAVY OIL CENTRAL, CA

S-511-2-18 : Jun 4 2014 2:41PM -- KLEVANN

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NO_x and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NO_x and CO concentration corrected to 15% O₂ (dry). EPA Methods 7E or 20 shall be used for NO_x emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM₁₀ concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NO_x as NO₂ and continuous monitoring system for CO & CO₂ shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NO_x and O₂ monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NO_x, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O₂, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration . [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NOx, CO and O2 or CO2 concentration. [District Rule 2201] Federally Enforceable Through Title V Permit
51. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
52. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
53. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

54. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
56. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
57. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
59. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
60. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
61. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
63. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
64. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
65. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
66. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

67. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
68. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
71. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deem compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
74. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-3-18

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #3)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
9. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NOx, CO and O2 or CO2 concentration. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
21. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
22. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
23. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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24. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
26. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
27. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
29. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
30. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
31. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
32. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
34. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
35. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
36. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
37. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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38. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit
39. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
40. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
41. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration . [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
42. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
43. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
44. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
45. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
46. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
47. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
48. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
49. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
50. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
51. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
52. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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53. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit
54. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
56. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
57. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
59. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
60. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
61. The APCO shall be notified no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
62. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
63. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
64. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
65. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

66. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
67. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit
68. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
69. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
72. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
74. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
75. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-4-17

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #4)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NO_x and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NO_x and CO concentration corrected to 15% O₂ (dry). EPA Methods 7E or 20 shall be used for NO_x emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM₁₀ concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NO_x as NO₂ and continuous monitoring system for CO & CO₂ shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NO_x and O₂ monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NO_x, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O₂, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration . [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
51. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
52. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

53. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
55. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
56. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
57. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
59. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
60. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
61. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
63. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
64. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
65. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

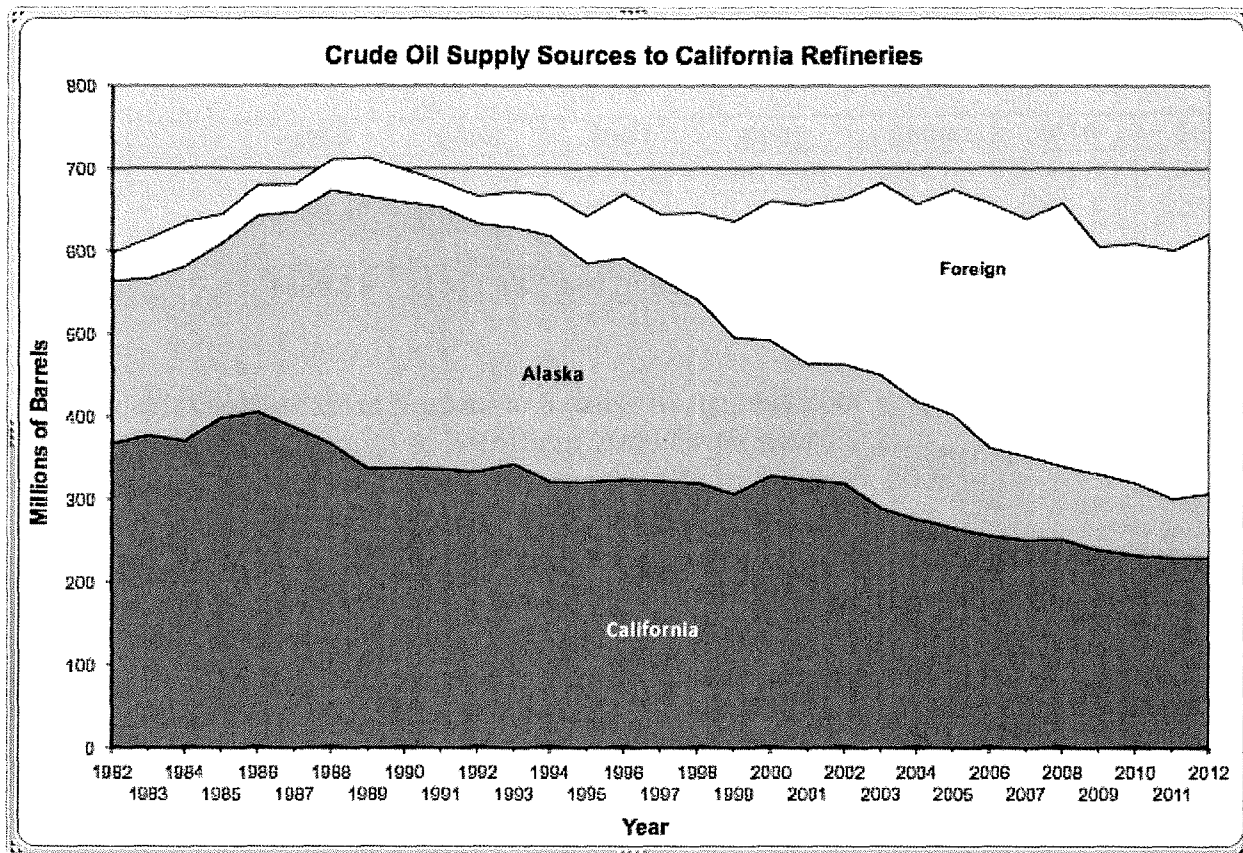
66. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
67. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
68. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

Appendix B
California production

ATTACHMENT 1

Oil Production Graph



[http://energyalmanac.ca.gov/petroleum/statistics/crude oil receipts.html](http://energyalmanac.ca.gov/petroleum/statistics/crude%20oil%20receipts.html)

ATTACHMENT 2

Historical Fuel Use from Steam Generators/Turbines at S-1127 & S-1131 (Fuel in mmcf)

Facility	2205	2006	2007	2008	2009	2010	2011
S-1127	5237.11	5015.33	3871.22	3911.45	3681.65	3684.86	3540.13
S-1131	4232.48	6496.02	6447.84	6400.62	3854.54	4265.13	3225.11
TOTAL	9469.59	11511.35	10319.06	10312.07	7536.19	7949.99	6765.24

Notes:

- 1) KRCC (S-88) went from 4 units to 3 units in August 2005
- 2) KRCC went from 3 units to 2 units in 2006 (with new PPA)
- 3) Sycamore (S-511) went from 4 units to 3 units in January 2008
- 4) Sycamore went from 3 units to 2 units in 2010 (new PPA)
- 5) Data for S-1131 for 2006 has been adjusted (appears to have been a transposition error in annual emissions inventory)

Appendix C
Source Test Data

TABLE 2-2
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
HRSG OUTLET STACK UNIT NO. 1
AUTHORITY TO CONSTRUCT NO. S-511-1-10
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
MARCH 2, 2006

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0318	0.0317	0.0322	0.0319
lb/MMscf	33.2	33.1	33.6	33.3
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0072	0.0069	0.0066	0.0069
lb/MMscf	7.53	7.21	6.92	7.22
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	121	122	123	122
lb/MMscf	126,029	127,555	128,813	127,466

TABLE 2-5
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-2-10
HRSG OUTLET STACK UNIT NO. 2
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
MARCH 1, 2006

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0249	0.0244	0.0244	0.0246
lb/MMscf	26.0	25.5	25.4	25.6
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0061	0.0066	0.0066	0.0064
lb/MMscf	6.34	6.93	6.92	6.73
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	123	124	123	123
lb/MMscf	128,668	129,052	128,013	128,578

TABLE 2-8
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-3-10
HRSG OUTLET STACK UNIT NO. 3
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 28, 2006

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0318	0.0317	0.0322	0.0319
lb/MMscf	33.2	33.1	33.6	33.3
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0072	0.0069	0.0066	0.0069
lb/MMscf	7.53	7.21	6.92	7.22
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	121	122	123	122
lb/MMscf	126,029	127,555	128,813	127,466

TABLE 2-11
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-4-10
HRSG OUTLET STACK UNIT NO. 4
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 28, 2006

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0317	0.0324	0.0320	0.0320
lb/MMscf	33.0	33.8	33.4	33.4
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0114	0.0110	0.0111	0.0112
lb/MMscf	11.91	11.53	11.60	11.68
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	123	123	123	123
lb/MMscf	128,172	128,604	128,760	128,512

TABLE 2-1
COMPLIANCE DATA SUMMARY
HRSG OUTLET STACK UNIT NO. 1
AUTHORITY TO CONSTRUCT NO. S-511-1-10
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 20, 2007

Parameter	Run 1	Run 2	Run 3	Average	Limits
<u>Oxygen (O₂)</u>					
%	14.82	14.87	14.88	14.86	
<u>Nitrogen Oxides (NO_x)</u>					
ppm	8.92	9.04	9.02	8.99	
ppm @ 15% O ₂	8.66	8.84	8.84	8.78	16.4
lb/hr	26.3	26.7	26.6	26.5	79.7
lb/day	632	640	639	637	1629.6
lb/MMBtu	0.0318	0.0325	0.0325	0.0323	
lb/MMscf	32.8	33.5	33.5	33.2	
<u>Carbon Monoxide (CO)</u>					
ppm	0.59	0.53	0.46	0.53	
ppm @ 15% O ₂	0.58	0.51	0.45	0.51	25.0
lb/hr	1.07	0.95	0.83	0.95	44.0
lb/day	25.6	22.7	20.0	22.8	1,056
lb/MMBtu	0.0013	0.0012	0.0010	0.0012	
lb/MMscf	1.33	1.19	1.05	1.19	
<u>Carbon Dioxide (CO₂)</u>					
%	3.67	3.65	3.63	3.65	
lb/hr	103,637	103,241	102,534	103,137	
lb/day	2,487,280	2,477,787	2,460,817	2,475,295	
lb/MMBtu	125	125	125	125	
lb/MMscf	128,929	128,930	128,930	128,930	
<u>Gas Turbine Efficiency</u>					
(EEF ₁)	33.0	32.8	33.0	32.9	
<u>Mega Watts</u>					
MW	78.9	78.8	79.1	78.9	

TABLE 2-3
COMPLIANCE DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-2-12
HRSG OUTLET STACK UNIT NO. 2
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 20, 2007

Parameter	Run 1	Run 2	Run 3	Average	Limits
<u>Oxygen (O₂)</u>					
%	15.09	15.09	15.09	15.09	
<u>Nitrogen Oxides (NO_x)</u>					
ppm	9.40	9.42	9.52	9.45	
ppm @ 15% O ₂	9.55	9.57	9.67	9.59	16.4
lb/hr	29.5	29.6	30.2	29.8	79.7
lb/day	709	711	725	715	1629.6
lb/MMBtu	0.0351	0.0352	0.0355	0.0353	
lb/MMscf	36.1	36.2	36.6	36.3	
<u>Carbon Monoxide (CO)</u>					
ppm	2.84	2.59	2.66	2.70	
ppm @ 15% O ₂	2.88	2.63	2.70	2.74	25.0
lb/hr	5.44	4.96	5.14	5.18	44.0
lb/day	130	119	123	124	1,056
lb/MMBtu	0.0065	0.0059	0.0060	0.0061	
lb/MMscf	6.64	6.06	6.22	6.31	
<u>Carbon Dioxide (CO₂)</u>					
%	3.53	3.52	3.52	3.52	
lb/hr	106,150	105,850	106,801	106,267	
lb/day	2,547,608	2,540,391	2,563,216	2,550,405	
lb/MMBtu	126	126	126	126	
lb/MMscf	129,759	129,392	129,392	129,514	
<u>Gas Turbine Efficiency</u>					
(EEF ₁)	31.5	31.5	31.2	31.4	
<u>Mega Watts</u>					
MW	78.3	77.8	77.7	77.9	

TABLE 2-5
COMPLIANCE DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-3-12
HRSG OUTLET STACK UNIT NO. 3
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 21, 2007

Parameter	Run 1	Run 2	Run 3	Average	Limits
<u>Oxygen (O₂)</u>					
%	15.02	15.04	15.06	15.04	
<u>Nitrogen Oxides (NO_x)</u>					
ppm	8.49	8.41	8.40	8.43	
ppm @ 15% O ₂	8.52	8.47	8.48	8.49	16.4
lb/hr	27.8	27.6	27.4	27.6	79.7
lb/day	668	661	657	662	1629.6
lb/MMBtu	0.0313	0.0311	0.0312	0.0312	
lb/MMscf	32.2	32.0	32.1	32.1	
<u>Carbon Monoxide (CO)</u>					
ppm	2.77	2.71	2.37	2.61	
ppm @ 15% O ₂	2.77	2.73	2.39	2.63	25.0
lb/hr	5.52	5.40	4.69	5.20	44.0
lb/day	132.4	129.7	112.6	124.9	1,056
lb/MMBtu	0.0062	0.0061	0.0053	0.0059	
lb/MMscf	6.39	6.28	5.50	6.06	
<u>Carbon Dioxide (CO₂)</u>					
%	3.55	3.56	3.55	3.55	
lb/hr	111,143	111,738	110,550	111,144	
lb/day	2,667,421	2,681,718	2,653,202	2,667,447	
lb/MMBtu	125	126	126	126	
lb/MMscf	128,781	129,662	129,662	129,369	
<u>Gas Turbine Efficiency</u>					
(EEF ₁)	32.9	32.9	32.8	32.9	
<u>Mega Watts</u>					
MW	85.8	85.4	84.3	85.2	

TABLE 2-7
COMPLIANCE DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-4-10
HRSG OUTLET STACK UNIT NO. 4
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 22, 2007

Parameter	Run 1	Run 2	Run 3	Average	Limits
<u>Oxygen (O₂)</u>					
%	14.97	15.00	15.03	15.00	
<u>Nitrogen Oxides (NO_x)</u>					
ppm	8.60	8.41	8.19	8.40	
ppm @ 15% O ₂	8.56	8.41	8.23	8.40	16.4
lb/hr	27.3	26.7	26.2	26.7	79.7
lb/day	654	640	628	641	1629.6
lb/MMBtu	0.0315	0.0309	0.0303	0.0309	
lb/MMscf	32.4	31.8	31.1	31.8	
<u>Carbon Monoxide (CO)</u>					
ppm	1.36	1.21	1.17	1.25	
ppm @ 15% O ₂	1.35	1.21	1.18	1.25	25.0
lb/hr	2.63	2.34	2.28	2.41	44.0
lb/day	63.0	56.1	54.6	57.9	1,056
lb/MMBtu	0.0030	0.0027	0.0026	0.0028	
lb/MMscf	3.12	2.79	2.71	2.87	
<u>Carbon Dioxide (CO₂)</u>					
%	3.58	3.57	3.57	3.57	
lb/hr	108,583	108,280	109,120	108,661	
lb/day	2,606,002	2,598,723	2,618,878	2,607,868	
lb/MMBtu	125	126	126	126	
lb/MMscf	128,934	129,888	129,888	129,570	
<u>Gas Turbine Efficiency</u>					
(EEF ₁)	33.4	33.2	32.5	33.0	
<u>Mega Watts</u>					
MW	86.1	84.0	82.2	84.1	

TABLE 2-2
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
HRSG OUTLET STACK UNIT NO. 1
AUTHORITY TO CONSTRUCT NO. S-511-1-12
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
JUNE 11, 2008

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0121	0.0123	0.0123	0.0122
lb/MMscf	12.1	12.3	12.3	12.2
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0068	0.0071	0.0073	0.0071
lb/MMscf	6.85	7.08	7.34	7.09
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	118	119	118	119
lb/MMscf	118,654	119,508	118,907	119,023
<u>Volatile Organic Compounds (C₁-C₆, as methane)</u>				
lb/MMBtu	ND<0.0012	ND<0.0012	ND<0.0012	ND<0.0012
lb/MMscf	ND<1.2	ND<1.2	ND<1.2	ND<1.2

TABLE 2-5
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-2-13
HRSG OUTLET STACK UNIT NO. 2
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
APRIL 24, 2008

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0118	0.0120	0.0118	0.0119
lb/MMscf	11.86	12.09	11.83	11.93
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0088	0.0075	0.0066	0.0076
lb/MMscf	8.81	7.56	6.62	7.66
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	124	125	124	124
lb/MMscf	124,277	125,062	124,161	124,500
<u>Volatile Organic Compounds (C₁-C₆, as methane)</u>				
lb/MMBtu	ND<0.0013	ND<0.0013	ND<0.0013	ND<0.0013
lb/MMscf	ND<1.31	ND<1.31	ND<1.31	ND<1.31

TABLE 2-8
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
AUTHORITY TO CONSTRUCT NO. S-511-3-13
HRSG OUTLET STACK UNIT NO. 3
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
MAY 20, 2008

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0112	0.0112	0.0113	0.0112
lb/MMscf	11.23	11.25	11.34	11.27
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0024	0.0020	0.0019	0.0021
lb/MMscf	2.36	2.00	1.90	2.09
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	119.4	119.4	119.4	119.4
lb/MMscf	119,890	119,838	119,894	119,874
<u>Volatile Organic Compounds (C₁-C₆, as methane)</u>				
lb/MMBtu	ND<0.0013	ND<0.0013	ND<0.0013	ND<0.0013
lb/MMscf	ND<1.31	ND<1.31	ND<1.31	ND<1.31

TABLE 2-2
REPRESENTATIVE EMISSIONS FACTORS DATA SUMMARY
HRSG OUTLET STACK UNIT NO. 1
AUTHORITY TO CONSTRUCT NO. S-511-1-12
SYCAMORE COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
APRIL 24, 2008

Parameter	Run 1	Run 2	Run 3	Average
<u>Nitrogen Oxides (NO_x)</u>				
lb/MMBtu	0.0115	0.0115	0.0116	0.0115
lb/MMscf	11.51	11.58	11.66	11.58
<u>Carbon Monoxide (CO)</u>				
lb/MMBtu	0.0095	0.0091	0.0088	0.0091
lb/MMscf	9.51	9.15	8.84	9.16
<u>Carbon Dioxide (CO₂)</u>				
lb/MMBtu	119	119	118	118
lb/MMscf	119,489	118,991	118,393	118,958
<u>Volatile Organic Compounds (C₁-C₆, as methane)</u>				
lb/MMBtu	ND<0.0012	ND<0.0012	0.0022	0.0015
lb/MMscf	ND<1.2	ND<1.2	2.21	1.54

Appendix D
Fuel Use Data

	MMBtu				Total all 4 units					
	Unit 1	Unit 2	Unit 3	Unit 4		Source test	Unit1	Unit 2	Unit 3	Unit4
Jan-97	713,232	668,348	755,824	707,797	2,845,201					
Feb-97	407,072	595,313	651,484	592,355	2,246,224					
Mar-97	159,405	662,182	729,357	654,979	2,205,923					
Apr-97	683,355	602,181	668,509	475,715	2,429,760	2/28/2006		122	123	122
May-97	693,766	597,327	693,348	242,313	2,226,754	2/22/2007		125	126	126
Jun-97	653,569	581,074	648,550	614,005	2,497,198	4/24/2008		119	124	119
Jul-97	695,939	645,442	694,804	616,528	2,652,713					
Aug-97	714,053	653,390	707,375	707,293	2,782,111					
Sep-97	685,977	618,076	673,842	677,523	2,655,418					
Oct-97	700,139	46,268	669,726	715,476	2,131,609					
Nov-97	624,217	577,494	649,417	665,287	2,516,415					
Dec-97	707,084	726,648	717,122	694,384	2,845,238					
Jan-98	721,913	707,341	719,567	723,037	2,871,858					
Feb-98	630,760	655,947	642,254	641,911	2,570,872					
Mar-98	698,238	707,178	694,684	716,927	2,817,027					
Apr-98	696,728	706,008	682,443	702,492	2,787,671					
May-98	692,721	705,959	690,982	683,547	2,773,209					
Jun-98	682,125	689,424	683,056	688,902	2,743,507					
Jul-98	684,488	689,056	664,672	695,025	2,733,241					
Aug-98	686,091	696,754	677,177	694,290	2,754,312					
Sep-98	652,143	673,156	662,708	668,576	2,656,583					
Oct-98	706,794	694,540	647,967	711,645	2,760,946					
Nov-98	699,218	709,098	681,985	705,436	2,795,737					
Dec-98	716,760	724,118	737,561	734,381	2,912,820					
Jan-99	640,123	702,953	689,275	710,943	2,743,294					
Feb-99	655,186	650,585	638,208	653,925	2,597,904					
Mar-99	70,368	701,521	706,330	620,101	2,098,320					
Apr-99	697,951	682,128	687,248	699,305	2,766,632					
May-99	696,247	675,224	678,873	685,628	2,735,972					
Jun-99	668,632	677,895	662,772	670,828	2,680,127					
Jul-99	693,825	690,814	686,354	688,607	2,759,600					
Aug-99	691,514	689,999	691,797	689,538	2,762,848					
Sep-99	669,024	666,505	652,116	670,854	2,658,499					
Oct-99	693,157	589,423	691,093	672,367	2,646,040					
Nov-99	705,313	701,239	686,788	694,693	2,788,033					
Dec-99	726,232	678,818	707,639	700,126	2,812,815					
Jan-00	723,877	714,036	708,708	705,560	2,852,181					
Feb-00	658,116	672,480	671,775	614,843	2,617,214					
Mar-00	721,557	700,256	717,107	715,723	2,854,643					
Apr-00	673,924	672,846	618,061	673,936	2,638,767					
May-00	711,231	703,424	573,430	696,500	2,684,585					
Jun-00	641,356	648,017	657,303	633,140	2,579,816					
Jul-00	695,082	691,797	704,676	665,509	2,757,064					
Aug-00	689,033	696,826	709,579	694,560	2,789,998					
Sep-00	679,367	675,264	688,213	672,377	2,715,221					
Oct-00	690,004	716,758	716,785	707,388	2,830,935					
Nov-00	678,883	702,771	710,839	618,249	2,710,742					
Dec-00	687,522	684,296	689,705	679,085	2,740,608					
Jan-01	554,752	708,101	712,481	701,027	2,676,361					
Feb-01	606,138	605,289	598,275	422,089	2,231,791					
Mar-01	611,549	611,704	616,888	616,443	2,456,384					
Apr-01	679,435	512,681	631,872	659,051	2,483,039					
May-01	700,769	713,956	698,119	689,208	2,802,052					
Jun-01	672,439	676,363	665,834	661,331	2,675,967					
Jul-01	660,995	679,800	655,833	644,905	2,641,533					
Aug-01	687,832	701,556	686,171	683,456	2,759,015					
Sep-01	657,125	673,719	652,118	654,227	2,637,189					
Oct-01	689,040	694,638	681,344	671,601	2,736,623					
Nov-01	674,539	692,491	671,726	664,427	2,703,183					
Dec-01	728,978	485,195	711,344	715,931	2,641,448					
Jan-02	724,733	739,693	726,791	713,937	2,905,154					
Feb-02	641,946	662,873	641,434	628,142	2,574,395					
Mar-02	713,569	735,761	720,485	716,669	2,886,484					
Apr-02	687,193	701,733	562,663	678,108	2,629,697					
May-02	684,675	702,134	421,252	676,848	2,484,909					
Jun-02	665,835	675,947	710,142	660,106	2,712,030					
Jul-02	677,152	694,601	722,426	674,161	2,768,340					
Aug-02	672,581	693,908	719,961	675,710	2,762,160					
Sep-02	644,998	676,363	698,824	655,123	2,675,308					
Oct-02	253,040	714,442	736,185	685,352	2,389,019					
Nov-02	720,151	683,073	695,378	614,316	2,712,918					
Dec-02	691,711	704,320	720,666	291,722	2,408,419					
Jan-03	733,571	706,129	729,611	737,291	2,906,602					
Feb-03	654,000	631,589	660,482	661,621	2,607,692					
Mar-03	694,891	601,468	693,391	698,718	2,688,468					
Apr-03	673,599	684,312	698,533	671,745	2,728,189					
May-03	709,279	672,336	704,645	704,622	2,790,882					
Jun-03	671,667	657,663	680,215	666,500	2,676,045					
Jul-03	701,446	683,586	706,836	700,495	2,792,363					
Aug-03	692,695	692,695	702,906	696,951	2,785,247					
Sep-03	678,230	661,250	674,987	675,176	2,689,643					
Oct-03	724,077	696,934	718,235	711,424	2,850,670					
Nov-03	707,318	691,380	717,969	710,728	2,827,395					
Dec-03	721,473	703,440	725,789	721,937	2,872,639					
Jan-04	738,479	715,773	747,127	740,705	2,942,084					
Feb-04	675,905	661,110	686,122	662,842	2,685,979					
Mar-04	715,235	276,822	724,369	709,645	2,426,071					
Apr-04	676,481	725,438	630,944	687,105	2,719,968					
May-04	705,223	732,273	712,334	699,394	2,849,224					
Jun-04	675,336	699,817	684,677	674,076	2,733,906					
Jul-04	674,900	694,634	683,117	671,721	2,724,372					
Aug-04	704,600	710,700	700,700	600,600	2,726,600					

Appendix E Calculations

CO2e Emissions from Permit S-511-1

	Unit 1 MMBtu	Emission Factor (lb CO2e /MMBtu)	lb/month	lb 1st qtr	2nd qtr	3rd qtr	4th qtr
Jan-07	742,580	122	90,594,732	90,594,732			
Feb-07	618,982	122	75,515,756	75,515,756			
Mar-07	742,046	125	92,755,696	92,755,696			
Apr-07	713,467	125	89,183,419		89,183,419		
May-07	710,255	125	88,781,913		88,781,913		
Jun-07	676,415	125	84,551,866		84,551,866		
Jul-07	702,809	125	87,851,170			87,851,170	
Aug-07	701,455	125	87,681,910			87,681,910	
Sep-07	682,453	125	85,306,656			85,306,656	
Oct-07	699,763	125	87,470,411				87,470,411
Nov-07	689,670	125	86,208,796				86,208,796
Dec-07	745,581	125	93,197,622				93,197,622
Jan-08	735,238	125	91,904,717	91,904,717			
Feb-08	630,734	125	78,841,780	78,841,780			
Mar-08	366,649	125	45,831,069	45,831,069			
Apr-08	576,621	125	72,077,652		72,077,652		
May-08	713,861	125	89,232,565		89,232,565		
Jun-08	660,682	119	78,621,165		78,621,165		
Jul-08	416,290	119	49,538,480			49,538,480	
Aug-08	319,777	119	38,053,463			38,053,463	
Sep-08	407,225	119	48,459,785			48,459,785	
Oct-08	347,324	119	41,331,537				41,331,537
Nov-08	161,092	119	19,169,961				19,169,961
Dec-08	97,140	119	11,559,703				11,559,703

Total	lb/qtr	475,443,751	502,448,581	396,891,465	338,938,029
Historical actual	lb/qtr	237,721,876	251,224,290	198,445,732	169,469,015

CO2e Emissions from Permit S-511-2

	Unit 2 MMBtu	Emission Factor (lb CO2e /MMBtu)	lb				
			lb/month	1st qtr	2nd qtr	3rd qtr	4th qtr
Jan-07	707,164	123	86,981,182	86,981,182			
Feb-07	635,263	123	78,137,331	78,137,331			
Mar-07	694,759	126	87,539,607	87,539,607			
Apr-07	664,813	126	83,766,449		83,766,449		
May-07	664,313	126	83,703,425		83,703,425		
Jun-07	646,789	126	81,495,392		81,495,392		
Jul-07	650,956	126	82,020,415			82,020,415	
Aug-07	654,862	126	82,512,549			82,512,549	
Sep-07	609,927	126	76,850,743			76,850,743	
Oct-07	465,734	126	58,682,457				58,682,457
Nov-07	597,071	126	75,230,977				75,230,977
Dec-07	741,180	126	93,388,661				93,388,661
Jan-08	682,880	126	86,042,822	86,042,822			
Feb-08	633,736	126	79,850,758	79,850,758			
Mar-08	666,250	126	83,947,474	83,947,474			
Apr-08	418,692	126	52,755,175		52,755,175		
May-08	697,043	124	86,433,313		86,433,313		
Jun-08	685,745	124	85,032,370		85,032,370		
Jul-08	633,526	124	78,557,253			78,557,253	
Aug-08	584,629	124	72,493,969			72,493,969	
Sep-08	609,781	124	75,612,882			75,612,882	
Oct-08	548,798	124	68,050,944				68,050,944
Nov-08	670,669	124	83,162,915				83,162,915
Dec-08	730,887	124	90,629,930				90,629,930

Total	lb/qtr	502,499,174	473,186,124	468,047,812	469,145,885
Historical actual	lb/qtr	251,249,587	236,593,062	234,023,906	234,572,942

CO2e Emissions from Permit S-511-3

	Unit 3 MMBtu	Emission Factor (lb CO2e/MMBtu)	lb				
			lb/month	1st qtr	2nd qtr	3rd qtr	4th qtr
Jan-07	746,672	122	91,093,948	91,093,948			
Feb-07	669,829	122	81,719,141	81,719,141			
Mar-07	727,596	126	91,677,048	91,677,048			
Apr-07	700,892	126	88,312,453		88,312,453		
May-07	688,332	126	86,729,830		86,729,830		
Jun-07	674,135	126	84,941,057		84,941,057		
Jul-07	690,336	126	86,982,342			86,982,342	
Aug-07	691,824	126	87,169,843			87,169,843	
Sep-07	672,920	126	84,787,937			84,787,937	
Oct-07	624,136	126	78,641,095				78,641,095
Nov-07	597,071	126	75,230,977				75,230,977
Dec-07	447,756	126	56,417,208				56,417,208
Jan-08	712,466	126	89,770,773	89,770,773			
Feb-08	574,152	126	72,343,209	72,343,209			
Mar-08	494,741	126	62,337,395	62,337,395			
Apr-08	540,568	126	68,111,531		68,111,531		
May-08	665,498	126	83,852,786		83,852,786		
Jun-08	557,142	119	66,299,863		66,299,863		
Jul-08	533,301	119	63,462,802			63,462,802	
Aug-08	661,162	119	78,678,223			78,678,223	
Sep-08	400,581	119	47,669,148			47,669,148	
Oct-08	626,288	119	74,528,244				74,528,244
Nov-08	552,719	119	65,773,534				65,773,534
Dec-08	698,098	119	83,073,711				83,073,711

Total	lb/qtr	488,941,514	478,247,522	448,750,297	433,664,769
Historical actual	lb/qtr	244,470,757	239,123,761	224,375,148	216,832,385

CO2e Emissions from Permit S-511-4

	Unit 4 MMBtu	Emission Factor (lb CO2e /MMBtu)	lb				
			lb/month	1st qtr	2nd qtr	3rd qtr	4th qtr
Jan-07	760,046	123	93,485,618	93,485,618			
Feb-07	683,259	123	84,040,797	84,040,797			
Mar-07	738,886	126	93,099,654	93,099,654			
Apr-07	708,902	126	89,321,661		89,321,661		
May-07	703,355	126	88,622,706		88,622,706		
Jun-07	678,571	126	85,499,929		85,499,929		
Jul-07	698,910	126	88,062,649			88,062,649	
Aug-07	689,269	126	86,847,902			86,847,902	
Sep-07	674,401	126	84,974,551			84,974,551	
Oct-07	709,291	126	89,370,697				89,370,697
Nov-07	675,217	126	85,077,403				85,077,403
Dec-07	732,925	126	92,348,495				92,348,495
Jan-08	686,469	126	86,495,128	86,495,128			
Feb-08	635,346	126	80,053,612	80,053,612			
Mar-08	711,379	126	89,633,808	89,633,808			
Apr-08	542,205	126	68,317,871		68,317,871		
May-08	-	118	0		0		
Jun-08	208,075	118	24,552,888		24,552,888		
Jul-08	518,565	118	61,190,688			61,190,688	
Aug-08	572,100	118	67,507,762			67,507,762	
Sep-08	636,452	118	75,101,281			75,101,281	
Oct-08	602,687	118	71,117,120				71,117,120
Nov-08	633,163	118	74,713,287				74,713,287
Dec-08	703,696	118	83,036,077				83,036,077

Total	lb/qtr	526,808,618	356,315,056	463,684,834	495,663,081
Historical actual	lb/qtr	263,404,309	178,157,528	231,842,417	247,831,540

Current Permitted limits for S-511-1, '-2, '-3, '-4

NOx limitation

271,200 lb NOx/yr combined 4 turbines

67,800 lb NOx/qtr combined 4 turbines

lb NOx/yr * emission factor 0.011 lb NOx/Mmbtu * 0.0529 metric ton CO2e/MMBtu = metric ton CO2e/yr

$$271200 \frac{\text{lb}}{\text{yr}} \times 0.011 \frac{\text{lb NOx}}{\text{Mmbtu}} \times 0.0529 \frac{\text{metric ton CO2e}}{\text{MMBtu}} = 1,304,225 \text{ metric ton CO2e/qtr}$$

Emissions for each permit unit grouped by quarter

	total from all 4 turbines	
1st qtr HAE	452,085	Mt CO2e
1st qtr current permitted	326,056	Mt CO2e
1st qtr AER	126,028	Mt CO2e
2nd qtr HAE	410,476	Mt CO2e
2nd qtr current permitted	326,056	Mt CO2e
2nd qtr AER	84,419	Mt CO2e
3rd qtr HAE	403,033	Mt CO2e
3rd qtr current permitted	326,056	Mt CO2e
3rd qtr AER	76,976	Mt CO2e
4th qtr HAE	393,971	Mt CO2e
4th qtr current permitted	326,056	Mt CO2e
4th qtr AER	67,915	Mt CO2e

All 4 GTE Combined

Annual HAE	1,659,564	Mt CO2e/yr
current permitted	1,304,225	Mt CO2e/yr
Bankable AER	355,338	Mt CO2e/yr

Appendix F
Draft ERC's

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

S-4320-24

DRAFT

ISSUED TO: SYCAMORE COGENERATION CO
ISSUED DATE: <DRAFT>
LOCATION OF REDUCTION: HEAVY OIL CENTRAL
CA
SECTION: 31 TOWNSHIP: 28S RANGE: 28E

For CO2E Reduction In The Amount Of:

355,338 metric tons / year

Method Of Reduction

- Shutdown of Entire Stationary Source
 Shutdown of Emissions Units
 Other

Reduction in permitted usage of gas turbine engines (S-511-1, '-2, '-3, & '-4) verified as permanent within the State of California.

Emission Reduction Qualification Criteria

This emission reduction is surplus and additional to all applicable regulatory requirements.

Seyed Sadredin, Executive Director / APCO

DRAFT

Arnaud Marjollet, Director of Permit Services



Via Email and US Mail

June 29, 2016

Arnaud Marjollet
Director of Permit Services
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308
arnaud.marjollet@valleyair.org

Re: Sycamore Cogeneration Facility Proposed Emission Reduction Credits, Project #S-1123816

The Center for Biological Diversity (“Center”) submits the following comments regarding the Sycamore Cogeneration Facility’s application for greenhouse gas emission reduction credits (“ERCs”) in the amount of 355,338 metric tons of carbon dioxide-equivalent (“CO₂e”) per year.

The Center is a non-profit organization with more than one million members and online activists and offices throughout the United States, including in Oakland, Los Angeles, and Joshua Tree, California. The Center’s mission is to ensure the preservation, protection and restoration of biodiversity, native species, ecosystems, public lands and waters and public health. In furtherance of these goals, the Center’s Climate Law Institute seeks to reduce U.S. greenhouse gas emissions and other air pollution to protect biological diversity, the environment, and human health and welfare. Specific objectives include securing protections for species threatened by global warming, ensuring compliance with applicable law in order to reduce greenhouse gas emissions and other air pollution, and educating and mobilizing the public on global warming and air quality issues.

Approval of Sycamore’s application for ERCs would violate the San Joaquin Valley Air Pollution Control District’s Rule 2301. In addition, these ERCs would not be valid for listing or trading under the California Air Pollution Control Officers Association (“CAPCOA”) greenhouse gas registry. Finally, contrary to statements contained in the application package, the proposed ERCs may not be used as greenhouse gas mitigation under the California Environmental Quality Act (“CEQA”).

I. THE PROPOSED EMISSION REDUCTION CREDITS VIOLATE THE REQUIREMENTS OF RULE 2301

The proposed ERCs are invalid under the San Joaquin Valley Air Pollution Control District's ("SJVAPCD") Rule 2301 because the reductions are not "real, surplus, permanent, quantifiable, and enforceable." Rule 2301 § 4.5.3. First, the project involves greenhouse gas ("GHG") reductions that would occur after the facility became obligated to reduce its emissions under the state cap-and-trade program. Second, the application review does not establish that the reductions are permanent; for example, the geographic boundary of the project is too broad, resulting in a significant probability of emissions "leakage". Third, the calculation of actual emission reductions are prone to inaccuracy. Fourth, anticipated reductions are based on an incorrect baseline. Fifth, the enforceability of these ERCs would last only as long as one permit renewal cycle, which is five years.

As background, the GHG reductions that are the subject of this ERC application purportedly resulted from decreased operation of four natural gas turbines at the Sycamore cogeneration facility. The operator first filed an application to revise its Title V operating permit in December 2011.¹ The proposed revision was to reduce total allowable annual NOx emissions. At the same time, *before the permit was actually revised*, the facility also applied for ERCs for both reduced NOx emissions and reduced GHG emissions.² The new, lower NOx limitation took effect in June of 2012 when the new permit condition was finalized. In January 2016, the facility was granted ERCs for its NOx emissions. As noted, the application for GHG ERCs was filed on December 27, 2011 and deemed complete March 10, 2014. It appears that Sycamore seeks to receive ERCs for its reduced GHG emissions beginning in 2012 and continuing into the foreseeable future with no expiration.³

A. Any GHG Reductions After January 1, 2012 Must be Applied to Compliance with State Cap-and-Trade Obligations

The proposed ERCs are not "surplus" reductions, and thus are invalid. Under Rule 2301, "Greenhouse gas emission reductions that occur at a facility subject to the CARB greenhouse gas cap and trade regulation on or after January 1, 2012 are not surplus." Rule 2301 § 4.5.3.1. Because reductions that occur after January 1, 2012 will be used to comply with cap-and-trade obligations, granting these same reductions a bankable credit would result in "double counting." The proposed ERCs result from a voluntary reduction in output, which first became a permit requirement in June 2012.⁴ Thus, all enforceable emission reductions occurred after January 1, 2012. These ERCs are thus clearly invalid under Rule 2301, section 4.5.3.1.

¹ Personal telephone communication from Leonard Scandura, Lead Engineer for SJVAPCD, to Anna Moritz (June 20, 2016).

² SJVAPCD, Public Notice Package: Facility S-511 Project S-1123816, Review of Application at 1 (May 26, 2016) (hereinafter "Review of Application"); *available at* [http://www.valleyair.org/notices/Docs/2016/05-26-16_\(S-1123816\)/S-1123816.pdf](http://www.valleyair.org/notices/Docs/2016/05-26-16_(S-1123816)/S-1123816.pdf); SJVAPCD, Public Notice Package: Facility S-511 Project S-1114928, Review of Application at 1 (May 28, 2014) (application for NOx ERCs filed December 27, 2011) (hereafter "NOx ERC Application Review"), *available at* [www.valleyair.org/notices/Docs/2014/05-28-14_\(S-1114928\)/PNP-S-1114928.pdf](http://www.valleyair.org/notices/Docs/2014/05-28-14_(S-1114928)/PNP-S-1114928.pdf).

³ Unlike virtually every other air pollution control district, SJVAPCD's Rule 2301 allows ERCs to be granted in perpetuity with no expiration. Personal telephone communication from Leonard Scandura, Lead Engineer for SJVAPCD, to Anna Moritz (June 20, 2016).

⁴ Personal telephone communication from Leonard Scandura, Lead Engineer for SJVAPCD, to Anna Moritz (June 20, 2016).

The District appears to assume the emission reductions occurred prior to January 1, 2012, but the basis for this assumption is unclear. Neither of the potential reasons for concluding the reductions pre-date the facility's coverage under state cap-and-trade regulations is legally defensible. One possibility is that the District may be assuming the date of emission reductions relates back to the date Sycamore applied to have the total NOx emissions limit placed on the Title V permits for the four turbines (December 2011⁵). This interpretation is clearly contrary to Rule 2301's unambiguous requirement that the actual GHG reductions – not the application – occur prior to January 1, 2012. As such, it would be contrary to the principle behind Rule 2301's surplus requirements to count an unenforceable application to change permit conditions—an application that might not be approved as submitted, regarding a change that could easily be reversed by the applicant—as indicative of actual emission reductions.

Another possibility is that the District may be assuming the date when the “facility had stopped operating turbines in full time status”⁶ is when emission reductions occurred. If this is the logic behind the date of reductions, it is flawed for several reasons. First, we note that if the date of reduced operation is treated as when reductions occurred, the application analysis provides absolutely no indication when operation was curtailed and by how much, making quantification – one of the criteria for valid ERCs – entirely impossible.⁷ Second, if the date of reduced operations is treated as the onset of emission reductions rather than the date those reductions were incorporated into a permit condition, it would fail the requirement under Rule 2301 that emission reductions be enforceable. Rule 2301 § 4.5.6. Third, treating voluntary declines in operation as the date of reductions would violate Rule 2301's requirement for permanence. By its nature, a voluntary decrease in output is fully reversible and subject to the vagaries of the market where there are no guarantees of future behavior. In sum, the date of voluntary reductions in operations is an invalid measure for the onset of actual emission reductions.

Finally, even if emission reductions voluntarily undertaken prior to January 1, 2012 could generate ERCs, any reductions that occurred after this date would not be eligible for ongoing ERCs because the intervening event of cap-and-trade compliance obligations would render the reductions ineligible for ERCs going forward under Rule 2301.

B. The State-wide Geographic Boundary Is Impermissibly Broad

The application analysis indicates that the entire state of California is the geographic boundary for the ERCs without providing sufficient evidence that the emission reductions will be “real” and “permanent” within the entire state. Choice of geographic boundary is designed to prevent emissions leakage. Because there is no assurance that the decreased energy production from this facility will not be substituted by different energy sources within the state of California, this geographic boundary is too broad.

⁵ Review of Application at 6.

⁶ Review of Application at 6.

⁷ We note that while curtailed operation data is provided in this Public Notice Package, the Public Notice Package for the NOx ERC application included more details on operation at Appendix B, *available at* [https://www.valleyair.org/notices/Docs/2014/05-28-14_\(S-1114928\)/PNP-S-1114928.pdf](https://www.valleyair.org/notices/Docs/2014/05-28-14_(S-1114928)/PNP-S-1114928.pdf).

Emission reductions that are achieved through the expedient of reduced production—as opposed to more efficient technology or practices—are particularly likely to lead to emissions “leakage” whereby another source of energy is used to supply the same demand, with no net decrease in GHG emissions. To qualify as a “real” and “permanent” emission reduction under Rule 2301, the applicant would need to provide evidence of both enforceable and lasting decreased demand for energy. There is no such evidence in the publicly available materials here.

The application analysis makes an unsuccessful attempt to support a finding of permanence through the mere presentation of general historic trends in fossil fuel production. The application indicates that power and steam from these turbines has been used for production in the Kern River oilfield and that energy requirements have declined.⁸ To support its decision to scale back operations, the application review provides data in a single plot depicting a general decline in California crude oil production since the 1980’s.⁹ The application review also provides what appears to be data on fuel use at various turbines in Kern County between 2005 and 2011 (no explanation provided in application).¹⁰ The materials are presumably intended to show there is a downward trend. The application fails, however, to provide any evidence that any such trend will continue, much less that it will be permanent.

Several lines of evidence suggest that the future of oil production in California may buck historic trends. It is well-established that the oil market is highly volatile, making historic trends questionable predictors. More specifically, Kern County recently issued an environmental impact report (“EIR”) for its ordinance creating a ministerial process for oil and gas permitting in the County. The EIR indicated that there would be approximately 2,697 new producing wells per year in Kern County for the next 20 years and beyond.¹¹ These data strongly contradict the general evidence provided by the applicant of decreasing oil and gas production. Moreover, a recent analysis of well stimulation by the California Council on Science and Technology found that well stimulation may result in expanded oil production in California, especially from the Monterey Formation.¹²

In addition, it appears that this facility may have been selling electricity to the grid,¹³ which means that oil and gas production is not the sole factor in determining how often the turbines run. Once in the grid, the electricity could have been used by any number of sources in the vicinity. Thus, proof that reduced demand is both enforceable and permanent is practically

⁸ Review of Application at 2.

⁹ Public Notice Package, Appx. B Att. 1.

¹⁰ Public Notice Package, Appx. B Att. 2.

¹¹ Kern County, Environmental Impact Report: Revisions to Kern County Zoning Ordinance – 2015(c) at 3-30 (July 2015), *available at* <http://pcd.kernds.com/planning/environmental-documents/421-oil-gas-deir>.

¹² California Council on Science and Technology, AN INDEPENDENT ASSESSMENT OF WELL STIMULATION IN CALIFORNIA: WELL STIMULATION TECHNOLOGIES AND THEIR PAST, PRESENT AND POTENTIAL FUTURE USE IN CALIFORNIA (Jan. 2015), *available at* <http://ccst.us/publications/2015/2015SB4-v1.pdf>.

¹³ Personal telephone communication from Leonard Scandura, Lead Engineer for SJVAPCD, to Anna Moritz (June 20, 2016).

impossible to provide. This is the exact reason why a simple business decision to reduce production does not constitute the form of emissions reduction that can be converted into bankable credits.

The application review also erroneously assumes that statewide cap-and-trade compliance creates a permanent reduction in state-wide demand, and therefore permanent emission reductions.¹⁴ Although the goal of the state cap-and-trade program is to reduce state GHG emissions to 1990 levels by 2020, this could be achieved in a number of ways that do not require decreased demand for electricity. Furthermore, the prolific use of offsets and the “pay to pollute” approach intrinsic to cap-and-trade systems erodes the certainty of reduced energy demand. Thus, participation in the state cap-and-trade program does not constitute evidence that reduced energy demand is either inevitable or permanent at the state level.

C. Calculations for Actual Emission Reductions Are Inaccurate

Use of conflicting emission factors undermines the accuracy of predicted future CO₂e emissions, thereby violating Rule 2301’s requirement that emissions reductions be both “real” and “quantifiable”. Rule 2301 § 4.5.1. The future or “actual” reductions from these turbines are biased high because different emissions factors are applied to historic as opposed to actual emissions. Historic CO₂ emissions were estimated using CO₂ emission factors from stack tests at the turbine,¹⁵ while a district default emission factor was used to calculate “actual emission reductions.”¹⁶ The district’s default emission factor, however, is lower than actual emission factors measured at the facility.¹⁷ The result is an underestimate in future “actual” emissions and a consequent overestimate of emissions reductions. Please see Appendix A to this letter for sample calculations.

Further potential inaccuracies may result from the use of permitted NO_x limits rather than actual fuel consumption to compute CO₂ emissions. Calculation of CO₂ reductions requires information on total fuel consumption, which is then multiplied by an emission factor. Because the facility’s operating permit sets an upper limit on total NO_x emissions, rather than fuel consumption, the amount of fuel consumed at each turbine is calculated from a NO_x emission factor that indicates the average pounds of NO_x produced per MMBtu natural gas consumed. This multi-step derivation of fuel use creates an obvious potential for inaccuracy. If the facility is able to reduce the NO_x intensity of its operations in some way other than by reducing operation of the turbines, more fuel – and consequent CO₂ emissions – would be produced than otherwise assumed through the use of a NO_x conversion factor based on historic stack tests. Because a reduction in total NO_x does not necessarily require a one-to-one reduction in fuel use, the lack of

¹⁴ Review of Application at 2.

¹⁵ Review of Application at 4.

¹⁶ *Id.*

¹⁷ For example, using the fuel usage data provided at Appendix E of the Public Notice Package for the GHG ERCs, we calculated historical actual emissions using the District’s default CO₂ emission factor. Based on the District’s emission factor, we calculated that the historical average annual baseline emissions from all four units would be about five percent less than the historical emissions assumed in the application review. This equates to annual ERCs on the order of 255,861 MT CO₂e per year – over 25 percent below the proposed quantity of ERCs. Full example calculations are attached at Appendix A to this letter.

a permit condition limiting fuel usage (or directly limiting CO₂ emissions) leads to a lack of enforceability of CO₂ reductions, thereby violating Rule 2301.

D. The Application Review Uses an Incorrect Baseline Period for Evaluating Historic Emissions.

The ERC application violates District rules governing selection of a baseline period for calculation of “historic actual emissions.” The application for ERCs was not deemed complete until March 10, 2014. By this time, the application review’s selected baseline or “historic actual” emissions data for the facility (years 2007 and 2008) were beyond the five-year limit set out under Rule 2301. The ERC application must provide assurance that these outdated emissions data are representative of historic facility CO₂ emissions.

The inconsistent treatment of baselines between SJVAPCD Rules 2201 and 2301 for GHG emissions leads to arbitrary results when applied to this facility. Under Rule 2301 § 3.6, the definition of “baseline period” is the same as in Rule 2201 § 3.9, which states that the baseline is measured from the “submission date of the Complete Application.” Rule 2201 § 3.9.1, 3.9.2. Yet, Rule 2301 appears to invoke a different approach in which it estimates historic annual average GHG emissions relative to the “date the emission reduction occurred.” Rule 2301 § 4.5.4.

The baseline period is relevant in this instance because the facility’s baseline/historical actual emissions were substantially different over consecutive 24-month periods in the five years prior to the date the GHG ERC application was deemed complete (March 2009 to March 2014) compared with the five years prior to the date Sycamore first applied for GHG ERCs (December 2006 to December 2011).¹⁸ Because the highly variable pattern of emissions from this facility alters the calculated emission reductions, it is essential that the baseline be accurately selected. The District has not articulated any legal or evidentiary basis for treating GHGs differently from other pollutants in calculating baseline periods under Rule 2301.

The ERC application review explicitly relies on an erroneous baseline calculation from the facility’s prior application for NO_x ERCs. In the prior application, Sycamore appeared to calculate the five-year baseline period from the date the application was submitted (December 11, 2011), even though under the plain text of Rules 2201 and 2301, the baseline period should have been calculated from the date the application was complete (November 14, 2013).¹⁹ The selected baseline period—from January 2007 to December 2008—was thus almost entirely outside the five-year look-back period contemplated by the District’s rules (which would have extended back to November 2008 at the very earliest). SJVAPCD Rule 2201 § 3.9; Rule 2301 §

¹⁸ The full data for fuel use over all years in question were omitted from the Public Notice Package for the GHG ERCs, but fuel usage data through 2011 were included in Appendix B of the Public Notice Package for the NO_x Emission Reduction Credits, available at [https://www.valleyair.org/notices/Docs/2014/05-28-14_\(S-1114928\)/PNP-S-1114928.pdf](https://www.valleyair.org/notices/Docs/2014/05-28-14_(S-1114928)/PNP-S-1114928.pdf).

¹⁹ See NO_x ERC Application Review at 1, 3-4.

3.6. The GHG ERC application review at issue here expressly relies on this erroneous baseline calculation.²⁰

The selection of a baseline period for the GHG ERC application is thus triply erroneous: (1) it relies on a prior error in calculating the baseline for the NOx ERC application; (2) it uses a baseline period that is even more outdated than the baseline in the NOx ERC application; and (3) to the extent the District intends to apply section 4.5.4 instead of section 3.6 of Rule 2301, it necessarily reaches an arbitrary and irrational result that contradicts the record and is unsupported by any evidence.

E. Any Emission Reduction Credits Should be Limited to the Duration of Each Permit to Operate Renewal

The duration of any future ERCs must be confined to the dates over which there is an enforceable agreement or permit limiting emissions. Although Rule 2301 could theoretically allow ERCs to be granted in perpetuity, there would need to be a binding agreement or permit that was of the same duration to meet the requirement of enforceability under Rule 2301 § 4.5.6. SJVAPCD Title V permits such as for the Sycamore facility are renewed every five years; the specific operating permits that form the basis of this application expired in 2015 with renewals currently being processed. Thus, any ERCs issued would be enforceable only for the duration of a renewal cycle. A new application for ERCs would be required at each renewal cycle to ensure that the emission reductions remain real and enforceable.

II. THE PROPOSED EMISSION REDUCTION CREDITS DO NOT MEET CAPCOA REQUIREMENTS FOR THE STATEWIDE REGISTRY

A. The Proposed ERCs Violate CAPCOA's "Additionality" Criteria.

In addition to being inconsistent with Rule 2301,²¹ these credits would be invalid for listing with CAPCOA's GHGRx registry because they do not meet CAPCOA's requirements for "additionality." ERCs must meet two requirements under CAPCOA's test for additionality: (1) the emission reduction must "not be due to an action that is required by a law, rule or other requirement" ("regulatory surplus test") and (2) at least one of three additional criteria.²² The three additional tests are: the action exceeds common practice or business as usual; the project would not be economically attractive based on the fiscal test; or there is an institutional or technological barrier to this type of project. Here, the emission reductions fail all prongs of the additionality test.

²⁰ Review of Application at 5 ("The original ERC Banking Project S-511, 1114928 specified the baseline period. Since the District has already established this as the correct baseline period for the criteria pollutant emissions reductions that have already been evaluated and issued, the same baseline period is used for this evaluation.").

²¹ We note that the Rule 2301 violations apply with equal force to CAPCOA's requirements that GHG emission reductions are real, quantifiable, permanent and enforceable.

²² CAPCOA, Greenhouse Gas Reduction Exchange, Appendix D, CAPCOA GHG Rx Quality Criteria: Protocol for GHG Case by Case Emission Reductions & Criteria for Evaluation of New Protocols at 6 (Aug. 12, 2015)(hereinafter "CAPCOA Protocol"), available at <http://www.capcoa.org/>.

As discussed above, any emission reductions occurring after the facility became subject to cap-and-trade compliance obligations would run afoul of CAPCOA's regulatory surplus test. The emission reductions were not actually enforceable, and thus cannot be deemed to have "occurred," until mid-2012 when the current NOx limit was included in Sycamore's Title V permit. By then, the facility was already required to reduce its GHG emissions to meet the state-mandated GHG cap. CAPCOA's protocol states "reductions that occur at facilities covered by California's cap and trade reduction after the regulation goes into effect are not eligible as credits."²³

Furthermore, these emission reductions do not meet any of the three additional criteria required for additionality. First, the GHG reductions did not result from any special project or practice for which there are standard best practices or industry standards and against which the project performs better than required.²⁴ As such, the first common practice/business-as-usual test does not apply. Second, these emission reductions fail the "fiscal test" because while the test requires that additional reductions be economically unattractive, the reductions at issue here were pursued precisely because they were *affirmatively* economically "attractive." The facility was experiencing reduced demand from local oilfields and difficulty marketing power to the grid; it consequently opted to reduce operations.²⁵ Because this was a business profit decision, it fails the fiscal test for additionality.²⁶ Finally, the reductions here fail CAPCOA's third additionality test because there are no barriers whatsoever to the action that resulted in the GHG emission reductions, nor did the facility take any financial risk with the action.²⁷

B. The Application Does not Comport with Methodological Requirements of CAPCOA's Case-by-Case Protocol

In addition to the fact that the proposed credits are not "additional" and thus ineligible for CAPCOA's GHG registry, the application contents do not meet CAPCOA's methodological requirements. First, the use of inconsistent CO₂ emission factors (discussed *supra*, in Section I.C) overestimates emissions reductions, and thus contradicts the case-by-case protocol's mandate that "quantification should err on the side of being conservative with GHG reduction estimates. Conservative assumptions, values and procedures should be used to ensure that GHG reductions are not over-estimated."²⁸ Because the combination of emission factors selected by the proposed method would overestimate emission reductions, the ERCs are not valid for listing on CAPCOA's registry.

Second, the application does not "describe how leakage is accounted for and quantified."²⁹ This is an important concern. As discussed above, these reductions are the result of scaling back operations at a facility that sells electricity to the grid, which leaves open the very

²³ CAPCOA Protocol at 6.

²⁴ CAPCOA Protocol at 7.

²⁵ See Application at 2; personal telephone communication from Leonard Scandura, Lead Engineer for SJVAPCD, to Anna Moritz (June 20, 2016).

²⁶ CAPCOA Protocol at 7.

²⁷ *Id.*

²⁸ CAPCOA Protocol at 11,

²⁹ CAPCOA Protocol at 11.

real possibility that the same power demand will be met from another facility. Reduced production in the Kern River oil field, to the extent it is occurring, also could be offset by increased production—and consequent demand for steam and power of the kind Sycamore generated—in another part of California. This unaddressed potential for leakage also fatally undermines the application review’s analysis of the permanence of emission reductions.³⁰ To conclude, the analysis in the current application is incomplete and inadequate to meet the criteria for applications to list ERCs on CAPCOA’s GHG registry.

III. The Emission Reduction Credits will not be Eligible for Use as Mitigation under CEQA

These ERCs would not be eligible for mitigation of GHG emissions under the California Environmental Quality Act (“CEQA”) because under the CEQA Guidelines, “emissions reductions that would occur without a project would not normally qualify as mitigation.”³¹ The application indicates that Rule 2301 does not regulate use of GHG ERCs, but the “likely uses” would be the “future retirement as GHG mitigation in the California Environmental Quality Act (CEQA) process.”³² As detailed below, this anticipated use is entirely contrary to the law.

The GHG reductions in this application result from a permit finalized four years ago, predating any potential CEQA project to which they could be applied as mitigation. Consequently, these past and ongoing reductions are part of the “existing conditions” baseline against which any future CEQA project’s effects will be measured.³³ The existing environmental background cannot be considered mitigation for CEQA purposes. CEQA requires actual, effective mitigation of significant environmental impacts. Pub. Res. Code §§ 21002, 21002.1(b), 21081. In order to mitigate new greenhouse gas emissions from a proposed project, therefore, CEQA lead agencies must identify *additional* feasible emissions reductions that would not already have occurred in the absence of the mitigation requirement. Because the permit condition has already been changed, ongoing emission reductions are not additional or feasible as mitigation. A project proponent could not “mitigate” the loss of state park land by simply identifying other state parks already in existence at the time the project was proposed. Mitigation under CEQA requires concrete, enforceable action to minimize, avoid, or reduce a project’s effects. Background actions that would have occurred anyway cannot satisfy this requirement.

Furthermore, non-additional credits cannot be considered mitigation under CEQA. CEQA Guidelines provisions governing greenhouse gas mitigation state that agencies may consider “off-site measures, including offsets *that are not otherwise required*, to mitigate a project’s emissions.” CEQA Guidelines § 15126.4(c)(3) (emphasis added). According to the Resources Agency’s Final Statement of Reasons accompanying the revised Guideline, this

³⁰ CAPCOA Protocol at 12.

³¹ California Natural Resources Agency, Final Statement of Reasons for Regulatory Action Amendments to the State CEQA Guidelines, Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97, December 2009 at 88.

³² Review of Application at 1.

³³ CEQA Guidelines, Cal. Code Regs. title 14, § 15125.

language was intended to ensure that offsets used for CEQA mitigation are additional.³⁴ As discussed above, these credits clearly fail all relevant additionality tests; just as a leading example, the reductions became enforceable and thus can be said to have “occurred” only after the facility became subject to cap-and-trade compliance obligations. Accordingly, any ERC issued pursuant to this application should bear a notation that it is not suitable for use as CEQA mitigation.

IV. CONCLUSION

For the foregoing reasons, the proposed ERCs for the Sycamore Cogeneration facility are invalid under the SVJAPCD’s Rule 2301, fail to satisfy CAPCOA GHG registry requirements, and are unfit for use as CEQA mitigation. The Center respectfully requests that the District deny the application for GHG ERCs.

Thank you for the opportunity to provide input; please do not hesitate to contact us with any questions.

Sincerely,



Anna Moritz
Staff Attorney

Cc: Richard Stedman, President, California Air Pollution Control Officers Association
Alan Abbs, Executive Director, California Air Pollution Control Officers Association

³⁴ California Resources Agency, Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 (Dec. 2009) at 47-48, available at [http://resources.ca.gov/ceqa/docs/Final Statement of Reasons.pdf](http://resources.ca.gov/ceqa/docs/Final%20Statement%20of%20Reasons.pdf).

Appendix A

Historical actual emissions were re-calculated using the District/CARB CO₂e emission factor (116.6 lbs CO₂/MMBtu of fuel).

The process was the same as followed by the District in Appendix E to the GHG ERC Public Notice Package:

1. Multiply fuel data from Appendix E of the Public Notice Package for each turbine and each month in 2007 and 2008 by the District/CARB emission factor.
2. Sum quarterly emissions for each turbine and find the average over the two year period.
3. Sum the quarterly emissions for all four turbines.
4. Convert total emissions from lbs CO₂e to MT CO₂e.
5. Subtract allowable annual emissions (1,304,225 MT CO₂) from the total historical emissions to derive bankable credits.

Historical Emissions as calculated with SJVAPCD/CARB Emission Factor

FINAL EMISSION TOTALS	
<u>Quarter</u>	<u>Combined quarterly lb CO2</u>
Quarter 1	932632213
Quarter 2	845138429
Quarter 3	840307691
Quarter 4	821910835
 Total (lb CO2)	 3439989168
Total MT CO2	1560086
Bankable AER MT CO2	255861

Turbine Specific Emissions Calculations

Unit 1 Emissions					
Date	MMBtu	Emissions lb CO2	Quarter total lb CO2	Quarter avg lb CO2	
Jan-07	742580	86584828			
Feb-07	618982	72173301.2			
Mar-07	742046	86522563.6	245280692.8	223652150.7	QUARTER 1
Apr-07	713467	83190252.2			
May-07	710255	82815733			
Jun-07	676415	78869989	244875974.2	236190848.3	QUARTER 2
Jul-07	702809	81947529.4			
Aug-07	701455	81789653			
Sep-07	682453	79574019.8	243311202.2	188309524.7	QUARTER 3
Oct-07	699763	81592365.8			
Nov-07	689670	80415522			
Dec-07	745581	86934744.6	248942632.4	159775231	QUARTER 4

Jan-08	735238	85728750.8		
Feb-08	630734	73543584.4		
Mar-08	366649	42751273.4	202023608.6	QUARTER 1
Apr-08	576621	67234008.6		
May-08	713861	83236192.6		
Jun-08	660682	77035521.2	227505722.4	QUARTER 2
Jul-08	416290	48539414		
Aug-08	319777	37285998.2		
Sep-08	407225	47482435	133307847.2	QUARTER 3
Oct-08	347324	40497978.4		
Nov-08	161092	18783327.2		
Dec-08	97140	11326524	70607829.6	QUARTER 4

Unit 2 Emissions					
Date	MMBtu	Emissions lb CO2	Quarter total lb CO2	Quarter avg lb CO2	
Jan-07	707164	82455322.4			
Feb-07	635263	74071665.8			
Mar-07	694759	81008899.4	237535887.6	234369031.6	QUARTER 1
Apr-07	664813	77517195.8			
May-07	664313	77458895.8			
Jun-07	646789	75415597.4	230391689	220222128.5	QUARTER 2
Jul-07	650956	75901469.6			
Aug-07	654862	76356909.2			
Sep-07	609927	71117488.2	223375867	218256602.3	QUARTER 3
Oct-07	465734	54304584.4			
Nov-07	597071	69618478.6			
Dec-07	741180	86421588	210344651	218877963.7	QUARTER 4
Jan-08	682880	79623808			
Feb-08	633736	73893617.6			
Mar-08	666250	77684750	231202175.6		QUARTER 1
Apr-08	418692	48819487.2			
May-08	697043	81275213.8			
Jun-08	685745	79957867	210052568		QUARTER 2
Jul-08	633526	73869131.6			
Aug-08	584629	68167741.4			
Sep-08	609781	71100464.6	213137337.6		QUARTER 3
Oct-08	548798	63989846.8			
Nov-08	670669	78200005.4			
Dec-08	730887	85221424.2	227411276.4		QUARTER 4

Unit 3 Emissions					
Date	MMBtu	Emissions lb CO2	Quarter total lb CO2	Quarter avg lb CO2	
Jan-07	746672	87061955.2			
Feb-07	669829	78102061.4			
Mar-07	727596	84837693.6	250001710.2	228854084.8	QUARTER 1

Apr-07	700892	81724007.2			
May-07	688332	80259511.2			
Jun-07	674135	78604141	240587659.4	223088856.1	QUARTER 2
Jul-07	690336	80493177.6			
Aug-07	691824	80666678.4			
Sep-07	672920	78462472	239622328	212802229.2	QUARTER 3
Oct-07	624136	72774257.6			
Nov-07	597071	69618478.6			
Dec-07	447756	52208349.6	194601085.8	206735764.4	QUARTER 4
Jan-08	712466	83073535.6			
Feb-08	574152	66946123.2			
Mar-08	494741	57686800.6	207706459.4		QUARTER 1
Apr-08	540568	63030228.8			
May-08	665498	77597066.8			
Jun-08	557142	64962757.2	205590052.8		QUARTER 2
Jul-08	533301	62182896.6			
Aug-08	661162	77091489.2			
Sep-08	400581	46707744.6	185982130.4		QUARTER 3
Oct-08	626288	73025180.8			
Nov-08	552719	64447035.4			
Dec-08	698098	81398226.8	218870443		QUARTER 4

Unit 4 Emissions					
Date	MMBtu	Emissions lb CO2	Quarter total lb CO2	Quarter avg lb CO2	
Jan-07	760046	88621363.6			
Feb-07	683259	79667999.4			
Mar-07	738886	86154107.6	254443470.6	245756945.5	QUARTER 1
Apr-07	708902	82657973.2			
May-07	703355	82011193			
Jun-07	678571	79121378.6	243790544.8	165636596.4	QUARTER 2
Jul-07	698910	81492906			
Aug-07	689269	80368765.4			
Sep-07	674401	78635156.6	240496828	220939335.1	QUARTER 3
Oct-07	709291	82703330.6			
Nov-07	675217	78730302.2			
Dec-07	732925	85459055	246892687.8	236521875.7	QUARTER 4
Jan-08	686469	80042285.4			
Feb-08	635346	74081343.6			
Mar-08	711379	82946791.4	237070420.4		QUARTER 1
Apr-08	542205	63221103			
May-08		0			
Jun-08	208075	24261545	87482648		QUARTER 2
Jul-08	518565	60464679			
Aug-08	572100	66706860			
Sep-08	636452	74210303.2	201381842.2		QUARTER 3
Oct-08	602687	70273304.2			
Nov-08	633163	73826805.8			
Dec-08	703696	82050953.6	226151063.6		QUARTER 4



Chevron Power and Energy
Management
Chevron Power Holdings, Inc.
P.O. Box 81438
Bakersfield, CA 93380
Tel 661 615 4630
Fax 661 615 4610

August 26, 2016

HAND DELIVERED

SY-10581

Mr. Leonard Scandura, P.E.
San Joaquin Valley APCD
34946 Flyover Court
Bakersfield, California 93308

RECEIVED

AUG 25 2016

SJVAPCD
Southern Region

RE: SYCAMORE COGENERATION FACILITY
CO2 Emission Reduction Credit Banking Application
Project Number: S-1123816

Dear Mr. Scandura:

I write on behalf of Sycamore Cogeneration Facility (SYCF) in regards to the above-referenced CO2e Emission Reduction Credit (ERC) Banking Application, and specifically in response to an objection raised to the proposed issuance of the ERCs by the center for the Center for Biological Diversity (CBD) in a June 29, 2016 comment letter. CBD presented in the letter several reasons why they believe the San Joaquin Valley Air Pollution Control District (SJVAPCD) should deny the ERC application. You requested our comment on one of those objections, specifically, the allegation that the ERCs do not qualify as "surplus" under SJVAPCD Rule 2301, section 4.5.3.1 because the permit for the reductions was issued until after the California Air Resources Board (CARB) greenhouse gas (GHG) cap and trade regulation took effect on January 1, 2012. As described in detail below, this is an incorrect reading of the application and rules and a misunderstanding of when the emissions reductions actually occurred.

First, CBD is correct that, under Rule 2301, "Greenhouse gas emission reductions that occur at a facility subject to the CARB greenhouse gas cap and trade regulation on or after January 1, 2012 are not surplus." Rule 2301, section 4.5.3.1. And SYCF does not dispute that it is and has been since 2012 subject to CARB's GHG program. But CBD is incorrect in stating that the CO2e emissions reductions at issue in SYCF's ERC application did not occur until June 2012, when the District issued the revised SYCF air permits. As the District explained in Appendix D of its May 26, 2016 notice of preliminary decision, as part of its review and analysis of SYCF's ERC application, the District carefully reviewed nearly fifteen years' worth of fuel use data for the four turbines at issue. Those data plainly show that the decrease in annual fuel use that forms the basis for the ERCs at issue in this application occurred in 2010. Total annual fuel use at the turbines went from 25,930,658 mmBTU in 2009 to 18,205,466 mmBTU in 2010. The data also demonstrate that this was a conscious and sustained reduction in fuel use, with annual fuel use registering 17,926,426 mmBTU in 2011 and 17,375,424 in 2012.

SYCAMORE COGENERATION FACILITY

August 25, 2016

Page 2

This dramatic reduction in fuel use yielded true and measurable environmental benefits by reducing NOx emissions by tens of thousands of pounds and cutting CO2e by many hundreds of thousands of tons. But to calculate exactly how many ERCs SYCF could claim for these emissions reductions, the District appropriately used the limits that SYCF had proposed in its ATC application for these turbines. See Section V.E. of the District's May 26, 2016 Notice of Preliminary Decision.

Rule 2301 incorporates the Rule 2201 definition of "Actual Emissions Reductions" (AER), which makes clear that the point in time that matters for determining whether emissions are "surplus" is tied to the application completeness date:

To be considered surplus, AER shall be in excess, at the time the application for an Emission Reduction Credit or an Authority to Construct (ATC) authorizing such reductions is deemed complete.

Rule 2301 adds to the Rule 2201 definition of AER to clarify that, where the reductions are authorized by an ATC (like they are in this case), it is the ATC application that controls:

If the reductions are authorized by an Authority to Construct, the adjustments made to the actual emissions reductions as defined in Rule 2201 (New and Modified Stationary Source Review Rule), shall be based on the rules, plans, workshop notices at the time the application for such Authority to Construct was deemed complete.

SYCF submitted its ATC application on December 15, 2011 to formally update its air permit requirements to reflect its new, lower fuel use operations. The District deemed that application complete on December 29, 2011. See Letter from L. Scandura (SJVAPCD) to N. Burgess (SYCF) re "Notice of Receipt of Complete Application" (12-29-2011) (copy attached). While the paperwork on that permit revision was not complete until June, 2012, when the District issued the permit, the AER "occurred" for purposes of Rule 2301 on December 29, 2011. It was entirely consistent with, and indeed required by, Rule 2301 for the District to use the proposed limit in the ATC application as the basis for concluding the CO2e reductions were "surplus" per Rule 2301, section 4.5.3.1. CBD's position that AER must be calculated according to the ATC permit issuance date is simply wrong under the plain text of the rule. Moreover, in this case, it ignores the practical reality that the SYCF emissions reductions occurred more than two years before the paperwork on those reductions was processed and finalized.

We appreciate this opportunity to address this issue, and respectfully request that the District issue the ERCs consistent with its May 26, 2016 Notice of Preliminary Decision. SYCF appreciates the effort and support that SJVAPCD gave this environmentally beneficial project. We look forward to your continued support on future projects.

SYCAMORE COGENERATION FACILITY

August 25, 2016

Page 3

If you have any questions, please contact Dale Johnson (661) 615-4676.

A handwritten signature in black ink that reads "Carlyne M. Grant". The signature is written in a cursive style with a large initial 'C'.

Carolyne M. Grant
Asset Manager

DAJ:ab

CC: Dan Beck
Mervyn Soares
Amy Lincoln, Esq.



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

DEC 29 2011

Neil Burgess
Sycamore Cogeneration CO
P.O. Box 80598
Bakersfield, CA 93380

Re: Notice of Receipt of Complete Application
Project Number: S-1114880

Dear Mr. Burgess:

The San Joaquin Valley Air Pollution Control District (District) has received your Authority to Construct application for reduction in total NOx emissions from all four cogeneration units, at Section 32, T28S, R28E. Based on our preliminary review, the application appears to be complete. This means that your application contains sufficient information to proceed with our analysis. However, during processing of your application, the District may request additional information to clarify, correct, or otherwise supplement, the information on file.

We will begin processing your application as soon as possible. In general, complete applications are processed on a first-come first-served basis.

It is estimated that the project analysis process will take 103 hours, and you will be charged at the weighted hourly labor rate in accordance with District Rule 3010. This estimate includes the following major processing steps: Determining Completeness (3 hours), Engineering Evaluation (45 hours), BACT Analysis (25 hours), Health Risk Assessment (10 hours), CEQA Analysis (10 hours) and Permit Preparation (10 hours). The current weighted labor rate is \$100.00 per hour, but please note that this fee is revised annually to reflect actual costs and therefore may change. No payment is due at this time; an invoice will be sent to you upon completion of this project.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93728-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

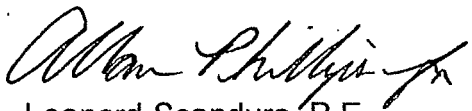
Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

Mr. Burgess
Page 2

Please note that this letter is not a permit and does not authorize you to proceed with your project. Final approval, if appropriate, will be in the form of an Authority to Construct permit after application processing is complete. If you have any questions, please contact Mr. Leonard Scandura at (661) 392-5500.

Sincerely,

David Warner
Director of Permit Services

A handwritten signature in cursive script, appearing to read "Leonard Scandura".

Leonard Scandura, P.E.
Permit Services Manager

DW:djk



February 20, 2017

HAND DELIVERED

Mr. Leonard Scandura
San Joaquin Valley APCD
34946 Flyover Court
Bakersfield, California 93308

RECEIVED
FEB 21 2017
SJVAPCD
Southern Region

Re: **Emission Reduction Credit Banking Application**
Sycamore Cogeneration Facility Project S-1114928

Dear Mr. Scandura:

As per the NOx emission reduction credit certificate, Sycamore Cogeneration Facility requests that the CO2 emission reduction credit certificate be issued to Chevron U.S.A. Inc. The credits used to permit the Sycamore Cogeneration Facility were provided by the Kern River oilfield. Therefore, any credits generated by Sycamore should be issued to Chevron U.S.A. Inc. Please proceed with issuance of the CO2 emission reduction credits to Chevron U.S.A. Inc. The certificates should be mailed to:

Sycamore Cogeneration Facility
Attn: Cory Eagar
P.O. Box 81438
Bakersfield, CA 93380-1438

If you have any questions, please contact Dale Johnson at (661) 412-6371.

Alan D. Dartnell
Acting Asset Manager

CLE:yh

xc: Dan Klevann – SJVAPCD
Dale Johnson – SJVBU
Cory Eagar - CPEM



RECEIVED

FEB 27 2017

SJVAPCD
Southern Region

HAND DELIVERED

February 20, 2017

Mr. Leonard Scandura
San Joaquin Valley APCD
34946 Flyover Court
Bakersfield, California 93308

Re: **Emission Reduction Credit Banking Application
Sycamore Cogeneration Facility Project S-1114928**

Dear Mr. Scandura:

As per the NOx emission reduction credit certificate, Sycamore Cogeneration Facility requests that the CO2 emission reduction credit certificate be issued to Chevron U.S.A. Inc. The credits used to permit the Sycamore Cogeneration Facility were provided by the Kern River oilfield. Therefore, any credits generated by Sycamore should be issued to Chevron U.S.A. Inc. Please proceed with issuance of the CO2 emission reduction credits to Chevron U.S.A. Inc. The certificates should be mailed to:

Sycamore Cogeneration Facility
Attn: Cory Eagar
P.O. Box 81438
Bakersfield, CA 93380-1438

If you have any questions, please contact Dale Johnson at (661) 412-6371.

Alan D. Dartnell
Acting Asset Manager

CLE:yh

xc: Dan Klevann – SJVAPCD
Dale Johnson – SJVBU
Cory Eagar - CPEM

San Joaquin Valley Air Pollution Control District
ERC Application Review - Greenhouse Gases
Reduction in Gas Turbine Engine Use
Revised Final Decision

Facility Name: Sycamore Cogeneration Company

Date: March 8, 2017

Mailing Address: P O Box 80598
Bakersfield, CA 93380

Engineer: Dan Klevann
Lead Engineer: Leonard Scandura

Contact Person: Neil Burgess

Telephone: (661) 615-4630

Project #: S-1123816

Received: December 27, 2011

Deemed Complete: March 10, 2014

ERC #: S-4320-24

The District received comments during the public comment period. We have addressed these comments and made an adjustment to the calculation of the bankable emissions by using the U.S. EPA developed CO_{2e} emission factor. This adjustment resulted in a decrease in bankable CO_{2e} credits. See comments and responses in Appendix E.

I. Summary

Sycamore Cogeneration Company (Sycamore) has reduced permitted operation of four gas turbine engines (GTE) at their operation in the Kern River oilfield. Sycamore is requesting an emission reduction credit (ERC) banking certificate for CO_{2e}. The primary business of this facility is steam and electricity generation. Sycamore has also submitted an application to bank the emission reduction credits (ERCs) for the actual emission reductions (AER) of the NO_x emissions (ERC Project S-1114928).

Selection of Geographical Boundary for Determining Permanence of the GHG Emission Reduction

Rule 2301 contains several eligibility criteria for emission reduction credit banking, including that the emission reduction must be permanent. When determining the geographical boundary in which the emission reduction is determined to be permanent, the applicant may consider how the GHG ERC may likely be used.

Please note that while Rule 2301 allows facilities to receive ERCs for GHG emission reductions, the District does not have any requirements on the use of GHG ERCs. However, it is anticipated that the likely uses of such GHG ERCs would be their future retirement as GHG mitigation in the California Environmental Quality Act (CEQA) process.

Pursuant to CEQA, lead agencies must consider the environmental impact of GHG emissions from a project and may require that such GHG emissions be mitigated. In evaluating various mitigation techniques, including the retirement of GHG ERCs, the lead agency must determine if the proposed mitigation technique adequately mitigates the projects GHG emission increase.

When a lead agency determines if the retirement of a particular GHG ERC provides adequate GHG mitigation for a project, the lead agency may choose to consider the location where the GHG ERC was generated and the geographical boundary used to determine the permanence of the emission reduction. In making this determination, the lead agency may conclude that the retirement of a particular GHG ERC would provide adequate mitigation for projects within that same geographical boundary. Again, that determination will be made by the lead agency for any particular project.

For this application, the facility has selected California as the geographical boundary for which the emission reduction is permanent. Sycamore has provided data showing the decline in California Oil Production from 1995 to 2012. The power and steam produced by the GTE's was used for oil production in the Kern River oilfield(see Appendix B). Additionally, Sycamore is an entity covered by California Cap and Trade (AB32), AB32 requires California to return to 1990 levels of greenhouse gas emissions by 2020. This information validates California as the geographical boundary selection for a permanent GHG emission reduction.

The following emission reductions have been found to qualify for banking:

GHG ERCs		
ERC Certificate	Pollutant	Amount
S-4320-24	CO ₂ e	257,426 metric tons/year

II. Applicable Rules

Rule 2301 Emission Reduction Credit Banking (1/19/12)

III. Location of Reduction

The equipment is located at Sycamore's facility in the Kern River Oilfield within Chevron's Kern County Heavy Oil Central stationary source. The location is below.

ERC: S-4320-24

S-511-1: Section 31, Township 28S, Range 28E

S-511-2: Section 31, Township 28S, Range 28E

S-511-3: Section 31, Township 28S, Range 28E

S-511-4: Section 31, Township 28S, Range 28E

IV. Method of Generating Reductions

The emission reductions are being generated by reducing the allowable usage and resulting NOx emissions from the four natural gas fired GE gas turbines. This NOx limit is only achieved by reducing the fuel combusted in the turbines. The reduction in fuel burned results in a reduction in GHG produced.

Equipment Description

PTO	Equipment
S-511-1	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #1)
S-511-2	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #2)
S-511-3	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #3)
S-511-4	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #4)

V. Calculations

A. Assumptions and Emission Factors

Assumptions

The actual emissions will be calculated annually in the baseline period. The Historical Actual Emissions (HAE) will be calculated using actual fuel use data.

The applicant provided monthly fuel use data for the subject GTE's.

- Units of GHG AER is metric tons of CO₂e per year, rounded to the nearest metric ton
- 1,000 kg = 1 metric ton = 2,205 lbs.
- 1 therm of Natural Gas = 100 scf
- EPA Standard CO₂e emission factor, including CH₄ and N₂O portions, will be used to calculate pre project and post project potential CO₂e emissions.

Emission Factors (EF)

The U.S. EPA standard CO₂e equivalent emission factor for natural gas combustion will be used for both pre project and post project calculations. This emission factor is a combination of the CO₂, CH₄ and N₂O components listed in 40 CFR 98.30 Table C-1 and C-2. These emission factors have been determined by EPA, through a public process, to be representative for natural gas combustion in the U.S.

EF CO ₂	=	53.06 kg/MMBtu
EF CH ₄	=	1.0 E-3 kg/MMBtu
EF N ₂ O	=	1.0 E-4 kg/MMBtu

To convert CO₂, CH₄, and N₂O emission factors into a CO₂e emission factor, the global warming potentials of CO₂, CH₄, and N₂O from Rule 2301 shall be used.

GWP CO ₂	=	1 (from Rule 2301)
GWP CH ₄	=	21 (from Rule 2301)
GWP N ₂ O	=	310 (from Rule 2301)

$$\begin{aligned} \text{EF}_{\text{CO}_2\text{e}} &= (53.06 \text{ kg/MMBtu} * 1) + (1.0\text{E-}3 \text{ kg/MMBtu} * 21) + (1.0\text{E-}4 \text{ kg/MMBtu} * 310) \\ &= 53.06 \text{ kg/MMBtu} + 0.021 \text{ kg/MMBtu} + 0.031 \text{ kg/MMBtu} \\ &= 53.11 \text{ kgCO}_2\text{e/MMBtu} \times (1 \text{ metric ton} / 1000 \text{ kg}) \\ &= \mathbf{0.0531 \text{ metric tons CO}_2\text{e/MMBtu}} \end{aligned}$$

B. Baseline Period Determination

Pursuant to Rule 2301 section 4.5.4, the Baseline Period is the following:

The consecutive 24 month period immediately prior to the date the emission reduction occurred, or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred.

The original ERC Banking Project S-511, 1114928 specified the baseline period. Since the District has already established this as the correct baseline period for the criteria pollutant emission reductions that have already been evaluated and issued, the same baseline period is used for this evaluation.

The following baseline period was calculated (See fuel usage records in Appendix C, Calculations in Appendix D).

Baseline Period		
Location	Permit Unit	Dates
Sycamore Cogeneration (S31, T28S, R28E)	S-511-1	January 2007 – December 2008
	S-511-2	
	S-511-3	
	S-511-4	

C. Baseline Data

The baseline fuel use is determined from the fuel usage records supplied by the applicant(Appendix C).

Baseline Fuel Usage All 4 Turbines	
Year	Annual Fuel Use (MMBtu)
2007	32,542,838
2008	26,462,122
Average	29,502,480

D. Historical Actual Emissions (HAE)

The HAE from the fuel use is determined by multiplying the fuel-use by the emission factor as presented above. The full calculations are in Appendix D.

Calculation:

$$\text{CO}_2\text{e} = [(\text{EF}) \times (\text{Fuel Heat Input})]$$

$$\text{CO}_2\text{e} = [(0.0531 \text{ metric tons CO}_2\text{e/MMBtu}) \times (29,502,480 \text{ MMBtu})] = 1,566,582 \text{ Mt CO}_2\text{e}$$

E. Post Project Potential to Emit (PE2)

As discussed above, the turbines in this project have an annual specific limiting condition on all four units of 271,200 lb NOx/yr. (see Appendix A). The CO₂e emissions are calculated by using the NO_x limit, CO₂e emission factor, and NO_x emission factor. The potential emissions from all four turbines are 1,309,156 Mt Co₂e / yr. (see Appendix D).

F. Emission Reductions Eligible for Banking

The emission reductions eligible for banking are the difference between the historical actual emissions and the potential to emit after the project.

$$\begin{aligned} \text{ERCs eligible for banking} &= 1,566,582 \text{ Mt CO}_2\text{e/year} - 1,309,156 \text{ Mt CO}_2\text{e/year} \\ &= 257,426 \text{ Mt CO}_2\text{e/year} \end{aligned}$$

VI. Compliance

Rule 2301 – Emission Reduction Credit Banking

Per District Rule Section 4.5, the following criteria must be met in order to deem such reductions eligible for banking:

4.5.1 The greenhouse gas emission reduction must have actually occurred on or after January 1, 2005, except as allowed in specific CARB approved GHG emission reduction project protocols.

The emission reductions occurred when the facility had stopped operating the turbines in a full time status. Sycamore had applied to change the permits in December 2011. As the emission reduction occurred after 1/1/05, this criteria has been satisfied.

4.5.2 The greenhouse gas emission reductions must have occurred within the San Joaquin Valley Unified Air Pollution Control District.

The emissions occurred at Sycamore's facility in the Kern River Oilfield within Chevron's Kern County Heavy Oil Central stationary source. Since this location is within the District, this criteria has been satisfied.

4.5.3 The greenhouse gas emission reductions are real, surplus, permanent, quantifiable, and enforceable, except as provided in Section 4.5.5.

Real:

The GHG emission reductions were generated by limitations of operation of the GTE's. The AER quantified above are based on actual, historical emissions and were calculated from actual fuel use data and source tests emission factors. The gas turbines have a new annual NOx emission limitation that inherently limits fuel use. Therefore, the AER due to limiting the turbines operation is real.

Surplus:

The facility is subject to the CARB cap and trade regulation; however, the reductions occurred prior January 1, 2012; therefore, the emission reductions satisfy the surplus requirement in Section 4.5.3.1.

The facility is subject to the CARB cap and trade regulation; however, the reductions occurred prior to the baseline period of cap and trade. Therefore, the emission reductions satisfy the surplus requirement in Section 4.5.3.2.

The emission reductions are not the result of an action taken by the permittee to comply with any requirement. The emission reductions are surplus and additional of all requirements. Therefore, the emission reductions satisfy the surplus requirement in section 4.5.3.4.

The Certificates will be identified according to Section 6.15.3 below.

Permanent:

When determining the geographical boundary in which the emission reduction is determined to be permanent, the applicant may consider how the GHG ERC may likely be used.

Please note that the while Rule 2301 allows facilities to receive ERCs for GHG emission reductions, the District does not have any requirements on the use of GHG ERCs. However, it is anticipated that the likely uses of such GHG ERCs would be their future retirement as GHG mitigation in the CEQA process.

Pursuant to CEQA, lead agencies must consider the environmental impact of GHG emissions from a project and may require that such GHG emissions be mitigated. In evaluating various mitigation techniques, including the retirement of GHG ERCs, the lead agency must determine if the proposed mitigation technique adequately mitigates the projects GHG emission increase.

When a lead agency determines if the retirement of a particular GHG ERC provides adequate GHG mitigation for a project, the lead agency may choose to consider the location where the GHG ERC was generated and the geographical boundary used to determine the permanence of the emission reduction. Then in making this determination, the lead agency may conclude that the retirement of a particular GHG ERC would provide adequate mitigation for projects within that same geographical boundary. Again, that determination will be made by the lead agency for a particular project.

Sycamore has selected California as the geographical boundary for which the emission reduction is permanent. Sycamore/Chevron has provided information verifying that the total oil production in the state of California has been in decline since 1985 (see graph in Appendix C). Additionally, Sycamore/Chevron is subject to the California Cap-and-Trade regulation which requires Chevron to reduce or mitigate a permanent reduction in GHG emissions. The combination of the decline in oil production in California and the reductions required by California's Cap-and-Trade regulation verify that the reductions are permanent within California. The geographical boundary for the ERCs will be the State of California and the ERC will include the following identifier:

"Shutdown of the gas turbines are verified as permanent within the State of California"

Quantifiable:

The actual emissions were calculated from historic fuel-use records and accepted emission factors. Therefore, the emission reductions are quantifiable and have been quantified.

Enforceable:

The gas turbines have an annual NOx emission limit on their permits which limits the fuel used in the turbines. Operation of the equipment resulting in NOx emissions over the allowable annual limit would subject the permittee to enforcement action. Therefore, the emission reductions are enforceable.

- 4.5.4** Greenhouse gas emission reductions are calculated as the difference between the historic annual average greenhouse gas emissions (as CO2E) calculated using the consecutive 24 month period immediately prior to the date the emission reduction occurred, or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred if determined by the APCO as being more representative of normal operations, and the potential greenhouse gas emissions (as CO2E) after the project is complete, except as provided in section 4.5.5.

The GHG emission reductions were calculated according to the baseline period identified above. The turbines have permit conditions which restrict the NOx emissions and thus the GHG emissions from the four combined units. The post-project GHG emissions are calculated above.

- 4.5.5** Greenhouse gas emission reductions proposed to be quantified using CARB approved emission reduction project protocols shall be calculated in accordance with the applicable protocol.

Since the GHG emission reductions are not subject to an applicable CARB-approved emission reduction project protocol, this section is not applicable.

- 4.5.6** Emission reduction credits shall be made enforceable through permit conditions. If the District, pursuant to state laws, is prohibited from permitting the emission unit, the source creating the greenhouse gas emission reduction shall execute a legal binding contract with the District which ensures that the emission reductions will be generated in accordance with the provisions of this rule, and shall continue for the reasonably

The steam turbines hold a legal District operating permit. Since the operation of the steam turbines more than the allowable NOx limit would require a new Authority to Construct, as discussed above the emission reduction is enforceable.

Section 5 identifies ERC Certificate application procedures.

Section 5.5.2 requires, for emission reductions occurring prior to 1/19/12, applications for ERCs must be submitted by 7/19/12.

The greenhouse gas ERC application was submitted on 12/27/2011 as part of project S1114928, therefore the application is timely.

Section 6.15 specifies the registration requirements for GHG ERCs.

Section 6.15.13 requires, the emission reductions are surplus and additional of all requirements pursuant to Section 4.5.3.4. Therefore the ERC certificate shall include the following notation:

“This emission reduction is surplus and additional to all applicable regulatory requirements.”

Compliance with Rule 2301 has been demonstrated and no adjustments are required under this Rule.

VII. Recommendation

Issue the ERC Certificate in the amount posted in the table below and on the Draft ERC Certificate in Appendix D.

GHG ERCs		
ERC Certificate	Pollutant	Amount
S-4320-24	CO ₂ e	257,426 metric tons/year

List of Appendixes

- A. Current PTO's
- B. California production
- C. Fuel use data
- D. Calculations
- E. Draft ERC
- F. Comments and Responses

Appendix A
Current PTO

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-1-17

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #1)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NO_x and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NO_x and CO concentration corrected to 15% O₂ (dry). EPA Methods 7E or 20 shall be used for NO_x emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM₁₀ concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NO_x as NO₂ and continuous monitoring system for CO & CO₂ shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NO_x and O₂ monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NO_x, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O₂, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NO_x and O₂ or CO₂ concentration . [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
51. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
52. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

53. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
55. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
56. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
57. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
59. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
60. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
61. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
63. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
64. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
65. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

66. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
67. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
68. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
70. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. Compliance with permit conditions in the Title V permit shall be deem compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-2-18

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #2)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration . [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NOx, CO and O2 or CO2 concentration. [District Rule 2201] Federally Enforceable Through Title V Permit
51. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
52. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
53. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

54. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
56. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
57. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
59. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
60. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
61. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
63. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
64. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
65. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
66. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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67. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
68. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
74. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-3-18

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #3)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
9. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NOx, CO and O2 or CO2 concentration. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
21. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
22. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
23. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
26. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
27. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
29. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
30. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
31. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
32. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
34. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
35. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
36. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
37. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

38. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NO_x, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O₂, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit
39. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
40. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
41. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NO_x and O₂ or CO₂ concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
42. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
43. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
44. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
45. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
46. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
47. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
48. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
49. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
50. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
51. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
52. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

53. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit
54. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
56. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
57. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
59. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
60. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
61. The APCO shall be notified no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
62. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
63. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
64. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
65. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

66. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
67. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit
68. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
69. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
72. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
74. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
75. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-4-17

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #4)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NO_x and O₂ or CO₂ concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
51. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
52. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

53. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
55. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
56. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
57. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
59. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
60. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
61. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
63. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
64. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
65. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

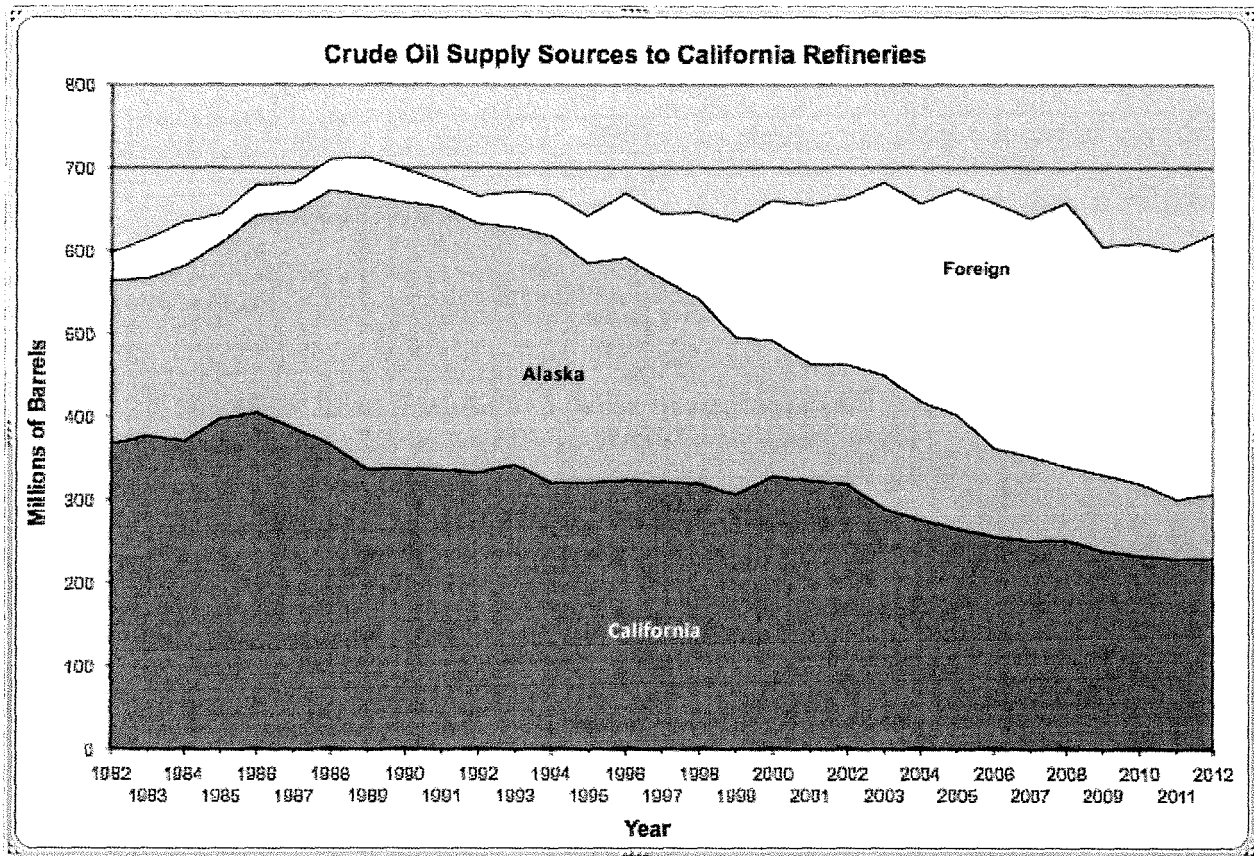
66. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
67. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
68. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
70. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. Compliance with permit conditions in the Title V permit shall be deem compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

Appendix B
California production

ATTACHMENT 1

Oil Production Graph



[http://energyalmanac.ca.gov/petroleum/statistics/crude oil receipts.html](http://energyalmanac.ca.gov/petroleum/statistics/crude%20oil%20receipts.html)

ATTACHMENT 2

Historical Fuel Use from Steam Generators/Turbines at S-1127 & S-1131 (Fuel in mmcf)

Facility	2205	2006	2007	2008	2009	2010	2011
S-1127	5237.11	5015.33	3871.22	3911.45	3681.65	3684.86	3540.13
S-1131	4232.48	6496.02	6447.84	6400.62	3854.54	4265.13	3225.11
TOTAL	9469.59	11511.35	10319.06	10312.07	7536.19	7949.99	6765.24

Notes:

- 1) KRCC (S-88) went from 4 units to 3 units in August 2005
- 2) KRCC went from 3 units to 2 units in 2006 (with new PPA)
- 3) Sycamore (S-511) went from 4 units to 3 units in January 2008
- 4) Sycamore went from 3 units to 2 units in 2010 (new PPA)
- 5) Data for S-1131 for 2006 has been adjusted (appears to have been a transposition error in annual emissions inventory)

Appendix C
Fuel Use Data

	MMBtu				
	Unit 1	Unit 2	Unit 3	Unit 4	Total all 4 units
Jan-97	713,232	668,348	755,824	707,797	2,845,201
Feb-97	407,072	595,313	651,484	592,355	2,246,224
Mar-97	159,405	662,182	729,357	654,979	2,205,923
Apr-97	683,355	602,181	668,509	475,715	2,429,760
May-97	693,766	597,327	693,348	242,313	2,226,754
Jun-97	653,569	581,074	648,550	614,005	2,497,198
Jul-97	695,939	645,442	694,804	616,528	2,652,713
Aug-97	714,053	653,390	707,375	707,293	2,782,111
Sep-97	685,977	618,076	673,842	677,523	2,655,418
Oct-97	700,139	46,268	669,726	715,476	2,131,609
Nov-97	624,217	577,494	649,417	665,287	2,516,415
Dec-97	707,084	726,648	717,122	694,384	2,845,238
Jan-98	721,913	707,341	719,567	723,037	2,871,858
Feb-98	630,760	655,947	642,254	641,911	2,570,872
Mar-98	698,238	707,178	694,684	716,927	2,817,027
Apr-98	696,728	706,008	682,443	702,492	2,787,671
May-98	692,721	705,959	690,982	683,547	2,773,209
Jun-98	682,125	689,424	683,056	688,902	2,743,507
Jul-98	684,488	689,056	664,672	695,025	2,733,241
Aug-98	686,091	696,754	677,177	694,290	2,754,312
Sep-98	652,143	673,156	662,708	668,576	2,656,583
Oct-98	706,794	694,540	647,967	711,645	2,760,946
Nov-98	699,218	709,098	681,985	705,436	2,795,737
Dec-98	716,760	724,118	737,561	734,381	2,912,820
Jan-99	640,123	702,953	689,275	710,943	2,743,294
Feb-99	655,186	650,585	638,208	653,925	2,597,904
Mar-99	70,368	701,521	706,330	620,101	2,098,320
Apr-99	697,951	682,128	687,248	699,305	2,766,632
May-99	696,247	675,224	678,873	685,628	2,735,972
Jun-99	668,632	677,895	662,772	670,828	2,680,127
Jul-99	693,825	690,814	686,354	688,607	2,759,600
Aug-99	691,514	689,999	691,797	689,538	2,762,848
Sep-99	669,024	666,505	652,116	670,854	2,658,499
Oct-99	693,157	589,423	691,093	672,367	2,646,040
Nov-99	705,313	701,239	686,788	694,693	2,788,033
Dec-99	726,232	678,818	707,639	700,126	2,812,815
Jan-00	723,877	714,036	708,708	705,560	2,852,181
Feb-00	658,116	672,480	671,775	614,843	2,617,214
Mar-00	721,557	700,256	717,107	715,723	2,854,643
Apr-00	673,924	672,846	618,061	673,936	2,638,767
May-00	711,231	703,424	573,430	696,500	2,684,585
Jun-00	641,356	648,017	657,303	633,140	2,579,816
Jul-00	695,082	691,797	704,676	665,509	2,757,064
Aug-00	689,033	696,826	709,579	694,560	2,789,998
Sep-00	679,367	675,264	688,213	672,377	2,715,221
Oct-00	690,004	716,758	716,785	707,388	2,830,935
Nov-00	678,883	702,771	710,839	618,249	2,710,742
Dec-00	687,522	684,296	689,705	679,085	2,740,608
Jan-01	554,752	708,101	712,481	701,027	2,676,361
Feb-01	606,138	605,289	598,275	422,089	2,231,791
Mar-01	611,549	611,704	616,688	616,443	2,456,384
Apr-01	679,435	512,681	631,872	659,051	2,483,039
May-01	700,769	713,956	698,119	689,208	2,802,052
Jun-01	672,439	676,363	665,834	661,331	2,675,967
Jul-01	660,995	679,800	655,833	644,905	2,641,533
Aug-01	687,832	701,556	686,171	683,456	2,759,015
Sep-01	657,125	673,719	652,118	654,227	2,637,189
Oct-01	689,040	694,638	681,344	671,601	2,736,623
Nov-01	674,539	692,491	671,726	664,427	2,703,183
Dec-01	728,978	485,195	711,344	715,931	2,641,448
Jan-02	724,733	739,693	726,791	713,937	2,905,154
Feb-02	641,946	662,873	641,434	628,142	2,574,395
Mar-02	713,569	735,761	720,485	716,669	2,886,484

EPA CO2e Emission Factor
53.11 kg CO2e/MMBtu
117.09 lb CO2e/ MMBtu

Apr-02	687,193	701,733	562,663	678,108	2,629,697	
May-02	684,675	702,134	421,252	676,848	2,484,909	
Jun-02	665,835	675,947	710,142	660,106	2,712,030	
Jul-02	677,152	694,601	722,426	674,161	2,768,340	
Aug-02	672,581	693,908	719,961	675,710	2,762,160	
Sep-02	644,998	676,363	698,824	655,123	2,675,308	
Oct-02	253,040	714,442	736,185	685,352	2,389,019	
Nov-02	720,151	683,073	695,378	614,316	2,712,918	
Dec-02	691,711	704,320	720,666	291,722	2,408,419	
Jan-03	733,571	706,129	729,611	737,291	2,906,602	
Feb-03	654,000	631,589	660,482	661,621	2,607,692	
Mar-03	694,891	601,468	693,391	698,718	2,688,468	
Apr-03	673,599	684,312	698,533	671,745	2,728,189	
May-03	709,279	672,336	704,645	704,622	2,790,882	
Jun-03	671,667	657,663	680,215	666,500	2,676,045	
Jul-03	701,446	683,586	706,836	700,495	2,792,363	
Aug-03	692,695	692,695	702,906	696,951	2,785,247	
Sep-03	678,230	661,250	674,987	675,176	2,689,643	
Oct-03	724,077	696,934	718,235	711,424	2,850,670	
Nov-03	707,318	691,380	717,969	710,728	2,827,395	
Dec-03	721,473	703,440	725,789	721,937	2,872,639	
Jan-04	738,479	715,773	747,127	740,705	2,942,084	
Feb-04	675,905	661,110	686,122	662,842	2,685,979	
Mar-04	715,235	276,822	724,369	709,645	2,426,071	
Apr-04	676,481	725,438	630,944	687,105	2,719,968	
May-04	705,223	732,273	712,334	699,394	2,849,224	
Jun-04	675,336	699,817	684,677	674,076	2,733,906	
Jul-04	674,900	694,634	683,117	671,721	2,724,372	
Aug-04	701,693	718,763	709,700	699,897	2,830,053	
Sep-04	680,318	698,098	685,960	673,594	2,737,970	
Oct-04	580,955	599,602	671,002	657,214	2,508,773	
Nov-04	705,875	709,590	709,097	636,902	2,761,464	
Dec-04	720,258	740,889	727,912	735,465	2,924,524	
Jan-05	730,399	737,605	734,194	726,546	2,928,744	
Feb-05	647,180	654,893	648,853	649,089	2,600,015	
Mar-05	714,500	727,623	723,178	712,204	2,877,505	
Apr-05	678,039	702,068	677,774	668,540	2,726,421	
May-05	700,649	679,546	703,685	706,165	2,790,045	
Jun-05	681,608	691,517	683,718	679,585	2,736,428	
Jul-05	689,841	697,727	681,769	684,627	2,753,964	
Aug-05	691,543	700,941	699,146	688,341	2,779,971	
Sep-05	675,729	687,433	683,826	675,718	2,722,706	
Oct-05	704,859	713,298	714,388	698,544	2,831,089	
Nov-05	685,992	692,573	678,468	692,194	2,749,227	
Dec-05	699,397	710,119	706,696	704,495	2,820,707	
Jan-06	721,730	730,569	726,471	720,369	2,899,139	
Feb-06	641,673	652,101	645,084	645,032	2,583,890	
Mar-06	716,953	638,093	717,428	714,812	2,787,286	
Apr-06	680,010	679,718	550,037	671,560	2,581,325	
May-06	691,605	698,425	711,705	691,792	2,793,527	
Jun-06	660,357	664,104	681,581	653,314	2,659,356	
Jul-06	674,548	678,138	697,190	663,941	2,713,817	
Aug-06	675,380	675,916	705,478	676,463	2,733,237	
Sep-06	593,222	541,821	619,517	577,218	2,331,778	
Oct-06	429,769	710,843	680,137	456,076	2,276,825	
Nov-06	717,181	666,776	503,751	714,073	2,601,781	
Dec-06	764,907	705,644	734,908	759,974	2,965,433	
Jan-07	742,580	707,164	746,672	760,046	2,956,462	2,719,664
Feb-07	618,982	635,263	669,829	683,259	2,607,333	2,719,969
Mar-07	742,046	694,759	727,596	738,886	2,903,287	2,721,043
Apr-07	713,467	664,813	700,892	708,902	2,788,074	2,723,612
May-07	710,255	664,313	688,332	703,355	2,766,255	2,722,621
Jun-07	676,415	646,789	674,135	678,571	2,675,910	2,720,099
Jul-07	702,809	650,956	690,336	698,910	2,743,011	2,719,643
Aug-07	701,455	654,862	691,824	689,269	2,737,410	2,717,869
Sep-07	682,453	609,927	672,920	674,401	2,639,701	2,714,411

Oct-07	699,763	465,734	624,136	709,291	2,498,924	2,700,571				
Nov-07	689,670	597,071	597,071	675,217	2,559,029	2,692,646				
Dec-07	745,581	741,180	447,756	732,925	2,667,442	2,686,260				
Jan-08	735,238	682,880	712,466	686,469	2,817,053	2,682,839				
Feb-08	630,734	633,736	574,152	635,346	2,473,968	2,678,259				
Mar-08	366,649	666,250	494,741	711,379	2,239,019	2,655,415				
Apr-08	576,621	418,692	540,568	542,205	2,078,086	2,634,447				
May-08	713,861	697,043	665,498	-	2,076,402	2,604,566				
Jun-08	660,682	685,745	557,142	208,075	2,111,644	2,581,745				
Jul-08	416,290	633,526	533,301	518,565	2,101,682	2,556,239				
Aug-08	319,777	584,629	661,162	572,100	2,137,668	2,531,424				
Sep-08	407,225	609,781	400,581	636,452	2,054,039	2,519,852				
Oct-08	347,324	548,798	626,288	602,687	2,125,097	2,513,530				
Nov-08	161,092	670,669	552,719	633,163	2,017,643	2,489,191				
Dec-08	97,140	730,887	698,098	703,696	2,229,821	2,458,540				
Jan-09	268,426	566,252	624,860	672,893	2,132,431	2,424,205				
Feb-09	248,328	529,200	588,304	552,762	1,918,594	2,395,508				
Mar-09	727,103	716,175	708,045	525,428	2,676,751	2,386,069				
Apr-09	615,970	619,001	459,685	403,613	2,098,269	2,357,327				
May-09	636,669	679,332	98,819	674,168	2,088,988	2,329,108				
Jun-09	621,036	565,478	196,232	674,490	2,057,236	2,303,330				
Jul-09	609,450	674,034	148,007	685,849	2,117,340	2,277,260				
Aug-09	573,634	532,208	399,227	641,726	2,146,795	2,252,651				
Sep-09	570,541	457,373	457,373	648,634	2,133,921	2,231,577				
Oct-09	453,749	316,041	664,988	584,687	2,019,465	2,211,599				
Nov-09	418,597	481,110	460,501	674,586	2,034,794	2,189,756				
Dec-09	595,777	733,496	707,961	468,836	2,506,070	2,183,032	2,359,323			
Jan-10	292,157	703,563	659,203	137,781	1,792,704	2,140,351	2,326,996			
Feb-10	48,198	528,851	588,323	110,506	1,275,878	2,090,431	2,290,011			
Mar-10	113,221	241,344	593,484	462,928	1,410,977	2,055,929	2,248,558			
Apr-10	22,904	672,271	687,799	123,531	1,506,505	2,032,113	2,212,959			
May-10	12,292	614,325	661,549	311,448	1,599,614	2,012,247	2,180,552			
Jun-10	237,023	561,983	517,263	274,827	1,591,096	1,990,557	2,150,419			
Jul-10	252,484	224,023	640,250	413,081	1,529,838	1,966,731	2,116,719			
Aug-10	141,194	611,525	652,750	209,110	1,614,579	1,944,935	2,085,530			
Sep-10	175,591	602,489	602,489	112,624	1,493,193	1,921,567	2,053,682			
Oct-10	6,452	655,752	687,929	42,401	1,392,534	1,891,043	2,022,949			
Nov-10	196	688,434	413,742	477,313	1,579,685	1,872,795	1,995,745			
Dec-10	205	367,848	522,440	528,378	1,418,871	1,839,005	1,961,063	2,148,773		
Jan-11	536,019	138,376	222,475	539,284	1,436,154	1,809,994	1,922,704	2,117,100		
Feb-11	604,616	2,226	108,942	574,814	1,290,598	1,783,827	1,889,833	2,089,668		
Mar-11	4,892	678,493	711,819	31,923	1,427,127	1,731,760	1,867,280	2,058,914		
Apr-11	6,899	310,047	624,159	450,047	1,391,152	1,702,296	1,848,199	2,029,812		
May-11	645,468	428,743	531,914	149,380	1,755,505	1,688,401	1,839,285	2,008,754		
Jun-11	386,460	214,480	543,736	408,864	1,553,540	1,667,414	1,823,782	1,985,372		
Jul-11	268,917	117,837	668,777	491,697	1,547,228	1,643,659	1,808,381	1,960,460		
Aug-11	664,824	145,855	615,905	156,132	1,582,716	1,620,156	1,792,965	1,936,403		
Sep-11	342,496	138,790	615,171	391,097	1,487,554	1,593,224	1,777,230	1,912,400		
Oct-11	524,792	390,382	629,208	75,097	1,619,479	1,576,558	1,763,185	1,894,079		
Nov-11	467,355	105,370	651,483	173,640	1,397,848	1,550,019	1,745,968	1,869,887		
Dec-11	691,641	97,993	603,495	44,400	1,437,529	1,505,496	1,723,960	1,844,264	2,017,792	
Unit 1		Unit 2	Unit 3	Unit 4	Total all 4 units					

Average Month = 2,465,331

total avg 24-mo avg 36-mo avg 48-mo avg 60-mo avg

Appendix D Calculations

Fuel Usage During Baseline Period January 2007 - December 2008

	Unit 1	Unit 2	Unit 3	Unit 4	All Units
Jan-07	742,580	707,164	746,672	760,046	2,956,462
Feb-07	618,982	635,263	669,829	683,259	2,607,333
Mar-07	742,046	694,759	727,596	738,886	2,903,287
Apr-07	713,467	664,813	700,892	708,902	2,788,074
May-07	710,255	664,313	688,332	703,355	2,766,255
Jun-07	676,415	646,789	674,135	678,571	2,675,910
Jul-07	702,809	650,956	690,336	698,910	2,743,011
Aug-07	701,455	654,862	691,824	689,269	2,737,410
Sep-07	682,453	609,927	672,920	674,401	2,639,701
Oct-07	699,763	465,734	624,136	709,291	2,498,924
Nov-07	689,670	597,071	597,071	675,217	2,559,029
Dec-07	745,581	741,180	447,756	732,925	2,667,442
Jan-08	735,238	682,880	712,466	686,469	2,817,053
Feb-08	630,734	633,736	574,152	635,346	2,473,968
Mar-08	366,649	666,250	494,741	711,379	2,239,019
Apr-08	576,621	418,692	540,568	542,205	2,078,086
May-08	713,861	697,043	665,498	-	2,076,402
Jun-08	660,682	685,745	557,142	208,075	2,111,644
Jul-08	416,290	633,526	533,301	518,565	2,101,682
Aug-08	319,777	584,629	661,162	572,100	2,137,668
Sep-08	407,225	609,781	400,581	636,452	2,054,039
Oct-08	347,324	548,798	626,288	602,687	2,125,097
Nov-08	161,092	670,669	552,719	633,163	2,017,643
Dec-08	97,140	730,887	698,098	703,696	2,229,821

59,004,960 Total Baseline Fuel Usage

29,502,480 Average Annual Fuel Usage

CO2e Emissions During Baseline Period

Fuel usage	29,502,480 MMBtu/yr
Emission Factor	0.0531 Mt CO2e / MMBtu
Baseline Historical Average Annual Emissions	1,566,582 Mt CO2e / yr

Current Permitted limits for S-511-1, '-2, '-3, '-4

NOx limitation

271,200 lb NOx/yr combined 4 turbines

67,800 lb NOx/qtr combined 4 turbines

lb NOx/yr * emission factor 0.011 lb NOx/Mmbtu * 0.0531 metric ton CO2e/MMBtu = metric ton CO2e/yr

271200 0.011 0.0531 1,309,156 Mt CO2e/yr

All 4 GTE Combined

Annual HAE	1,566,582	Mt CO2e/yr
current permitted	1,309,156	Mt CO2e/yr
Bankable AER	257,426	Mt CO2e/yr

Appendix E
Draft ERC's

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

S-4320-24

ISSUED TO: SYCAMORE COGENERATION CO
ISSUED DATE: <DRAFT>
LOCATION OF REDUCTION: HEAVY OIL CENTRAL
CA
SECTION: 31 TOWNSHIP: 28S RANGE: 28E

For CO2E Reductions In The Amount Of:

257,426 metric tons / year

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- Other

Reduction in permitted usage of gas turbine engines (S-511-1, '-2, '-3, & '-4) verified as permanent within the State of California.

Emission Reduction Qualification Criteria

This emission reduction is surplus and additional to all applicable regulatory requirements.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

Appendix F
Comments and Responses

Dan Klevann

From: Eagar, Cory <CEagar@chevron.com>
Sent: Wednesday, March 15, 2017 12:40 PM
To: Dan Klevann
Cc: White, Joel L.; Johnson, Dale
Subject: RE: ERC Fuel Use Data - Sycamore (2) (3).xlsx

Dan,

Please issue it to Jay Blackmon, Interim Asset Manager. Unless it has to be a Title V RO, in that case, then Joel L. White, Acting Asset Manager.

Thanks,

Cory Eagar
Environmental Specialist
(661) 615-4681
(661) 369-1382 M
ceagar@chevron.com

From: Johnson, Dale
Sent: Wednesday, March 15, 2017 8:51 AM
To: 'Dan Klevann'
Cc: Eagar, Cory
Subject: RE: ERC Fuel Use Data - Sycamore (2) (3).xlsx

Dan

I will defer to Cory on this. We will have an answer ASAP.

Dale A. Johnson, P.G., C.HG.
HES Specialist – Air Permitting and Compliance
Dale.Johnson@chevron.com
Chevron North American Exploration and Production
San Joaquin Valley Business Unit
Tel 661 412 6371
Fax 661 654 7004
Mobile 661 742 4837

From: Dan Klevann [<mailto:Dan.Klevann@valleyair.org>]
Sent: Wednesday, March 15, 2017 8:46 AM
To: Johnson, Dale <Dale.Johnson@chevron.com>
Cc: Eagar, Cory <CEagar@chevron.com>
Subject: **[**EXTERNAL**]** RE: ERC Fuel Use Data - Sycamore (2) (3).xlsx

Dale/Cory,

In our final letter for the GHG ERC's should the letters be addressed to Carolyn Grant or someone else?

Thanks,
Dan

From: Johnson, Dale [<mailto:Dale.Johnson@chevron.com>]
Sent: Thursday, March 9, 2017 7:11 AM
To: Dan Klevann
Cc: Eagar, Cory
Subject: RE: ERC Fuel Use Data - Sycamore (2) (3).xlsx

Dan

Here is the info you requested.

Sycamore 2016 Fuel Usage (MMBtu)		
Oct	Nov	Dec
1,392,643	1,374,020	1,437,815

Total for the year 16,530,838 MMBtu

Dale A. Johnson, P.G., C.HG.
HES Specialist – Air Permitting and Compliance
Dale.Johnson@chevron.com

Chevron North American Exploration and Production
San Joaquin Valley Business Unit
Tel 661 412 6371
Fax 661 654 7004
Mobile 661 742 4837

From: Dan Klevann [<mailto:Dan.Klevann@valleyair.org>]
Sent: Wednesday, March 08, 2017 1:04 PM
To: Johnson, Dale <Dale.Johnson@chevron.com>
Cc: Eagar, Cory <CEagar@chevron.com>
Subject: **[**EXTERNAL**]** RE: ERC Fuel Use Data - Sycamore (2) (3).xlsx

Dale/Cory,

Do you have the Oct-Dec 2016 fuel usage data? I was asked to get that for our response letter.
Please give me a call if you have questions.
Thanks,

Dan Klevann
Senior Air Quality Engineer
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308-9725
661-392-5607

From: Johnson, Dale [<mailto:Dale.Johnson@chevron.com>]
Sent: Tuesday, November 8, 2016 12:46 PM

To: Dan Klevann
Subject: RE: ERC Fuel Use Data - Sycamore (2) (3).xlsx

Update table with Jan-Sept 2016 Sycamore fuel usage.

Year	Total (mmBTU)
1997	30,034,563
1998	33,177,780
1999	32,050,083
2000	32,771,774
2001	31,444,585
2002	31,908,836
2003	33,215,835
2004	32,844,388
2005	33,316,825
2006	31,927,391
2007	32,542,837
2008	26,462,122
2009	25,930,658
2010	18,205,466
2011	17,926,426
2012	17,386,082
2013	17,375,424
2014	16,325,857
2015	15,721,159
Jan-Sept 2016	12,326,122

Dale A. Johnson, P.G., C.HG.
Senior Environmental Specialist
Dale.Johnson@chevron.com
Chevron Power and Energy Management
(a division of Chevron U.S.A. Inc.)
P.O. Box 81438
Bakersfield, CA 92280
Tel 661 615 4676
Fax 661 615 4610
Mobile 661 742 4837

From: Dan Klevann [<mailto:Dan.Klevann@valleyair.org>]
Sent: Tuesday, November 08, 2016 6:28 AM
To: Johnson, Dale
Subject: **[**EXTERNAL**]** RE: ERC Fuel Use Data - Sycamore (2) (3).xlsx

Dale,

Do you have the fuel use from 2012 - Oct 2016 ? What you sent stops in 2012.
Give me a call if you have questions.
Thanks.

Dan Klevann

Senior Air Quality Engineer
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308-9725
661-392-5607

From: Johnson, Dale [<mailto:Dale.Johnson@chevron.com>]
Sent: Monday, November 7, 2016 3:41 PM
To: Dan Klevann
Subject: ERC Fuel Use Data - Sycamore (2) (3).xlsx

Dan per your request is attached a spreadsheet detailing Sycamore fuel use.

Dale A. Johnson, P.G., C.HG.
Senior Environmental Specialist
Dale.Johnson@chevron.com
Chevron Power and Energy Management
(a division of Chevron U.S.A. Inc.)
P.O. Box 81438
Bakersfield, CA 92280
Tel 661 615 4676
Fax 661 615 4610
Mobile 661 742 4837

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Jay Blackmon
 Sycamore Congeneration Facility
 PO Box 80598
 Bakersfield, CA 93380



9590 9402 1834 6104 3529 19

2. Article Number (Transfer from service label)

7016 0750 0000 3328 4246

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

- Agent
- Addressee

B. Received by (Printed Name)

Nick Colullo

C. Date of Delivery

**D. Is delivery address different from item 1? Yes
If YES, enter delivery address below No**

RECEIVED

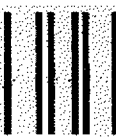
JUN 26 2015

Permits Services

3. Service Type SJVAPCD

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- Certified Mail Restricted Delivery
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- Collect on Delivery Restricted Delivery
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- Registered Mail Restricted Delivery
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- Signature Confirmation Restricted Delivery

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USPS
Permit No. G-10

9590 9402 1834 6104 3529 19

United States
Postal Service

• Sender: Please print your name, address, and ZIP+4® in this box•

San Joaquin Valley APCD
Diseree Gomez
1990 E Gettysburg Avenue
Fresno, CA 93726

Doc Handle #4046572

ERC/PNP

Project # S-1123816



PUBLIC NOTICE CHECK LIST

PROJECT #: S-511 PROJECT #: S-1123816

REQST. COMPL.

√
√
√ —

ERC FINAL PUBLIC NOTICE

Newspaper Notice Emailed to Clerical (Check box and tab to generate Notice)

Send email to "OA-PublicNotices" containing the following:

SUBJECT: facility name, facility id#, project #, type of notice (prelim/final)

BODY: project description and why it is being noticed (Emission Reduction Credit Banking)

ENCLOSED DOCUMENTS REQUIRE:

√ —

Enter Correct Date, Print All Documents from File and Obtain Director's Signature and District Seal Embossed on ERC Certificates

√ —

Email **FINAL** Newspaper Notice for Publication in Bakersfield Californian

Pub Date: 4/26

√ —

Mail **FINAL** Notice Letter to Applicant by **Certified Mail** including the following attachments:

√ Original ERC Certificates

√ Newspaper Notice

√ —

Email **FINAL** Public Notice package to EPA

√ —

Email **FINAL** Public Notice package to CARB

√ —

Email **FINAL** Newspaper Notice, Aviso en Español and Public Notice package to "webmaster"

√ —

After posted on website, send email with weblink of Newspaper notice, Aviso en Español, and full public notice package to:

√ specific [S] region **and** District wide permitting notification list-serves (both English and Spanish list serves)

√ facility specific distribution list, (AQE – enter email address from PAS facility details notifications tab, if none enter NONE below):

NONE

√ —

Mail the newspaper notice and aviso en español (NN/AE), or full public notice package (FPNP) to the persons on facility specific distribution list, as follows (entered by AQE, if none, enter NONE below):

NN/AE or FPNP Name/address: [Anna Mortiz, Center for Biological Diversity (w/ enclosure) via email mmortiz@biologicaldiversity.org]

NN/AE or FPNP Name/address: [names]

√ —

Send **FINAL** Public Notice package to EDMS

√ —

Assign Mailing Date

— —

Other Special Instructions (please specify): only send ERC S-4808-24 to facility

Date Completed [DATE COMPLETED] /By Dan Klevann

Diseree Gomez

From: Diseree Gomez
Sent: Friday, April 21, 2017 5:02 PM
To: 'Tung Le (tle@arb.ca.gov)'; Gerardo C. Rios - EPA (SJV_T5_Permits@epamail.epa.gov)
Cc: 'mmortiz@biologicaldiversity.org'
Subject: ERC Final Public Notice for Sycamore Cogeneration Facility, Facility # S-511, Project #S-1123816
Attachments: Final, S-1123816.pdf; Newspaper, S-1123816.pdf
Importance: High

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Sycamore Cogeneration Facility for emission reduction generated by reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs to be issued is 257,426 metric tons CO₂e/yr.

Thank You,

Diseree Gomez
Office Assistant II
San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Ave
Fresno, CA. 93726
559.230.6003
Diseree.Gomez@valleyair.org



HEALTHY AIR LIVING

www.healthyairliving.com

Make one change for clean air!

Diseree Gomez

From: Microsoft Outlook
To: Gerardo C. Rios - EPA (SJV_T5_Permits@epamail.epa.gov)
Sent: Friday, April 21, 2017 5:03 PM
Subject: Relayed: ERC Final Public Notice for Sycamore Cogeneration Facility, Facility # S-511, Project #S-1123816

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

Gerardo C. Rios - EPA (SJV_T5_Permits@epamail.epa.gov) (SJV_T5_Permits@epamail.epa.gov)
<mailto:SJV_T5_Permits@epamail.epa.gov>

Subject: ERC Final Public Notice for Sycamore Cogeneration Facility, Facility # S-511, Project #S-1123816

Diseree Gomez

From: Microsoft Outlook
To: 'mmortiz@biologicaldiversity.org'
Sent: Friday, April 21, 2017 5:03 PM
Subject: Undeliverable: ERC Final Public Notice for Sycamore Cogeneration Facility, Facility # S-511, Project #S-1123816

mx1.messagingengine.com rejected your message to the following e-mail addresses:

'mmortiz@biologicaldiversity.org' (mmortiz@biologicaldiversity.org)

mx1.messagingengine.com gave this error:

<mmortiz@biologicaldiversity.org>: Recipient address rejected: User unknown in virtual mailbox table

The e-mail address you entered couldn't be found. Please check the recipient's e-mail address and try to resend the message. If the problem continues, please contact your helpdesk.

Diagnostic information for administrators:

Generating server: MailEdge.sjvapcd.local

mmortiz@biologicaldiversity.org

mx1.messagingengine.com #550 5.1.1 <mmortiz@biologicaldiversity.org>: Recipient address rejected: User unknown in virtual mailbox table ##

Original message headers:

From: Diseree Gomez <Diseree.Gomez@valleyair.org>
To: "'Tung Le (ttle@arb.ca.gov)'" <ttle@arb.ca.gov>, "Gerardo C. Rios - EPA (SVJ T5 Permits@epamail.epa.gov)" <SVJ T5 Permits@epamail.epa.gov>
CC: "'mmortiz@biologicaldiversity.org'" <mmortiz@biologicaldiversity.org>
Subject: ERC Final Public Notice for Sycamore Cogeneration Facility, Facility # S-511, Project #S-1123816
Thread-Topic: ERC Final Public Notice for Sycamore Cogeneration Facility, Facility # S-511, Project #S-1123816
Thread-Index: AdK6+3KfgGIK7BmsShqWag9hJHyhAg==
Importance: high
X-Priority: 1
Return-Receipt-To: <Diseree.Gomez@valleyair.org>
Date: Sat, 22 Apr 2017 00:02:22 +0000
Message-ID: <82D1869FC8255444B94F6535F8C5256701830865@MailDBFre02.SJVAPCD.LOCAL>
Accept-Language: en-US
Content-Language: en-US
X-MS-Has-Attach: yes
X-MS-TNEF-Correlator:
x-originating-ip: [10.20.150.186]
Content-Type: multipart/mixed;
boundary="_007_82D1869FC8255444B94F6535F8C5256701830865MailDBFre02SJVA_"

Diseree Gomez

From: Diseree Gomez
Sent: Monday, April 24, 2017 9:05 AM
To: WebTeam
Subject: valleyair.org update: ERC Final Public Notice for Sycamore Cogeneration Facility, Facility # S-511, Project #S-1123816
Attachments: Final, S-1123816.pdf; Newspaper, S-1123816.pdf; Aviso, S-1123816.pdf

April 24, 2017 (Facility S-511 Project S-1123816) NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Sycamore Cogeneration Facility for emission reduction generated by reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs to be issued is 257,426 metric tons CO₂e/yr.

Newspaper Notice

Aviso

Public Notice Package

Thank You,

Diseree Gomez
Office Assistant II
San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Ave
Fresno, CA. 93726
559.230.6003
Diseree.Gomez@valleyair.org



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**AVISO DE DECISIÓN FINAL
PARA LA OTORGACIÓN DE
CERTIFICADOS DE REDUCCIÓN DE EMISIONES**

POR EL PRESENTE SE NOTIFICA que el Oficial para el Control de la Contaminación del Aire a otorgado Certificados de Reducción de Emisiones (ERCs, por sus siglas en inglés) a Sycamore Cogeneration Facility por la reducción de emisiones generadas por reducir la operación permitida de cuatro motores de turbina de gas, en el centro del condado de Kern. La cantidad de ERCs que serán otorgados son 257,426 toneladas métricas de CO₂ al año.

Los comentarios que recibió el Distrito durante el periodo de la audiencia pública resultaron en reducción de la cantidad de ERCs elegibles para almanecar.

La revisión de la solicitud del Proyecto #S-1123816 está disponible para la inspección del público en http://www.valleyair.org/notices/public_notices_idx.htm, en el DISTRITO PARA EL CONTROL DE LA CONTAMINACIÓN DEL AIRE DEL VALLE DE SAN JOAQUIN, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308, y en cualquiera de las oficinas del Distrito. Para más información en Español, por favor comuníquese con el Distrito al (661) 392-5500.

**NOTICE OF FINAL ACTION
FOR THE ISSUANCE OF
EMISSION REDUCTION CREDITS**

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Sycamore Cogeneration Facility for emission reduction generated by reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs to be issued is 257,426 metric tons CO₂e/yr.

Comments received by the District during the public notice period resulted in a reduction of the quantity of ERCs eligible for banking.

The application review for Project #S-1123816 is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm, the SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308, and at any other District office. For additional information, please contact the District at (661) 392-5500.

PUBLIC NOTICE CHECK LIST

PROJECT #: S-511 PROJECT #: S-1123816

REQST. COMPL.

ERC FINAL PUBLIC NOTICE

Newspaper Notice Emailed to Clerical (Check box and tab to generate Notice)

Send email to "OA-PublicNotices" containing the following:

SUBJECT: facility name, facility id#, project #, type of notice (prelim/final)

BODY: project description and why it is being noticed (Emission Reduction Credit Banking)

ENCLOSED DOCUMENTS REQUIRE:

Print All Documents from File and Obtain Director's Signature and District Seal Embossed on ERC Certificates

~~Email **FINAL** Newspaper Notice for Publication in Bakersfield Californian~~

~~Pub Date: 7/12/10~~

Mail **FINAL** Notice Letter to Applicant by **Certified Mail** including the following attachments:

Original ERC Certificates

Newspaper Notice

Email **FINAL** Public Notice package to EPA

Email **FINAL** Public Notice package to CARB

Email **FINAL** Newspaper Notice, Aviso en Español and Public Notice package to "webmaster"

After posted on website, send email with weblink of Newspaper notice, Aviso en Español, and full public notice package to:

- specific [C, S, or N] region **and** District wide permitting notification list-serves (both English and Spanish list serves)

facility specific distribution list, (AQE – enter email address from PAS facility details notifications tab, if none enter NONE below):

[email address] see letter

Mail the newspaper notice and aviso en español (NN/AE), or full public notice package (FPNP) to the persons on facility specific distribution list, as follows (entered by AQE, if none, enter NONE below):

NN/AE or FPNP Name/address: [names]

NN/AE or FPNP Name/address: [names]

Send **FINAL** Public Notice package to EDMS

Assign Mailing Date

Other Special Instructions (please specify): _____

Date Completed [DATE COMPLETED] /By [ENGINEER]

Diseree Gomez

From: Diseree Gomez
Sent: Wednesday, June 21, 2017 9:39 AM
To: Gerardo C. Rios - EPA (SJV_T5_Permits@epamail.epa.gov); 'Tung Le (ttle@arb.ca.gov)'; 'mmortiz@biologicaldiversity.org'
Subject: Revised: ERC Final Public Notice for Sycamore Cogeneration Facility, Facility # S-511, Project #S-1123816
Attachments: Revised Final, S-1123816.pdf
Importance: High

On April 21, 2017 the District made its final decision for the issuance of Emission Reduction Credits (ERC) to Chevron USA Inc. for emission reduction generated by reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs issued was 257,426 metric tons CO2e/yr.

Thank You,

Diseree Gomez
Office Assistant II
San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Ave
Fresno, CA. 93726
559.230.6003
Diseree.Gomez@valleyair.org



7016 0750 0000 3328 4246

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<input type="checkbox"/> Certified Mail Restricted Delivery	\$
<input type="checkbox"/> Adult Signature Required	\$
<input type="checkbox"/> Adult Signature Restricted Delivery	\$
Postage	\$
To	Jay Blackmon
Se	Sycamore Cogeneration Facility
St	PO Box 80598
City	Bakersfield, CA 93380
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

Postmark Here

Diseree Gomez

From: Microsoft Outlook
To: mmortiz@biologicaldiversity.org
Sent: Wednesday, June 21, 2017 9:39 AM
Subject: Undeliverable: Revised: ERC Final Public Notice for Sycamore Cogeneration Facility, Facility # S-511, Project #S-1123816

mx4.messagingengine.com rejected your message to the following e-mail addresses:

mmortiz@biologicaldiversity.org (mmortiz@biologicaldiversity.org)

mx4.messagingengine.com gave this error:
<mmortiz@biologicaldiversity.org>: Recipient address rejected: User unknown in virtual mailbox table

The e-mail address you entered couldn't be found. Please check the recipient's e-mail address and try to resend the message. If the problem continues, please contact your helpdesk.

Diagnostic information for administrators:

Generating server: MailEdge.sjvapcd.local

mmortiz@biologicaldiversity.org
mx4.messagingengine.com #550 5.1.1 <mmortiz@biologicaldiversity.org>: Recipient address rejected: User unknown in virtual mailbox table ##

Original message headers:

From: Diseree Gomez <Diseree.Gomez@valleyair.org>
To: "Gerardo C. Rios - EPA (SJV_T5 Permits@epamail.epa.gov)"
<SJV_T5 Permits@epamail.epa.gov>, "'Tung Le (ttle@arb.ca.gov)'"
<ttle@arb.ca.gov>, "mmortiz@biologicaldiversity.org"
<mmortiz@biologicaldiversity.org>
Subject: Revised: ERC Final Public Notice for Sycamore Cogeneration
Facility, Facility # S-511, Project #S-1123816
Thread-Topic: Revised: ERC Final Public Notice for Sycamore Cogeneration
Facility, Facility # S-511, Project #S-1123816
Thread-Index: AdLqrJBE9xdRULcAQO6eXJrPvoowzg==
Importance: high
X-Priority: 1
Return-Receipt-To: <Diseree.Gomez@valleyair.org>
Date: Wed, 21 Jun 2017 16:39:14 +0000
Message-ID: <82D1869FC8255444B94F6535F8C525670185E01B@MailDBFre01.SJVAFCD.LOCAL>
Accept-Language: en-US
Content-Language: en-US
X-MS-Has-Attach: yes
X-MS-TNEF-Correlator:
x-originating-ip: [10.20.100.165]
Content-Type: multipart/mixed;

Diseree Gomez

From: Diseree Gomez
Sent: Wednesday, June 21, 2017 10:02 AM
To: WebTeam
Subject: valleyair.org update: REVISED- ERC Final Public Notice for Sycamore Cogeneration Facility, Facility # S-511, Project #S-1123816
Attachments: Revised Final, S-1123816.pdf

Hi Webteam,

Can you please add this Revised Public Notice to the previous package that was sent on April 24, 2017. Can you make an additional line names "Revised Public Notice Package" because we don't want to delete the previous one.

April 24, 2017 (Facility S-511 Project S-1123816) NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Sycamore Cogeneration Facility for emission reduction generated by reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs to be issued is 257,426 metric tons CO₂e/yr.
[Newspaper Notice](#)
[Aviso en Español](#)
[Public Notice Package](#)

April 24, 2017 (Facility S-511 Project S-1123816) NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Sycamore Cogeneration Facility for emission reduction generated by reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs to be issued is 257,426 metric tons CO₂e/yr.

Please Call me at 6036 if you have any questions.

Thank You,

Diseree Gomez
Office Assistant II
San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Ave
Fresno, CA. 93726
559.230.6003
Diseree.Gomez@valleyair.org



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APR 21 2017

Jay Blackmon
Sycamore Cogeneration Facility
PO Box 81438
Bakersfield, CA 93380

RE: Notice of Final Action – Emission Reduction Credits
Facility Number: S-511
Project Number: S-1123816

Dear Mr. Blackmon:

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Chevron USA Inc. for emission reduction generated by reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs to be issued is 257,426 metric tons CO₂e/yr.

Sycamore Cogeneration has requested that the ERC be issued to their parent company Chevron USA Inc. As such, enclosed is a copy of the ERC Certificate issued to Chevron USA Inc., a revised application review, and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the ERC Certificate was published on May 26, 2016. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on May 26, 2016. Comments received by the District during the public notice period resulted in a reduction of the quantity of ERCs eligible for banking. The comments received and District response are included as Appendix E of the revised final evaluation (enclosed).

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura at (661) 392-5500.

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-8061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

Jay Blackmon
Page 2

Sincerely,



Arnaud Marjollet
Director of Permit Services

AM:dk

Enclosures

cc: Tung Le, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email
cc: Anna Mortiz, Center for Biological Diversity (w/ enclosure) via email
mmortiz@biologicaldiversity.org

San Joaquin Valley Air Pollution Control District
ERC Application Review - Greenhouse Gases
Reduction in Gas Turbine Engine Use
Revised Final Decision

Facility Name: Sycamore Cogeneration Company

Date: March 8, 2017

Mailing Address: P O Box 80598
Bakersfield, CA 93380

Engineer: Dan Klevann
Lead Engineer: Leonard Scandura

Contact Person: Neil Burgess

Telephone: (661) 615-4630

Project #: S-1123816

Received: December 27, 2011

Deemed Complete: March 10, 2014

ERC #: S-4320-24

The District received comments during the public comment period. We have addressed these comments and made an adjustment to the calculation of the bankable emissions by using the U.S. EPA developed CO₂e emission factor. This adjustment resulted in a decrease in bankable CO₂e credits. See comments and responses in Appendix E.

I. Summary

Sycamore Cogeneration Company (Sycamore) has reduced permitted operation of four gas turbine engines (GTE) at their operation in the Kern River oilfield. Sycamore is requesting an emission reduction credit (ERC) banking certificate for CO₂e. The primary business of this facility is steam and electricity generation. Sycamore has also submitted an application to bank the emission reduction credits (ERCs) for the actual emission reductions (AER) of the NO_x emissions (ERC Project S-1114928).

Selection of Geographical Boundary for Determining Permanence of the GHG Emission Reduction

Rule 2301 contains several eligibility criteria for emission reduction credit banking, including that the emission reduction must be permanent. When determining the geographical boundary in which the emission reduction is determined to be permanent, the applicant may consider how the GHG ERC may likely be used.

Please note that while Rule 2301 allows facilities to receive ERCs for GHG emission reductions, the District does not have any requirements on the use of GHG ERCs. However, it is anticipated that the likely uses of such GHG ERCs would be their future retirement as GHG mitigation in the California Environmental Quality Act (CEQA) process.

Pursuant to CEQA, lead agencies must consider the environmental impact of GHG emissions from a project and may require that such GHG emissions be mitigated. In evaluating various mitigation techniques, including the retirement of GHG ERCs, the lead agency must determine if the proposed mitigation technique adequately mitigates the projects GHG emission increase.

When a lead agency determines if the retirement of a particular GHG ERC provides adequate GHG mitigation for a project, the lead agency may choose to consider the location where the GHG ERC was generated and the geographical boundary used to determine the permanence of the emission reduction. In making this determination, the lead agency may conclude that the retirement of a particular GHG ERC would provide adequate mitigation for projects within that same geographical boundary. Again, that determination will be made by the lead agency for any particular project.

For this application, the facility has selected California as the geographical boundary for which the emission reduction is permanent. Sycamore has provided data showing the decline in California Oil Production from 1995 to 2012 (see Appendix B). The power and steam produced by the GTE's was used for oil production in California. Additionally, Sycamore is an entity covered by California Cap and Trade (AB32), AB32 requires California to return to 1990 levels of greenhouse gas emissions by 2020. This information validates California as the geographical boundary selection for a permanent GHG emission reduction.

The following emission reductions have been found to qualify for banking:

GHG ERCs		
ERC Certificate	Pollutant	Amount
S-4320-24	CO ₂ e	257,426 metric tons/year

II. Applicable Rules

Rule 2301 Emission Reduction Credit Banking (1/19/12)

III. Location of Reduction

The equipment is located at Sycamore's facility in the Kern River Oilfield within Chevron's Kern County Heavy Oil Central stationary source. The location is below.

ERC: S-4320-24

S-511-1: Section 31, Township 28S, Range 28E

S-511-2: Section 31, Township 28S, Range 28E

S-511-3: Section 31, Township 28S, Range 28E

S-511-4: Section 31, Township 28S, Range 28E

IV. Method of Generating Reductions

The emission reductions are being generated by reducing the allowable usage and resulting NOx emissions from the four natural gas fired GE gas turbines. This NOx limit is only achieved by reducing the fuel combusted in the turbines. The reduction in fuel burned results in a reduction in GHG produced.

V. Equipment Description

PTO	Equipment
S-511-1	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #1)
S-511-2	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #2)
S-511-3	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #3)
S-511-4	75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #4)

VI. Calculations

A. Assumptions and Emission Factors

Assumptions

The actual emissions will be calculated annually in the baseline period. The Historical Actual Emissions (HAE) will be calculated using actual fuel use data.

The applicant provided monthly fuel use data for the subject GTE's.

- Units of GHG AER is metric tons of CO₂e per year, rounded to the nearest metric ton
- 1,000 kg = 1 metric ton
- 1 therm of Natural Gas = 100 scf
- EPA Standard emission factors for natural gas combustion for CO₂, CH₄, and N₂O along with global warming potentials for CO₂, CH₄, and N₂O (from Rule 2301) will be used to calculate actual emission CO₂e emissions and post project potential CO₂e emissions.

Emission Factors (EF)

The U.S. EPA standard CO₂e equivalent emission factor for natural gas combustion will be used for both pre project and post project calculations. This emission factor is a combination of the CO₂, CH₄ and N₂O components listed in 40 CFR 98.30 Table C-1 and C-2. These emission factors have been determined by EPA, through a public process, to be representative for natural gas combustion in the U.S.

EF CO ₂	=	53.06 kg/MMBtu
EF CH ₄	=	1.0 E-3 kg/MMBtu
EF N ₂ O	=	1.0 E-4 kg/MMBtu

To convert CO₂, CH₄, and N₂O emission factors into a CO₂e emission factor, the global warming potentials of CO₂, CH₄, and N₂O from Rule 2301 shall be used.

GWP CO ₂	=	1 (from Rule 2301)
GWP CH ₄	=	21 (from Rule 2301)
GWP N ₂ O	=	310 (from Rule 2301)

$$\begin{aligned} \text{EF}_{\text{CO}_2\text{e}} &= (53.06 \text{ kg/MMBtu} * 1) + (1.0\text{E-}3 \text{ kg/MMBtu} * 21) + (1.0\text{E-}4 \text{ kg/MMBtu} * 310) \\ &= 53.06 \text{ kg/MMBtu} + 0.021 \text{ kg/MMBtu} + 0.031 \text{ kg/MMBtu} \\ &= 53.11 \text{ kgCO}_2\text{e/MMBtu} \times (1 \text{ metric ton} / 1000 \text{ kg}) \\ &= \mathbf{0.0531 \text{ metric tons CO}_2\text{e/MMBtu}} \end{aligned}$$

B. Baseline Period Determination

Pursuant to Rule 2301 section 4.5.4, the Baseline Period is the following:

The consecutive 24 month period immediately prior to the date the emission reduction occurred, or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred.

The baseline period was determined using the fuel usage records for the turbines during a consecutive 24-month period in the 60 months prior to the date the emission reduction occurred. The date the emission reduction occurred is when the ATC application to restrict the turbines usage was deemed complete. In this case, the reduction occurred December 29, 2011. This same baseline was also used for the criteria pollutant ERC banking project S-1114928. (See fuel usage records in Appendix C, Calculations in Appendix D).

Baseline Period		
Location	Permit Unit	Dates
Sycamore Cogeneration (S31, T28S, R28E)	S-511-1	January 2007 – December 2008
	S-511-2	
	S-511-3	
	S-511-4	

C. Baseline Data

The baseline fuel use is determined from the fuel usage records supplied by the applicant (Appendix C).

Baseline Fuel Usage All 4 Turbines	
Year	Annual Fuel Use (MMBtu)
2007	32,542,838
2008	26,462,122
Average	29,502,480

D. Historical Actual Emissions (HAE)

The HAE from the fuel use is determined by multiplying the fuel-use by the emission factor as presented above. The full calculations are in Appendix D.

$$CO_2e = [(EF) \times (Fuel\ Heat\ Input)]$$

$$\text{CO}_2\text{e} = [(0.0531 \text{ metric tons CO}_2\text{e/MMBtu}) \times (29,502,480 \text{ MMBtu}) = 1,566,582 \text{ Mt CO}_2\text{e}$$

E. Post Project Potential to Emit (PE2)

As discussed above, the turbines in this project have an annual specific limiting condition on all four units of 271,200 lb NOx/yr. (see Appendix A).

The CO₂e emissions are calculated by using the NO_x limit, CO₂e emission factor, and NO_x emission factor. The potential emissions from all four turbines are 1,309,156 Mt CO₂e / yr. (see Appendix D).

F. Emission Reductions Eligible for Banking

The emission reductions eligible for banking are the difference between the historical actual emissions and the potential to emit after the project.

$$\begin{aligned} \text{ERCs eligible for banking} &= 1,566,582 \text{ Mt CO}_2\text{e/year} - 1,309,156 \text{ Mt CO}_2\text{e/year} \\ &= 257,426 \text{ Mt CO}_2\text{e/year} \end{aligned}$$

VII. Compliance

Rule 2301 – Emission Reduction Credit Banking

Section 4.5: Per District Rule 2301 Section 4.5, the following criteria must be met in order to deem such reductions eligible for banking:

- 4.5.1** The greenhouse gas emission reduction must have actually occurred on or after January 1, 2005, except as allowed in specific CARB approved GHG emission reduction project protocols.

The emission reductions occurred when the facility had stopped operating the turbines in a full time status. Sycamore had applied to change the permits in December 2011. As the emission reduction occurred after 1/1/05, this criteria has been satisfied.

- 4.5.2** The greenhouse gas emission reductions must have occurred within the San Joaquin Valley Unified Air Pollution Control District.

The emissions occurred at Sycamore's facility in the Kern River Oilfield within Chevron's Kern County Heavy Oil Central stationary source. Since this location is within the District, this criteria has been satisfied.

4.5.3 The greenhouse gas emission reductions are **real, surplus, permanent, quantifiable, and enforceable**, except as provided in Section 4.5.5.

Real:

The GHG emission reductions were generated by limitations of operation of the GTE's. The AER quantified above are based on actual, historical emissions and were calculated from actual fuel use data and source tests emission factors. The gas turbines have a new annual NOx emission limitation that inherently limits fuel use. Therefore, the AER due to limiting the turbines operation is real.

Surplus:

The facility is subject to the CARB cap and trade regulation; however, the reductions occurred prior January 1, 2012; therefore, the emission reductions satisfy the surplus requirement in Section 4.5.3.1.

The facility is subject to the CARB cap and trade regulation; however, the reductions occurred prior to the baseline period of cap and trade. Therefore, the emission reductions satisfy the surplus requirement in Section 4.5.3.2.

The emission reductions are not the result of an action taken by the permittee to comply with any requirement. The emission reductions are surplus and additional of all requirements. Therefore, the emission reductions satisfy the surplus requirement in section 4.5.3.4.

The Certificates will be identified according to Section 6.15.3 below.

Permanent:

When determining the geographical boundary in which the emission reduction is determined to be permanent, the applicant may consider how the GHG ERC may likely be used.

Please note that the while Rule 2301 allows facilities to receive ERCs for GHG emission reductions, the District does not have any requirements on the use of GHG ERCs. However, it is anticipated that the likely uses of such GHG ERCs would be their future retirement as GHG mitigation in the CEQA process.

Pursuant to CEQA, lead agencies must consider the environmental impact of GHG emissions from a project and may require that such GHG emissions be mitigated. In evaluating various mitigation techniques, including the retirement of GHG ERCs, the lead agency must determine if the proposed mitigation technique adequately mitigates the projects GHG emission increase.

When a lead agency determines if the retirement of a particular GHG ERC provides adequate GHG mitigation for a project, the lead agency may choose to consider the

location where the GHG ERC was generated and the geographical boundary used to determine the permanence of the emission reduction. Then in making this determination, the lead agency may conclude that the retirement of a particular GHG ERC would provide adequate mitigation for projects within that same geographical boundary. Again, that determination will be made by the lead agency for a particular project.

Sycamore has selected California as the geographical boundary for which the emission reduction is permanent. Sycamore/Chevron has provided information verifying that the total oil production in the state of California has been in decline since 1985 (see graph in Appendix B). Additionally, Sycamore/Chevron is subject to the California Cap-and-Trade regulation which requires Chevron to reduce or mitigate a permanent reduction in GHG emissions. The combination of the decline in oil production in California and the reductions required by California's Cap-and-Trade regulation verify that the reductions are permanent within California. The geographical boundary for the ERCs will be the State of California and the ERC will include the following identifier:

"Reduction in permitted usage of gas turbine engines (S-511-1, '-2, '-3, & '-4) verified as permanent within the State of California."

Quantifiable:

The actual emissions were calculated from historic fuel-use records and accepted emission factors. Therefore, the emission reductions are quantifiable and have been quantified.

Enforceable:

The gas turbines have an annual NOx emission limit on their permits which limits the fuel used in the turbines. Operation of the equipment resulting in NOx emissions over the allowable annual limit would subject the permittee to enforcement action. Therefore, the emission reductions are enforceable.

- 4.5.4** Greenhouse gas emission reductions are calculated as the difference between the historic annual average greenhouse gas emissions (as CO₂e) calculated using the consecutive 24 month period immediately prior to the date the emission reduction occurred, or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred if determined by the APCO as being more representative of normal operations, and the potential greenhouse gas emissions (as CO₂e) after the project is complete, except as provided in section 4.5.5.

The GHG emission reductions were calculated according to the baseline period identified above. The turbines have permit conditions which restrict the NOx emissions and thus the GHG emissions from the four combined units. The post-project GHG emissions are calculated above.

- 4.5.5** Greenhouse gas emission reductions proposed to be quantified using CARB approved emission reduction project protocols shall be calculated in accordance with the applicable protocol.

Since the GHG emission reductions are not subject to an applicable CARB-approved emission reduction project protocol, this section is not applicable.

- 4.5.6** Emission reduction credits shall be made enforceable through permit conditions. If the District, pursuant to state laws, is prohibited from permitting the emission unit, the source creating the greenhouse gas emission reduction shall execute a legal binding contract with the District which ensures that the emission reductions will be generated in accordance with the provisions of this rule, and shall continue for the reasonably

The steam turbines hold a legal District operating permit. Since the operation of the steam turbines more than the allowable NOx limit would require a new Authority to Construct, as discussed above the emission reduction is enforceable.

Section 5 identifies ERC Certificate application procedures.

Section 5.5.2 requires, for emission reductions occurring prior to 1/19/12, applications for ERCs must be submitted by 7/19/12.

The greenhouse gas ERC application was submitted on 12/27/2011 as part of project S1114928, therefore the application is timely.

Section 6.15 specifies the registration requirements for GHG ERCs.

Section 6.15.13 requires, the emission reductions are surplus and additional of all requirements pursuant to Section 4.5.3.4. Therefore the ERC certificate shall include the following notation:

"This emission reduction is surplus and additional to all applicable regulatory requirements."

Compliance with Rule 2301 has been demonstrated and no adjustments are required under this Rule.

VIII. Recommendation

Issue the ERC Certificate in the amount posted in the table below.

GHG ERCs		
ERC Certificate	Pollutant	Amount
S-4320-24	CO ₂ e	257,426 metric tons/year

List of Appendixes

- A. Current PTO's
- B. California production
- C. Fuel use data
- D. Calculations
- E. Comments and Responses

Appendix A
Current PTO

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-1-17

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #1)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O₂. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO₂. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM₁₀ - 5.0 lb/hr, SO_x (as SO₂) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM₁₀ - 120.0 lb/day, SO_x (as SO₂) - 21.6 lb/day, NO_x (as NO₂) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NO_x (as NO₂) - 3 ppmvd @ 15% O₂, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O₂, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO₂ and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NO_x on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NO_x emissions (as NO₂) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NO_x / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: SYCAMORE COGENERATION CO
Location: HEAVY OIL CENTRAL, CA
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11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: SYCAMORE COGENERATION CO

Location: HEAVY OIL CENTRAL, CA

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24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
51. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
52. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

53. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
55. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
56. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
57. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
59. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
60. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
61. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
63. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
64. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
65. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

66. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
67. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
68. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
70. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: SYCAMORE COGENERATION CO

Location: HEAVY OIL CENTRAL, CA

S-511-1-17 Jun 4 2014 2:41PM - RLEVANN

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-2-18

EXPIRATION DATE: 11/30/2015

SECTION: 31 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #2)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NO_x and O₂ or CO₂ concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NO_x, CO and O₂ or CO₂ concentration. [District Rule 2201] Federally Enforceable Through Title V Permit
51. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
52. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
53. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

54. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
56. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
57. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
59. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
60. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
61. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
63. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
64. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
65. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
66. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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67. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
68. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
74. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-3-18

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #3)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
9. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: SYCAMORE COGENERATION CO

Location: HEAVY OIL CENTRAL, CA

8-511-3-16 Jun 4 2014 2:42PM -KLEVANNO

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. When CGT exhausts to bypass stack, the CEM probe located in the transition section shall be used to measure exhaust gas NOx, CO and O2 or CO2 concentration. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
21. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
22. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
23. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit
25. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
26. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
27. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
28. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
29. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
30. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
31. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
32. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
34. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
35. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
36. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
37. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

Facility Name: SYCAMORE COGENERATION CO

Location: HEAVY OIL CENTRAL, CA

S-511-3-18 Jun 4 2014 2:52PM -KLEVANN

38. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NO_x, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O₂, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit
39. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
40. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
41. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NO_x and O₂ or CO₂ concentration. [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
42. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
43. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
44. Daily records of NO₂ and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
45. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
46. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
47. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
48. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
49. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
50. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
51. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
52. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

53. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit
54. Accurate records of NOx (as NO2) and carbon monoxide (CO) flue gas concentrations corrected to 15% O2, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
55. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
56. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
57. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
59. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
60. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
61. The APCO shall be notified no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
62. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
63. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
64. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
65. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

66. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
67. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit
68. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
69. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
72. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
74. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
75. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-4-17

EXPIRATION DATE: 11/30/2015

SECTION: 31 TOWNSHIP: 28S RANGE: 28E

EQUIPMENT DESCRIPTION:

75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTOR TECHNOLOGY DISCHARGING TO ATMOSPHERE THROUGH A BYPASS STACK WHEN OPERATED IN SIMPLE CYCLE MODE OR THROUGH UNFIRED 450,000 LB/HR HEAT RECOVERY STEAM GENERATOR WHEN OPERATED IN COGENERATION MODE (SYCAMORE UNIT #4)

PERMIT UNIT REQUIREMENTS

1. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purposes of this permit. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
2. The CGT combustors shall be a dry low NOx design capable of achieving 3 ppm or lower at 15% O2. [PSD SJ 85-09, X.B] Federally Enforceable Through Title V Permit
3. Sulfur compound emissions shall not exceed 0.015% by volume, 150 ppmv, on a dry basis averaged over 15 consecutive minutes. [40 CFR 60.333(a) and Kern County Rule 407] Federally Enforceable Through Title V Permit
4. Exhaust gas particulate matter concentration shall not exceed 0.0072 gr/scf calculated at 12% CO2. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Emission rates from CGT shall not exceed any of the following: PM10 - 5.0 lb/hr, SOx (as SO2) - 0.9 lb/hr, or VOC - 2.5 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Emission rates from CGT shall not exceed any of the following: PM10 - 120.0 lb/day, SOx (as SO2) - 21.6 lb/day, NOx (as NO2) - 552.8 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [District Rule 2201 and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown, tuning start-up, and/or reduced load periods, shall not exceed any of the following: NOx (as NO2) - 3 ppmvd @ 15% O2, 12.4 lb/hr on a 3-hr avg, or CO - 25 ppmvd @ 15% O2, 44.0 lb/hr on a 3-hr avg. [District Rules 2201 and 4703, 5.1.2 & 5.2; and PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
8. NO2 and CO daily emissions during days of startup/shutdown shall be calculated from natural gas combustion rates and CEM results. [District Rule 1080] Federally Enforceable Through Title V Permit
9. During startup, shutdown, and tuning start-up, emissions shall not exceed any of the following: 140.0 lb/hr of NOx on a 2-hr avg, 140 lb/hr of CO on a 2-hr avg, or 200 lb/hr of CO on a 1-hr avg. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Annual NOx emissions (as NO2) from all four CTG's (S-511-1, S-511-2, S-511-3, and S-511-4) calculated on a twelve month rolling basis shall not exceed 271,200 lb NOx / yr. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

11. Startup shall be defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operations. Shutdown shall be defined as the period of time during which a unit is taken from an operational to a non-operational status as the fuel supply to the unit is completely turned off. [District Rule 4703, 3.29 and 3.26] Federally Enforceable Through Title V Permit
12. A tuning start-up shall be defined as "the period after a combustor unit replacement in which dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT is performed to meet the limits of this permit and Rule 4703". A tuning start-up period shall not exceed a time period of 12 consecutive hours per occurrence. [District Rule 4703, 5.3] Federally Enforceable Through Title V Permit
13. The duration of each startup or each shut down time shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rule 4703, 5.3.1] Federally Enforceable Through Title V Permit
14. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NOx performance test nor shall NOx emissions in excess of the level of the emission limit shown in this permit during periods of startup and shutdown be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard. [40 CFR 60.8(c)] Federally Enforceable Through Title V Permit
15. Each CGT shall have a maximum heat input rate of 1020 MMBTU/hr on an LHV basis. Firing rate can be increased upon District witnessed emission sampling demonstration that compliance with emission sampling limits can be achieved at higher fuel rates. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Permit unit shall include one unfired heat recovery steam generator (HRSG) for gas turbine engine assembly with rated steam output of 450,000 lb/hr at 80% quality steam production. [District NSR Rule] Federally Enforceable Through Title V Permit
17. CGT may exhaust either through unfired 450,000 lb/hr heat recovery steam generator or through bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
18. When operating in cogeneration mode, exhaust gas ducting from CGT's through HRSG's to the atmosphere shall be gas-tight. [District NSR Rule] Federally Enforceable Through Title V Permit
19. Bypass stack valve preceding each HRSG shall be designed to be gas-tight to the atmosphere when exhaust is discharged through HRSG and shall be designed to be gas-tight to the HRSG when exhaust is discharged through the bypass stack. [District NSR Rule] Federally Enforceable Through Title V Permit
20. At such times as specified by the USEPA, permittee shall conduct or cause to be conducted performance tests (as described in 40 CFR 60.8) for CO on the exhaust stack gases and furnish the District, the California ARB and the USEPA a written report of the results of such tests. All performance tests shall be conducted on an annual basis and at the maximum operating capacity of the emissions unit being tested. Upon written request from permittee, and adequate justification, USEPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 85- 09] Federally Enforceable Through Title V Permit
21. All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. [40 CFR 60.13(b)] Federally Enforceable Through Title V Permit
22. The USEPA shall be notified in writing at least 30 days in advance of such test to allow time for development of an approvable performance test plan and to arrange for an observer to be present at the test. Such prior approval shall minimize the possibility of USEPA rejection of test results for procedural deficiencies. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the USEPA. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
23. Annual compliance tests shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1081] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

24. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
25. For performance test purposes, sampling ports, platforms, and access shall be provided by the facility on the emission unit exhaust system in accordance with 40 CFR 60.8(e). [PSD SJ 85-09] Federally Enforceable Through Title V Permit
26. Source testing to determine NOx and CO emissions and fuel gas sulfur content shall be conducted annually. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The owner or operator shall provide source test information annually regarding the exhaust gas NOx and CO concentration corrected to 15% O2 (dry). EPA Methods 7E or 20 shall be used for NOx emissions. EPA Methods 10 or 10B shall be used for CO emissions. EPA Methods 3, 3A, or 20 shall be used for Oxygen content of the exhaust gas. [40 CFR 60.8(a), 40 CFR 60.335(b) and District Rule 4703, 5.1, 6.3.1, 6.4.1, 6.4.2, and 6.4.3] Federally Enforceable Through Title V Permit
28. Performance tests for the emissions of CO shall be conducted and results reported in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR 60, Appendix A. The performance tests for the emissions of CO shall be conducted using EPA Methods 1 through 4 and 10. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
29. The owner or operator shall provide source test information annually regarding the demonstrated percent efficiency (EFF) as defined in District Rule 4703 (as amended 9/20/07), 5.1.1 and 6.4.6. [40 CFR 60.332(a) and (b) and District Rule 4703, 5.1.1 and 6.4.6] Federally Enforceable Through Title V Permit
30. The operator shall perform source testing for PM10 concentration and emission rate once per permit term using EPA Method 5. [40 CFR 60.8 (b) and (c)] Federally Enforceable Through Title V Permit
31. Audits of continuous emission monitoring system shall be conducted in accordance with EPA guidelines, witnessed at the District's discretion, and reports shall be submitted to the District within 60 days of such an audit. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
32. The Relative Accuracy Audit shall be conducted by an independent laboratory in accordance with EPA guidelines, witnessed or authorized by the District. Results shall be submitted to the District within 60 days. [District Rule 1080 and PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
33. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.1.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit
34. Continuous emission monitoring system for NOx as NO2 and continuous monitoring system for CO & CO2 shall serve each CGT flue gas stream, shall conform to SJVUAPCD Rule 1080 specifications, shall meet EPA monitoring performance specifications, & shall be operational whenever the turbine is in operation. [District Rule 1080 and PSD SJ 85-09, X.D.1 and .2] Federally Enforceable Through Title V Permit
35. The continuous NOx and O2 monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix F, 40 CFR 51, Appendix P, and Part 60, Appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.3, 6.5, 6.6 and 7.2] Federally Enforceable Through Title V Permit
36. All continuous emissions monitoring systems shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60, Appendix B and 40 CFR 52, Appendix E. CEM ppm and lb/hr shall be calculated as a three-hour and a 1-hour average. [District Rule 1080 and PSD SJ 85-09 X.D.2] Federally Enforceable Through Title V Permit
37. Results of the CEM system shall be averaged over a three hour period, using consecutive 15-minute sampling periods in accordance with either EPA Method 7E or EPA Method 20 for NOx, EPA Test Methods 10 or 10B for CO, or EPA Methods 3, 3A, or 20 for O2, or, if continuous emission monitors are used, all applicable requirements of CFR 60.13. [40 CFR 60.13 and District Rule 4703, 5.1, 6.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

38. Each 1-hour period in a 1, 2 or 3-hour average will commence on the hour. The 3-hour average will be compiled from the three most recent 1-hour periods. The 2-hour average will be compiled from the two most recent 1-hour periods. [District Rule 1080] Federally Enforceable Through Title V Permit
39. CEM cycling times shall be those specified in 40 CFR, Part 51, Appendix P, Sections 3.4 and 3.4.2, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080, 6.4] Federally Enforceable Through Title V Permit
40. Operator shall operate and maintain in calibration a system which continuously measures and records the following: control system operating parameters, elapsed time of operation, the exhaust gas NOx and O2 or CO2 concentration . [40 CFR 60.334(b),(c) and District Rules 2520, 9.4.2 and 4703, 6.2.1] Federally Enforceable Through Title V Permit
41. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown, tuning start-up, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, any periods during which a continuous monitoring system or monitoring device is inoperative, maintenance of any CEM system that has been installed pursuant to District Rule 1080 (as amended 12/17/92), and emission measurements. [40 CFR 60.7(b) and District Rule 1080, 7.3] Federally Enforceable Through Title V Permit
42. The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2520, 9.4.2 and 4703, 6.2.4] Federally Enforceable Through Title V Permit
43. Daily records of NO2 and CO emission calculations during days of gas turbine startup/shutdown shall be maintained and such records shall be made readily available for District inspection upon request for a period of five years. [District Rule 1080] Federally Enforceable Through Title V Permit
44. The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703, 5.3.2] Federally Enforceable Through Title V Permit
45. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the following: the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332(b); District Rules 2520, 9.4.2 and 4703, 6.2.6; PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
46. Reduced Load Period shall be defined as the time during which a gas turbine is operated at less than rated capacity in order to change the exhaust gas diverter gate not exceeding one hour. [District Rule 4703, 3.23] Federally Enforceable Through Title V Permit
47. The operator performing start-up or shutdown of this unit shall keep records of the duration of start-up or shutdown. [District Rule 4703, 6.2.8] Federally Enforceable Through Title V Permit
48. APCO or an authorized representative shall be allowed to inspect, as he or she determines to be necessary, the monitoring devices required by this rule to ensure that such devices are functioning properly. [District Rule 1080, 11.0] Federally Enforceable Through Title V Permit
49. The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary of data shall be in the form and the manner prescribed by the APCO. [District Rule 1080, 7.1] Federally Enforceable Through Title V Permit
50. Each exhaust stack shall be equipped with permanent stack sampling provisions consistent with District Rule 1081, EPA reference Methods 5 and 8 and OSHA requirements. [District Rule 1081] Federally Enforceable Through Title V Permit
51. Each CGT shall have a fuel consumption monitor/recorder. [District NSR Rule and PSD SJ 85-09, X.D.1] Federally Enforceable Through Title V Permit
52. Operational records (including but not limited to: fuel characteristics, etc.) shall be maintained by Sycamore Cogeneration Company. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

53. Accurate records of NO_x (as NO₂) and carbon monoxide (CO) flue gas concentrations corrected to 15% O₂, dry and CGT fuel sulfur content shall be maintained and shall be reported as described by District Rule 1080 and upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
54. Operator shall submit a quarterly report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
55. Quarterly continuous emission monitoring system reports shall be submitted to the District, EPA and CEC, as required by EPA regulations as specified in CFR Title 40, Part 58, Appendix B and Part 60 Appendix B. [District Rule 1080 and PSD SJ 85-09, X.D.5] Federally Enforceable Through Title V Permit
56. Operators of CEM's installed at the direction of the APCO shall submit a written report for each calendar quarter to the APCO and EPA. The report is due on the 30th day following the end of the calendar quarter and shall include the following: A. time intervals, data and magnitude of excess emissions (computed in accordance with 40 CFR 60.13(h)), nature and cause of excess (if known), corrective actions taken and preventive measures adopted; B. averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard. [40 CFR 60.334 (j)(5); District Rule 1080, 8.0 and PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
57. The written report for each calendar quarter shall also include the following: C. applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; D. a negative declaration when no excess emissions occurred. Excess emissions shall be defined as any 3-hour period during which the average emissions for CO, as measured by the CEM system, exceeds the emission limit set forth in PSD SJ 85-09, X.E. [District Rule 1080, 8.0; PSD SJ 85-09, X.D.3 and X.D.5.a through e] Federally Enforceable Through Title V Permit
58. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
59. The APCO shall be notified no later than one hour after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080, 10.0 and 1100, 6.1; PSD SJ 85-09, X.D.3] Federally Enforceable Through Title V Permit
60. The Regional Administrator shall be notified by telephone within 48 hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner which results in an increase in emissions above any allowable emissions limit stated in this permit. In addition, the Regional Administrator shall be notified in writing within 15 days of any such failure. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
61. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed under the conditions of this permit, and the methods utilized to restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violations of this permit or of any law or regulations which such malfunction may cause. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
62. CGT shall be fired on natural gas only. There shall be no provisions for oil firing. Natural gas used as fuel shall be pipeline quality with sulfur content of 0.3 gr/100 scf or less (0.001% sulfur by weight). [District NSR Rule; Kern County Rule 407] Federally Enforceable Through Title V Permit
63. The HHV and LHV of the gaseous fuel shall be determined using ASTM D3588, ASTM 1826, or ASTM 1945. [District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
64. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
65. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3246, D4468 or D6667. [40 CFR 60.335(b)(10)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

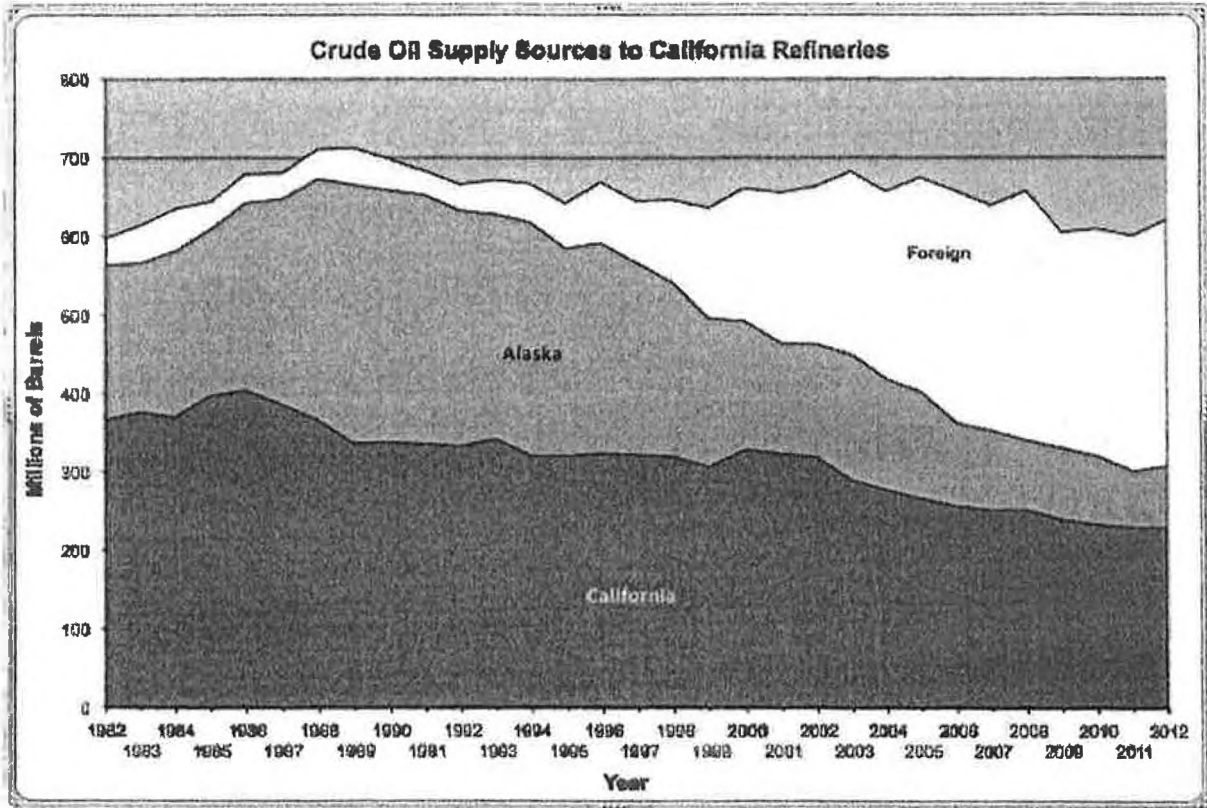
66. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested in accordance with the requirements of 40 CFR 60.334 (h) and 40 CFR 60.334(i). [40 CFR 60.334 (h) and 40 CFR 60.334(i)] Federally Enforceable Through Title V Permit
67. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
68. The owner and operator of the proposed project shall construct and operate the proposed stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60 and 61 and all other applicable Federal, State and local air quality regulations. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
69. The cogeneration facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of Subparts A and GG of this regulation. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
70. All correspondence as required by this permit shall be forwarded to: a) Director, Enforcement Div (Attn: A-5), EPA Region IX, 75 Hawthorne Street, San Francisco, CA, 94105; b) Chief, Stationary Source Control Division, California Air Resource Board, P.O. Box 2815, Sacramento, CA, 95814; c) Director, SJVUAPCD, 1990 East Gettysburg, Fresno, CA, 93726-0244; and d) the California Energy Commission, 1516 Ninth Street, Sacramento, CA, 95814-5512. [PSD SJ 85-09] Federally Enforceable Through Title V Permit
71. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 407. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
72. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.332 (a), and (b); 60.333 (a); 60.334 (b), (c), (h), (i) and (j)(5); and 60.335 (b). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
73. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: 40 CFR 60.7(b), 60.8, 60.8(d), 60.13, and 60.13(b); District Rules 1080 (as amended 12/17/92), Sections 6.3, 6.4, 6.5, 7.0, 7.1, 7.2, 7.3, 8.0, 9.0, 10.0, and 11.0; and 1081 (as amended 12/16/93) as of the date of permit issuance. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

Appendix B
California production

ATTACHMENT 1

Oil Production Graph



[http://energyalmanac.ca.gov/petroleum/statistics/crude oil receipts.html](http://energyalmanac.ca.gov/petroleum/statistics/crude%20oil%20receipts.html)

ATTACHMENT 2

Historical Fuel Use from Steam Generators/Turbines at S-1127 & S-1131 (Fuel in mmcf)

Facility	2205	2006	2007	2008	2009	2010	2011
S-1127	5237.11	5015.33	3871.22	3911.45	3681.65	3684.86	3540.13
S-1131	4232.48	6496.02	6447.84	6400.62	3854.54	4265.13	3225.11
TOTAL	9469.59	11511.35	10319.06	10312.07	7536.19	7949.99	6765.24

Notes:

- 1) KRCC (S-88) went from 4 units to 3 units in August 2005
- 2) KRCC went from 3 units to 2 units in 2006 (with new PPA)
- 3) Sycamore (S-511) went from 4 units to 3 units in January 2008
- 4) Sycamore went from 3 units to 2 units in 2010 (new PPA)
- 5) Data for S-1131 for 2006 has been adjusted (appears to have been a transposition error in annual emissions inventory)

Appendix C
Fuel Use Data

	MMBtu				
	Unit 1	Unit 2	Unit 3	Unit 4	Total all 4 units
Jan-97	713,232	668,348	755,824	707,797	2,845,201
Feb-97	407,072	595,313	651,484	592,355	2,246,224
Mar-97	159,405	662,182	729,357	654,979	2,205,923
Apr-97	683,355	602,181	668,509	475,715	2,429,760
May-97	693,766	597,327	693,348	242,313	2,226,754
Jun-97	653,569	581,074	648,550	614,005	2,497,198
Jul-97	695,939	645,442	694,804	616,528	2,652,713
Aug-97	714,053	653,390	707,375	707,293	2,782,111
Sep-97	685,977	618,076	673,842	677,523	2,655,418
Oct-97	700,139	46,268	669,726	715,476	2,131,609
Nov-97	624,217	577,494	649,417	665,287	2,516,415
Dec-97	707,084	726,648	717,122	694,384	2,845,238
Jan-98	721,913	707,341	719,567	723,037	2,871,858
Feb-98	630,760	655,947	642,254	641,911	2,570,872
Mar-98	698,238	707,178	694,684	716,927	2,817,027
Apr-98	696,728	706,008	682,443	702,492	2,787,671
May-98	692,721	705,959	690,982	683,547	2,773,209
Jun-98	682,125	689,424	683,056	688,902	2,743,507
Jul-98	684,488	689,056	664,672	695,025	2,733,241
Aug-98	686,091	696,754	677,177	694,290	2,754,312
Sep-98	652,143	673,156	662,708	668,576	2,656,583
Oct-98	706,794	694,540	647,967	711,645	2,760,946
Nov-98	699,218	709,098	681,985	705,436	2,795,737
Dec-98	716,760	724,118	737,561	734,381	2,912,820
Jan-99	640,123	702,953	689,275	710,943	2,743,294
Feb-99	655,186	650,585	638,208	653,925	2,597,904
Mar-99	70,368	701,521	706,330	620,101	2,098,320
Apr-99	697,951	682,128	687,248	699,305	2,766,632
May-99	696,247	675,224	678,873	685,628	2,735,972
Jun-99	668,632	677,895	662,772	670,828	2,680,127
Jul-99	693,825	690,814	686,354	688,607	2,759,600
Aug-99	691,514	689,999	691,797	689,538	2,762,848
Sep-99	669,024	666,505	652,116	670,854	2,658,499
Oct-99	693,157	589,423	691,093	672,367	2,648,040
Nov-99	705,313	701,239	686,788	694,693	2,788,033
Dec-99	726,232	678,818	707,639	700,126	2,812,815
Jan-00	723,877	714,036	708,708	705,560	2,852,181
Feb-00	658,116	672,480	671,775	614,843	2,617,214
Mar-00	721,557	700,256	717,107	715,723	2,854,643
Apr-00	673,924	672,846	618,061	673,936	2,638,767
May-00	711,231	703,424	573,430	696,500	2,684,585
Jun-00	641,356	648,017	657,303	633,140	2,579,816
Jul-00	695,082	691,797	704,676	665,509	2,757,064
Aug-00	689,033	696,826	709,579	694,560	2,789,998
Sep-00	679,367	675,264	688,213	672,377	2,715,221
Oct-00	690,004	716,758	716,785	707,388	2,830,935
Nov-00	678,883	702,771	710,839	618,249	2,710,742
Dec-00	687,522	684,296	689,705	679,085	2,740,608
Jan-01	554,752	708,101	712,481	701,027	2,676,361
Feb-01	606,138	605,289	598,275	422,089	2,231,791
Mar-01	611,549	611,704	616,688	616,443	2,456,384
Apr-01	679,435	512,681	631,872	659,051	2,483,039
May-01	700,769	713,956	698,119	689,208	2,802,052
Jun-01	672,439	676,363	665,834	661,331	2,675,967
Jul-01	660,995	679,800	655,833	644,905	2,641,533
Aug-01	687,832	701,556	686,171	683,456	2,759,015
Sep-01	657,125	673,719	652,118	654,227	2,637,189
Oct-01	689,040	694,638	681,344	671,601	2,736,623
Nov-01	674,539	692,491	671,726	664,427	2,703,183
Dec-01	728,978	485,195	711,344	715,931	2,641,448
Jan-02	724,733	739,693	726,791	713,937	2,905,154
Feb-02	641,946	662,873	641,434	628,142	2,574,395
Mar-02	713,569	735,761	720,485	716,669	2,886,484

EPA CO2e Emission Factor
53.11 kg CO2e/MMBtu
117.09 lb CO2e/MMBtu

Apr-02	687,193	701,733	562,663	678,108	2,629,697	
May-02	684,675	702,134	421,252	676,848	2,484,909	
Jun-02	665,835	675,947	710,142	660,106	2,712,030	
Jul-02	677,152	694,601	722,426	674,161	2,768,340	
Aug-02	672,581	693,908	719,961	675,710	2,762,160	
Sep-02	644,998	676,363	698,824	655,123	2,675,308	
Oct-02	253,040	714,442	736,185	685,352	2,389,019	
Nov-02	720,151	683,073	695,378	614,316	2,712,918	
Dec-02	691,711	704,320	720,666	291,722	2,408,419	
Jan-03	733,571	706,129	729,611	737,291	2,906,602	
Feb-03	654,000	631,589	660,482	661,621	2,607,692	
Mar-03	694,891	601,468	693,391	698,718	2,688,468	
Apr-03	673,599	684,312	698,533	671,745	2,728,189	
May-03	709,279	672,336	704,645	704,622	2,790,882	
Jun-03	671,667	657,663	680,215	666,500	2,676,045	
Jul-03	701,446	683,586	706,836	700,495	2,792,363	
Aug-03	692,695	692,695	702,906	696,951	2,785,247	
Sep-03	678,230	661,250	674,987	675,176	2,689,643	
Oct-03	724,077	696,934	718,235	711,424	2,850,670	
Nov-03	707,318	691,380	717,969	710,728	2,827,395	
Dec-03	721,473	703,440	725,789	721,937	2,872,639	
Jan-04	738,479	715,773	747,127	740,705	2,942,084	
Feb-04	675,905	661,110	686,122	662,842	2,685,979	
Mar-04	715,235	276,822	724,369	709,645	2,426,071	
Apr-04	676,481	725,438	630,944	687,105	2,719,968	
May-04	705,223	732,273	712,334	699,394	2,849,224	
Jun-04	675,336	699,817	684,677	674,076	2,733,906	
Jul-04	674,900	694,634	683,117	671,721	2,724,372	
Aug-04	701,693	718,763	709,700	699,897	2,830,053	
Sep-04	680,318	698,098	685,960	673,594	2,737,970	
Oct-04	580,955	599,602	671,002	657,214	2,508,773	
Nov-04	705,875	709,590	709,097	636,902	2,761,464	
Dec-04	720,258	740,889	727,912	735,465	2,924,524	
Jan-05	730,399	737,605	734,194	726,546	2,928,744	
Feb-05	647,180	654,893	648,853	649,089	2,600,015	
Mar-05	714,500	727,623	723,178	712,204	2,877,505	
Apr-05	678,039	702,068	677,774	668,540	2,726,421	
May-05	700,649	679,546	703,685	706,165	2,790,045	
Jun-05	681,608	691,517	683,718	679,585	2,736,428	
Jul-05	689,841	697,727	681,769	684,627	2,753,964	
Aug-05	691,543	700,941	699,146	688,341	2,779,971	
Sep-05	675,729	687,433	683,826	675,718	2,722,706	
Oct-05	704,859	713,298	714,388	698,544	2,831,089	
Nov-05	685,992	692,573	678,468	692,194	2,749,227	
Dec-05	699,397	710,119	706,696	704,495	2,820,707	
Jan-06	721,730	730,569	726,471	720,369	2,899,139	
Feb-06	641,673	652,101	645,084	645,032	2,583,890	
Mar-06	716,953	638,093	717,428	714,812	2,787,286	
Apr-06	680,010	679,718	550,037	671,560	2,581,325	
May-06	691,605	698,425	711,705	691,792	2,793,527	
Jun-06	660,357	664,104	681,581	653,314	2,659,356	
Jul-06	674,548	678,138	697,190	663,941	2,713,817	
Aug-06	675,380	675,916	705,478	676,463	2,733,237	
Sep-06	593,222	541,821	619,517	577,218	2,331,778	
Oct-06	429,769	710,843	680,137	456,076	2,276,825	
Nov-06	717,181	666,776	503,751	714,073	2,601,781	
Dec-06	764,907	705,644	734,908	759,974	2,965,433	
Jan-07	742,580	707,164	746,672	760,046	2,958,462	2,719,664
Feb-07	618,982	635,263	669,829	683,259	2,607,333	2,719,969
Mar-07	742,046	694,759	727,596	738,886	2,903,287	2,721,043
Apr-07	713,467	664,813	700,892	708,902	2,788,074	2,723,612
May-07	710,255	664,313	688,332	703,355	2,766,255	2,722,621
Jun-07	676,415	646,789	674,135	678,571	2,675,910	2,720,099
Jul-07	702,809	650,956	690,336	698,910	2,743,011	2,719,643
Aug-07	701,455	654,862	691,824	689,269	2,737,410	2,717,869
Sep-07	682,453	609,927	672,920	674,401	2,639,701	2,714,411

Oct-07	699,763	465,734	624,136	709,291	2,498,924	2,700,571			
Nov-07	689,670	597,071	597,071	675,217	2,559,029	2,692,646			
Dec-07	745,581	741,180	447,756	732,925	2,667,442	2,686,260			
Jan-08	735,238	682,880	712,466	686,469	2,817,053	2,682,839			
Feb-08	630,734	633,738	574,152	635,346	2,473,968	2,678,259			
Mar-08	366,649	666,250	494,741	711,379	2,239,019	2,655,415			
Apr-08	576,621	418,692	540,568	542,205	2,078,086	2,634,447			
May-08	713,861	697,043	685,498	-	2,076,402	2,604,566			
Jun-08	660,682	685,745	557,142	208,075	2,111,644	2,581,745			
Jul-08	416,290	633,526	533,301	518,565	2,101,682	2,556,239			
Aug-08	319,777	584,629	661,162	572,100	2,137,668	2,531,424			
Sep-08	407,225	609,781	400,581	636,452	2,054,039	2,519,852			
Oct-08	347,324	548,798	626,288	602,687	2,125,097	2,513,530			
Nov-08	161,092	670,669	552,719	633,163	2,017,643	2,489,191			
Dec-08	97,140	730,887	698,098	703,696	2,229,821	2,458,540			
Jan-09	268,426	566,252	624,860	672,893	2,132,431	2,424,205			
Feb-09	248,328	529,200	588,304	552,762	1,918,594	2,395,508			
Mar-09	727,103	716,175	708,045	525,428	2,676,751	2,386,069			
Apr-09	615,970	619,001	459,685	403,613	2,098,269	2,357,327			
May-09	636,669	679,332	98,819	674,168	2,088,988	2,329,108			
Jun-09	621,036	565,478	196,232	674,490	2,057,236	2,303,330			
Jul-09	609,450	674,034	148,007	685,849	2,117,340	2,277,260			
Aug-09	573,634	532,208	399,227	641,726	2,146,795	2,252,651			
Sep-09	570,541	457,373	457,373	648,634	2,133,921	2,231,577			
Oct-09	453,749	316,041	664,988	584,687	2,019,465	2,211,599			
Nov-09	418,597	481,110	460,501	674,586	2,034,794	2,189,756			
Dec-09	595,777	733,496	707,961	468,836	2,506,070	2,183,032	2,359,323		
Jan-10	292,157	703,563	659,203	137,781	1,792,704	2,140,351	2,326,996		
Feb-10	48,198	528,851	588,323	110,506	1,275,878	2,090,431	2,290,011		
Mar-10	113,221	241,344	593,484	462,928	1,410,977	2,055,929	2,248,558		
Apr-10	22,904	672,271	687,799	123,531	1,506,505	2,032,113	2,212,959		
May-10	12,292	614,325	661,549	311,448	1,599,614	2,012,247	2,180,552		
Jun-10	237,023	561,983	517,263	274,827	1,591,096	1,990,557	2,150,419		
Jul-10	252,484	224,023	640,250	413,081	1,529,838	1,966,731	2,116,719		
Aug-10	141,194	611,525	652,750	209,110	1,614,579	1,944,935	2,085,530		
Sep-10	175,591	602,489	602,489	112,624	1,493,193	1,921,567	2,053,682		
Oct-10	6,452	655,752	687,929	42,401	1,392,534	1,891,043	2,022,949		
Nov-10	196	688,434	413,742	477,313	1,579,685	1,872,795	1,995,745		
Dec-10	205	367,848	522,440	528,378	1,418,871	1,839,005	1,961,063	2,148,773	
Jan-11	536,019	138,376	222,475	539,284	1,436,154	1,809,994	1,922,704	2,117,100	
Feb-11	604,616	2,226	108,942	574,814	1,290,598	1,783,827	1,889,833	2,089,668	
Mar-11	4,892	678,493	711,819	31,923	1,427,127	1,731,760	1,867,280	2,058,914	
Apr-11	6,899	310,047	624,159	450,047	1,391,152	1,702,296	1,848,199	2,029,812	
May-11	645,468	428,743	531,914	149,380	1,755,505	1,688,401	1,839,285	2,008,754	
Jun-11	386,460	214,480	543,736	408,864	1,553,540	1,667,414	1,823,782	1,985,372	
Jul-11	268,917	117,837	668,777	491,697	1,547,228	1,643,659	1,808,381	1,960,460	
Aug-11	664,824	145,855	615,905	156,132	1,582,716	1,620,156	1,792,965	1,936,403	
Sep-11	342,496	138,790	615,171	391,097	1,487,554	1,593,224	1,777,230	1,912,400	
Oct-11	524,792	390,382	629,208	75,097	1,619,479	1,578,558	1,763,185	1,894,079	
Nov-11	467,355	105,370	651,483	173,640	1,397,848	1,550,019	1,745,968	1,869,887	
Dec-11	691,641	97,993	603,495	44,400	1,437,529	1,505,496	1,723,960	1,844,264	2,017,792
Unit 1		Unit 2	Unit 3	Unit 4	Total all 4 units				

Average Month = 2,465,331

total avg 24-mo avg 36-mo avg 48-mo avg 60-mo avg

Appendix D Calculations

Fuel Usage During Baseline Period January 2007 - December 2008

	Unit 1	Unit 2	Unit 3	Unit 4	All Units
Jan-07	742,580	707,164	746,672	760,046	2,956,462
Feb-07	618,982	635,263	669,829	683,259	2,607,333
Mar-07	742,046	694,759	727,596	738,886	2,903,287
Apr-07	713,467	664,813	700,892	708,902	2,788,074
May-07	710,255	664,313	688,332	703,355	2,766,255
Jun-07	676,415	646,789	674,135	678,571	2,675,910
Jul-07	702,809	650,956	690,336	698,910	2,743,011
Aug-07	701,455	654,862	691,824	689,269	2,737,410
Sep-07	682,453	609,927	672,920	674,401	2,639,701
Oct-07	699,763	465,734	624,136	709,291	2,498,924
Nov-07	689,670	597,071	597,071	675,217	2,559,029
Dec-07	745,581	741,180	447,756	732,925	2,667,442
Jan-08	735,238	682,880	712,466	686,469	2,817,053
Feb-08	630,734	633,736	574,152	635,346	2,473,968
Mar-08	366,649	666,250	494,741	711,379	2,239,019
Apr-08	576,621	418,692	540,568	542,205	2,078,086
May-08	713,861	697,043	665,498	-	2,076,402
Jun-08	660,682	685,745	557,142	208,075	2,111,644
Jul-08	416,290	633,526	533,301	518,565	2,101,682
Aug-08	319,777	584,629	661,162	572,100	2,137,668
Sep-08	407,225	609,781	400,581	636,452	2,054,039
Oct-08	347,324	548,798	626,288	602,687	2,125,097
Nov-08	161,092	670,669	552,719	633,163	2,017,643
Dec-08	97,140	730,887	698,098	703,696	2,229,821

59,004,960 Total Baseline Fuel Usage

29,502,480 Average Annual Fuel Usage

CO2e Emissions During Baseline Period

Fuel usage	29,502,480 MMBtu/yr
Emission Factor	0.0531 Mt CO2e / MMBtu
Baseline Historical Average Annual Emissions	1,566,582 Mt CO2e / yr

Current Permitted limits for S-511-1, '-2, '-3, '-4

NOx limitation

271,200 lb NOx/yr combined 4 turbines

67,800 lb NOx/qtr combined 4 turbines

lb NOx/yr * emission factor 0.011 lb NOx/Mmbtu * 0.0531 metric ton CO2e/MMBtu = metric ton CO2e/yr

271200 0.011 0.0531 1,309,156 Mt CO2e/yr

All 4 GTE Combined

Annual HAE	1,566,582	Mt CO2e/yr
current permitted	1,309,156	Mt CO2e/yr
Bankable AER	257,426	Mt CO2e/yr

Appendix E
Comments and Responses

The following are comments received from the Center for Biological Diversity on June 29, 2016 and District responses:

Comment I.A. Any GHG Reductions After January 1, 2012 Must be Applied to Compliance with State Cap-and-Trade Obligations

The proposed ERCs are not "surplus" reductions, and thus are invalid. Under Rule 2301, "Greenhouse gas emission reductions that occur at a facility subject to the CARB greenhouse gas cap-and-trade regulation on or after January 1, 2012 are not surplus." Rule 2301 § 4.5.3.1. Because reductions that occur after January 1, 2012 will be used to comply with cap-and-trade obligations, granting these same reductions a bankable credit would result in "double counting." The proposed ERCs result from a voluntary reduction in output, which first became a permit requirement in June 2012. Thus, all enforceable emission reductions occurred after January 1, 2012. These ERCs are thus clearly invalid under Rule 2301, section 4.5.3.1.

The District appears to assume the emission reductions occurred prior to January 1, 2012, but the basis for this assumption is unclear. Neither of the potential reasons for concluding the reductions pre-date the facility's coverage under state cap-and-trade regulations is legally defensible. One possibility is that the District may be assuming the date of emission reductions relates back to the date Sycamore applied to have the total NOx emissions limit placed on the Title V permits for the four turbines (December 2011). This interpretation is clearly contrary to Rule 2301's unambiguous requirement that the actual GHG reductions- not the application- occur prior to January 1, 2012. As such, it would be contrary to the principle behind Rule 2301's surplus requirements to count an unenforceable application to change permit conditions-an application that might not be approved as submitted, regarding a change that could easily be reversed by the applicant-as indicative of actual emission reductions.

Another possibility is that the District may be assuming the date when the facility had stopped operating turbines in full time status" is when emission reductions occurred. If this is the logic behind the date of reductions, it is flawed for several reasons. First, we note that if the date of reduced operation is treated as when reductions occurred, the application analysis provides absolutely no indication when operation was curtailed and by how much, making quantification- one of the criteria for valid ERCs- entirely impossible. Second, if the date of reduced operations is treated as the onset of emission reductions rather than the date those reductions were incorporated into a permit condition, it would fail the requirement under Rule 2301 that emission reductions be enforceable. Rule 2301 § 4.5.6. Third, treating voluntary declines in operation as the date of reductions would violate Rule 2301's requirement for permanence. By its nature, a voluntary decrease in output is fully reversible and subject to the vagaries of the market where there are no guarantees of future behavior. In sum, the date of voluntary reductions in operations is an invalid measure for the onset of actual emission reductions.

Finally, even if emission reductions voluntarily undertaken prior to January 1, 2012 could generate ERCs, any reductions that occurred after this date would not be eligible for ongoing ERCs because the intervening event of cap-and-trade compliance obligations would render the reductions ineligible for ERCs going forward under Rule 2301.

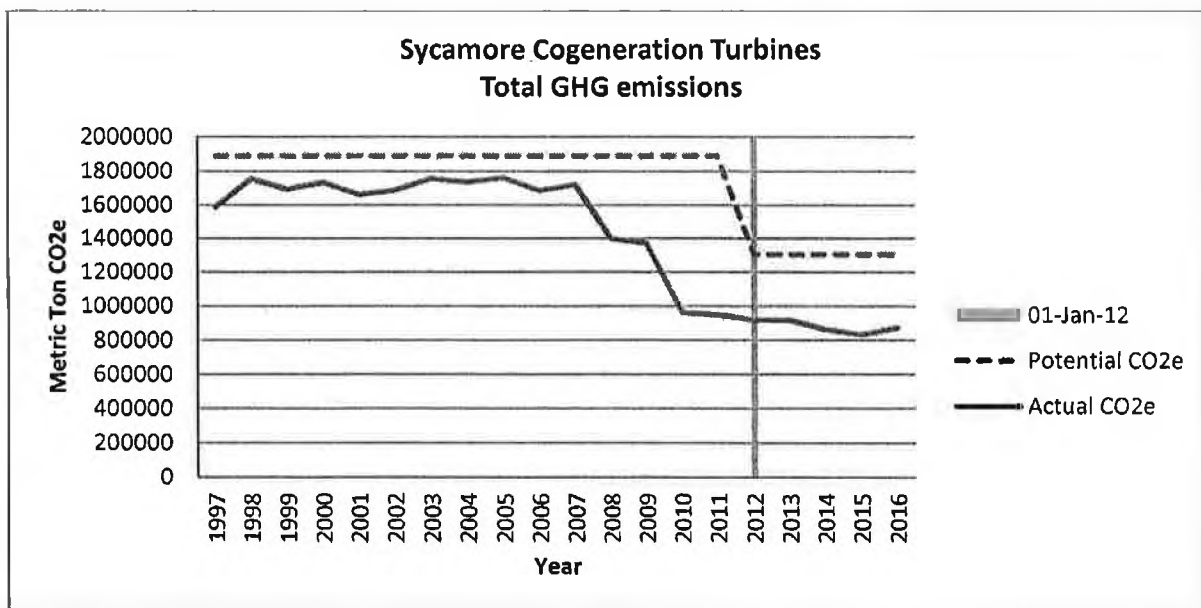
District's Response I. A.:

Rule 2301 section 4.5 specifies the criteria that GHG emission reductions must meet to be eligible for banking. Section 4.5.3 states that emission reductions must be real, surplus, permanent, and enforceable, except as provided in Section 4.5.5. Section 4.5.5 specifies the requirements for emission reductions quantified using a CARB approved protocol.

The emission reduction is surplus:

Sections 4.5.3.1 through 4.5.3.4 of Rule 2301 specify criteria for GHG emission reduction to be surplus. Section 4.5.3.1 states that GHG emission reductions that occur at a facility subject to the CARB GHG cap-and-trade regulation on or after 1/1/12 are not surplus. GHG emission reductions that are not otherwise required and that occur prior to 1/1/12 are surplus.

The facility has provided fuel usage data showing a decrease in fuel usage (and associated reduction in GHG emissions) prior to January 1, 2012. This emission reduction can be seen in the chart below which shows the turbines GHG potential emissions and actual emissions from 1997 – 2016. As shown below, the emission reduction occurred prior to 1/1/12 and has remained below the post project potential to emit since that time. As the emission reduction occurred prior to 1/1/12, the emission reduction is surplus.



The emission reduction is enforceable:

The emission reduction was made enforceable upon issuing of revised Permits to Operate that inherently limit the GTEs GHG emissions prior to the District's preliminary decision to grant GHG ERCs.

The emission reduction is permanent:

The emission reduction is permanent as the allowable operation of the GTEs, and the associated potential GHG emissions, are limited by conditions in the Permits to Operate. Any possible proposed increase in the allowable operation of the GTEs would be subject to the District's New Source Review permitting requirements. Furthermore, as an additional safeguard, in accordance with the requirements California's cap-and-trade regulation, overall GHG emission from covered facilities (including Sycamore Cogeneration) are required to decrease over time. For the reasons stated above, the GHG emission reduction is permanent.

Comment I. B: The State-wide Geographic Boundary Is Impermissibly Broad

The application analysis indicates that the entire state of California is the geographic boundary for the ERCs without providing sufficient evidence that the emission reductions will be "real" and "permanent" within the entire state. Choice of geographic boundary is designed to prevent emissions leakage. Because there is no assurance that the decreased energy production from this facility will not be substituted by different energy sources within the state of California, this geographic boundary is too broad.

Emission reductions that are achieved through the expedient of reduced production—as opposed to more efficient technology or practices—are particularly likely to lead to emissions "leakage" whereby another source of energy is used to supply the same demand, with no net decrease in GHG emissions. To qualify as a "real" and "permanent" emission reduction under Rule 2301, the applicant would need to provide evidence of both enforceable and lasting decreased demand for energy. There is no such evidence in the publicly available materials here.

The application analysis makes an unsuccessful attempt to support a finding of permanence through the mere presentation of general historic trends in fossil fuel production. The application indicates that power and steam from these turbines has been used for production in the Kern River oilfield and that energy requirements have declined. To support its decision to scale back operations, the application review provides data in a single plot depicting a general decline in California crude oil production since the 1980's. The application review also provides what appears to be data on fuel use at various turbines in Kern County between 2005 and 2011 (no explanation provided in application). The materials are presumably intended to show there is a downward trend. The application fails, however, to provide any evidence that any such trend will continue, much less that it will be permanent.

Several lines of evidence suggest that the future of oil production in California may buck historic trends. It is well-established that the oil market is highly volatile, making historic trends questionable predictors. More specifically, Kern County recently issued an environmental impact report ("EIR") for its ordinance creating a ministerial process for oil

and gas permitting in the County. The EIR indicated that there would be approximately 2,697 new producing wells per year in Kern County for the next 20 years and beyond. These data strongly contradict the general evidence provided by the applicant of decreasing oil and gas production. Moreover, a recent analysis of well stimulation by the California Council on Science and Technology found that well stimulation may result in expanded oil production in California, especially from the Monterey Formation.

In addition, it appears that this facility may have been selling electricity to the grid, which means that oil and gas production is not the sole factor in determining how often the turbines run. Once in the grid, the electricity could have been used by any number of sources in the vicinity. Thus, proof that reduced demand is both enforceable and permanent is practically impossible to provide. This is the exact reason why a simple business decision to reduce production does not constitute the form of emissions reduction that can be converted into bankable credits.

The application review also erroneously assumes that statewide cap-and-trade compliance creates a permanent reduction in state-wide demand, and therefore permanent emission reductions. Although the goal of the state cap-and-trade program is to reduce state GHG emissions to 1990 levels by 2020, this could be achieved in a number of ways that do not require decreased demand for electricity. Furthermore, the prolific use of offsets and the "pay to pollute" approach intrinsic to cap-and-trade systems erodes the certainty of reduced energy demand. Thus, participation in the state cap-and-trade program does not constitute evidence that reduced energy demand is either inevitable or permanent at the state level.

District's Response I. B:

The emission reduction is real and permanent:

The subject gas turbine engines (GTEs) are used to produce electricity for onsite consumption and export to the grid and to produce steam for use thermally enhanced oil recovery in the Kern River oilfield. The facility has provided fuel usage data showing a decrease in fuel usage (and associated reduction in GHG emissions) prior to January 1, 2012. This emission reduction can be seen in the chart presented in response to comment I. A above. The historic GTE usage has declined as discussed in the application review. The records show the turbines GHG potential emissions and actual emissions reduced between 1997 and 2016. As demonstrated by the records, GHG emission reductions are real. In addition, to ensure that the achieved reductions are maintained, the GTEs include enforceable limits on their operation that effectively limit the operation and resulting CO₂e emissions from the GTEs.

Further this facility is subject to CARB's cap-and-trade regulation. GHG emissions addressed by the cap-and-trade regulation are subject to an industry-wide cap on overall GHG emissions. As such, any growth in emissions must be accounted for under that cap, such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions. Actual GHG emission above the allowable cap at Sycamore Cogeneration will require to be mitigated via the CARB cap-and-trade program.

For the reasons stated above, the District has concluded that the GHG emission reductions are real and permanent within California.

Comment I. C: Calculations for Actual Emission Reductions Are Inaccurate

Use of conflicting emission factors undermines the accuracy of predicted future CO₂e emissions, thereby violating Rule 2301's requirement that emissions reductions be both "real" and "quantifiable". Rule 2301 § 4.5.1. The future or "actual" reductions from these turbines are biased high because different emissions factors are applied to historic as opposed to actual emissions. Historic CO₂ emissions were estimated using CO₂ emission factors from stack tests at the turbine, while a district default emission factor was used to calculate "actual emission reductions." The district's default emission factor, however, is lower than actual emission factors measured at the facility. The result is an underestimate in future "actual" emissions and a consequent overestimate of emissions reductions.

Further potential inaccuracies may result from the use of permitted NO_x limits rather than actual fuel consumption to compute CO₂ emissions. Calculation of CO₂ reductions requires information on total fuel consumption, which is then multiplied by an emission factor. Because the facility's operating permit sets an upper limit on total NO_x emissions, rather than fuel consumption, the amount of fuel consumed at each turbine is calculated from a NO_x emission factor that indicates the average pounds of NO_x produced per MMBtu natural gas consumed. This multi-step derivation of fuel use creates an obvious potential for inaccuracy. If the facility is able to reduce the NO_x intensity of its operations in some way other than by reducing operation of the turbines, more fuel- and consequent CO₂ emissions- would be produced than otherwise assumed through the use of a NO_x conversion factor based on historic stack tests. Because a reduction in total NO_x does not necessarily require a one-to-one reduction in fuel use, the lack of a permit condition limiting fuel usage (or directly limiting CO₂ emissions) leads to a lack of enforceability of CO₂ reductions, thereby violating Rule 2301.

District's Response 1. C:

The District has revised the actual emission reduction calculations to use the EPA standard CO₂e emission factor from 40 CFR 98.3 for both actual emission calculations and post project potential to emit calculations.

The post project potential to emit for CO₂ was determined using a combination of limits included in the PTO. The shared annual NO_x limit for the GTEs together with the permitted NO_x emission limit effectively impose a limit on the quantity of fuel consumed in the GTEs. This inherent fuel use limitation along with the widely recognized CO₂ emission factor was then used to calculate post project CO₂ emissions.

Using this emission factor and the fuel usage information, the quantity of CO₂e emission reductions has been adjusted to 257,426 metric ton/year. See revised final decision application review, attached.

Comment I. D: The Application Review Uses an Incorrect Baseline Period for Evaluating Historic Emissions.

The ERC application violates District rules governing selection of a baseline period for calculation of "historic actual emissions." The application for ERCs was not deemed complete until March 10, 2014. By this time, the application review's selected baseline or "historic actual" emissions data for the facility (years 2007 and 2008) were beyond the five-year limit set out under Rule 2301. The ERC application must provide assurance that these outdated emissions data are representative of historic facility CO2 emissions.

The inconsistent treatment of baselines between SJVAPCD Rules 2201 and 2301 for GHG emissions leads to arbitrary results when applied to this facility. Under Rule 2301 § 3.6, the definition of "baseline period" is the same as in Rule 2201 § 3.9, which states that the baseline is measured from the "submission date of the Complete Application." Rule 2201 § 3.9.1, 3.9.2. Yet, Rule 2301 appears to invoke a different approach in which it estimates historic annual average GHG emissions relative to the "date the emission reduction occurred." Rule 2301 § 4.5.4.

The baseline period is relevant in this instance because the facility's baseline/historical actual emissions were substantially different over consecutive 24-month periods in the five years prior to the date the GHG ERC application was deemed complete (March 2009 to March 2014) compared with the five years prior to the date Sycamore first applied for GHG ERCs (December 2006 to December 2011). Because the highly variable pattern of emissions from this facility alters the calculated emission reductions, it is essential that the baseline be accurately selected. The District has not articulated any legal or evidentiary basis for treating GHGs differently from other pollutants in calculating baseline periods under Rule 2301.

The ERC application review explicitly relies on an erroneous baseline calculation from the facility's prior application for NOx ERCs. In the prior application, Sycamore appeared to calculate the five-year baseline period from the date the application was submitted (December 11, 2011), even though under the plain text of Rules 2201 and 2301, the baseline period should have been calculated from the date the application was complete (November 14, 2013). The selected baseline period—from January 2007 to December 2008—was thus almost entirely outside the five-year look-back period contemplated by the District's rules (which would have extended back to November 2008 at the very earliest). SJVAPCD Rule 2201 § 3.9; Rule 2301 § 3.6. The GHG ERC application review at issue here expressly relies on this erroneous baseline calculation.

The selection of a baseline period for the GHG ERC application is thus triply erroneous: (1) it relies on a prior error in calculating the baseline for the NOx ERC application; (2) it uses a baseline period that is even more outdated than the baseline in the NOx ERC application; and (3) to the extent the District intends to apply section 4.5.4 instead of section 3.6 of Rule 2301, it necessarily reaches an

arbitrary and irrational result that contradicts the record and is unsupported by any evidence.

District's Response I. D:

Rule 2301 section 4.5.4 requires that historic annual average GHG emissions be determined using the consecutive 24 month period immediately prior to the date the emission reduction occurred or another consecutive 24 month period in the 60 months prior to the date the emission reduction occurred if determined by the APCO as being more representative of normal operation.

The GHG emission reduction was related to the imposition of new limits on shared NOx emissions (and inherent reduction in fuel consumption) for the GTEs. The ATC applications that authorized the NOx emission reductions were deemed complete on Dec 29, 2011. This date was used to determine the baseline period for the emission reduction for both NOx (emission reductions banked separately) and GHGs.

The baseline period to determine actual GHG emissions of Jan 2007 through Dec 2008 was selected as being the most representative of normal operation examining fuel usage records from 1997 through 2011, determining average annual usage during that period, and selecting the two year period prior to the date the ATC applications that authorized the emission reductions were deemed complete on Dec 29, 2011.

As this time period was within 60 months from when the ATC application that authorized the emission reduction was deemed complete, it is consistent with the requirements of Rule 2301 section 4.5.4. Further, the baseline periods for the previous NOx ERC banking action (selected pursuant to Rule 2201) and the baseline period selected for GHG emission reductions (pursuant to Rule 2301) are consistent.

As discussed above, the baseline period selected is consistent with the requirements of Rule 2301.

Comment I. E: Any Emission Reduction Credits Should be Limited to the Duration of Each Permit to Operate Renewal

The duration of any future ERCs must be confined to the dates over which there is an enforceable agreement or permit limiting emissions. Although Rule 2301 could theoretically allow ERCs to be granted in perpetuity, there would need to be a binding agreement or permit that was of the same duration to meet the requirement of enforceability under Rule 2301 § 4.5.6. SJVAPCD Title V permits such as for the Sycamore facility are renewed every five years; the specific operating permits that form the basis of this application expired in 2015 with renewals currently being processed. Thus, any ERCs issued would be enforceable only for the duration of a renewal cycle. A new application for ERCs would be required at each renewal cycle to ensure that the emission reductions remain real and enforceable.

District's Response I. E:

The facility has enforceable permit conditions that effectively limit the GHG emissions from the subject GTEs. As such, the emission reductions are enforceable and permanent regardless of the renewal period of the subject Permits to Operate.

It is important to note, that during the permit renewal process the permits are reviewed and revised to add any new federally enforceable requirements. Permit requirements imposed due to Rule 2201 cannot be revised as part of a permit renewal process.

It is important to note, that for emission reductions to qualify for banking, that the emission reductions must be enforceable indefinitely, and not limited to the "term" of a specific permit to operate.

For the reasons stated above, the emission reduction is in fact permanent, and as such need not be limited to the renewal term of the subject permits to operate.

Comment II. A: The Proposed ERCs Violate CAPCOA's "Additionality" Criteria.

In addition to being inconsistent with Rule 2301, these credits would be invalid for listing with CAPCOA's GHG Rx registry because they do not meet CAPCOA's requirements for "additionality." ERCs must meet two requirements under CAPCOA's test for additionality: (1) the emission reduction must "not be due to an action that is required by a law, rule or other requirement" ("regulatory surplus test") and (2) at least one of three additional criteria. The three additional tests are: the action exceeds common practice or business as usual; the project would not be economically attractive based on the fiscal test; or there is an institutional or technological barrier to this type of project. Here, the emission reductions fail all prongs of the additionality test.

As discussed above, any emission reductions occurring after the facility became subject to cap-and-trade compliance obligations would run afoul of CAPCOA's regulatory surplus test. The emission reductions were not actually enforceable, and thus cannot be deemed to have "occurred," until mid-2012 when the current NOx limit was included in Sycamore's Title V permit. By then, the facility was already required to reduce its GHG emissions to meet the state-mandated GHG cap. CAPCOA's protocol states "reductions that occur at facilities covered by California's cap-and-trade reduction after the regulation goes into effect are not eligible as credits."

Furthermore, these emission reductions do not meet any of the three additional criteria required for additionality. First, the GHG reductions did not result from any special project or practice for which there are standard best practices or industry standards and against which the project performs better than required. As such, the first common practice/business-as-usual test does not apply. Second, these emission reductions fail the "fiscal test" because while the test requires that additional reductions be economically unattractive, the reductions at issue here were

pursued precisely because they were affirmatively economically "attractive." The facility was experiencing reduced demand from local oil fields and difficulty marketing power to the grid; it consequently opted to reduce operations. Because this was a business profit decision, it fails the fiscal test for additionality. Finally, the reductions here fail CAPCOA's third additionality test because there are no barriers whatsoever to the action that resulted in the GHG emission reductions, nor did the facility take any financial risk with the action.

District's Response II. A:

The proposed GHG ERC will not be listed in the CAPCOA GHG Rx.

Comment II. B: The Application Does not Comport with Methodological Requirements of CAPCOA's Case-by-Case Protocol

In addition to the fact that the proposed credits are not "additional" and thus ineligible for CAPCOA's GHG registry, the application contents do not meet CAPCOA's methodological requirements. First, the use of inconsistent CO2 emission factors (discussed supra, in Section I.C) overestimates emissions reductions, and thus contradicts the case-by-case protocol's mandate that "quantification should err on the side of being conservative with GHG reduction estimates. Conservative assumptions, values and procedures should be used to ensure that GHG reductions are not over-estimated." Because the combination of emission factors selected by the proposed method would overestimate emission reductions, the ERCs are not valid for listing on CAPCOA's registry.

Second, the application does not "describe how leakage is accounted for and quantified." This is an important concern. As discussed above, these reductions are the result of scaling back operations at a facility that sells electricity to the grid, which leaves open the very real possibility that the same power demand will be met from another facility. Reduced production in the Kern River oil field, to the extent it is occurring, also could be offset by increased production-and consequent demand for steam and power of the kind Sycamore generated-in another part of California. This unaddressed potential for leakage also fatally undermines the application review's analysis of the permanence of emission reductions. To conclude, the analysis in the current application is incomplete and inadequate to meet the criteria for applications to list ERCs on CAPCOA's GHG registry.

District's Response II. B:

The proposed GHG ERC will not be listed in the CAPCOA GHG Rx.

Comment III: The Emission Reduction Credits will not be Eligible for Use as Mitigation under CEQA

These ERCs would not be eligible for mitigation of GHG emissions under the California Environmental Quality Act ("CEQA") because under the CEQA Guidelines, "emissions reductions that would occur without a project would not normally qualify as mitigation." The application indicates that Rule 2301 does not regulate use of GHG ERCs, but the "likely uses" would be the "future retirement as GHG mitigation in the California Environmental Quality Act (CEQA) process." As detailed below, this anticipated use is entirely contrary to the law.

The GHG reductions in this application result from a permit finalized four years ago, predating any potential CEQA project to which they could be applied as mitigation. Consequently, these past and ongoing reductions are part of the "existing conditions" baseline against which any future CEQA project's effects will be measured. The existing environmental background cannot be considered mitigation for CEQA purposes. CEQA requires actual, effective mitigation of significant environmental impacts. Pub. Res. Code §§ 21002, 21002.1 (b), 21081. In order to mitigate new greenhouse gas emissions from a proposed project, therefore, CEQA lead agencies must identify additional feasible emissions reductions that would not already have occurred in the absence of the mitigation requirement. Because the permit condition has already been changed, ongoing emission reductions are not additional or feasible as mitigation. A project proponent could not "mitigate" the loss of state park land by simply identifying other state parks already in existence at the time the project was proposed. Mitigation under CEQA requires concrete, enforceable action to minimize, avoid, or reduce a project's effects. Background actions that would have occurred anyway cannot satisfy this requirement.

Furthermore, non-additional credits cannot be considered mitigation under CEQA. CEQA Guidelines provisions governing greenhouse gas mitigation state that agencies may consider "off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions." CEQA Guidelines § 15126.4(c)(3) (emphasis added). According to the Resources Agency's Final Statement of Reasons accompanying the revised Guideline, this language was intended to ensure that offsets used for CEQA mitigation are additional. As discussed above, these credits clearly fail all relevant additionality tests; just as a leading example, the reductions became enforceable and thus can be said to have "occurred" only after the facility became subject to cap-and-trade compliance obligations. Accordingly, any ERC issued pursuant to this application should bear a notation that it is not suitable for use as CEQA mitigation.

District's Response III:

CEQA guidelines section 15126.4(c) (3) specifically allows "Off-site measures, including offsets that are not otherwise required, to mitigate a projects emissions" as a feasible means to mitigate GHG emissions. By their very nature, offsets are generated by an activity that reduces emissions and the resulting emission reductions are preserved through banking for future use. As discussed in Response

1 A above, the emission reduction prior to the issuance of the ERCs (and prior to 1/1/12). This emission reduction meets the eligibility requirements of Rule 2301 and has been preserved for future use in the subject ERC.

Both the Office of Planning and Research and the Resources Agency recognized that there may be various methods of mitigating GHG impacts.

CEQA Guidelines Section 15126.4(c) says, "Measures to mitigate the significant effects of greenhouse gas emissions *may include, among others...* offsets that are not otherwise required, to mitigate a project's emissions". It is important to note that the appropriate time to consider whether any particular use of any mitigation is appropriate for a specific project is at the time the impacts of that project are being considered under CEQA, not at the time of creation of the credits which may or may not be used in a CEQA context. A lead agency may determine and demonstrate that "credits" banked by the District under Rule 2301 are valid mitigation for a GHG increase, in the context of its own significance threshold. To examine the appropriateness of any particular mitigation, one must wait until the lead agency performs its role under CEQA in analyzing a project's impacts and the significance of those impacts. Only then can one analyze the appropriateness of any proposed mitigations in the context of the lead agency's GHG CEQA processes and policies.

Therefore it is not appropriate to try to anticipate all the variations in CEQA related mitigation decisions at the time of creation of credits or offsets that may be used as CEQA mitigation. The effort being discussed here is one more step removed: it is an effort to bank GHG reductions that may eventually be used as CEQA mitigation, under circumstances where they are appropriately based on a lead agency's analysis of the significance of the GHG impacts of a particular project.



JUN 21 2017

Jay Blackmon
Sycamore Cogeneration Facility
PO Box 80598
Bakersfield, CA 93380

RE: Notice of Final Action – Emission Reduction Credits
Facility Number: S-511
Project Number: S-1123816

Dear Mr. Blackmon:

On April 21, 2017 the District made its final decision for the issuance of Emission Reduction Credits (ERC) to Chevron USA Inc. for emission reduction generated by reducing the permitted operation of four gas turbine engines, in Central Kern County. The quantity of ERCs issued was 257,426 metric tons CO₂e/yr.

The ERC certificate was erroneously not included in our final decision. Therefore, please find enclosed the ERC certificate.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura at (661) 392-5500.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:dk

Enclosure

cc: Tung Le, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email
cc: Anna Mortiz, Center for Biological Diversity (w/ enclosure) via email
mmortiz@biologicaldiversity.org)

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585



Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate S-4808-24

ISSUED TO: CHEVRON USA INC
ISSUED DATE: April 19, 2017
LOCATION OF REDUCTION: HEAVY OIL CENTRAL
CA
SECTION: 31 TOWNSHIP: 28S RANGE: 28E

For CO2E Reductions In The Amount Of:

257,426 metric tons / year

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- Other

Reduction in permitted usage of gas turbine engines (S-511-1, '-2, '-3, & '-4) verified as permanent within the State of California.

Emission Reduction Qualification Criteria

This emission reduction is surplus and additional to all applicable regulatory requirements.



Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

SEP 14 2012

Neil Burgess
Sycamore Cogeneration Company
PO Box 80598
Bakersfield, CA 93380

Re: Notice of Incomplete Application
Project Number: S-1114928 1123816

Dear Mr. Burgess:

The District has received your Emission Reduction Credit (ERC) application for the banking of ERC's for Green House Gas (GHG) emissions from the reduced operation of the cogeneration turbines, at the Sycamore cogeneration operation in the Kern River oilfield at Section 30, T28S, R28E. Based on our preliminary review, the application has been determined to be incomplete. The following information is required prior to further processing:

Please provide additional information to demonstrate that the GHG emission reductions are permanent, and not replaced by emissions elsewhere. As you may know, the District is interested in working with interested stakeholders to develop applicable policies on the permanence of GHG emission reductions.

Please describe the business relationship between Chevron and Sycamore Cogeneration Company. Provide a proposal for permit conditions to ensure that the GHG emission reduction is enforceable.

In response, please refer to the above project number, and send to the attention of Mr. Dan Klevann. Please submit the requested information within 90 days. The District will not be able to process your application until this information is received.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Dan Klevann at (661) 392-5500.

Sincerely,

David Warner
Director of Permit Services

Leonard Scandura, P.E.
Permit Services Manager
DW:dk

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061
www.valleyair.org

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: (661) 392-5500 FAX: (661) 392-5585



Jason H. Donchin
Manager – Health, Environment,
and Safety

San Joaquin Valley SBU
Chevron North America
Exploration and Production
P.O. Box 1392
Bakersfield, CA 93302

RECEIVED
JUN 26 2012
SJVAPCD
Southern Region

June 26, 2012

Leonard Scandura
San Joaquin Valley APCD
34946 Flyover Court
Bakersfield, California 93308

RE: Information Bank CO2E Emission Reductions Project S-1114928

1123816

Dear Mr. Scandura:

On December 27, 2011 Sycamore Cogeneration Company submitted an application to bank emission reductions of criteria air contaminants from the reduced operation of the cogen turbines. District Rule 2301 – Emission Reduction Credit Banking as amended January 19, 2012 provides for banking of greenhouse gas emissions as CO2E. Enclosed is additional information to include banking of CO2E with the above referenced banking project. Details are included with the attached proposal, which is available in electronic format upon request.

If you have any questions, please contact Mr. Lance Ericksen at phone number (661) 654-7145.

Sincerely,


Jason H. Donchin
Health, Environment and Safety Manager

LE
Attachments

**ERC APPLICATION
EVALUATION CO2E**
Project #: S-1114928

RECEIVED
JUN 26 2012
SJVAPCD
Southern Region

Engineer:
Date:

Facility Name: Sycamore Cogeneration Company
Mailing Address: P.O. Box 81617
Bakersfield, CA 93380

Contact Person: Dan Beck or Lance Ericksen
Telephone: (661) 615-4660 (661) 654-7145
Date Application Received:
Date Deemed Complete:

I. Summary:

Sycamore Cogeneration Company (SCC) proposes to bank emission reduction credits of CO2E from the reduced use of the SCC turbines (S-511-1, '2, '-3 and '-4) in the Kern River Oil Field.

SCC requests emission reduction credit (ERC) certificates for the following emissions:

CO2E - 274,076 metric tons/year

II. Applicable Rules:

Rule 2201 New and Modified Source Review
Rule 2301 Emission Reduction Credit Banking as amended January 19, 2012

III. Location of Reduction:

Sec 30 T28S R 28E Kern River Oilfield

IV. Method of Generating Reduction:

SCC has applied to permanently reduce turbine usage. Applications were submitted to revise the turbine permits on December 15, 2011.

V. ERC Calculations:

A. Assumptions and Emission Factors

Greenhouse Gas Emission reductions are banked in accordance with Section 4.5 of Rule 2301. Section 4.5.3 requires the greenhouse gas emission reductions be real, surplus, permanent, quantifiable and enforceable.

Emissions factors for CO₂ from source tests during the baseline period are used to determine the actual historical CO₂ emissions. The emission factors are shown in Appendix A.

B. Baseline Period Determination and Data

Section 4.5.4 of Rule 2301 provides for a baseline period of 24 months within the 60 months prior to the date the reduction occurred if it is more representative of normal operation. As demonstrated with the application for criteria emissions the 24 month period December 2006 to November 2008 is most representative of normal operation. SCC requests this baseline period also be used for greenhouse gas banking.

C. Greenhouse Gas Emission Reductions

Section 4.5.4 of Rule 2301 states that greenhouse gas emission reductions are calculated as the difference between the historic annual average greenhouse gas emissions (as CO₂E) and the potential greenhouse gas emission (as CO₂E) after the project is complete.

SCC has proposed a NO_x emission limit of 271,000 lb/year combined from the four turbines. The maximum permitted NO_x emission rate is 0.011 lb/MMBtu. This results in a maximum annual fuel use of 24,654,545 MMBtu/year:

$$\begin{aligned} \text{Maximum Annual Fuel Use} &= \frac{271,000 \text{ lb NO}_x}{\text{year}} \times \frac{\text{MMBtu}}{0.011 \text{ lb NO}_x} \\ &= 24,654,545 \text{ MMBtu/yr} \end{aligned}$$

Potential greenhouse gas emissions are based on 125 lbCO₂E/MMBtu – The average of the CO₂ source tests (124.6 lb/MMBtu) rounded to the nearest whole pound.

Annual Potential GHG Emissions:

$$\begin{aligned} \text{CO}_2\text{E} &= \frac{125 \text{ lb CO}_2\text{E/MMBtu}}{\text{MMBtu}} \times \frac{24,654,545 \text{ MMBtu}}{\text{year}} \\ &= 3,081,818,182 \text{ lbCO}_2\text{E/year} \end{aligned}$$

$$\begin{aligned}
 MT/Y &= \frac{3,081,818,182 \text{ lb}}{\text{Year}} \times \frac{MT}{2205 \text{ lb}} \\
 &= 1,397,650 \text{ MT CO2E/year}
 \end{aligned}$$

As shown in Appendix A the actual CO2E for the baseline is:

$$1,671,726 \text{ MT CO2E/year}$$

The resulting reduction is:

$$\begin{aligned}
 &1,671,726 \text{ MT CO2E/year} - 1,397,650 \text{ MT CO2E/year} \\
 &= \underline{\underline{274,076 \text{ MT CO2E/year}}}
 \end{aligned}$$

VI. Compliance:

A. Real

Emission reductions have been calculated based on the heat input to each turbine and recognized factors and conversion factors. Therefore, the reductions are real.

B. Enforceable

SCC has applied to limit emissions from the turbines which limits greenhouse gas emissions. Therefore, the requested ERCs are enforceable.

C. Quantifiable

Emission reductions have been calculated based on the heat input to each turbine and recognized emission factors and conversion factors. Therefore, the reductions are quantifiable.

D. Permanent

SCC has applied to limit emissions from the turbines which limits greenhouse gas emissions.

Although some of the heat and electricity previously provided by the turbines may be being supplied by other equipment greenhouse gas emissions emission increases that may occur elsewhere are adequately addressed by other regulatory requirements.

On October 20, 2011 the California Air Resources Board approved the Cap-and-Trade regulation for greenhouse gases. The regulation sets a declining cap on allowed emissions while employing market mechanisms to achieve emission reductions. An overall 2020 targeted limit of 334.2 million metric tons (MMT) of carbon dioxide equivalent (CO2e) on GHG emissions from most of the California economy – the “capped sectors” – is established by the cap-and-trade program. In the cap-and-trade program, a limit, or *cap* is put on the amount of pollutants (i.e., GHGs) that can be emitted. The cap is implemented by creating allowances in a number equal to the cumulative emissions from all the covered sectors. Each allowance provides a limited authorization to emit one metric ton (MT) of CO2e. These allowances may be auctioned, distributed for free, or allocated by some combination thereof. Sources in the capped sectors must report their emissions and must surrender allowances to match those emissions in accordance with the schedule in the regulation to achieve the 2020 cap.

Capped sectors include oil, gas production and electrical generation and most other large industrial operations. Any increases in greenhouse gas emissions that would occur elsewhere because of the shutdown of the emissions units in these projects must be accommodated under the Cap-and-Trade regulation to achieve the overall 2020 cap. It is therefore, not necessary to quantify increases in greenhouse gas emissions that may occur elsewhere due to the shutdown of these emissions units. The Cap-and-Trade regulation provides an adequate mechanism to address any potential increase.

Therefore, the requested ERCs are permanent.

E. Surplus

Rule 2301 Section 4.5.3.1 states:

Greenhouse gas emission reductions that occur at a facility subject to the CARB greenhouse cap and trade regulation on or after January 1, 2012 are not surplus.

These reductions occurred prior to January 1, 2012.

Rule 2301 Section 4.5.3.2 states:

Greenhouse gas emission reductions that occur as a result of law, rule, or regulation that required the greenhouse gas emission reduction are not surplus.

These reductions are not required by any law, rule or regulation that required the greenhouse gas emission reduction.

Therefore, the greenhouse gas emissions requested for ERC banking are surplus.

F. Was application timely?

Pursuant to Rule 2301 section 5.5.2 for emission reductions that occurred prior to January 19, 2012 applications must be filed by July 19, 2012. Therefore the application was timely.

VII. Recommendation:

SCC requests that Emission Reduction Credits be issued as indicated above.

APPENDIX A

Confidential

CO2e

CO2e

Sycamore Cogeneration Company Fuel Use MMBtu

Emission Factors Most Recent Test lb/MMBtu

Emissions lb/Month

Date	Sycamore Cogeneration Company Fuel Use MMBtu					Emission Factors Most Recent Test lb/MMBtu				Emissions lb/Month				
	total	Unit 1	Unit 2	Unit 3	Unit 4	Unit 1	Unit 2	Unit 3	Unit 4	Unit 1	Unit 2	Unit 3	Unit 4	
Dec-06	2,971,960	735,311	732,543	751,758	752,348	122.0	123.0	122.0	123.0	89707942	90102789	91714476	92538804	
Jan-07	2,566,158	606,984	641,889	657,320	659,965	122.0	123.0	122.0	123.0	74052048	78952347	80193040	81175695	
Feb-07	2,868,893	720,753	707,245	720,117	720,778	125.0	126.0	126.0	126.0	90094125	89112870	90734742	90818028	
Mar-07	2,754,250	692,240	676,747	694,092	691,171	125.0	126.0	126.0	126.0	86530000	85270122	87455592	87087546	
Apr-07	2,733,537	688,775	676,562	681,636	686,564	125.0	126.0	126.0	126.0	86096875	85246812	85886136	86507064	
May-07	2,622,938	651,451	652,327	662,018	657,142	125.0	126.0	126.0	126.0	81431375	82193202	83414268	82799892	
Jun-07	2,722,074	685,303	663,657	687,857	685,257	125.0	126.0	126.0	126.0	85662875	83620782	86669982	86342382	
Jul-07	2,721,990	683,982	666,864	688,929	682,215	125.0	126.0	126.0	126.0	85497750	84024864	86805054	85959090	
Aug-07	2,620,375	665,200	627,924	670,342	656,909	125.0	126.0	126.0	126.0	83150000	79118424	84463092	82770534	
Sep-07	2,492,012	694,139	458,316	631,818	707,739	125.0	126.0	126.0	126.0	86767375	57747816	79609068	89175114	
Oct-07	2,654,932	680,399	693,669	609,264	671,600	125.0	126.0	126.0	126.0	85049875	87402294	76767264	84621600	
Nov-07	2,638,327	731,709	738,686	443,528	724,404	125.0	126.0	126.0	126.0	91463625	93074436	55884528	91274904	
Dec-07	2,798,429	722,934	682,975	714,548	677,972	125.0	126.0	126.0	126.0	90366750	86054850	90033048	85424472	
Jan-08	2,475,545	623,647	638,970	580,345	632,583	125.0	126.0	126.0	126.0	77955875	80510220	73123470	79705458	
Feb-08	2,241,251	362,845	671,486	499,921	706,999	125.0	126.0	126.0	126.0	45355625	84607236	62990046	89081874	
Mar-08	2,075,775	563,764	437,507	539,111	535,393	125.0	126.0	126.0	126.0	70470500	55125882	67927986	67459518	
Apr-08	2,073,463	704,866	697,152	671,445	0	118.0	124.0	119.4	119.0	83174188	86446848	80170533	0	
May-08	2,110,974	652,564	687,121	561,356	209,933	118.0	124.0	119.4	119.0	77002552	85203004	67025906	24982027	
Jun-08	2,082,312	408,906	629,393	531,643	512,370	118.0	124.0	119.4	119.0	48250908	78044732	63478174	60972030	
Jul-08	2,118,683	312,458	579,698	661,335	565,192	118.0	124.0	119.4	119.0	36870044	71882552	78963399	67257848	
Aug-08	2,036,319	398,619	607,234	400,304	630,162	118.0	124.0	119.4	119.0	47037042	75297016	47796298	74989278	
Sep-08	2,105,901	339,695	544,020	625,438	596,748	118.0	124.0	119.4	119.0	40084010	67458480	74677297	71013012	
Oct-08	2,013,056	158,885	669,306	554,999	629,866	118.0	124.0	119.4	119.0	18748430	82993944	66266881	74954054	
Nov-08	2,017,643	159,247	670,831	556,264	631,301	118.0	124.0	119.4	119.0	18791146	83183044	66417922	75124819	
						Actual CO2e lb/year				CO2e MT/year				
2-Year Ave						Unit 1	Unit 2	Unit 3	Unit 4	Units 1-4	Units 1-4			
1st Qtr	7,490,936	1,785,117	1,886,922	1,845,453	1,973,445	222,229,087	236,789,339	231,212,438	247,664,060	937,894,923	425,349			
2nd Qtr	7,172,649	1,895,933	2,003,106	1,897,978	1,375,633	230,860,657	242,904,885	237,582,518	210,477,015	921,825,074	418,061			
3rd Qtr	7,047,640	1,547,047	1,742,028	1,839,083	1,919,483	242,352,745	239,742,935	235,940,211	174,418,024	892,453,914	404,741			
4th Qtr	7,547,174	1,594,243	2,094,005	1,815,181	2,043,746	197,063,884	261,405,679	223,542,059	251,969,327	933,980,948	423,574			
Total	29,258,399					Total lb/year	892,506,372	980,842,837	928,277,225	884,528,425	3,686,154,859	1,671,726		

Proposed NOx limit 271,000 lb/year	271,200		
Equivalent fuel limit @ 0.011 lb/MMBtu	0.011	24,654,545 MMBtu/year	CO2e limit @ 125 lb/mmbtu* 3,081,818,182 1,397,650
			Reduction 604,336,677 274,076

*The average of CO2e source tests is 124.6 lb/MMBtu

San Joaquin Valley Air Pollution Control District
ERC Transfer of Ownership
Application Review

Seller Facility Name: Sycamore Cogeneration Co Date: March 15, 2017
Mailing Address: PO Box 80598
Bakersfield, CA 93380

Buyer Facility Name: Chevron USA Inc.
Mailing Address: PO Box 1392
Bakersfield, CA 93302

Contact Person: Dale Johnson
Telephone: 661-615-4676

Engineer: Dan Klevann
Lead Engineer: Rich Karrs

Application: S-4808-24
Project Number: S-1171099

Deemed Complete: February 20, 2017

I. Proposal

Sycamore Cogeneration Co. (S-511) has asked that the ERC's granted as a result of banking action S-1123816 be immediately transferred and issued to their parent company Chevron USA Inc. (S-1131)

CO2E from S-4320-24
257,426 Metric Tons/Yr

These Emission Reductions originated from the reduction of the permitted operation of four gas turbine engines at their Kern River Oilfield facility located at Section 31, Township 28S, Range 28E a major stationary source on December 18, 2015. The original ERC certificate listed in the preceding table has been surrendered to the District and is now null and void.

II. Applicable Rules

Rule 2301 Emission Reduction Credit Banking (1/19/2012)

III. Calculations

The original ERC certificate being submitted for transfer and the corresponding credits available along with the amount being transferred and any amounts being reissued to the seller is listed in the following tables.

Original ERC S-4320-24	Transferred to S-4808-24
257,426 Metric Tons/Yr	257,426 Metric Tons/Yr

IV. Compliance Review

Pursuant to District Rule 2301, Sections 7.1 and 7.2, owners of banked ERC certificates may apply to convert existing ERC certificates to more than one certificate in lesser additive amounts in order to provide emissions offsets or to sell all or part of an existing ERC certificate to a second party. The owner of the existing ERC certificates has applied in compliance with District Rule 2301.

V. Recommendation

Issue ERC Certificate S-4808-24 to Chevron USA Inc with the quarterly values posted in the preceding table.

Attachments:

- A. Original ERC Certificate (S-4320-24)
- B. Draft Re-issued ERC Certificate (S-4808-24)

ATTACHMENT A

Original ERC Certificate

(S-4320-24)



Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

S-4320-24

ISSUED TO: SYCAMORE COGENERATION CO
ISSUED DATE: March 15, 2017
LOCATION OF REDUCTION: HEAVY OIL CENTRAL
CA
SECTION: 31 TOWNSHIP: 28S RANGE: 28E

For CO2E Reductions In The Amount Of:

257,426 metric tons / year

Method Of Reduction

- Shutdown of Entire Stationary Source
 Shutdown of Emissions Units
 Other

Reduction in permitted usage of gas turbine engines (S-511-1, '-2, '-3, & '-4) verified as permanent within the State of California.

Emission Reduction Qualification Criteria

This emission reduction is surplus and additional to all applicable regulatory requirements.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services

ATTACHMENT B

Draft Re-issued ERC Certificate

(S-4808-24)

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

S-4808-24

ISSUED TO: CHEVRON USA INC
ISSUED DATE: <DRAFT>
LOCATION OF REDUCTION: HEAVY OIL CENTRAL
CA
SECTION: 31 TOWNSHIP: 28S RANGE: 28E

For CO2E Reductions In The Amount Of:

257,426 metric tons / year

Method Of Reduction

- Shutdown of Entire Stationary Source
 Shutdown of Emissions Units
 Other

Reduction in permitted usage of gas turbine engines (S-511-1, '-2, '-3, & '-4) verified as permanent within the State of California.

Emission Reduction Qualification Criteria

This emission reduction is surplus and additional to all applicable regulatory requirements.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services



RECEIVED
FEB 27 2017

SJVAPCD
Southern Region

HAND DELIVERED

February 20, 2017

Mr. Leonard Scandura
San Joaquin Valley APCD
34946 Flyover Court
Bakersfield, California 93308

Re: **Emission Reduction Credit Banking Application
Sycamore Cogeneration Facility Project S-1114928**

Dear Mr. Scandura:

As per the NOx emission reduction credit certificate, Sycamore Cogeneration Facility requests that the CO2 emission reduction credit certificate be issued to Chevron U.S.A. Inc. The credits used to permit the Sycamore Cogeneration Facility were provided by the Kern River oilfield. Therefore, any credits generated by Sycamore should be issued to Chevron U.S.A. Inc. Please proceed with issuance of the CO2 emission reduction credits to Chevron U.S.A. Inc. The certificates should be mailed to:

Sycamore Cogeneration Facility
Attn: Cory Eagar
P.O. Box 81438
Bakersfield, CA 93380-1438

If you have any questions, please contact Dale Johnson at (661) 412-6371.

Alan D. Dartnell
Acting Asset Manager

CLE:yh

xc: Dan Klevann – SJVAPCD
Dale Johnson – SJVBU
Cory Eagar - CPEM