



AUG 30 2011

Gerardo C. Rios, Chief
Permits Office
Air Division
U.S. EPA - Region IX
75 Hawthorne St
San Francisco, CA 94105

**Re: Proposed Authorities to Construct / Certificate of Conformity (Minor Mod)
District Facility # S-511
Project # S-1111100**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Sycamore Cogeneration Company, located at Kern River oil field near Bakersfield, which has been issued a Title V permit. Sycamore Cogeneration Company is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Sycamore is applying for Authorities to Construct to administrative include a 12 hour tuning start up period in accordance with District Rule 4703.

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed Authorities to Construct # S-511-1-15, '-2-16, '-3-19, and '-4-15 with Certificate of Conformity. After demonstrating compliance with the Authorities to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

Enclosures
cc: Steve Davidson, Permit Services

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



AUG 30 2011

Neil Burgess
Sycamore Cogeneration Company
PO Box 81617
Bakersfield, CA 93308

**Re: Proposed Authorities to Construct / Certificate of Conformity (Minor Mod)
District Facility # S-511
Project # S-1111100**

Dear Mr. Burgess:

Enclosed for your review is the District's analysis of your application for Authorities to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. Sycamore is applying for Authorities to Construct to administrative include a 12 hour tuning start up period in accordance with District Rule 4703.

After addressing any EPA comments made during the 45-day comment period, the Authorities to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,



David Warner

Director of Permit Services

Enclosures
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project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Sycamore must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review (04/21/11)
Rule 2520 Federally Mandated Operating Permits (06/21/01)
Rule 2540 Acid Rain Program (11/13/97)
Rule 4001 NSPS Subpart GG – Standards of Performance for Stationary Gas Turbines (04/14/99)
Rule 4101 Visible Emissions (02/17/05)
Rule 4102 Nuisance (12/17/92)
Rule 4201 Particulate Matter Concentration (12/17/92)
Rule 4301 Fuel Burning Equipment (12/17/92) – **not applicable** - cogeneration system produces power by primarily mechanical means, not through indirect heat transfer
Rule 4703 Stationary Gas Turbines (09/20/07)
Rule 4801 Sulfur Compounds (12/17/92)
CH&S Code, Section 41700
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

Sycamore is located in the center of the north ½ of Section 31, Township 28 South, Range 28 East in the Kern River oil field, within the central Kern County oil fields. There are no schools within 1000 feet of the project site.

IV. Process Description

Cogeneration plants are used to produce high quality steam for injection into the oil producing strata to enhance oil production and to produce electricity for use in the oil field. Sycamore sells excess power to Southern California Edison Company.

V. Equipment Listing

Pre-Project Equipment Description:

S-511-1-14: 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-511-2-15:** 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-511-3-15:** 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-511-4-13:** 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)

Proposed Modification:

Allow 12 hour tuning start up period

Post Project Equipment Description:

- S-511-1-15:** 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-511-2-16:** 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-511-3-16:** 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-511-4-15: 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. Emission Control Technology Evaluation

The combustion turbines utilize GE's proprietary Dry Low NO_x (DLN1+) technology. The DLN1+ technology employs lean premixed combustion to stage combustion, resulting in reduced NO_x formation. The DLN1+ technology is expected to achieve a 3-hour average NO_x limit of 3 ppmv, dry at 15% oxygen. No post-combustion emission control for either NO_x or CO is required with this system.

DLN1+ controls and emissions monitoring sensors are allow the gas turbine to maintain a fixed level of NO_x emissions by automatically adjusting the gas turbine fuel splits to compensate for ambient temperature changes and/or hardware degradation over time. Additionally, Combustion Dynamics Monitoring (CDM) is used to verify dynamics levels are within acceptable limits whenever the combustion system is running.

The system consists of combustion hardware and supporting accessory systems. The combustion hardware consists of combustion liners, fuel nozzles, transition pieces and flow sleeves. These components have improved air/fuel management, relative to the DLN design, which allows for a reduction in NO_x without compromising operability boundaries such as combustion dynamics.

Fuel system accessories deliver fuel to three independent fuel passages, the primary, secondary and pilot. Fuel is delivered to the combustion cans via gas control valves, piping manifolds and flexible hoses (pigtailed). The gas fuel valves are housed in the fuel module. The 7EA DLN1+ combustion system includes a transfer system with purge valves, manifolds and pigtailed.

VII. General Calculations

This project does not meet the criteria for a Rule 2201 Modification, as defined in Section 3.26, and is therefore not subject to the requirements of Rule 2201. Therefore, calculations are not required.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

This project does not meet the following criteria for a Modification, as defined in Section 3.26; therefore, this project is not subject to this rule.

- Any change in hours of operation, production rate, or method of operation of an existing emissions unit, which would necessitate a change in permit conditions.

- Any structural change or addition to an existing emissions unit which would necessitate a change in permit conditions. Routine replacement shall not be considered to be a structural change.
- An increase in emissions from an emissions unit caused by a modification of the Stationary Source when the emissions unit is not subject to a daily emissions limitation.
- Addition of any new emissions unit which is subject to District permitting requirements.
- A change in a permit term or condition proposed by an applicant to obtain an exemption from an applicable requirement to which the source would otherwise be subject.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit pursuant to Section 3.20 of this rule:

In accordance with Rule 2520, 3.20, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
 - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC); therefore, the facility must apply to modify their Title V permit with an administrative amendment prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment/minor modification application.

Rule 2540 Acid Rain Program (11/13/97)

The existing units are exempt (are not "affected units") from the acid rain program pursuant to 40 CFR 72.6 (b)(1) because it is considered "simple combustion turbines that commenced commercial operation before November 15, 1990." The definition of "simple combustion turbine" is provided in 40 CFR 72.2 as follows:

"Simple combustion turbine means a unit that is a rotary engine driven by a gas under pressure that is created by the combustion of any fuel. This term includes combined cycle units without auxiliary firing. This term excludes combined cycle units with auxiliary firing, unless the unit did not use the auxiliary firing from 1985 through 1987 and does not use auxiliary firing at any time after November 15, 1990."

There is no definition of "combined cycle unit" in 40 CFR 72.2. However, EPA guidance issued by the Acid Rain Division "Do Acid Rain SO₂ Regulations Apply To You", EPA/430-R-94-002 (1994) defines "combined cycle unit" on page 10 as follows:

"In a combustion turbine, air heated from the combustion of fuel causes a turbine to spin in a magnetic field, which, in turn, creates electricity. If the hot air exiting the turbine is captured through a heat recovery steam generator or waste heat boiler, the turbine is considered a combined cycle unit"

Since "simple combustion turbine" definition includes the combined cycle units without auxiliary firing, Sycamore is considered a combined cycle unit without auxiliary firing and is therefore exempt under the provisions of 40 CFR 72.6 (b) (1). The units continue to be considered "simple combustion turbines" when operated in simple cycle mode. Sycamore is therefore exempt from Rule 2540.

Compliance is expected.

Rule 4001 NSPS Subpart GG – Standards of Performance for Stationary Gas Turbines (04/14/99)

The turbines are subject to Subpart GG, which limits oxides of nitrogen and sulfur from stationary gas turbines. The current operating permits include NO_x and SO_x limits that meet the standards of Subpart GG. These operating permit limits will not be changed. Also, reporting and notification requirements specified in Subpart A are also contained in the current operating permits. The following condition is included on the current PTOs:

- The 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 84-01] Federally Enforceable Through Title V Permit

Rule 4101 Visible Emissions (02/17/05)

The current permit unit requirements limit visible emissions greater than 20% opacity (No. 1 Ringelmann) to periods less than three minutes in any one hour period. Continued compliance is expected.

Rule 4102 Nuisance (12/17/92)

Section 4.0 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

As demonstrated above, there are no increases in emissions associated with this project, therefore a health risk assessment is not necessary and no further risk analysis is required.

Rule 4201 Particulate Matter Concentration (12/17/92)

Rule 4201 limits PM emissions from any source operation to less than 0.1 gr/dscf. The current operating permit limits PM emissions to less than 0.0072 gr/scf at 12% CO₂ for each turbine. The proposed modifications will not alter this limit and continued compliance is expected.

Rule 4703 Stationary Gas Turbines (08/17/06)

The provisions of this rule apply to stationary gas turbine systems, which are subject to District permitting requirements, and with ratings equal to or greater than 0.3 megawatt (MW) or a maximum heat input rating of more than 3,000,000 Btu per hour.

Section 5.1 - NO_x Emissions

Applicant currently and is expected to remain in compliance with the 3 ppmvd @ 15% O₂ Enhanced Option of Table 5-2 (Section 5.1.2) for greater than 10 MW, combined cycle and permit condition greater than 877 hrs/yr. Continued compliance is expected.

Section 5.2 – CO Emissions

The unit is currently and is expected to remain in compliance with the CO emissions limit of 200 ppmvd @ 15% O₂.

Section 5.3 - Startup, Shutdown, Reduced Load Period

Unless specifically requested by applicant and District-approved as described in Section 5.3.3, the duration of each startup and shutdown shall not exceed 2 hours, and the duration of each reduced load period shall not exceed 1 hour. Therefore, Sycamore is requesting an 12 hour period when combustors are replaced (routine replacement) because the unit requires an extended tuning start-up period.

The emissions control system shall be in operation and emissions shall be minimized insofar as technologically feasible during startup, shutdown, tuning start-up period, or reduced load period.

The following conditions will be modified (strikethrough format) and included in all of the ATCs:

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] Y

During startup, ~~and 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] Y

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] Y

The following new condition will be included in all of the ATCs:

A tuning start-up shall be defined as dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT to meet the limits of this permit and Rule 4307. A tuning start up period shall not exceed a time period of 12 consecutive hours per occurrence.

The following conditions will be corrected (strikethrough format) to reflect the NOx limit, that went into effect on April 30, 2008, in ATC S-511-2-15, '-3-16

The CGT combustors shall be a dry low NOx design capable of achieving ~~46.4~~ 3 ppm or lower at 15% O₂. [PSD SJ 85-09, X.B] Y

Section 6.1 - Emissions Control Plan

The facility currently and is expected to remain in compliance with the emissions control plan Section 6.1 requirements.

Section 6.2 - Monitoring and Recordkeeping

The unit is equipped with CEMs and therefore satisfies Section 6.2.1 of the rule. Continued compliance is expected.

Section 6.3 - Compliance Testing

The applicant performs a source test of exhaust gas NOx and CO concentrations annually to show compliance with the permitted emission concentrations. Continued compliance is expected.

Rule 4801 Sulfur Compounds (12/17/92)

Rule 4801 limits sulfur compound emission to 0.2% (2,000 ppm) dry volume. SO_x emissions from the turbines are based on combusting natural gas with a fuel sulfur content limited by the operating permit at 0.3 gr/100 scf. This fuel S content (assuming 1020 Btu/scf, LHV) results in a SO_x emission concentration of approximately 0.2 ppmvd @ 15% O₂. This is in compliance with the 2,000 ppm limit.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant

effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct S-511-1-15, '-2-16, '-3-16, and '-4-15 subject to the permit conditions on the attached draft Authority to Construct in **Appendix A**.

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-511-1-15	3020-8A-G	75,000 kW	\$ 10,215
S-511-2-16	3020-8B-G	75,000 kW	\$ 10,215
S-511-3-16	3020-8B-G	75,000 kW	\$ 10,215
S-511-4-15	3020-8A-G	75,000 kW	\$ 10,215

Appendices

- A: Draft ATC(s)
- B: Current PTO(s)
- C: Quarterly Net Emissions Change
- D: Emission Profile(s)
- E: Compliance Certification

APPENDIX A
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-511-1-15

LEGAL OWNER OR OPERATOR: SYCAMORE COGENERATION CO
MAILING ADDRESS: PO BOX 80598
BAKERSFIELD, CA 93380

LOCATION: HEAVY OIL CENTRAL
CA

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

EQUIPMENT DESCRIPTION:

MODIFICATION OF 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): ALLOW 12 HOUR TUNING START UP PERIOD

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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
4. 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
5. 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

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

DRAFT

DAVID WARNER, Director of Permit Services

S-511-1-15 : Aug 29 2011 4:30PM - DAVIDSOS : Joint Inspection NOT Required

6. 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
7. 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
8. 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
9. 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
10. 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
11. 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
12. 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
13. A tuning start-up shall be defined as dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT 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
14. 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
15. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NO_x performance test nor shall NO_x 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
16. 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
17. 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
18. 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
19. 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
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

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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. {2270} 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
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, 72] Federally Enforceable Through Title V Permit

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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. {2250} 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
38. {2272} 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

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49. {2254} 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. {2251} 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
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 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

CONDITIONS CONTINUE ON NEXT PAGE

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
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. {2282} 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
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PERMIT NO: S-511-2-16

LEGAL OWNER OR OPERATOR: SYCAMORE COGENERATION CO
MAILING ADDRESS: PO BOX 80598
BAKERSFIELD, CA 93380

LOCATION: HEAVY OIL CENTRAL
CA

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

EQUIPMENT DESCRIPTION:

MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTORS 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): ALLOW 12 HOUR TUNING START UP PERIOD

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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
4. 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
5. 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

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YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

S-511-2-16 : Aug 29 2011 4:30PM - DAVIDSOS : Joint Inspection NOT Required

6. 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
7. 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
8. 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
9. 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
10. 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
11. 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
12. 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
13. A tuning start-up shall be defined as dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT 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
14. 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
15. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NO_x performance test nor shall NO_x 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
16. 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
17. 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
18. 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
19. 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
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

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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. {2270} 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
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, 72] Federally Enforceable Through Title V Permit

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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. {2250} 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
38. {2272} 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

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49. {2254} 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. {2251} 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. 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
52. 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
53. 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
54. 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
55. 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
56. 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
57. 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
58. 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
59. 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
60. 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
61. 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
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

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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
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. {2282} 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
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PERMIT NO: S-511-3-16

LEGAL OWNER OR OPERATOR: SYCAMORE COGENERATION CO
MAILING ADDRESS: PO BOX 80598
BAKERSFIELD, CA 93380

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: NW30 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 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): ALLOW 12 HOUR TUNING START UP PERIOD

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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
4. 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
5. 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

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

S-511-3-16 : Aug 29 2011 4:30PM - DAVIDSOS : Joint Inspection NOT Required

6. 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
7. 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
8. 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] Federally Enforceable Through Title V Permit
9. 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
10. 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
11. 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
12. 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
13. A tuning start-up shall be defined as dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT 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
14. 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
15. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NO_x performance test nor shall NO_x 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
16. 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
17. 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
18. 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
19. 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
20. 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
21. 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

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22. 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
23. {2270} 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
24. 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
25. 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
26. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
27. 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
28. 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
29. 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
30. 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
31. 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
32. 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
33. 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
34. 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
35. 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, 72] Federally Enforceable Through Title V Permit

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36. 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
37. {2250} 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
38. 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
39. {2272} 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
40. 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
41. 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
42. 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
43. 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
44. 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
45. 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
46. 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
47. 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
48. 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
49. 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

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50. {2254} 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
51. {2251} 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
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53. 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
54. 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
55. 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
56. 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
57. 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
58. 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
59. 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
60. 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
61. 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
62. 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
63. 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

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64. 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
65. 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
66. 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
67. 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
68. 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
69. 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
70. 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
71. 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
72. 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
73. 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
74. 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
75. 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
76. {2282} 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

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
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PERMIT NO: S-511-4-15

LEGAL OWNER OR OPERATOR: SYCAMORE COGENERATION CO
MAILING ADDRESS: PO BOX 80598
BAKERSFIELD, CA 93380

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: NW30 **TOWNSHIP:** 28S **RANGE:** 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 75 MW GENERAL ELECTRIC MODEL 7EA NATURAL GAS-FIRED COMBUSTION TURBINE COGENERATION UNIT WITH GE ENHANCED DRY LOW NOX DLN1+ COMBUSTORS AND INDIVIDUAL NOX, CO AND DILUENT (CO2 OR O2) CEMS ANALYZERS 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): ALLOW 12 HOUR TUNING START UP PERIOD

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. 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
4. 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
5. 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

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YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director APCO

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DAVID WARNER, Director of Permit Services

S-511-4-15: Aug 29 2011 4:30PM - DAVIDSOS : Joint Inspection NOT Required

6. 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
7. 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
8. 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
9. 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
10. 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
11. 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
12. 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
13. A tuning start-up shall be defined as dynamic performance testing and corresponding operating optimization set point adjustment of the combustion system of the CGT 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
14. 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
15. Operations during periods of startup, shutdown, and tuning startup shall not constitute representative conditions for the purpose of a NO_x performance test nor shall NO_x 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
16. 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
17. 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
18. 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
19. 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
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

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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. {2270} 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
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, 72] Federally Enforceable Through Title V Permit

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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. {2250} 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
38. {2272} 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

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49. {2254} 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. {2251} 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
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 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

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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
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. {2282} 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

DRAFT

APPENDIX B
Current PTOs

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-511-1-14

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 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 and shutdown, 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. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

11. 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
12. Operations during periods of startup and shutdown 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
13. 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
14. 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
15. 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
16. 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
17. 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
18. 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
19. 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
20. 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
21. 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
22. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
23. 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
24. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. 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
26. 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
27. 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
28. 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
29. 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
30. 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
31. 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
32. 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
33. 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
34. 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
35. 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
36. 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
37. 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
38. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

39. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown 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
40. 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
41. 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
42. 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
43. 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
44. 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
45. 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
46. 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
47. 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
48. 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
49. 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
50. 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
51. 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
52. 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
53. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

54. 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
55. 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
56. 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
57. 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
58. 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
59. 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
60. 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
61. 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
62. 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
63. 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
64. 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
65. 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
66. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

67. 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
68. 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
69. 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
70. 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
71. 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-511-2-15

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 16.4 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 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 and shutdown, 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. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

11. 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
12. Operations during periods of startup and shutdown 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
13. 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
14. 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
15. 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
16. 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
17. 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
18. 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
19. 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
20. 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
21. 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
22. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
23. 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
24. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

25. 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
26. 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
27. 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
28. 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
29. 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
30. 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
31. 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
32. 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
33. 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
34. 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
35. 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
36. 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
37. 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
38. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

39. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown 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
40. 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
41. 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
42. 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
43. 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
44. 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
45. 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
46. 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
47. 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
48. 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
49. 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
50. 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
51. 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
52. 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
53. 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
54. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

55. 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
56. 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
57. 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
58. 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
59. 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
60. 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
61. 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
62. 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
63. 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
64. 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
65. 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
66. 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
67. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

68. 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
69. 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
70. 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
71. 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
72. 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-511-3-15

EXPIRATION DATE: 11/30/2015

SECTION: NW30 **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 16.4 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] Federally Enforceable Through Title V Permit
7. Emission rates from CGT, except during startup, shutdown 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] Federally Enforceable Through Title V Permit
8. 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) - 1,629.6 lb/day, VOC - 60.0 lb/day, or CO - 1056.0 lb/day. [PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
9. Emission rates from CGT, except during startup and/or shutdown, shall not exceed any of the following: NO_x (as NO₂) - 16.4 ppmvd @ 15% O₂, 67.9 lb/hr on a 3-hr avg, 79.7 lb/hr on a 1-hr avg, or CO - 25 ppmvd @ 15% O₂, 44.0 lb/hr on a 3-hr avg. [PSD SJ 85-09, X.E] Federally Enforceable Through Title V Permit
10. 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
11. During startup and shutdown, 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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12. 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
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 and shutdown 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
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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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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
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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

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 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
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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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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
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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

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-511-4-13

EXPIRATION DATE: 11/30/2015

SECTION: NW30 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, 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 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 and shutdown, 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. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

11. 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
12. Operations during periods of startup and shutdown 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
13. 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
14. 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
15. 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
16. 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
17. 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
18. 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
19. 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
20. 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
21. 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
22. Operator shall conform with the compliance testing procedures described in District Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
23. 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
24. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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25. 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
26. 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
27. 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
28. 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
29. 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
30. 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
31. 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
32. 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
33. 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
34. 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
35. 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
36. 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
37. 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
38. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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39. The owner or operator shall maintain records that contain the following: the occurrence and duration of any start-up, shutdown 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
40. 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
41. 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
42. 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
43. 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
44. 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
45. 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
46. 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
47. 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
48. 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
49. 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
50. 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
51. 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
52. 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
53. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

54. 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
55. 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
56. 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
57. 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
58. 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
59. 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
60. 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
61. 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
62. 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
63. 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
64. 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
65. 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
66. 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

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

67. 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
68. 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
69. 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
70. 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
71. 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 C
Quarterly Net Emissions Change (QNEC)

Quarterly Net Emissions Change (QNEC)

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

$QNEC = PE2 - PE1$, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.

PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.

PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Quarterly PE2 and quarterly PE1 can be calculated as follows:

$$\begin{aligned} PE2_{\text{quarterly}} &= PE2_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 108,624 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 27,156 \text{ lb NO}_x/\text{qtr} \end{aligned}$$

$$\begin{aligned} PE1_{\text{quarterly}} &= PE1_{\text{annual}} \div 4 \text{ quarters/year} \\ &= 108,624 \text{ lb/year} \div 4 \text{ qtr/year} \\ &= 27,156 \text{ lb NO}_x/\text{qtr} \end{aligned}$$

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	27,156	27,156	0
SO _x	1971	1971	0
PM ₁₀	10,950	10,950	0
CO	9636	9636	0
VOC	5475	5475	0

APPENDIX D
Emissions Profiles

Permit #: S-511-1-15	Last Updated
Facility: SYCAMORE COGENERATION CO	08/22/2011 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	108624.0	7884.0	43800.0	385440.0	21900.0
Daily Emis. Limit (lb/Day)	552.8	21.6	120.0	1056.0	60.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-511-2-16	Last Updated
Facility: SYCAMORE COGENERATION CO	08/22/2011 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	108624.0	7884.0	43800.0	385440.0	21900.0
Daily Emis. Limit (lb/Day)	552.8	21.6	120.0	1056.0	60.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-511-3-16	Last Updated
Facility: SYCAMORE COGENERATION CO	08/22/2011 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	108624.0	7884.0	43800.0	385440.0	21900.0
Daily Emis. Limit (lb/Day)	552.8	21.6	120.0	1056.0	60.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Permit #: S-511-4-15	Last Updated
Facility: SYCAMORE COGENERATION CO	08/22/2011 DAVIDSOS

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	108624.0	7884.0	43800.0	385440.0	21900.0
Daily Emis. Limit (lb/Day)	552.8	21.6	120.0	1056.0	60.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

APPENDIX E
Compliance Certification

San Joaquin Valley Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE
 MINOR PERMIT MODIFICATION AMENDMENT

COMPANY NAME: Sycamore Cogeneration Company	FACILITY ID: S-511
1. Type of Organization: <input type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input checked="" type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: Chevron Global Power Co./Edison Mission Operations & Maintenance, Inc.	
3. Agent to the Owner: Neil E. Burgess, Executive Director	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Neil E. Burgess
Signature of Responsible Official

4/13/11
Date

Neil E. Burgess

Name of Responsible Official (please print)

Executive Director

Title of Responsible Official (please print)

PROJECT ROUTING FORM

FACILITY NAME: Sycamore Logan Co.
 FACILITY ID: S-511 PROJECT NUMBER: S-1111100
 PERMIT #'s: S-511-1-15, 1-2-16, 1-3-16 & 1-4-15
 DATE RECEIVED: 4/13/2011

PRELIMINARY REVIEW	ENGR	DATE	SUPR	DATE
A. Application Deemed Incomplete				
Second Information Letter				
B. Application Deemed Complete	RKR	5/9/11	RWK	5-9-11
C. Application Pending Denial				
D. Application Denied				

ENGINEERING EVALUATION	INITIAL	DATE
E. Engineering Evaluation Complete - Project triggering Federal Major Modification: <input type="checkbox"/> Yes AND Information entered in database (AirNet) <input checked="" type="checkbox"/> No (not Fed MMod) - District is Lead Agency for CEQA purposes AND the project GHG emissions increase exceeds 230 metric tons/year: <input type="checkbox"/> Yes AND Information entered in database (AirNet) <input checked="" type="checkbox"/> No	SDD	8-10-11
F. Supervising Engineer Approval	RWK	8 23 11
G. Compliance Division Approval <input type="checkbox"/> Not Required		
H. Applicant's Review of Draft Authority to Construct Completed <input type="checkbox"/> 3-day Review <input type="checkbox"/> 10-day Review <input type="checkbox"/> No Review Requested		
I. Permit Services Regional Manager Approval		

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