



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

MAR 15 2012



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-1547
Project # 1120161**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Aera Energy, LLC, located at various specified locations in the Belridge Oilfield within Aera's Heavy Oil Western stationary source in Kern County, which has been issued a Title V permit. Aera Energy, LLC is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Aera requests that ATCs S-1547-1173-0 through '1180-0 for new steam generators be revised to include conditions allowing certain modes of non-normal operation, in addition to normal startup and shutdown activities, outside of normal operation emission limits.

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed Authorities to Construct # S-1547-1173-1 through '1180-1 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: David Torii, Permit Services

Seyed Sadredin
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4800 Enterprise Way
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MAR 15 2012

Brent Winn
Aera Energy, LLC
PO Box 11164
Bakersfield, CA 93389-1164

**Re: Proposed Authorities to Construct / Certificate of Conformity (Minor Mod)
District Facility # S-1547
Project # 1120161**

Dear Mr. Winn:

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. Aera requests that ATCs S-1547-1173-0 through '1180-0 for new steam generators be revised to include conditions allowing certain modes of non-normal operation, in addition to normal startup and shutdown activities, outside of normal operation emission limits.

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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San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Steam Generator Commissioning Period

Facility Name: Aera Energy, LC
Mailing Address: PO Box 11164
Bakersfield, CA 93389-1164
Contact Person: Brent Winn
Telephone: 661-665-4363
Fax: 661-665-7437
E-Mail: btwinn@areaenergy.com
Application #(s): S-1547-1173-1 through '1180-1
Project #: 1120161
Deemed Complete:

Engineer: David Torii
Lead Engineer: Rich Karrs
RWK
3-12-12

I. Proposal

Aera requests that ATCs S-1547-1173-0 through '1180-0 for new steam generators be revised to include conditions allowing certain modes of non-normal operation, in addition to normal startup and shutdown activities, outside of normal operation emission limits. Such modes of non-normal operation include:

- Commissioning operations required due to the installation of a new unit or required due to a physical change to an existing emission unit.
- Refractory curing operations for newly installed or replacement refractory in an external combustion control device.

Justification for authorizing the proposed operation is provided in draft District policy APR 17XX Exemptions from Emission Limits During Defined Periods of Non-Normal Operation. The following conditions will be added to the proposed ATCs:

- The maximum duration of commissioning, i.e. adjustment and tuning of the unit for proper operation and compliance with permitted emissions limits, shall not exceed 60 days from initial startup. [District Rule 2080]Y
- Total duration of startup, shutdown, commissioning, refractory curing operation shall not exceed 300 hours per calendar year. Permittee shall maintain records of the date and duration of each activity and the total hours of such operation for the calendar year.[District Rule 2080]Y
- Permittee shall submit written notification to the District prior to commissioning activities. Such notification shall include anticipated beginning and ending dates of such activities. [District Rule 2080]Y

- Emission rates, except during startup, shutdown, commissioning, and refractory curing shall not exceed any of the following limits: NOx: 7 ppmvd @ 3% O2 or 0.008 lb-NOx/MMBtu; PM10: 0.0076 lb-PM10/MMBtu; CO: 25 ppmvd @ 3% O2 or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Y

Aera also requests that additional SOx test methods be authorized.

Aera received their Title V Permit on 1/31/03. This modification can be classified as a Title V minor modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Aera must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11) (not applicable, see section VIII)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4301	Fuel Burning Equipment (12/17/92)
Rule 4305	Boilers, Steam Generators and Process Heaters – Phase II (8/21/03)
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (3/17/05)
Rule 4320	Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (10/16/08)
Rule 4351	Boilers, Steam Generators and Process Heaters – Phase 1 (8/21/03) Not applicable – located west of I-5
Rule 4405	Oxides of Nitrogen Emissions from Existing Steam Generators Used in Thermally Enhanced Oil Recovery – Central and Western Kern County Fields (12/17/92); Not Applicable – these are not existing steam generators
Rule 4406	Sulfur Compounds from Steam Generators – Kern County (12/17/92) Not applicable – ATCs issued after 9/12/79
Rule 4801	Sulfur Compounds (12/17/92)
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

The steam generators will be operated at the following various specified locations at the Belridge Oilfield within Aera's Heavy Oil Western stationary source in Kern County.

Equipment Locations				
ATC	Section	Township	Range	
S-1547-1162-0 through S-1547-1180-0	SW/4 Section 20	28S	21E	MDB&M
	NE/4 and SE/4 Section 29	28S	21E	MDB&M
	NW/4, SW/4 & SE/4 Section 28	28S	21E	MDB&M

The above locations are not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project. A map of the proposed locations is included in Appendix A.

IV. Process Description

The new steam generators will be used for steam enhanced oil production at various specified locations. The steam generators produce steam, which is injected into the formation to lower the viscosity of underground deposits of crude oil and thereby increase oil flow.

The steam generators will be authorized to burn only PUC, FERC regulated natural gas, low-sulfur produced gas or treated produced gas from Aera's Section 32 gas plant (S-1543). They will not be authorized to burn gas from Aera's thermally enhanced oil recovery operation (TEOR) casing vent gas collection systems or vapor control systems.

Depending on the location, the steam generators will provide steam to steam enhanced wells permitted under S-1547-359 (1,657 wells), S-1547-638 (396 cyclic and 5,384 steam drive wells), S-1548-423 (300 wells) and S-1548-470 (8 wells). The produced fluids will continue to go to existing vapor controlled tanks at Dehy 20 (S-1548-144 et al) and Dehy 2 (S-1547-888 et al).

V. Equipment Listing

Pre-Project Equipment Description:

ATCs S-1547-1173-0 though '-1180-0 (eight identical steam generators; see ATCs in Appendix B):

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

Proposed Modification:

ATCs S-1547-1173-1 though '-1180-1 (eight identical steam generators):

MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: REISSUE OF S-1547-11XX-0 INCLUDING COMMISSIONING PERIOD AND AUTHORIZE ADDITIONAL SOX TEST METHODS

Post Project Equipment Description:

S-1547-1173-0 though ' -1180-0 (eight identical steam generators):

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

VI. Emission Control Technology Evaluation

The steam generators in this project are capable of generating NO_x, CO, VOC, PM₁₀ and SO_x emissions due to the combustion of natural gas. Aera plans on using PUC or FERC natural gas, low-sulfur produced gas, or treated produced gas from Section 32 gas plant (S-1543). The sulfur content of each of these gas streams is ≤ 0.75 gr-S/100 dscf.

The steam generators will be equipped with ultra-low NO_x burner capable of achieving 7 ppmv NO_x @ 3% O₂. Low-NO_x burners reduce NO_x formation by producing lower flame temperatures (and longer flames) than conventional burners. Conventional burners thoroughly mix all the fuel and air in a single stage just prior to combustion, whereas low-NO_x burners delay the mixing of fuel and air by introducing the fuel (or sometimes the air) in multiple stages. Generally, in the first combustion stage, the air-fuel mixture is fuel rich. In a fuel rich environment, all the oxygen will be consumed in reactions with the fuel, leaving no excess oxygen available to react with nitrogen to produce thermal NO_x. In the secondary and tertiary stages, the combustion zone is maintained in a fuel-lean environment. The excess air in these stages helps to reduce the flame temperature so that the reaction between the excess oxygen with nitrogen is minimized.

C. Calculations

This project does not meet the criteria for a Rule 2201 Modification, as defined in Section 3.26, and is not subject to the requirements of Rule 2201. Therefore, formal calculations for Rule 2201 are not necessary and no further discussion is required.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

Pursuant to draft District policy APR 17XX Exemptions from Emission Limits During Defined Periods of Non-Normal Operation the proposed revisions are not subject to the requirements of Rule 2201.

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.

In accordance with Rule 2520, 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.

District Rule 4001 New Source Performance Standards

40 CFR Part 60, Subpart Dc applies to Small Industrial-Commercial-Industrial Steam Generators between 10 MMBtu/hr and 100 MMBtu/hr (post-6/9/89 construction, modification or, reconstruction).

The subject steam generators have a rating of 85 MMBtu/hr and are fired on natural gas. Subpart Dc has no standards for gas-fired steam generators. Therefore, the subject steam generators are not affected facilities and subpart Dc does not apply.

District Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour, which is dark or darker than Ringlemann 1 or equivalent to 20% opacity.

Gas-fired equipment typically operates without visible emissions. Compliance with District Rule 4101 is expected.

Rule 4102 Nuisance

Rule 4102 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.

District Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot.

F-Factor for NG:	8,578 dscf/MMBtu at 60 °F
PM ₁₀ Emission Factor:	0.0076 lb-PM ₁₀ /MMBtu
Percentage of PM as PM ₁₀ in Exhaust:	100%
Exhaust Oxygen (O ₂) Concentration:	3%

$$\text{Excess Air Correction to F Factor} = \frac{20.9}{(20.9 - 3)} = 1.17$$

$$GL = \left(\frac{0.0076 \text{ lb-PM}}{\text{MMBtu}} \times \frac{7,000 \text{ grain}}{\text{lb-PM}} \right) / \left(\frac{8,578 \text{ ft}^3}{\text{MMBtu}} \times 1.17 \right)$$

$$GL = 0.0053 \text{ grain/dscf} < 0.1 \text{ grain/dscf}$$

Therefore, compliance with District Rule 4201 requirements is expected and a permit condition will be listed on the permit as follows:

- *Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rule 4201 and District Rule 4301, 5.1 and 5.2.3]*

District Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1 μm in diameter.

The maximum emission rates in lb/hr for each of the steam generator in this project are as follows:

District Rule 4301 Limits (lb/hr)			
Unit	NO₂	Total PM	SO₂
Each steam generator	0.7	0.6	0.2
Rule Limit (lb/hr)	140	10	200

The above table indicates compliance with the maximum lb/hr emissions in this rule; therefore, continued compliance is expected.

District Rule 4305 Boilers, Steam Generators and Process Heaters – Phase 2

The proposed steam generators are natural gas-fired with a maximum heat input of 85.0 MMBtu/hr each. Pursuant to Section 2.0 of District Rule 4305, the units are subject to District Rule 4305, *Boilers, Steam Generators and Process Heaters – Phase 2*.

In addition, the units are also subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3* and Rule 3420, *Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr*.

Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4305 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4305.

District Rule 4306 Boilers, Steam Generators and Process Heaters – Phase 3

The proposed steam generators are natural gas-fired with a maximum heat input of 85.0 MMBtu/hr each. Pursuant to Section 2.0 of District Rule 4306, the units are subject to District Rule 4306, *Boilers, Steam Generators and Process Heaters – Phase 3*.

In addition, the units are also subject to District Rule 4320, *Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr*

Since emissions limits of District Rule 4320 and all other requirements are equivalent or more stringent than District Rule 4306 requirements, compliance with District Rule 4320 requirements will satisfy requirements of District Rule 4306.

District Rule 4320 Advanced Emission Reduction Options for Boilers, Steam Generators and Process Heaters Greater than 5 MMBtu/hr

This rule limits NOx, CO, SO2 and PM10 emissions from boilers, steam generators and process heaters rated greater than 5 MMBtu/hr. This rule also provides a compliance option of payment of fees in proportion to the actual amount of NOx emitted over the previous year.

The units in this project are all rated at greater than 5 MMBtu/hr heat input and are subject to this rule.

Section 5.1 NOx Emission Limits

Section 5.1 states that an operator of a unit(s) subject to this rule shall comply with all applicable requirements of the rule and one of the following, on a unit-by-unit basis:

- 5.1.1 Operate the unit to comply with the emission limits specified in Sections 5.2 and 5.4; or
- 5.1.2 Pay an annual emissions fee to the District as specified in Section 5.3 and comply with the control requirements specified in Section 5.4; or
- 5.1.3 Comply with the applicable Low-use Unit requirements of Section 5.5.

Section 5.2.1 states that on and after the indicated Compliance Deadline, units shall not be operated in a manner which exceeds the applicable NOx limit specified in Table 1 of this rule, shown below. On and after October 1, 2008, units shall not be operated in a manner to which exceeds a carbon dioxide (CO) emissions limit of 400 ppmv.

Rule 4320 NOx Emission Limits			
C. Oilfield Steam Generators	NOx Limit	Authority to Construct	Compliance Deadline
2. Units with a total rated heat input >20 MMBtu/hr	a) Standard Schedule 7 ppmv or 0.008 b/MMBtu; or	July 1, 2009	July 1, 2010
	b) Staged Enhanced Schedule Initial Limit 9 ppmv or 0.011 lb/MMBtu; and	July 1, 2011	July 1, 2012
	Final Limit 5 ppmv or	January 1, 2013	January 1, 2014

	0.0062lb/MMBtu		
3. Units firing on less than 50% by volume, PUC quality gas	Staged Enhanced Schedule Initial Limit 12ppmv or 0.014 lb/MMBtu; and	July 1, 2010	July 1, 2011
	Final Limit 9 ppmv or 0.011 lb/MMBtu	January 1, 2013	January 1, 2014

For the subject steam generators, Aera is proposing to comply with Category C2 – standard schedule (7 ppmv).

- The proposed NOx emission factor is 7 ppmvd @ 3% O2 or (0.008 lb/MMBtu) .
- The proposed CO emission factor is 25 ppmvd @ 3% O2 or 0.0021 lb/MMBtu.

Compliance with the rule emission requirements is expected.

Section 5.2.4 applies to units firing on a combination of gaseous and liquid fuels. Aera is not proposing to fire on liquid fuels.

Section 5.4 Particulate Matter Control Requirements

Section 5.4.1 states that to limit particulate matter emissions, an operator shall comply with one of the options listed in the rule.

Section 5.4.1.1 provides option for the operator to comply with the rule by firing the unit exclusively on PUC-quality gas, commercial propane, butane, or liquefied petroleum gas, or a combination of such gases;

Section 5.4.1.2 provides option for the operator to comply with the rule by limiting the fuel sulfur content to no more than five (5) grains of total sulfur per hundred (100) standard cubic feet.

Section 5.4.1.3 provides option for the operator to comply with the rule by installing and properly operating an emissions control system that reduces SO2 emissions by at least 95% by weight; or limit exhaust SO2 to less than or equal to 9 ppmv corrected to 3 % O2.

The steam generators will be fired on PUC or FERC natural gas. Aera will have a fuel sulfur content limit of 0.75 gr S/100 scf. The ATCs will have conditions specifying these limits to ensure compliance with this section of the rule.

Section 5.5 Low-Use Unit

This section discusses the requirements of low-use units. Aera is not requesting low-use status; therefore, this section of the rule is not applicable to this project.

Section 5.6 Startup and Shutdown Provisions

Section 5.6 states that on and after the full compliance deadline specified in Section 5.0, the applicable emission limits of Sections 5.2, Table 1 and 5.5.2 shall not apply during start-up or shutdown provided an operator complies with the requirements specified in Sections 5.6.1 through 5.6.5.

Aera has requested startup and shutdown provisions for these steam generators, consistent with past District approvals. The following conditions will be placed on the permits:

- *Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320]*

Section 5.7 Monitoring Provisions

Section 5.7.1 requires that permit units subject to District Rule 4320, Section 5.2 shall either install and maintain an operational APCO approved Continuous Emission Monitoring System (CEMS) for NO_x, CO and O₂, or implement an APCO-approved alternate monitoring.

Aera has proposed to implement Alternate Monitoring Scheme A (pursuant to District Policy SSP-1105), which requires periodic monitoring of NO_x, CO, O₂. The following conditions are placed in the ATCs to ensure compliance with the requirements of this alternate monitoring plan:

- The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Y
- If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Y
- All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to

Operate. The NO_x, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Y

- The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Y
- All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Y

Section 5.7.6 requires monitoring SO_x emissions. The following condition are placed on the ATCs to be in compliance with this rule requirement:

- *PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320]*
- *If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320]*
- *When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320]*
- *If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320]*

Section 5.8 Compliance Determination

Section 5.8.1 requires that the operator of any unit have the option of complying with either the applicable heat input (lb/MMBtu), emission limits or the concentration (ppmv) emission limits specified in Section 5.2. The emission limits selected to demonstrate compliance shall be specified in the source test proposal pursuant to Rule 1081 (Source Sampling). Therefore, the following condition will be retained or listed on the ATCs as follows:

- *{2976} The source plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320]*

Section 5.8.2 requires that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0. Therefore, the following permit condition will be listed on the ATCs as follows:

- *{2972} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the Permit to Operate, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320]*
- *Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201]*

Section 5.8.4 requires that for emissions monitoring pursuant to Sections 5.7.1 and 6.3.1 using a portable NO_x analyzer as part of an APCO approved Alternate Emissions Monitoring System, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five (5) readings evenly spaced out over the 15-consecutive-minute period. Therefore, the following previously listed permit condition will be on the ATCs as follows:

- *{2937} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the permit-to-operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rules 4305, 4306 and 4320]*

Section 5.8.5 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, the arithmetic average of three (3) 30-consecutive-minute test runs shall apply. If two (2) of three (3) runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. Therefore, the following permit condition will be listed on the permit as follows:

- *{2980} For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320]*

Section 6.1 Recordkeeping

Section 6.1 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO and EPA upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule.

The condition on start-up and shutdown record keeping conditions shall be retained in the ATCs to ensure Aera's compliance with this section of the rule.

Section 6.2, Test Methods

Section 6.2 identifies test methods to be used when determining compliance with the rule. The following existing permit conditions will be included on the ATCs:

- {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
- The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas hhv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320]

Section 6.3, Compliance Testing

Section 6.3.1 requires that each unit subject to the requirements in Section 5.2 shall be source tested at least once every 12 months, except if two consecutive annual source tests demonstrate compliance, source testing may be performed every 36 months. If such a

source test demonstrates non-compliance, source testing shall revert to every 12 months. The following conditions will be included in the appropriate ATCs:

- *A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320]*
- *Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 2201 and 4320]*
- *{110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]*

Section 6.3.1.2 specifies tune-up requirements. Aera will use pre-approved Alternate Monitoring Scheme "A" or "H" using a portable analyzer. Therefore the tune-up requirements listed in Section 6.3.1.2 are not applicable. This section also requires, that during the 36-month source testing interval, the owner/operator shall monitor monthly the operational characteristics recommended by the unit manufacturer. Since the pre-approved alternate monitoring requires monthly monitoring of NO_x, CO and O₂ exhaust emission concentrations using a portable analyzer, the operational characteristics monitoring requirements is satisfied.

Conclusion

Conditions will be incorporated into the ATCs in order to ensure compliance with each section of this rule, see attached draft ATCs. Therefore, compliance with District Rule 4320 requirements is expected.

District Rule 4351 Boilers, Steam Generators and Process Heaters – Phase 1

This rule applies to boilers, steam generators, and process heaters at NO_x Major Sources that are not located west of Interstate 5 in Fresno, Kings, or Kern counties. The steam generators are located within the Heavy Oil Western stationary source. The units in this project are located west of I-5; therefore, the provisions of this rule do not apply.

District Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = \frac{n RT}{P}$$

With:

N = moles SO₂

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

R (Universal Gas Constant) = $\frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$

$$\frac{0.0021 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,578 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 1.45 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 1.45 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)}$$

Therefore, compliance with District Rule 4801 requirements is expected.

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)

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 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.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) are exempt from Best Available Control Technology (BACT) requirements. Furthermore, the District conducted a Risk Management Review and concludes that potential health impacts are less than significant.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful COC Noticing period, issue ATCs S-1547-1173-1 through '1180-1 subject to the permit conditions on the attached draft ATCs in **Appendix C**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
All units	3020-02-H	85 MMBtu/hr	\$1,030.00 ea

Appendix A

Pre-Project ATCs



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-1173-0

ISSUANCE DATE: 06/02/2011

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

CONDITIONS

1. 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. 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]

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



DAVID WARNER, Director of Permit Services

S-1547-1173-0 : Jun 02 2011 7:56AM - GOUUGH : Joint Inspection Required with GOUUGH

7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through S-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through S-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emissions from the natural gas-fired unit shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
15. Any of units S-1547-1162 through S-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. Duration of refractory curing shall not exceed 30 hours per each occurrence. Permittee shall keep accurate records of refractory curing duration and make records readily available to the District upon request. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H2S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NOx or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NOx, CO, and O2 emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NOx, CO, and O2 analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NOx, CO and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010] Federally Enforceable Through Title V Permit
41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1:1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-1174-0

ISSUANCE DATE: 06/02/2011

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-UJLN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

CONDITIONS

1. 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. 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]

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

DAVID WARNER, Director of Permit Services
8-1547-1174-0: Jun 8 2011 7:58AM - GOUUGH - Joint Inspection Required with GOUUGH

7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3]
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through S-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through S-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emissions from the natural gas-fired unit shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
15. Any of units S-1547-1162 through S-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. Duration of refractory curing shall not exceed 30 hours per each occurrence. Permittee shall keep accurate records of refractory curing duration and make records readily available to the District upon request. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H2S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NOx or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NOx, CO, and O2 emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NOx, CO, and O2 analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NOx, CO and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010] Federally Enforceable Through Title V Permit
41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1.1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-1175-0

ISSUANCE DATE: 06/02/2011

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

CONDITIONS

1. 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. 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]

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

DAVID WARNER, Director of Permit Services
S-1175-0 - Jun 6 2011 7:55AM - GOU/SHD - Joint Inspection Required with GOU/HD

7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through S-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through S-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emissions from the natural gas-fired unit shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
15. Any of units S-1547-1162 through S-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. Duration of refractory curing shall not exceed 30 hours per each occurrence. Permittee shall keep accurate records of refractory curing duration and make records readily available to the District upon request. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H₂S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NOx, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NOx or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NOx, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NOx, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NOx, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NOx and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010] Federally Enforceable Through Title V Permit
41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1:1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-1176-0

ISSUANCE DATE: 06/02/2011

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

CONDITIONS

1. 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. 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]

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

DAVID WARNER, Director of Permit Services
S-1547-1176-0: Jun 6 2011 7:58AM - GOUGHD : Joint Inspection Required with GOUGHD

7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emissions from the natural gas-fired unit shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
15. Any of units S-1547-1162 through '-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. Duration of refractory curing shall not exceed 30 hours per each occurrence. Permittee shall keep accurate records of refractory curing duration and make records readily available to the District upon request. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H₂S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO_x, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
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AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-1177-0

ISSUANCE DATE: 06/02/2011

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN.ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

CONDITIONS

1. 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. 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
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CONDITIONS CONTINUE ON NEXT PAGE

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DAVID WARNER, Director of Permit Services
S-1547-1177-0; Jun 8 2011 7:56AM - GOUQHD : Joint Inspection Required with GOUQHD

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8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
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10. The total PM₁₀ emissions from Units S-1547-1162 through S-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emissions from the natural gas-fired unit shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
15. Any of units S-1547-1162 through S-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. Duration of refractory curing shall not exceed 30 hours per each occurrence. Permittee shall keep accurate records of refractory curing duration and make records readily available to the District upon request. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H2S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NOx or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NOx, CO, and O2 emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NOx, CO, and O2 analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NOx, CO and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010] Federally Enforceable Through Title V Permit
41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1:1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-1178-0

ISSUANCE DATE: 06/02/2011

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

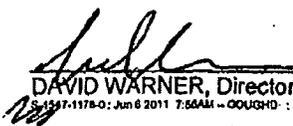
CONDITIONS

1. 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. 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]

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


DAVID WARNER, Director of Permit Services

7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through -1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through -1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emissions from the natural gas-fired unit shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
15. Any of units S-1547-1162 through -1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. Duration of refractory curing shall not exceed 30 hours per each occurrence. Permittee shall keep accurate records of refractory curing duration and make records readily available to the District upon request. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NOx (ppmv) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H2S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NOx or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NOx, CO, and O2 emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NOx, CO, and O2 analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320]
30. The permittee shall maintain records of: (1) the date and time of NOx, CO and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
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CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010] Federally Enforceable Through Title V Permit
41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1:1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]



San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-1179-0

ISSUANCE DATE: 06/02/2011

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

CONDITIONS

1. 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. 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5600 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

DAVID WARNER, Director of Permit Services
S-1547-1179-0: Jun 2 2011 7:58AM - GOUKHD : Joint inspection Required with GOUKHD

7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through S-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through S-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emissions from the natural gas-fired unit shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
15. Any of units S-1547-1162 through S-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. Duration of refractory curing shall not exceed 30 hours per each occurrence. Permittee shall keep accurate records of refractory curing duration and make records readily available to the District upon request. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H₂S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO_x, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
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41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
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43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1.1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
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CONDITIONS CONTINUE ON NEXT PAGE

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48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
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53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]



AUTHORITY TO CONSTRUCT

PERMIT NO: S-1547-1180-0

ISSUANCE DATE: 06/02/2011

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS

CONDITIONS

1. 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. 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]
6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]

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



DAVID WARNER, Director of Permit Services
S-1547-1180-0: Jun 02 2011 7:58AM - GOUGH : Joint Inspection Required with GOUGH

7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through S-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through S-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emissions from the natural gas-fired unit shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Emission rates during startup, shutdown and refractory curing shall not exceed: particulate matter - 10 pounds per hour, or 0.1 grains/dscf calculated to 12% CO₂; sulfur - 200 pounds of SO₂ per hour, or 2000 ppmv as SO₂, or 0.11 pounds sulfur (as S) per MMBtu on average-wide basis for all units in Rule 4406 plan; NO₂ - 140 pounds per hour or 0.14 pounds per MMBtu. [District Rules 4101, 4102, 4301, 4405, 4406 and 4801] Federally Enforceable Through Title V Permit
15. Any of units S-1547-1162 through S-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730 MMscf/year. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
18. Duration of refractory curing shall not exceed 30 hours per each occurrence. Permittee shall keep accurate records of refractory curing duration and make records readily available to the District upon request. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. Permittee shall maintain records of duration of each start-up and shutdown, and refractory curing, for a period of five years and make such records readily available for District inspection upon request. [District Rule 4320] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NOx (ppmy) - EPA Method 7E or ARB Method 100, NOx (lb/MMBtu) - EPA Method 19; CO (ppmv) - EPA Method 10 or ARB Method 100; Stack gas oxygen (O2) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SOx - EPA Method 6C or 8 or ARB Method 100; fuel gas sulfur as H2S content - EPA Method 11 or 15; and fuel hhv (MMBtu) - ASTM D 1826 or D 1945 in conjunction with ASTM D 3588. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NOx, CO, and O2 at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NOx or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NOx, CO, and O2 emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NOx, CO, and O2 analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NOx, CO and O2 measurements, (2) the O2 concentration in percent by volume and the measured NOx and CO concentrations corrected to 3% O2, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010] Federally Enforceable Through Title V Permit
41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1.1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]

Appendix B

Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1547-1173-1

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: REISSUE OF S-1547-1173-0 INCLUDING COMMISSIONING PERIOD AND AUTHORIZE ADDITIONAL SOX TEST METHODS

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 Rule 2201] 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]

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-1547-1173-1 : Mar 7 2012 4:29PM -- TORID : Joint Inspection NOT Required

6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]
7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through '1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through '1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emission rates, except during startup, shutdown, commissioning, and refractory curing shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Any of units S-1547-1162 through '1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The maximum duration of commissioning, i.e. adjustment and tuning of the unit for proper operation and compliance with permitted emissions limits, shall not exceed 60 days from initial startup. [District Rule 2080] Federally Enforceable Through Title V Permit
18. Total duration of startup, shutdown, commissioning, refractory curing operation shall not exceed 300 hours per calendar year. Permittee shall maintain records of the date and duration of each activity and the total hours of such operation for the calendar year. [District Rule 2080] Federally Enforceable Through Title V Permit
19. Permittee shall submit written notification to the District prior to commissioning activities. Such notification shall include anticipated beginning and ending dates of such activities. [District Rule 2080] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas hlv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO_x, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
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41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1.1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

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CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]
57. This ATC cancels and replaces ATC S-1547-1173-0 [District Rule 2080]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1547-1174-1

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: REISSUE OF S-1547-1174-0 INCLUDING COMMISSIONING PERIOD AND AUTHORIZE ADDITIONAL SOX TEST METHODS

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 Rule 2201] 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]

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-1547-1174-1 : Mar 7 2012 4:29PM -- TORID : Joint Inspection NOT Required

6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]
7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through S-1547-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emission rates, except during startup, shutdown, commissioning, and refractory curing shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Any of units S-1547-1162 through S-1547-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The maximum duration of commissioning, i.e. adjustment and tuning of the unit for proper operation and compliance with permitted emissions limits, shall not exceed 60 days from initial startup. [District Rule 2080] Federally Enforceable Through Title V Permit
18. Total duration of startup, shutdown, commissioning, refractory curing operation shall not exceed 300 hours per calendar year. Permittee shall maintain records of the date and duration of each activity and the total hours of such operation for the calendar year. [District Rule 2080] Federally Enforceable Through Title V Permit
19. Permittee shall submit written notification to the District prior to commissioning activities. Such notification shall include anticipated beginning and ending dates of such activities. [District Rule 2080] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas h_hv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO_x, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010] Federally Enforceable Through Title V Permit
41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1.1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

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CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]
57. This ATC cancels and replaces ATC S-1547-1174-0. [District Rule 2080]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1547-1175-1

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: REISSUE OF S-1547-1175-0 INCLUDING COMMISSIONING PERIOD AND AUTHORIZE ADDITIONAL SOX TEST METHODS

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 Rule 2201] 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]

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

DAVID WARNER, Director of Permit Services

S-1547-1175-1 : Mar 7 2012 4:29PM -- TORID : Joint Inspection NOT Required

6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]
7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through '1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through '1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emission rates, except during startup, shutdown, commissioning, and refractory curing shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Any of units S-1547-1162 through '1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The maximum duration of commissioning, i.e. adjustment and tuning of the unit for proper operation and compliance with permitted emissions limits, shall not exceed 60 days from initial startup. [District Rule 2080] Federally Enforceable Through Title V Permit
18. Total duration of startup, shutdown, commissioning, refractory curing operation shall not exceed 300 hours per calendar year. Permittee shall maintain records of the date and duration of each activity and the total hours of such operation for the calendar year. [District Rule 2080] Federally Enforceable Through Title V Permit
19. Permittee shall submit written notification to the District prior to commissioning activities. Such notification shall include anticipated beginning and ending dates of such activities. [District Rule 2080] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas h_hv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO_x, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

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33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010] Federally Enforceable Through Title V Permit
41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1.1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

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CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]
57. This ATC cancels and replaces ATC S-1547-1175-0. [District Rule 2080]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1547-1176-1

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: REISSUE OF S-1547-1176-0 INCLUDING COMMISSIONING PERIOD AND AUTHORIZE ADDITIONAL SOX TEST METHODS

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 Rule 2201] 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]

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

DAVID WARNER, Director of Permit Services

S-1547-1176-1 : Mar 7 2012 4:29PM - TORID : Joint Inspection NOT Required

6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]
7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emission rates, except during startup, shutdown, commissioning, and refractory curing shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Any of units S-1547-1162 through '-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The maximum duration of commissioning, i.e. adjustment and tuning of the unit for proper operation and compliance with permitted emissions limits, shall not exceed 60 days from initial startup. [District Rule 2080] Federally Enforceable Through Title V Permit
18. Total duration of startup, shutdown, commissioning, refractory curing operation shall not exceed 300 hours per calendar year. Permittee shall maintain records of the date and duration of each activity and the total hours of such operation for the calendar year. [District Rule 2080] Federally Enforceable Through Title V Permit
19. Permittee shall submit written notification to the District prior to commissioning activities. Such notification shall include anticipated beginning and ending dates of such activities. [District Rule 2080] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas hhv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO_x, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
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33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
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38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
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46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]
57. This ATC cancels and replaces ATC S-1547-1176-0. [District Rule 2080]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1547-1177-1

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: REISSUE OF S-1547-1177-0 INCLUDING COMMISSIONING PERIOD AND AUTHORIZE ADDITIONAL SOX TEST METHODS

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 Rule 2201] 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]

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

DAVID WARNER, Director of Permit Services

S-1547-1177-1 : Mar 7 2012 4:29PM - TORID : Joint Inspection NOT Required

6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]
7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emission rates, except during startup, shutdown, commissioning, and refractory curing shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Any of units S-1547-1162 through '-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The maximum duration of commissioning, i.e. adjustment and tuning of the unit for proper operation and compliance with permitted emissions limits, shall not exceed 60 days from initial startup. [District Rule 2080] Federally Enforceable Through Title V Permit
18. Total duration of startup, shutdown, commissioning, refractory curing operation shall not exceed 300 hours per calendar year. Permittee shall maintain records of the date and duration of each activity and the total hours of such operation for the calendar year. [District Rule 2080] Federally Enforceable Through Title V Permit
19. Permittee shall submit written notification to the District prior to commissioning activities. Such notification shall include anticipated beginning and ending dates of such activities. [District Rule 2080] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas h_hv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO_x, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010] Federally Enforceable Through Title V Permit
41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1.1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]
57. This ATC cancels and replaces ATC S-1547-1177-0. [District Rule 2080]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1547-1178-1

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: REISSUE OF S-1547-1178-0 INCLUDING COMMISSIONING PERIOD AND AUTHORIZE ADDITIONAL SOX TEST METHODS

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 Rule 2201] 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director APCO

DAVID WARNER, Director of Permit Services

S-1547-1178-1 : Mar 7 2012 4:30PM -- TORID : Joint Inspection NOT Required

6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]
7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through S-1547-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emission rates, except during startup, shutdown, commissioning, and refractory curing shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Any of units S-1547-1162 through S-1547-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The maximum duration of commissioning, i.e. adjustment and tuning of the unit for proper operation and compliance with permitted emissions limits, shall not exceed 60 days from initial startup. [District Rule 2080] Federally Enforceable Through Title V Permit
18. Total duration of startup, shutdown, commissioning, refractory curing operation shall not exceed 300 hours per calendar year. Permittee shall maintain records of the date and duration of each activity and the total hours of such operation for the calendar year. [District Rule 2080] Federally Enforceable Through Title V Permit
19. Permittee shall submit written notification to the District prior to commissioning activities. Such notification shall include anticipated beginning and ending dates of such activities. [District Rule 2080] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas h_hv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO_x, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

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33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010] Federally Enforceable Through Title V Permit
41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1.1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]
57. This ATC cancels and replaces ATC S-1547-1178-0. [District Rule 2080]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1547-1179-1

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: REISSUE OF S-1547-1179-0 INCLUDING COMMISSIONING PERIOD AND AUTHORIZE ADDITIONAL SOX TEST METHODS

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 Rule 2201] 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]

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

DAVID WARNER, Director of Permit Services

S-1547-1179-1 : Mar 7 2012 4:30PM -- TORID : Joint Inspection NOT Required

6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]
7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emission rates, except during startup, shutdown, commissioning, and refractory curing shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Any of units S-1547-1162 through '-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The maximum duration of commissioning, i.e. adjustment and tuning of the unit for proper operation and compliance with permitted emissions limits, shall not exceed 60 days from initial startup. [District Rule 2080] Federally Enforceable Through Title V Permit
18. Total duration of startup, shutdown, commissioning, refractory curing operation shall not exceed 300 hours per calendar year. Permittee shall maintain records of the date and duration of each activity and the total hours of such operation for the calendar year. [District Rule 2080] Federally Enforceable Through Title V Permit
19. Permittee shall submit written notification to the District prior to commissioning activities. Such notification shall include anticipated beginning and ending dates of such activities. [District Rule 2080] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

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24. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas h_hv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
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26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO_x, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
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34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
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50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
52. In the event that paleontological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified paleontologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
53. In the event that human remains are discovered during construction of the Project, all work within 100 feet shall be ceased and the discovery will immediately be reported to the County Coroner. If the remains are determined to be Native American in origin, the County Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of the determination. The NAHC will solicit those persons it believe to be the nearest descendants of the remains for recommendations. Aera shall, in consultation with the identified descendants of the remains and/or NAHC, will identify the appropriate measures for the treatment or disposition of the remains. [Public Resources Code 21000-21177: California Environmental Quality Act]
54. Prior to the start of construction activities, Aera shall provide the District with documentation demonstrating that maps identifying all wells in the vicinity of the sites have been submitted to DOGGR for compliance with DOGGR's "Well Review Program". [Public Resources Code 21000-21177: California Environmental Quality Act]
55. During construction activities, if unknown, unrecorded or abandoned wells are discovered, or if any wells are damaged, Aera shall immediately notify the DOGGR. [Public Resources Code 21000-21177: California Environmental Quality Act]
56. Any wells discovered or exposed during construction activities will be tested for flammable vapors. [Public Resources Code 21000-21177: California Environmental Quality Act]
57. This ATC cancels and replaces ATC S-1547-1179-0. [District Rule 2080]

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-1547-1180-1

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:

MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH COEN MODEL QLN-ULN ULTRA LOW NOX BURNER, OR NORTH AMERICAN MODEL MAGNA FLAME LEX ULTRA LOW NOX BURNER, OR ADVANCED COMBUSTION TECHNOLOGY GIDEON ULTRA LOW NOX BURNER OR EQUIVALENT, APPROVED TO OPERATE AT VARIOUS SPECIFIED LOCATIONS: REISSUE OF S-1547-1180-0 INCLUDING COMMISSIONING PERIOD AND AUTHORIZE ADDITIONAL SOX TEST METHODS

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 Rule 2201] 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. This unit is approved for operation at the following locations: SW/4 of Section 20, NE/4 & SE/4 of Section 29, and NW/4, SW/4 & SE/4 of Section 28, T28S, R21E. [District Rule 4102]
4. Permittee shall notify the District Compliance Division of each location at which the unit is located in excess of 24 hours. Such notification shall be made no later than 48 hours after starting operation at the location. [District Rule 1070] Federally Enforceable Through Title V Permit
5. This unit shall be equipped with a convection section with at least 235 square feet of heat transfer surface area per MMBtu/hr of maximum rated heat input (verified by manufacturer). [CEQA]

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

DAVID WARNER, Director of Permit Services

S-1547-1180-1 : Mar 7 2012 4:30PM - TORID : Joint Inspection NOT Required

6. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]
7. Particulate matter emissions shall not exceed 0.1 grain/dscf at operating conditions, nor 0.1 grain/dscf calculated to 12% CO₂, nor 10 lb/hr. [District Rules 4201, 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]
9. The total PM₁₀ emissions from Units S-1547-1162-0 through '-1180-0 shall not exceed 124 lb/day at location #2038 in the SW/4 of Section 20, T28S, R21E. [District Rule 4102]
10. The total PM₁₀ emissions from Units S-1547-1162 through '-1180-0 shall not exceed 168 lb/day at location #2972 in the SE/4 of Section 29, T28S, R21E. [District Rule 4102]
11. Permittee shall maintain records of daily PM₁₀ emissions from Units S-1547-1162-0 through S-1547-1180-0 at locations #2038 and #2972. [District Rule 4102]
12. The unit shall only be fired on natural gas with sulfur content not to exceed 0.75 gr-S/100 scf. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Emission rates, except during startup, shutdown, commissioning, and refractory curing shall not exceed any of the following limits: NO_x: 7 ppmvd @ 3% O₂ or 0.008 lb-NO_x/MMBtu; PM₁₀: 0.0076 lb-PM₁₀/MMBtu; CO: 25 ppmvd @ 3% O₂ or 0.0185 lb-CO/MMBtu or VOC: 0.003 lb-VOC/MMBtu. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
14. Any of units S-1547-1162 through '-1180 may be installed provided that permitted annual emissions do not exceed any of the following limits: NO_x: 49,990 lb/yr; SO_x: 17,210 lb/yr; PM₁₀: 62,282 lb/yr; CO: 151,608 lb/yr or VOC: 24,585 lb/yr, consistent with the quantity of ERCs identified in this project. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Annual quantity of natural gas fuel burned in this steam generator shall not exceed 730,000 MMBTU/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. The maximum duration of commissioning, i.e. adjustment and tuning of the unit for proper operation and compliance with permitted emissions limits, shall not exceed 60 days from initial startup. [District Rule 2080] Federally Enforceable Through Title V Permit
18. Total duration of startup, shutdown, commissioning, refractory curing operation shall not exceed 300 hours per calendar year. Permittee shall maintain records of the date and duration of each activity and the total hours of such operation for the calendar year. [District Rule 2080] Federally Enforceable Through Title V Permit
19. Permittee shall submit written notification to the District prior to commissioning activities. Such notification shall include anticipated beginning and ending dates of such activities. [District Rule 2080] Federally Enforceable Through Title V Permit
20. A source test to demonstrate compliance with NO_x and CO emission limits shall be performed within 60 days of startup of this unit. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
21. Source testing to measure natural gas-combustion NO_x and CO emissions from this unit shall be conducted at least once every twelve (12) months (no more than 30 days before or after the required annual source test date). After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months (no more than 30 days before or after the required 36-month source test date). If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
24. The following test methods shall be used: NO_x (ppmv) - EPA Method 7E or ARB Method 100, NO_x (lb/MMBtu) - EPA Method 19, CO (ppmv) - EPA Method 10 or 10B or ARB Method 100, stack gas oxygen (O₂) - EPA Method 3 or 3A or ARB Method 100; stack gas velocities - EPA Method 2; Stack gas moisture content - EPA Method 4; SO_x (lb/MMBtu) - ARB Method 8 or 100 or EPA Method 6, 6B, 6C or 8 or fuel gas sulfur content analysis and EPA Method 19, fuel gas sulfur content - EPA Method 11 or 15, ASTM D1072, D4468, D3246, D4084 or double GC for H₂S and mercaptans performed in laboratory, fuel gas h_hv -ASTM D1826 or D1945 in conjunction with ASTM D3588. [District Rules 1081, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
25. The source test plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The permittee shall monitor and record the stack concentration of NO_x, CO, and O₂ at least once every month (in which a source test is not performed) using a portable analyzer that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rules 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
28. If the NO_x or CO concentrations corrected to 3%, as measured by the portable analyzer, exceed the applicable emission limit, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
29. All NO_x, CO, and O₂ emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The NO_x, CO, and O₂ analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute sample period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive minute period. [District Rules 4102, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
30. The permittee shall maintain records of: (1) the date and time of NO_x, CO and O₂ measurements, (2) the O₂ concentration in percent by volume and the measured NO_x and CO concentrations corrected to 3% O₂, (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
31. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Unless otherwise specified in the PTO, no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4320. For the purposes of permittee-performed alternate monitoring, emissions measurements may be performed at any time after the unit reaches conditions representative of normal operation. [District Rules 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
32. Shorter time periods for demonstration of compliance after startup or re-ignition may be approved by the APCO by submittal of appropriate technical justification upon implementation of this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

33. PUC quality natural gas is any gaseous fuel where the sulfur content is no more than one-fourth (0.25) grain of hydrogen sulfide per one hundred (100) standard cubic feet, no more than five (5) grains of total sulfur per one hundred (100) standard cubic feet, and at least 80% methane by volume. [District Rule 4320] Federally Enforceable Through Title V Permit
34. If the steam generator is not fired on PUC-regulated natural gas and compliance is achieved through fuel sulfur content limitations, then the sulfur content of the fuel shall be determined by testing sulfur content at a location after all fuel sources are combined prior to incineration, or by performing mass balance calculations based on monitoring the sulfur content and volume of each fuel source. The sulfur content of the fuel shall be determined using the test methods referenced in this permit. [District Rule 4320] Federally Enforceable Through Title V Permit
35. When complying with sulfur emission limits by fuel analysis or by a combination of source testing and fuel analysis, permittee shall demonstrate compliance at least annually. [District Rule 4320] Federally Enforceable Through Title V Permit
36. If the unit is fired on PUC-regulated natural gas, valid purchase contracts, supplier certifications, tariff sheets, or transportation contracts may be used to satisfy the fuel sulfur content analysis, provided they establish the fuel sulfur concentration and higher heating value. [District Rule 4320] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
38. Prior to operating under this Authority to Construct, permittee shall surrender emission reduction credits for the following quantities of emissions: NOx: 1,460 lb/quarter; SOx: 383 lb/quarter; PM10: 1,387 lb/quarter and VOC: 548 lb/quarter. Offset shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 9/21/2006). [District Rule 2201] Federally Enforceable Through Title V Permit
39. ERC Certificate Numbers S-257-2, S-0135-2, S-0133-2, S-1821-2, S-40130321-2, S-784-2, S-796-2, S-2958-2, S-2395-1, S-2010-5, S-1825-5, and S-1337-5 (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201] Federally Enforceable Through Title V Permit
40. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternative equipment is equivalent to the authorized equipment. [District Rule 2010] Federally Enforceable Through Title V Permit
41. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters. [District Rule 2010] Federally Enforceable Through Title V Permit
42. Aera will surrender ERCs sufficient to fully offset operational emissions as required by District NSR requirements. [Public Resources Code 21000-21177: California Environmental Quality Act]
43. A qualified biologist will conduct a pre-construction survey for sensitive species within 30 days of the onset of ground disturbance. If sensitive species or their nests/dens are detected, the appropriate standardized avoidance measures will be implemented to preclude take of the species. If standardized avoidance measures cannot be achieved, Aera will consult with the CDFG and USFWS to develop alternative compliance measures. [Public Resources Code 21000-21177: California Environmental Quality Act]
44. Impacts to endangered species habitat as identified in pre-construction surveys will be mitigated at the Coles Levee Ecological Preserve at a ratio of 1.1:1. [Public Resources Code 21000-21177: California Environmental Quality Act]
45. Prior to construction, Aera will conduct a sensitive species education program (tailgate briefing) for all Project personnel. Topics to be discussed during the briefing shall include: occurrence and distribution of sensitive species in the project area, take avoidance measures being implemented during the Project, reporting requirements if incidental take occurs, and applicable definitions and prohibitions under the Endangered Species Act. [Public Resources Code 21000-21177: California Environmental Quality Act]

CONDITIONS CONTINUE ON NEXT PAGE

46. During construction, a biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]
47. During construction, pets are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
48. During construction, firearms are prohibited on the construction site. [Public Resources Code 21000-21177: California Environmental Quality Act]
49. During construction, all food-related trash, such as wrappers, cans, bottles, bags, and food scraps will be disposed of daily in containers with secure covers and regularly removed from project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]
50. During construction, USFWS and CDFG will be notified immediately in the event that the Project avoidance measures fail and there is a take of a threatened or endangered species. [Public Resources Code 21000-21177: California Environmental Quality Act]
51. In the event that archaeological resources are discovered during ground-disturbing activities associated with construction of the proposed Project, all work within 100 feet of the find shall cease. Aera will notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. Aera shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and other appropriate agencies and individuals. Work may resume on the Project site once the evaluation of the find is complete by the qualified archaeologist. [Public Resources Code 21000-21177: California Environmental Quality Act]
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