San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

AUG 02 2012

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

Re: **Proposed Authority to Construct / Certificate of Conformity (Minor Mod)**
District Facility # S-1372
Project # 1122240

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authority to Construct for Plains Exploration & Production Company, located at the Hopkins Lease in the South Belridge Field, within the SE/4 of Section 10, Township 29S, Range 21E in PXP's Heavy Oil Western stationary source, which has been issued a Title V permit. Plains Exploration & Production Company is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Plains Exploration & Production Company requests authorization for allowances and provisions for certain defined activities that are required as part of the "initial commissioning period" for a steam generator.

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed Authority to Construct # S-1372-411-1 with Certificate of Conformity. After demonstrating compliance with the Authority 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.

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

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

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

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AUG 02 2012

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

Enclosures
cc: David Torii, Permit Services

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

AUG 02 2012

Ken Bork
Plains Exploration & Production Company
1200 Discovery Drive, Suite 500
Bakersfield, CA 93309

Re: Proposed Authority to Construct / Certificate of Conformity (Minor Mod)
District Facility # S-1372
Project # 1122240

Dear Mr. Bork:

Enclosed for your review is the District's analysis of your application for Authority 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. Plains Exploration & Production Company requests authorization for allowances and provisions for certain defined activities that are required as part of the "initial commissioning period" for a steam generator.

After addressing any EPA comments made during the 45-day comment period, the Authority to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority 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
cc: David Torii, Permit Services

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

Facility Name:	Plains Exploration & Production Company
Mailing Address:	1200 Discovery Drive, Suite 500 Bakersfield, CA 93309
Contact Person:	Kenneth Bork
Telephone:	(661) 395-5458
Fax:	(661) 395-5298
E-Mail:	kbork@pxp.com
Application #(s):	S-1372-411-1
Project #:	1122240
Deemed Complete:	7/5/12

Engineer:	David Torii
Lead Engineer:	Rich Karrs

RWK
7-31-12

I. Proposal

In Project S1114818, Plains Exploration & Production Company (PXP) received an ATC S-1372-411-0 for an 85 MMBtu/hr natural gas fired steam generator. This current project is evaluating PXP's request to authorize allowances and provisions for certain defined activities that are required as part of the "initial commissioning period" for the subject steam generator.

The specific activities that are required as part of the initial commissioning period are: refractory material curing, procedures required to safety check control valves, fans/blowers, shutoffs, and other instrumentation, and the adjustments to the burner, FGR and other emission control systems that are required to achieve the unit's steady state emissions limits. During the initial commissioning period, PXP has requested that the steam generator not be held to any currently authorized steady state emission limit, and that no specific alternate emissions limits be established for the initial commissioning period. The initial commissioning period is a one-time event that is expected to require no more than 300 total hours of actual burner operation to complete.

Periodic refractory material curing, as an activity separate from the initial commissioning period, is also being approved. Refractory material deteriorates and must be periodically replaced and may also require replacement after a major maintenance activity on the steam generator. Curing of the material is required after every replacement.

This application review will be limited to evaluating compliance with New Source Review (Rule 2201) and prohibitory rule requirements during the initial commissioning and refractory curing periods.

PXP received their Title V Permit on 6/30/02. 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. PXP must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (4/21/11)
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 equipment will be located at the Hopkins Lease in the South Belridge Field, within the SE/4 of Section 10, Township 29S, Range 21E in PXP's Heavy Oil Western stationary source. The equipment is 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.

IV. Process Description

The initial commission period is a one-time group of tuning and adjustment procedures that is necessary for all newly constructed steam generators. It begins at first firing and ends with the

unit having demonstrated the contracted-for performance and emissions specifications. This period is not expected to exceed 300 hours of actual burner operation.

Refractory curing period is the time required to gradually increase the firing rate and internal temperature of a unit to thermally temper and set the optimal properties of new refractory material. It is not expected to exceed 30 hours total of actual burner operation per occurrence.

V. Equipment Listing

Pre-Project Equipment Description:

ATC S-1372-411-0 (see ATC in Appendix A)

85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME G-LE ULTRA LOW NOX BURNER AND FLUE GAS RECIRCULATION (GENERATOR #68)

Proposed Modification:

S-1372-411-1: MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME G-LE ULTRA LOW NOX BURNER AND FLUE GAS RECIRCULATION (GENERATOR #68): REISSUE OF S-1372-411-0 WITH AUTHORIZATION FOR AN INITIAL COMMISSIONING PERIOD AND PERIODIC REFRACTORY MATERIAL CURING

Post Project Equipment Description:

S-1372-411-1: 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME G-LE ULTRA LOW NOX BURNER AND FLUE GAS RECIRCULATION (GENERATOR #68)

VI. Emission Control Technology Evaluation

The three principle activities undertaken during the initial commissioning of a steam generator; refractory material curing, safety checking and emission performance tuning, are unique and have been evaluated individually.

The curing of the refractory material is necessary to relieve thermal stress within the material itself. Curing the material is accomplished by running the unit at less than full capacity for a period of between 24 and 30 hours. During this period, the operator monitors and gradually increases the internal temperatures as recommended by the refractory material supplier. The steam generator is not equipped with a post combustion catalyst, but will recirculate exhaust gas (FGR) as part of it's normal (steady state) operation. During this curing procedure, the operator will add FGR as can be accommodated by the procedures for refractory material curing. The NOx emission levels at 50% firing with FGR are expected to be less than 30 ppmv based on prior hand held monitoring results for similarly sized and equipped units.

Safety checking of components and systems is necessary to assure safe operation of the unit. Safety checks are performed on fuel and steam system control and pressure relief valves, the air handling system and on the instrumentation and monitoring systems. During these checks, the unit is fired under various load conditions, and is intermittently shutdown between individual testing procedures. Performing the safety checks is expected to take up to 135 hours. Emissions levels during these periods will vary and are unknown.

Emissions performance tuning is the last activity performed as part on the initial commissioning period. Adjustments are made to the burner, the combustion fan, FGR system, and instrumentation and monitors to achieve the permitted steady state emissions levels. Emission levels of NOx and CO are monitored during this period and are expected to vary from a high of about 15 ppmv down to below the permitted limits. This activity is performed solely to achieve the required emissions levels and will be executed as expeditiously as possible. The operator will use the burner manufacturer recommendations along with FGR and combustion air systems to tune the unit and limit emissions. Performing the emissions performance tuning is expected to take up to 135 hours.

VII. General Calculations

A. Assumptions

- Emissions factors and limits during the initial commissioning period and periodic refractory material curing events will not be specified.
- Emissions levels will vary depending on the activity. Certain activities may require the unit to be stopped and restarted several times.
- Previously approved offset requirements will not be affected by the allowances for initial commissioning. The unit will be able to meet its annual emissions limits, as it will not be running for some significant period prior to the start of the initial commissioning period and the length of time of the initial commissioning period is limited to 300 hours of actual burner operation.
- The applicant and the District concur that emissions during initial commissioning will exceed 2.0 lb/day for all air contaminants, thus BACT for initial commissioning is required.

B. Emission Factors

- Emission factors are not required for this project

C. Calculations

- Emissions calculations are not possible as emissions factors and limits during initial commissioning have not been specified. Furthermore, specification of emissions factors and limits is not required, as the applicant and the District have agreed to the requirement for a top down BACT review, and it is expected that the unit will comply with currently approved offset requirements. Moreover, the subject steam generator went through the public notification process prior to its original approval.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

The District and applicant agree that BACT is required for all pollutants for operation during the initial commissioning.

2. BACT Guideline

There are no BACT guidelines available for steam generator commissioning activities.

3. Top-Down BACT Analysis

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see **Appendix B**), BACT has been satisfied with the following:

NO_X: Operation of the low NOx burner with FGR to the extent that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standards to minimize emissions

CO: Operation of the low NOx burner with FGR to the extent that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standards to minimize emissions

SOx: Utility Grade Natural Gas - achieved in practice

PM_{10}: Utility Grade Natural Gas - achieved in practice

VOC: Utility Grade Natural Gas - achieved in practice

B. Offsets

Offset requirements were previously addressed for the subject steam generator in Project S1114818 and the applicant's proposal was shown to satisfy NSR offset requirements. It has been shown in this current project that approving initial commissioning activities does not change the previously determined offset quantities; therefore, offset requirements have been satisfied for the current project approving initial commissioning activities.

C. Public Notification

1. Applicability

Public noticing was previously satisfied for the subject steam generator in project S1114818. Additional public noticing is not required for the amended project.

D. Daily Emission Limits (DELs)

The steam generator was subject to DELs for steady state operation for all pollutants. Specific DELs for the initial commissioning period have not been established.

E. Compliance Assurance

1. Source Testing

Sources testing will not be required during the initial commissioning period.

2. Monitoring

Monitoring will not be required during the initial commissioning period. The operator will monitor NOx and CO emission levels during the performance tuning of the burner and FGR system to confirm proper operation of this equipment.

3. Recordkeeping

The operator will keep record of each activity and it's duration during the initial commissioning period. Records will be made available upon request.

4. Reporting

Reporting is not required during the initial commissioning period.

F. Ambient Air Quality Analysis (AAQA)

The District conducted the required AAQA in Project S1114818. No further analysis is required.

G. Compliance Certification

A compliance certification is not required for this project.

H. Alternate Siting Analysis

An alternate siting analysis is not required for this project.

Rule 2520 Federally Mandated Operating Permits

As discussed above, this facility is a major source. Pursuant to Rule 2520 and as required by permit condition, the facility will have up to 12 months from the date of ATC issuance to either submit a Title V Application or comply with District Rule 2530 *Federally Enforceable Potential to Emit.*

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:
5. 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
6. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
7. 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
8. Do not seek to consolidate overlapping applicable requirements.

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

Rule 4001 New Source Performance Standards (NSPS)

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 generator has a rating of 85 MMBtu/hr and is 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

Rule 4102 Nuisance

California Health & Safety Code 41700 (Health Risk Assessment)

District Rule 4201 Particulate Matter Concentration

District Rule 4301 Fuel Burning Equipment

In project S1114818, compliance with the above listed rules was previously demonstrated for the subject steam generator in steady state service. Compliance is also expected during the initial commissioning activities described in this evaluation. During initial commissioning, the unit will fire exclusively on utility grade natural gas. Consequently, the unit is expected to meet visible emission and particulate matter concentration requirements as well as the hourly emission limits required by these rules. As there will be no increase in gas usage during initial commissioning beyond what was previously modeled for steady state operation, there will be no increase in toxic air contaminants and no need for a revised health risk evaluation.

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

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

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

Compliance with the above listed rules in expected during initial commissioning. NOx and CO emission are expected to fluctuate during commissioning activities. However, compliance is only determined during periods of steady state (normal) operation. Steady state operation begins after the conclusion initial commissioning activities.

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 generator is located west of I-5; therefore, the provisions of this rule do not apply.

District Rule 4801 Sulfur Compounds

As the steam generator will be fired on utility grade natural gas during initial commissioning activities, 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.

CEQA requirements were shown to be satisfied in the original approval of the subject steam generator. The current project to add provisions and allowances for initial commissioning is considered a very minor change to the original approval and does not impact that original determination that CEQA has been satisfied.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful COC Noticing period, issue ATC S-1372-411-1 subject to the permit conditions on the attached draft ATC in **Appendix C**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1372-411-1	3020-02-H	85 MMBtu/hr	$1,030.00 ea

Appendix A
Pre-Project ATC

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1372-411-0 **ISSUANCE DATE:** 05/14/2012

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY
MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: SE 10 **TOWNSHIP:** 29 S **RANGE:** 21 E

EQUIPMENT DESCRIPTION:
85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME G-LE ULTRA LOW NOX BURNER AND FLUE GAS RECIRCULATION (GENERATOR #68)

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 Rule 2201] 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 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]
4. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]
5. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
6. The steam generator exhaust stack shall be at least 25 feet high. [District Rule 4102]

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-1372-411-0 : Jul 12 2012 7:30AM – TORID : Joint Inspection NOT Required

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. 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 as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
9. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
10. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
11. Emission rates, except during startup and shutdown shall not exceed: NOx (as NOx): 7 ppmvd @ 3% O2. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
12. Emission rates shall not exceed any of the following: SOx:0.00285 lb/MMBtu; PM10: 0.0076 lb/MMBtu; CO: 50 ppmvd @ 3% O2; or VOC: 0.0055 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Emissions rate of NOx shall not exceed 20.6 lb/day nor 6344 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Permittee shall maintain records of duration of each start-up and shutdown 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
15. A source test to demonstrate compliance with NOx 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
16. Source testing to measure natural gas-combustion NOx 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, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
17. 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
18. 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 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit
19. 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 Rule 2201, 4305, 4306, 4320] Federally Enforceable Through Title V Permit
20. 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
21. 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
22. 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

CONDITIONS CONTINUE ON NEXT PAGE

23. 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

24. 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

25. 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

26. 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

27. 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

28. 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

29. 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

30. 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

31. 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

32. 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

CONDITIONS CONTINUE ON NEXT PAGE

33. 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

34. 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

35. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2379 lb, 2nd quarter - 2379 lb, 3rd quarter - 2379 lb, and fourth quarter - 2379 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

36. ERC Certificate Numbers N-866-2 (or a certificate split from this certificate) 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]

37. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

38. ERC Certificate Number N-924-1 (or a certificate split from this certificate) 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]

39. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 1676 lb, 2nd quarter - 1676 lb, 3rd quarter - 1676 lb, and fourth quarter - 1676 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

40. ERC Certificate Number N-1006-5 (or a certificate split from this certificate) 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]

41. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantities of emissions: 1st quarter - 796 lb, 2nd quarter - 796 lb, 3rd quarter - 796 lb, and fourth quarter - 796 lb. Offsets shall be provided at the applicable offset ratio specified in section 4.8 of Rule 2201 (as amended 4/21/11). [District Rule 2201]

42. ERC Certificate Number N-1006-5 (or a certificate split from this certificate) 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]

Appendix B
BACT Analysis

Top Down BACT Analysis

Commissioning Process Description

Steam generator initial commissioning activities are required to complete the installation of a new unit. Commissioning operations can be divided into three phases, consisting of: refractory material curing, safety checking and emission performance tuning, as explained below.

Safety testing is required by the National Fire Prevention Association to ensure that safety systems will operate properly in the event of a system upset. Safety checks take up to 135 hours to complete and are done with the steam generator firing at approximately one third of rated capacity and without FGR operating.

New refractory material must be cured over an extended period of time before the affected unit can be utilized for normal steam generating activities. For the curing process, the refractory material is progressively exposed to higher and higher temperatures over a period that ranges from as little as 8 hours to 30 hours, depending on the type and amount of refractory material installed. This is accomplished by firing the steam generator on progressively higher fuel rates during the curing process.

After a steam generator is safety tested and its refractory material cured it must be tuned to meets its NOx and CO emission limits. This can take up to 135 hours.

During these periods of initial commissioning, NOx emissions may reach 30 ppmv and CO 50 ppmv at 3% O2. Other criteria pollutants (SOx, PM10 and VOc) are expected to be emitted at the same levels during initial commissioning as they are during steady state operation.

Top Down BACT Analysis for NOx Emissions:

Step 1 - Identify All Possible Control Technologies

For steam generators of this class and category of source, the District has required units in steady state operation to meet achieved in practice BACT emissions level of 7 ppmv. A NOx limit at 5 ppmv level in steady state operation has been identified as a technologically feasible option, but to date has not been found to be cost effective and has not been required as BACT. These emissions levels have been achieved using ultra low NOx burner designs and/or SCR exhaust gas treatment.

As has previously been explained, given the operational flexibility required to complete initial commissioning activities, it is not practical or necessary to specify emissions limits.

The following have been identified as possible controls or work practice standards that may be employed to reduce emissions of NOx during initial commissioning:

1. SCR
2. Operation of the low NOx burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standards to minimize emissions

Step 2 - Eliminate Technologically Infeasible Options

All of the above are feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. SCR
2. Operation of the low NOx burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standards to minimize emissions

Step 4 - Eliminate Technologically Infeasible Options

Both options are feasible.

Step 4 - Cost Effectiveness Analysis

In project S1114818, it was determined that the use of SCR was not cost effective in steady state operation. Based on the high cost effectiveness of > $70,000/ton of NOx controlled, the short time frame allowed for initial commissioning activities and the small potential increases in NOx emissions that may occur during these activities, it can be concluded that the use of SCR for initial commissioning is likewise not cost effective.

Step 5 – Select BACT for NOx

1. Operation of the low NOx burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standards to minimize emissions

Top Down BACT Analysis for VOC Emissions:

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 3rd quarter 2010, identifies achieved in practice and technologically feasible BACT for Steam Generator $\geq$ 5 MMbtu/hr, at an oil field as follows:

1. Gaseous fuel - achieved in practice

Step 2 - Eliminate Technologically Infeasible Options

The above listed technology is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Gaseous fuel - achieved in practice

Step 4 - Cost Effectiveness Analysis

Only one control technology identified and this technology is achieved in practice, therefore, cost effectiveness analysis not necessary.

Step 5 - Select BACT for VOC

The use of gaseous fuel (natural gas) is selected as BACT for VOC emissions.

Top Down BACT Analysis for PM_{10} and SOx Emissions:

Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.2.1, 3rd quarter 2010, identifies achieved in practice and technologically feasible BACT for Steam Generator $\geq$ 5 MMbtu/hr, at an oil field as follows:

1. Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO2 at stack O2 - achieved in practice

Step 2 - Eliminate Technologically Infeasible Options

The above listed technology is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Natural gas, LPG, waste gas treated to remove 95% by weight of sulfur compounds or treated such that the sulfur content does not exceed 1 gr of sulfur compounds (as S) per 100 scf, or use of a continuously operating SO2 scrubber and either achieving 95% by weight control of sulfur compounds or achieving an emission rate of 30 ppmvd SO2 at stack O2 - achieved in practice

Step 4 - Cost Effectiveness Analysis

Only one control technology identified and this technology is achieved in practice, therefore, cost effectiveness analysis not necessary.

Step 5 - Select BACT for SOx and PM10

The use of natural gas as a primary fuel with a sulfur content not to exceed 0.75 gr-S/100 scf with no back up fuel is selected as BACT for SOx and PM_{10} emissions.

Top Down BACT Analysis for CO Emissions:

Step 1 - Identify all control technologies

For steam generators of this class and category of source, the District has required units in a steady state operation to meet an achieved in practice BACT emissions level of 50 ppmv. Units with low-NOx burners have consistently demonstrated CO emissions levels in steady state operation of low single digits.

CO emissions below 50 ppmv are expected, but cannot be absolutely assumed for all commissioning activities As has previously been explained, given the operational flexibility required to complete initial commissioning activities, it is not practical or necessary to specify emissions limits.

The following have been identified as possible controls or work practice standards that may be employed to reduce emissions of CO during initial commissioning:

1. Operation of the low-NOx burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standard to minimize emissions

Step 2 - Eliminate Technologically Infeasible Options

The above listed technology is technologically feasible.

Step 3 - Rank Remaining Control Technologies by Control Effectiveness

1. Operation of the low NOx burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standard to minimize emissions

Step 4 - Cost Effectiveness Analysis

Only one control technology has been identified and this technology is considered achieved in practice, therefore, cost effectiveness analysis not necessary.

Step 5 - Select BACT for CO

1. Operation of the low NOx burner with the maximum FGR that can be accommodated by the specific commissioning activity being undertaken, expeditious completion of commissioning activities and use of good work practice standard to minimize emissions

Appendix C
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: S-1372-411-1 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: PLAINS EXPLORATION & PRODUCTION COMPANY
MAILING ADDRESS: ATTN: KENNETH BORK
1200 DISCOVERY DRIVE, SUITE 500
BAKERSFIELD, CA 93309

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
CA

SECTION: SE 10 **TOWNSHIP:** 29 S **RANGE:** 21 E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 85 MMBTU/HR NATURAL GAS-FIRED STEAM GENERATOR WITH NORTH AMERICAN MODEL MAGNA FLAME G-LE ULTRA LOW NOX BURNER AND FLUE GAS RECIRCULATION (GENERATOR #68): REISSUE OF S-1372-411-0 WITH AUTHORIZATION FOR AN INITIAL COMMISSIONING PERIOD AND PERIODIC REFRACTORY MATERIAL CURING

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. The initial commissioning period is the time required to complete the necessary safety checks, curing of refractory material and the performance tuning of the burner and attendant systems to achieve compliance with the emission limits required by this permit. The commissioning period begins upon first firing of the unit and shall not extend beyond the first 300 hours of actual burner operation. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director / APCO

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DAVID WARNER, Director of Permit Services
S-1372-411-1 : Aug 1 2012 12:56PM -- TORID : Joint Inspection NOT Required

4. The refractory curing period is the time required to gradually increase the firing rate and internal temperature of a unit to thermally temper and set the optimal properties of new refractory material that has been installed as part of a unit's initial commissioning or has been replaced as part of a subsequent maintenance or repair procedure. The refractory curing period following the replacement of material as part of a maintenance or repair procedure shall not exceed 30 hours total of actual burner operation per occurrence. [District Rule 2201] Federally Enforceable Through Title V Permit
5. During the initial commissioning period and any refractory curing period, operator shall limit emissions to the extent possible by optimizing the performance of the low the NOx burner and flue gas recirculation system as can be accommodated by individual initial commissioning and refractory curing activities, by following good work practices and fuel conserving measures and by completing all work in an expeditious manner. Operator shall keep a record of the specific activities undertaken as part of the initial commissioning period and all refractory curing periods and the duration of each activity and shall make the records available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
6. 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]
7. This unit shall be equipped with variable frequency drive high efficiency electrical motors driving the blower and water pump. [CEQA]
8. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. The steam generator exhaust stack shall be at least 25 feet high. [District Rule 4102]
10. 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
11. 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 as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101] Federally Enforceable Through Title V Permit
12. The unit shall only be fired on PUC-quality natural gas. [District Rules 2201 and 4320] Federally Enforceable Through Title V Permit
13. Duration of start-up and shutdown shall not exceed 2 hours each per occurrence. [District Rules 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
14. Emission rates, except during startup, shutdown, initial commissioning and refractory curing, shall not exceed any of the following limits: NOx (as NOx): 7 ppmvd @ 3% O2, 20.6 lb-NOx/day nor CO: 50 ppmvd @ 3% O2. [District Rule 2201, 4305, 4306, and 4320] Federally Enforceable Through Title V Permit
15. Emission rates shall not exceed any of the following: SOx:0.00285 lb/MMBtu; PM10: 0.0076 lb/MMBtu or VOC: 0.0055 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Emissions rate of NOx shall not exceed 6344 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Permittee shall maintain records of duration of each start-up and shutdown 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
18. A source test to demonstrate compliance with NOx 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
19. Source testing to measure natural gas-combustion NOx 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, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

20. 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

21. 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 2201, 4305, 4306 and 4320] Federally Enforceable Through Title V Permit

22. 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 Rule 2201, 4305, 4306, 4320] Federally Enforceable Through Title V Permit

23. 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

24. 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

25. 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

26. 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

27. 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

28. 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

29. 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

30. 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

31. 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

32. 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

33. 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

34. 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

35. 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

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37. 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

38. Prior to operating equipment under this Authority to Construct, permittee shall surrender NOX emission reduction credits for the following quantity of emissions: 1st quarter - 2379 lb, 2nd quarter - 2379 lb, 3rd quarter - 2379 lb, and fourth quarter - 2379 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

39. ERC Certificate Numbers N-866-2 (or a certificate split from this certificate) 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]

40. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1536 lb, 2nd quarter - 1536 lb, 3rd quarter - 1536 lb, and fourth quarter - 1536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

41. ERC Certificate Number N-924-1 (or a certificate split from this certificate) 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]

42. Prior to operating equipment under this Authority to Construct, permittee shall surrender PM10 emission reduction credits for the following quantity of emissions: 1st quarter - 1676 lb, 2nd quarter - 1676 lb, 3rd quarter - 1676 lb, and fourth quarter - 1676 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]

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CONDITIONS CONTINUE ON NEXT PAGE

43. ERC Certificate Number N-1006-5 (or a certificate split from this certificate) 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]

44. Prior to operating equipment under this Authority to Construct, permittee shall surrender SOx emission reduction credits for the following quantities of emissions: 1st quarter - 796 lb, 2nd quarter - 796 lb, 3rd quarter - 796 lb, and fourth quarter - 796 lb. Offsets shall be provided at the applicable offset ratio specified in section 4.8 of Rule 2201 (as amended 4/21/11). [District Rule 2201]

45. ERC Certificate Number N-1006-5 (or a certificate split from this certificate) 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]

46. This ATC shall be implemented prior to or concurrently with ATC S-411-0. [District Rule 2080]

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