San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

APR 29 2013

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

Re: Final – Authority to Construct/Certificate of Conformity (Minor Mod)
Project # S-1124314

Dear Mr. Rios:

The Air Pollution Control Officer has issued an Authority to Construct (S-1751-3-30) with a Certificate of Conformity to Rio Bravo Jasmin. Rio Bravo Jasmin has proposed replacing existing startup gas burners and installing new gas burners and requested authorization to operate the boiler during non start-up and shutdown periods on a mixture of natural gas and solid fuel. This facility is located at 16608 Porterville Highway.

Enclosed are copies of the Authority to Construct and engineering evaluation with attachments. The application and proposal were sent to US EPA Region IX on March 1, 2013. All comments received have been addressed by the District. A summary of the comments and the District's response to each comment is included as an attachment to the engineering evaluation.

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

Sincerely,

David Warner
Director of Permit Services

Enclosures
ktr

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
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www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

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APR 29 2013

Mr. Steve Gross
Rio Bravo Jasmin
95 Enterprise, Suite 300
Aliso Viejo, CA 92656

Re: Final – Authority to Construct/Certificate of Conformity (Minor Mod)
Project # S-1124314

Dear Mr. Gross:

The Air Pollution Control Officer has issued an Authority to Construct (S-1751-3-30) with a Certificate of Conformity to Rio Bravo Jasmin. Rio Bravo Jasmin has proposed replacing existing startup gas burners and installing new gas burners and requested authorization to operate the boiler during non start-up and shutdown periods on a mixture of natural gas and solid fuel. This facility is located at 16608 Porterville Highway.

Enclosed is the Authority to Construct, invoice, and engineering evaluation with attachments. The application and proposal were sent to US EPA Region IX on March 1, 2013. All comments received have been addressed by the District. A summary of the comments and the District's response to each comment is included as an attachment to the engineering evaluation.

Prior to operating with modifications authorized by the Authority to Construct, you must submit an application to modify the Title V permit as an administrative amendment in accordance with District Rule 2520, Section 11.5.

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

Sincerely,

David Warner
Director of Permit Services

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AUTHORITY TO CONSTRUCT

PERMIT NO: S-1751-3-20 **ISSUANCE DATE:** 04/26/2013

LEGAL OWNER OR OPERATOR: RIO BRAVO JASMIN
MAILING ADDRESS: P. O. BOX 81077
BAKERSFIELD, CA 93380

LOCATION: 11258 PORTERVILLE HWY
BAKERSFIELD, CA 93308

SECTION: NE22 **TOWNSHIP:** 25S **RANGE:** 27E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 36 MW SOLID FUEL FIRED, CIRCULATING BED COMBUSTOR COGENERATION UNIT INCLUDING 389 MMBTU/HR COMBUSTOR WITH LOW-TEMPERATURE STAGED COMBUSTION, AMMONIA INJECTION, AND PULVERIZED LIMESTONE INJECTION - JASMIN FIELD: REPLACE EXISTING STARTUP GAS BURNERS WITH TWO 115 MMBTU/HR COEN LOW NOX GAS BURNERS, INSTALL TEN 18 MMBTU/HR COEN LOW NOX BED LANCE GAS BURNERS, AND AUTHORIZE COMBUSTION OF NATURAL GAS FOR FULL-TIME USE

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. Permittee shall comply in full with all applicable Rule 4001 requirements (New Source Performance Standards, 40 CFR, Part 60, Subpart Da). [District Rule 4001] Federally Enforceable Through Title V Permit
4. Fuel collecting conveyor, two fuel crushers, two bucket elevators, two boiler feed conveyors, fuel feed bin, fuel feeder, and limestone conveyor/feeder shall be totally enclosed and ventilated to fabric collector. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Operation shall be equipped with pneumatic limestone feed system. [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

DAVID WARNER, Director of Permit Services

S-1751-3-20 : Apr 26 2013 7:20AM -- RICKARDK : Joint Inspection NOT Required

6. Operation shall be equipped with primary and secondary combustion air blowers and air preheater with ash hopper. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Operation shall be equipped with fabric collector with ash hopper serving fuel/limestone handling equipment and combustor. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The main exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples using approved EPA test methods. [District Rule 1081, 3.0; and PSD SJ 85-07] Federally Enforceable Through Title V Permit
9. Combustor shall be fired only on coal, petroleum coke, PUC-quality natural gas, and/or biomass fuel. Propane or natural gas may be used as start-up fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Combustor shall not be fired solely on PUC quality natural gas except during startup, shutdown, and during upsets for flame stabilization. [District Rules 2201 and 4352] Federally Enforceable Through Title V Permit
11. Biomass introduced into the combustor shall not contain more than 2% by weight non-biomass material (plastics, metal, painted and preservative-treated wood, roofing material, fiberglass, etc.). [District Rule 4102]
12. At least once per quarter, operator shall collect a representative sample of the biomass material combusted and determine the weight percent of non-biomass material contained in that sample. 72-hour notice shall be given to the District prior to sampling. Prior to collecting the first quarterly sample, operator shall submit a sampling plan to the District's compliance division for approval and shall follow the approved plan for all subsequent sampling, unless a revised plan is submitted and approved. [District Rules 1081 and 4102] Federally Enforceable Through Title V Permit
13. "Biomass" means any organic material originating from plants including but not limited to products, by-products, residues and materials from agriculture, forestry, aquatic and related industries, such as agricultural, energy or feed crops, residues and wastes, orchard and vineyard prunings and removal, stone fruit pits, nut shells, cotton gin trash, corn stalks and stover, straw, seedhulls, sugarcane leavings and bagasse, aquatic plants and algae, cull logs, eucalyptus logs, poplars, willows, switchgrass, alfalfa, bark, lawn, yard and garden clippings, waste paper (unprinted), leaves, silvicultural residue, tree and brush pruning, sawdust, timber slash, mill scrap, wood and wood chips, and wood waste. Biomass does not include material containing sewage sludge or industrial, hazardous, radioactive, municipal solid waste, or any chemically treated wood or other material chemically treated or derived from fossil fuels. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
14. Wood waste includes clean, chipped wood products, plywood, wood products manufacturing wood materials, construction and demolition wood materials, wood boards with color coded ends, and wood pallets, crates and boxes. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
15. No more than 836,520 lb (on a dry basis) of coal or coke fuel per day of no more than 4.0% by weight sulfur shall be introduced into the combustor. Two (2) pounds of biomass fuel of no more than 4.0% by weight sulfur may be substituted for one (1) pound of coal or coke fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
16. No more than 836,520 lb (on a dry basis) of solid fuel per day of no more than 4.0% by weight sulfur shall be introduced into the combustor. [PSD SJ 85-07] Federally Enforceable Through Title V Permit
17. No more than 8.888 MMscf/day of natural gas shall be introduced into the combustor. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Limestone shall be capable of being directly injected into the combustor at a minimum of 0.042 lb limestone per lb of coal or coke introduced into the combustor, or 0.021 lb limestone per lb of biomass. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Peak temperature of combustor shall not exceed 1800 degrees F. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Unit shall be operated as staged-combustion device by introducing sub-stoichiometric amount of combustion air in primary combustion zone. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Ash shall be removed from combustion system only by means authorized by ash handling and loadout operation (Permit No. S-1751-5). [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. Fuel feed and combustion air supply shall be automatically shutdown whenever fabric collector is shutdown. [District Rule 2201] Federally Enforceable Through Title V Permit

23. Visible emissions shall not exceed 1/4 Ringelmann or equivalent 5% opacity at any time from fuel conveyors, crusher, feed bin, and feeder. [District Rule 2201] Federally Enforceable Through Title V Permit

24. All combustor exhaust gas shall pass through fabric collector prior to emission to atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

25. Ammonia injection system shall be capable of delivering at least 2.0 moles of NH3 for each mole of NOx. [District Rule 2201] Federally Enforceable Through Title V Permit

26. Soot-blowing shall not result in visible emissions of greater than Ringelmann 1 or equivalent 20% opacity, excluding uncombined water vapor, except for aggregate periods of less than 3 minutes in any one hour period. [District Rule 4101] Federally Enforceable Through Title V Permit

27. Start-up period is defined as the period of time, not exceeding 96 hours except during refractory curing when 192 hours are allowed, during which the combustor is heated to the operating temperature and pressure from a shutdown status. [District Rule 4352] Federally Enforceable Through Title V Permit

28. Shutdown period is defined as the period of time, not exceeding 12 hours, during which a unit is taken from operational to nonoperational status by allowing it to cool down from its operating temperature and pressure to an ambient temperature. [District Rule 4352] Federally Enforceable Through Title V Permit

29. "Non-operational (shutdown) status" is defined as a period when no combustion is occurring, and thus no combustion emissions are being generated or emitted, even though there is residual heat in the boiler. During "shutdown" status the unit shall be considered "boiler off-line" and no emission limits shall apply. "Shutdown" status ends with a startup. [District Rule 2201 5.7.1 and 5.7.2] Federally Enforceable Through Title V Permit

30. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. [District Rule 4352] Federally Enforceable Through Title V Permit

31. Particulate matter (PM-10) emission rate shall not exceed 4.31 lb/hr, 0.0111 lb/MMBtu and 0.007 grains/dscf. [District Rule 2201 and 40 CFR 60.42Da (a) and (e)] Federally Enforceable Through Title V Permit

32. Except during periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 15.47 lb/hr and 0.0398 lb/MMBtu based on a 30 successive boiler operating day average. [District Rules 2201 and 4801 and 40 CFR 60.43Da (a)(2) and (l)(2) and 60.48Da (b)] Federally Enforceable Through Title V Permit

33. Except during periods of startup or shutdown, sulfur dioxide emissions shall not exceed 30% of the potential combustion concentration (70% reduction in potential emissions of sulfur dioxide based on sulfur analysis of "as-fired" fuel). [40 CFR 60.43Da (a)(2) and 60.48Da (b)] Federally Enforceable Through Title V Permit

34. During periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 0.11 lb/MMBtu, calculated on a block 24-hour average. [District Rules 2201 and 4801 and 40 CFR 60.43Da (l)(2) and 60.48Da (b)] Federally Enforceable Through Title V Permit

35. Sulfur oxide emissions (as SO2) shall not exceed the following quarterly amounts: 1st Qtr., 33,415 lb; 2nd Qtr., 33,786 lb; 3rd Qtr., 34,158 lb; and 4th Qtr., 34,158 lb. [District Rule 2201] Federally Enforceable Through Title V Permit

36. When exclusively burning biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed any of the following limits: 38.90 lb/hr, 0.1000 lb/MMBtu, or 90 ppmv @ 3% O2, calculated on a block 24-hour average. [District Rules 2201, 4352, and 40 CFR 60.44 (a)(1) and (2) and (g)(3) and 60.48Da (b)] Federally Enforceable Through Title V Permit

37. When burning fuels other than or in combination with biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed any of the following limits: 38.90 lb/hr, 0.1000 lb/MMBtu, or 65 ppmv @ 3% O2, calculated on a block 24-hour average. [District Rules 2201, 4352, and 40 CFR 60.44 (a)(1) and (2) and (g)(3) and 60.48Da (b)] Federally Enforceable Through Title V Permit

38. During periods of combustor start-up and shutdown, nitrogen oxide emissions (as NO2) shall not exceed 0.20 lb/MMBtu, calculated on a block 24-hour average. [District Rule 2201 and 40 CFR 60.48Da (b)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

39. Nitrogen oxide emissions (as NO2) shall not exceed the following quarterly amounts: 1st Qtr., 84,024 lb; 2nd Qtr., 84,958 lb; 3rd Qtr., 85,891 lb; and 4th Qtr., 85,891 lb. [District Rule 2201] Federally Enforceable Through Title V Permit

40. Volatile organic compound (VOC) emission rate shall not exceed 6.03 lb/hr and 0.0155 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

41. Carbon monoxide (CO) emission rate shall not exceed 105.10 lb/hr (3-hour average) and 0.2701 lb/MMBtu. [District Rule 2201 and PSD SJ 85-07] Federally Enforceable Through Title V Permit

42. Performance testing to measure NOx, SOx, CO, VOCs, and PM(10) at a steady-state steam production rate of at least ninety (90) percent of 305,000 pounds per hour and while firing on at least 80% (by heat input) natural gas from this unit shall be conducted during the next scheduled performance/source test according to the test methods listed on this permit. [District Rules 2201 and 4352] Federally Enforceable Through Title V Permit

43. Performance testing shall be conducted annually for NOx, SOx, CO, VOCs, and PM(10) at steady-state steam production rate of at least ninety (90) percent of 305,000 pounds per hour using the following test methods; for NOx EPA Methods 1-4 and 7 or ARB Method 100; for SOx EPA Methods 1-4 and 8 or ARB Method 100; for CO EPA Method 1-4 and 10 or ARB Method 100; for VOCs EPA Method 25 or 18; and for PM(10) EPA Method 201A in combination with EPA Method 202 or any other test methods and procedures approved by the District. [District Rules 4352, 6.4 and 2520, 9.3.2] Federally Enforceable Through Title V Permit

44. Performance testing shall be conducted annually for NOx, SOx, CO, VOCs, and PM(10) at the maximum operating capacity using the following test methods; for NOx EPA Methods 1-4 and 7 or ARB Method 100; for SOx EPA Methods 1-4 and 8 or ARB Method 100; for CO EPA Method 1-4 and 10 or ARB Method 100; for VOCs EPA Method 25 or 18; and for PM(10) EPA Method 201A in combination with EPA Method 202. [PSD SJ 85-07] Federally Enforceable Through Title V Permit

45. The District and EPA must be notified 30 days prior to any performance testing and a test plan shall be submitted for District approval 15 days prior to such testing. [District Rule 1081, 7.1; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

46. Performance testing shall be witnessed or authorized by District personnel and EPA. Test results must be submitted to the District within 60 day of performance testing. [District Rule 1081, 7.2, 7.3; 40 CFR 60.51Da (a); and PSD SJ 85-07] Federally Enforceable Through Title V Permit

47. Quarterly, start-up, and shutdown NOx and SOx emissions shall be measured by maintaining CEM, fuel use and fuel Btu content records, and such records shall be made available for District inspection upon request. [District Rule 1070, 4.0] Federally Enforceable Through Title V Permit

48. Permittee shall maintain an operating log containing type and quantity of fuel used and higher heating value of such fuels on daily basis. [District Rules 2201 and 4352, 6.2; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

49. Sulfur content of each type of fuel shall be measured and recorded on monthly basis using current ASTM Methods or shall be certified by supplier for each shipment. [District Rule 2520, 9.2.2; 40 CFR 60.49Da (e); and PSD SJ 85-07] Federally Enforceable Through Title V Permit

50. Operator shall install, operate, and maintain in calibration a system which continuously measures and records control system operating parameters; elapsed time of operation; and exhaust gas opacity, NOx, SO2, and O2 (or CO) concentrations. [District Rules 2201 and 1080, 4.0; 40 CFR 60.49Da (a), (b), (c), (d), (e); 40 CFR 64.3; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

51. The continuous emissions monitoring system shall meet the performance specification requirements in 40 CFR 60 (60.13, Appendix B, and Appendix F); and 40 CFR 51 (51.214 and Appendix P), or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.5; 40 CFR 64.3; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

52. The baghouse shall be equipped with a differential pressure monitor to continuously indicate and record the pressure drop across the filter media. [40 CFR 64.3] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

53. The baghouse shall operate with a minimum differential pressure of 0.5 inches water column and a maximum differential pressure of 7.5 inches water column. These parameters shall be reviewed annually and revised if necessary based on PM10 source test result data, historical operating data and manufacturer/supplier recommendations. [40 CFR 64.3] Federally Enforceable Through Title V Permit

54. Upon detecting any excursion from the acceptable range of differential pressure readings, the Permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [40 CFR 64.7] Federally Enforceable Through Title V Permit

55. The permittee shall maintain daily average records of the differential pressure across the baghouse filter. [40 CFR 64.9] Federally Enforceable Through Title V Permit

56. If the daily average baghouse differential pressure is not within the acceptable established range for two consecutive days, permittee shall notify the APCO of such exceedance within 96 hours. [40 CFR 64.3] Federally Enforceable Through Title V Permit

57. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR 64.7] Federally Enforceable Through Title V Permit

58. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR 64.9] Federally Enforceable Through Title V Permit

59. If the District or EPA determine that a Quality improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR 64.8] Federally Enforceable Through Title V Permit

60. Operator shall install, operate, and maintain in calibration a system which continuously measures and records stack gas volumetric flow rates meeting the performance specifications of 40 CFR Part 52, Appendix E. [40 CFR 64.3; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

61. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2; and 40 CFR 64.9] Federally Enforceable Through Title V Permit

62. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEMs that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3; 40 CFR 60.51Da (b); 40 CFR 64.9; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

63. The permittee shall maintain hourly, daily, and 30-day rolling average records of NOx and SOx emissions and of the percentage SOx reduction. [40 CFR 60.48Da (f), (g), 60.43Da (a), 60.51Da (b); and 40 CFR 64.9] Federally Enforceable Through Title V Permit

64. The permittee shall obtain emission data from the CEMS for at least 18 hours in at least 22 out of 30 successive boiler operating days for compliance determination. If this minimum data requirement can not be met with the CEMS, the permittee shall supplement the emission data with other monitoring systems approved by the APCO or with the reference methods and procedures described in 40 CFR 60.49(h). [40 CFR 60.49Da(f); and 40 CFR 64.7] Federally Enforceable Through Title V Permit

65. Permittee shall submit a CEMs written report for each calendar quarter to the District and to EPA. The report is due on the 30th day following the end of the calendar quarter. [District Rule 1080, 8.0; 40 CFR 60.51Da (a); 40 CFR 64.9; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

66. Quarterly report shall include: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 2520, 9.4.1; Rule 1080, 8.0; 40 CFR 64.9; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

67. Any violation of emission standards, as indicated by the CEM, shall be reported by the operator to the APCO within 96 hours. Excess emissions shall be defined as any three-hour period during which emissions of SOx or NOx as measured by CEM system exceeds the SOx and NOx maximum emission limits set forth for each the pollutants in this permit. [District Rule 1080, 9.0; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

68. Operator shall notify the District no later than one hour after the detection of a breakdown of the CEM unless the owner or operator demonstrates to the APCO's satisfaction that a longer noticing period was necessary. The operator shall inform the District of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080 and 1100 and 40 CFR 64] Federally Enforceable Through Title V Permit

69. Permittee shall not discharge or cause the discharge into the atmosphere SO2 in excess of the more stringent of 14.0 lb/hr or 20 ppm at 3% O2 (3-hour average) from stack venting from the combustion unit except during periods of startup and shutdown. [PSD ATC SJ 85-07] Federally Enforceable Through Title V Permit

70. Permittee shall not discharge or cause the discharge into the atmosphere NOx in excess of the more stringent of 38.9 lb/hr or 78 ppm at 3% O2 (3-hour average) from stack venting from the combustion unit except during periods of startup and shutdown. [PSD ATC SJ 85-07] Federally Enforceable Through Title V Permit

71. During startup or shutdown, permittee shall not discharge or cause the discharge into the atmosphere SO2 in excess of 0.11 lb/MMBtu averaged over a 24-hour period. [PSD SJ 85-07] Federally Enforceable Through Title V Permit

72. During startup and shutdown, permittee shall not discharge or cause the discharge into the atmosphere NOx in excess of 0.20 lb/MMBtu averaged over a 24-hour period. [PSD SJ 85-07] Federally Enforceable Through Title V Permit

73. Fabric collection system shall be completely inspected annually while in operation for evidence of particulate matter breakthrough and shall be repaired as needed. [District Rule 2520, 9.2.2] Federally Enforceable Through Title V Permit

74. Fabric collector filters shall be completely inspected annually while not in operation for tears, scuffs, abrasives or holes which might interfere with PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.2.2] Federally Enforceable Through Title V Permit

75. Records of fabric collector filter maintenance, inspection, and repairs shall be maintained. The records shall include identification of equipment, date of inspection, corrective action taken, and identification of individual performing inspection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

San Joaquin Valley Air Pollution Control District

Authority to Construct Application Review

Authorize Full-time Combustion of Natural Gas in Solid Fuel Fired Boiler

Facility Name:	Rio Bravo Poso	Revised:	April 24, 2013
Mailing Address:	95 Enterprise, Suite 300 Aliso Viejo, CA 92656	Engineer:	Kris Rickards
		Lead Engineer:	Allan Phillips
Contact Person:	Maggie Estrada		Ted Guth (Consultant)
Telephone:	949-330-7971		619-987-1111
Fax:			
E-Mail:	Maggie.estrada@ihipower.com		drtedguth@aol.com
Application #(s):	S-883-3-21		
Project #:	S-1124316		
Deemed Complete:	December 12, 2012		

AP SUPPARE

APR 2 4 2013

I. Proposal

The Rio Bravo Poso facility (RBP) is a 36 MW solid fuel fired atmospheric circulating fluidized bed combustor cogeneration plant that produces electricity and a small amount of steam for nearby thermally enhanced oil fields. RBP is compensated for the electricity it produces based on the price of natural gas; regardless of what fuel the facility combusts to generate the power.

Due to the physical limitations of a fluidized bed combustor it is impossible for the unit to operate entirely on gaseous fuel as solid material is needed to mix with and circulate the bed sand throughout the boiler, which allows the sand to come into contact with and conduct heat to the water tubes lining the boiler. RBP is proposing that heat energy provided to the boiler be comprised of less than 80% natural gas.

Currently, the boiler is only authorized to burn natural gas and propane during startup and shutdown. RBP has also proposed replacing the two existing startup burners and installing ten new bed lance burners to provide up to 80% of the heat input with natural gas.

Since natural gas is a clean fuel, no increase in permitted emissions is proposed nor is an increase in actual or potential emissions expected.

RBP received their Title V Permit on April 28, 2000. 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. RBP 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 2410	Prevention of Significant Deterioration (6/16/11)
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) Solid fueled boilers are **exempt** per 4305.4.1.1
Rule 4306	Boilers, Steam Generators and Process Heaters – Phase III (10/16/08) Solid fueled boilers are **exempt** per 4306.4.1.1
Rule 4320	Advanced emission reduction option options for boilers, steam generators, and Process Heaters greater than 5.0 MMBtu/hr (10/16/08) Solid fueled boilers are **exempt** per 4320.4.1.1
Rule 4351	Boilers, Steam Generators and Process Heaters – Phase I (8/21/03) Solid fueled boilers are **exempt** per 4351.4.1.2
Rule 4352	Solid Fuel Fired Boilers, Steam Generators and Process Heaters and Process Heaters (5/18/06)
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 facility is located within RBP's Heavy Oil Central Stationary Source, in the SW ¼ of Section 28, Township 27S, Range 27E at 16608 Porterville Highway. 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

Rio Bravo Poso operates a 36 MW atmospheric circulating fluidized bed combustor cogeneration plant. This boiler is currently authorized to use natural gas and propane only on startup and shutdown and otherwise incinerates coal, petroleum coke, and biomass to produce electricity and steam for nearby thermally enhanced oil fields. Over 90% of the produced steam drives a steam turbine to produce electricity. The remainder of produced steam is diverted to a nearby thermally enhanced oil recovery operation.

The facility is proposing to expand the use of natural gas to full-time operation (up to approximately 80% of fuel from natural gas), supplementing the solid fuel, by replacing existing gas burners and installing new burners. Burners will be Coen LoNO$_X$ burners.

V. Equipment Listing

Pre-Project Equipment Description:

S-883-3-20: 36.0 MW SOLID FUEL FIRED CIRCULATING BED COMBUSTOR COGENERATION UNIT INCLUDING 389 MMBTU/HR COMBUSTOR WITH LOW-TEMPERATURE STAGED COMBUSTION, AMMONIA INJECTION, AND PULVERIZED LIMESTONE INJECTION - POSO CREEK

Proposed Modification:

S-883-3-21: MODIFICATION OF 36.0 MW SOLID FUEL FIRED CIRCULATING BED COMBUSTOR COGENERATION UNIT INCLUDING 389 MMBTU/HR COMBUSTOR WITH LOW-TEMPERATURE STAGED COMBUSTION, AMMONIA INJECTION, AND PULVERIZED LIMESTONE INJECTION - POSO CREEK: REPLACE EXISTING STARTUP GAS BURNERS WITH TWO 115 MMBTU/HR COEN LOW NOX GAS BURNERS, INSTALL TEN 18 MMBTU/HR COEN LOW NOX BED LANCE GAS BURNERS, AND AUTHORIZE COMBUSTION OF NATURAL GAS FOR FULL-TIME USE

Post Project Equipment Description:

S-883-3-21: 36.0 MW SOLID FUEL FIRED CIRCULATING BED COMBUSTOR COGENERATION UNIT INCLUDING 389 MMBTU/HR COMBUSTOR WITH LOW-TEMPERATURE STAGED COMBUSTION, AMMONIA INJECTION, AND PULVERIZED LIMESTONE INJECTION - POSO CREEK

VI. Emission Control Technology Evaluation

Emissions from the circulating fluidized bed combustor include NO_X, SO_X, PM_{10}, CO, and VOC. Circulating fluidized combustion conditions ensure maximum fuel residence time resulting in fuel burn out with minimal levels of CO and hydrocarbons; 99.9999% removal of hydrocarbon-based toxic air contaminants is expected. The combustor operates as a fully circulating fluidized bed and therefore does not experience detached plumes which may occur with bubbling bed combustors.

Ammonia injection is used to control NO_X and limestone injection is responsible for an expected 96%+ control of SO_X emissions. The comparatively low temperature of approximately 1650 °F combined with sub-stoichiometric conditions help control formation of NO_X. Cyclones followed by a baghouse are utilized for particulate control with an efficiency expected to exceed 99%.

Proposed Full-Time Combustion of Natural Gas (up to approximately 80% of total heat input):

Proposed full-time combustion of gaseous fuel will be achieved via LowNOx burners and exclusively firing on PUC Quality natural gas. Continued use of limestone injection for SO_X control, ammonia injection for NO_X control, and cyclone and baghouse for PM10 control will not change as a result of this project. Combustion characteristics and emissions from the boiler are not expected to change with the full-time combustion of natural gas.

VII. General Calculations

A. Assumptions

- Unit may operate up to 24 hours/day and 8,760 hours/year
- Emissions from combusting coal, petroleum coke, and biomass are calculated using emission limits on the current PTO
- Natural gas used is exclusively PUC quality natural gas
- Molar Specific Volume of a gas @ 60 °F is 379.5 ft^3/lb-mole
- EPA F-factor @ 68 °F (dscf/MMBtu) for: natural gas = 8,710, anthracite coal: 10,100, and biomass (wood) = 9,240
- F-factor and emissions for petroleum coke is approximately identical to anthracite coal
- Natural Gas Heating Value: 1,000 Btu/scf (APR 1720)
- Emissions are based on heat input of 389 MMBtu/hr (equipment description listed on current PTO, and on the boiler data plate according to the applicant)
- Natural gas heat input will be limited to 8,888 Mscf/day (proposed by applicant to ensure heat input capacity of the boiler does not exceed pre-project heat input capacity)
- Rule 4352 requires NO_X emissions of 65 ppmv @ 3% O_2 effective January 1, 2013
- Btu content of coal averages 12,370 Btu/lb (per applicant)
- Btu content of petroleum coke averages 14,100 MMBtu/lb (per applicant)
- Btu content of fluid coke averages 14,270 MMBtu/lb (per applicant)

B. Emission Factors

The current PTO lists emission factors as follows:

Pre-Project Coal, Petroleum Coke, Biomass Steady State Emission Factors		
	lb/MMBtu	Source
NO_X	0.1000	Current PTO
SO_X*	0.0398	Current PTO
PM_{10}	0.0111	Current PTO
CO	0.2701	Current PTO
VOC	0.0155	Current PTO

*Sulfur emissions are limited by permit condition to 135,517 lb/year

Post project steady state and startup/shutdown emission factors will be the same for all criteria pollutants except for NO_X, which may be reduced as a result of Rule 4352.

Rule 4352 has different emission limits based on what fuel is being combusted (90 ppmv-NO_X @3% O_2 for biomass and 65 ppmv-NO_X @3% O_2 for all other fuels). Since the combustion of fuel other than biomass would result in the potential for higher emissions, the 90 ppmv-NO_X @3% O_2 emission rate will be used.

F-factors for the various fuels are adjusted to 60 °F as follows:

Natural Gas: $\frac{8{,}710\ dscf}{MMBtu}\left(\frac{460+60}{460+68}\right) = \frac{8{,}578\ dscf}{MMBtu}$

Biomass: $\frac{9{,}240\ dscf}{MMBtu}\left(\frac{460+60}{460+68}\right) = \frac{9{,}100\ dscf}{MMBtu}$

Coal/Coke: $\frac{10{,}100\ dscf}{MMBtu}\left(\frac{460+60}{460+68}\right) = \frac{9{,}947\ dscf}{MMBtu}$

An emissions factor of 0.1000 lb/MMBtu is listed on the permit, which is converted to a concentration factor as follows:

Natural Gas: $\frac{0.1000 lb \cdot NO_X}{MMBtu}\left(\frac{MMBtu}{8{,}578 dscf}\right)\frac{20.9-3}{20.9}\left(\frac{lb \cdot mole}{46 lbs \cdot NO_2}\right)\frac{379.5 dscf}{lb \cdot mole}\left(10^6\right) = 82\ ppmv$

Biomass: $\frac{0.1000 lb \cdot NO_X}{MMBtu}\left(\frac{MMBtu}{9{,}100 dscf}\right)\frac{20.9-3}{20.9}\left(\frac{lb \cdot mole}{46 lbs \cdot NO_2}\right)\frac{379.5 dscf}{lb \cdot mole}\left(10^6\right) = 78\ ppmv$

Coal/Coke: $\frac{0.1000 lb \cdot NO_X}{MMBtu}\left(\frac{MMBtu}{9{,}947 dscf}\right)\frac{20.9-3}{20.9}\left(\frac{lb \cdot mole}{46 lbs \cdot NO_2}\right)\frac{379.5 dscf}{lb \cdot mole}\left(10^6\right) = 71\ ppmv$

Emissions limits required by Rule 4352 (discussed in the compliance section) are 90 ppmv @ 3% O_2 for biomass and 65 ppmv @ 3% O_2 for all other fuel combustion. This concentration requires a lower limit for combustion of natural gas and coal. New emission factors for these fuels are calculated as follows:

Natural Gas: $\frac{65\ parts\ NO_X}{10^6\ parts}\left(\frac{8{,}578 dscf}{MMBtu}\right)\frac{20.9}{20.9-3}\left(\frac{46 lbs \cdot NO_2}{lb \cdot mole}\right)\frac{lb \cdot mole}{379.5 dscf} = 0.079\frac{lb \cdot NO_X}{MMBtu}$

Coal/Coke: $\frac{65\ parts\ NO_X}{10^6\ parts}\left(\frac{9{,}947 dscf}{MMBtu}\right)\frac{20.9}{20.9-3}\left(\frac{46 lbs \cdot NO_2}{lb \cdot mole}\right)\frac{lb \cdot mole}{379.5 dscf} = 0.092\frac{lb \cdot NO_X}{MMBtu}$

The annual emissions limit listed on the current permit is 340,764 lb-NO_X/yr (based on offset quarterly emissions in the amounts of 84,024 lb, 84,958 lb, 85,891 lb, and 85,891 lb). Annual NO_X emissions resulting from the existing emissions factor (0.1000 lb/MMBtu) results in: 0.1000 lb/MMBtu(389 MMBtu/hr)8,760 hr/year = 340,764 lb-NO_X/yr. Since the current emissions factor results in the maximum annual emissions allowed, a reduction in NO_X concentration will result in potential emissions less than those offset.

Since emissions from biomass combustion are not changing as a result of this project and could result in the maximum annual emissions currently allowed by the permit, the unit retains the potential to emit NO_X at the current 340,764 lb/yr limit and no change to this limit will be made at this time.

Startup duration is permitted for a maximum of 96 hours, which results in daily worst case emissions of 24 hours/day. Shutdown duration is permitted for a maximum of 12 hours, which results in daily worst case emissions when operating 12 hours of shutdown and 12 hours of steady state time.

Startup and Shut Down Emission Factors		
	lb/MMBtu	Source
NO_X	0.20	Current PTO
SO_X	0.11	Current PTO
PM_{10}	0.0111	Current PTO (no change from steady state)
CO	0.2701	Current PTO (no change from steady state)
VOC	0.0155	Current PTO (no change from steady state)

Natural gas emission factors are listed in the following table for comparison with permitted emission factors (note that controlled NO_X emissions are expected to comply with the revised 65 ppmv @ 3% O_2 limit of 0.079 lb/MMBtu calculated earlier):

Natural Gas Emission Factors			
Pollutant	Emission Factor (lb/MMBtu)	Emission Factor	Source
NO_X	0.19 (uncontrolled) 0.076 (controlled)[1]	NA	AP-42, Table 1.4-1 (large wall fired boiler, uncontrolled post NSPS)[2]
SO_X	0.00285 lb SO_X/MMBtu	1.0 gr-S/100 dscf	APR 1720
PM10	0.0076 lb-PM10/MMBtu	- -	AP-42 (07/98) Table 1.4-2
CO	0.084	NA	AP-42, Table 1.4-1 (large wall fired boiler, uncontrolled post NSPS)[1]
VOC	0.0055 lb-VOC/MMBtu	- -	AP-42 (07/98) Table 1.4-2

[1]60% reduction applied to the factor due to ammonia injection resulting in 0.19(1-0.60) = 0.076 lb/MMBtu
[2]Boiler heat input is >250MMBtu and constructed after 1971 (post-NSPS for 40 CFR 60 subparts D and Db)

Since natural gas emission factors do not exceed current emission factors for the coal, coke, and biomass fuels the facility is currently authorized to burn, the combustion of natural gas is not expected to result in an increase in emissions. Therefore, current permitted emission limits will result in worst case emissions (RBP will use existing controls to ensure the solid and gaseous fuel blend will continue to meet existing permitted emission limits).

GHG emission factors are summarized in the following table, converted from kilograms to pounds, and then converted to a CO_2e factor using CH_4 and N_2O global warming potentials (These values are taken from the Interpollutant Panel on Climate Change, Second Assessment Report, 1995):

CO_2e Emission Factors for Different Fuels							
Fuel	kg/MMBtu			lb/MMBtu			**lb-CO_2e/ MMBtu**
	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O	
Coal	93.4	0.011	0.0016	205.9096	0.024251	0.003527	**207.5**
Coke	102.04	0.011	0.0016	224.9574	0.024251	0.003527	**226.6**
Biomass	118.17	0.032	0.0042	260.5176	0.070547	0.009259	**264.9**
Natural Gas	53.02	0.001	0.0001	116.8879	0.002205	0.00022	**117.0**

As shown in the previous table, on a lb/MMBtu basis, the GHG emitted from the combustion of natural gas is less than any other approved fuel. Therefore, no increase in potential or actual GHG is expected as a result of this project.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The potential to emit for the boiler is calculated as follows (except as noted) using emission factors listed on the current PTO for coal, coke, and biomass and summarized in the table below:

$PE1_{day}$= 389 MMBtu/hr (24 hrs/day) EF
$PE1_{yr}$ = 389 MMBtu/hr (8,760 hrs/yr) EF

PE1		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO_X	1,867.2[1]	340,764[2]
SO_X	1,027.0[1]	135,517[2]
PM_{10}	103.6	37,825
CO	2,521.7	920,404
VOC	144.7	52,818
GHG	2,473,106.4	902,683,836

[1]Inclues 24 hours of startup emissions
[2]Limited by permit condition

2. Post Project Potential to Emit (PE2)

Since emission factors from the combustion of natural gas are less than existing factors and the fuel heat input is limited by the maximum hourly heat input rating of the boiler, authorization to combust natural gas during steady state operations is not expected to result in the increase of any pollutants. Therefore, PE2 = PE1 for all pollutants except for NO_X, which is calculated as follows and summarized in the following table:

$PE2_{day}$= 389 MMBtu/hr (24 hrs/day) EF
$PE2_{yr}$ = 389 MMBtu/hr (8,760 hrs/yr) EF

PE2		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO_X	1,867.2[1]	340,764[2]
SO_X	1,027.0[1]	135,517[2]
PM_{10}	103.6	37,825
CO	2,521.7	920,404
VOC	144.7	52,818
GHG	2,473,106.4	902,683,836

[1]Inclues 24 hours of startup emissions
[2]Limited by permit condition

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
S-883-1-12	0	0	115	0	0
S-883-2-8	0	0	175	0	0
S-883-3-20	340,764	135,517	37,825	920,404	52,818
S-883-4-8	0	0	4	0	0
S-883-8-4	0	0	81	0	0
S-883-25-6	606	0	43	130	48
S-883-26-4	348	0	25	75	28
S-883-29-6	0	0	24,399	0	0
S-883-30-5	379	0	4	38	15
S-883-31-5	0	0	631	0	0
S-1751-1-12	0	0	115	0	0
S-1751-2-8	0	0	175	0	0
S-1751-3-19	340,764	135,517	37,825	920,404	52,818
S-1751-4-4	0	0	81	0	0
S-1751-5-10	0	0	4	0	0
S-1751-6-6	606	0	43	130	48
S-1751-7-4	70	0	5	15	6
S-1751-8-7	0	0	20,294	0	0
S-1751-9-6	379	0	4	38	15
S-1751-10-4	0	0	631	0	0
S-1751-11-1	0	0	2	25	24
Pre-Project SSPE (SSPE1)	683,916	271,034	122,481	1,841,259	105,820

4. Post Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

Post Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
Permit Unit	NO_X	SO_X	PM_{10}	CO	VOC
S-883-1-12	0	0	115	0	0
S-883-2-8	0	0	175	0	0
S-883-3-21	340,764	135,517	37,825	920,404	52,818
S-883-4-8	0	0	4	0	0
S-883-8-4	0	0	81	0	0
S-883-25-6	606	0	43	130	48
S-883-26-4	348	0	25	75	28
S-883-29-6	0	0	24,399	0	0
S-883-30-5	379	0	4	38	15
S-883-31-5	0	0	631	0	0
S-1751-1-12	0	0	115	0	0
S-1751-2-8	0	0	175	0	0
S-1751-3-20	340,764	135,517	37,825	920,404	52,818
S-1751-4-4	0	0	81	0	0
S-1751-5-10	0	0	4	0	0
S-1751-6-6	606	0	43	130	48
S-1751-7-4	70	0	5	15	6
S-1751-8-7	0	0	20,294	0	0
S-1751-9-6	379	0	4	38	15
S-1751-10-4	0	0	631	0	0
S-1751-11-1	0	0	2	25	24
Post Project SSPE (SSPE2)	683,916	271,034	122,481	1,841,259	105,820

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- Any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1	683,916	271,034	122,481	1,841,259	105,820
SSPE2	683,916	271,034	122,481	1,841,259	105,820
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	Yes	Yes	No	Yes	Yes

As seen in the preceding table, the facility is an existing Major Source for NO_X, SO_X, CO, and VOC and is not becoming a Major Source for PM_{10} as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

The following facility emissions include only emissions on the Rio Bravo Poso property and contiguous properties, which does not include the sister facility, Rio Bravo Jasmin.

PSD Major Source Determination (tons/year)							
	NO_2	VOC	SO_2	CO	PM	PM_{10}	CO_2e
Estimated Facility PE before Project Increase	171	26	-[1]	460	-[1]	30	451,342[2]
PSD Major Source Thresholds	100	100	100	100	100	100	100,000
PSD Major Source ? (Y/N)	Y	N	-	Y	-	N	Y

[1]Not calculated since other pollutants result in facility being defined as a PSD Major Source
[2]Emissions represent the boiler only, other emission units at facility are not calculated since the boiler alone is above the threshold

As shown above, the facility is an existing major source for PSD for at least one pollutant. Therefore the facility is an existing major source for PSD.

6. Baseline Emissions (BE)

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project to calculate the QNEC, and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201. As shown in Section VII.C.5 above, the facility is not a Major Source for PM_{10}; therefore BE=PE1 for PM_{10}.

a. BE NO_X

Fully Offset Emissions Unit, located at a Major Source
ATCs 4141003A and 4141011A (permits for boilers at the Rio Bravo Poso and Jasmin facilities) authorized potential NO_X emissions of 340,764 lb/year that were fully offset by actual emission reductions from the surrender of various equipment identified in the evaluation performed in 1986. The Rio Bravo Jasmin and Poso facilities were constructed after the Kern County baseline period for all non-heavy oil production equipment of December 28, 1976. Therefore, pursuant to District Rule 2201, the boiler unit is considered a Fully Offset Emissions Unit and $\mathbf{BE_{NOx} = PE1_{NOx}}$.

b. BE SO_X

Clean Emissions Unit, Located at a Major Source
Pursuant to Rule 2201, a Clean Emissions Unit is defined as an emissions unit that is "equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

BACT Guideline 1.3.1 Fluidized-Bed Combustor ≥272 MMBtu/hr, Cogeneration Operation, Fired with Delayed Petroleum Coke (DPC), 3rd Quarter 2005 (see Appendix C for BACT Guideline) is applicable to this operation and lists the following as achieved in practice:

SO_X: 20.2 ppmvd (as SO_2 corrected to 3% O_2) (DPC with 2% sulfur by weight) or lowest sulfur content fuel available when 2% sulfur by weight fuel is not available. Sorbent injection and natural gas and low-sulfur fuel oil (15 ppmvd sulfur or less), as auxiliary fuel

The boiler is limited by permit condition to SO_X emissions less than 20 ppm @ 3% O_2. Source test results (see Appendix E) over the past 5 years confirm that compliance with this condition has historically been made. Therefore, this unit is considered a Clean Emissions Unit for SO_X emissions and $\mathbf{BE_{SOx} = PE1_{SOx}}$.

c. BE PM_{10}

Unit Located at a Non-Major Source
As shown in Section VII.C.5 above, the facility is not a major source for PM_{10} emissions.

Therefore **BE_{PM10} = PE1 $_{PM10}$.**

d. BE CO

Clean Emissions Unit, Located at a Major Source
BACT Guideline 1.3.1 Fluidized-Bed Combustor ≥272 MMBtu/hr, Cogeneration Operation, Fired with Delayed Petroleum Coke (DPC), 3rd Quarter 2005 (see Appendix C for BACT Guideline) is applicable to this operation and lists the following as achieved in practice:

CO: Natural gas and fuel oil as auxiliary fuel

The unit is required by permit condition to use natural gas as auxiliary fuel. Therefore, this unit is considered a Clean Emissions Unit for CO emissions and **BE_{CO} = PE1$_{CO}$.**

e. BE VOC

Clean Emissions Unit, Located at a Major Source
BACT Guideline 1.3.1 Fluidized-Bed Combustor ≥272 MMBtu/hr, Cogeneration Operation, Fired with Delayed Petroleum Coke (DPC), 3rd Quarter 2005 (see Appendix C for BACT Guideline) is applicable to this operation and lists the following as achieved in practice:

VOC: 0.008 lb/MMBtu, natural gas and fuel oil as auxiliary fuel

Source test results (see Appendix E) over the past 5 years confirm that VOC emissions from this unit have remained below 0.008 lb/MMBtu during that time period. Therefore, this unit is considered a Clean Emissions Unit for VOC emissions and **BE_{VOC} = PE1$_{VOC}$.**

Baseline emissions are summarized in the following table:

BE (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
S-1751-3	340,764	135,517	37,825	920,404	52,818

7. SB 288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this facility is not a major source for PM_{10}, this project does not constitute an SB 288 major modification for PM_{10}.

Since this facility is a major source for NO_X, SO_X, and VOC, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
NO_X	340,764	50,000	Yes
SO_X	135,517	80,000	Yes
VOC	52,818	50,000	Yes

Since the project's PE2 surpasses the SB 288 Major Modification Thresholds for NO_X, SO_X, and VOC, the Net Emissions Increase (NEI) will be compared to the SB 288 Major Modification thresholds in order to determine if this project constitutes an SB 288 Major Modification.

SB 288 Major Modification is defined in Rule 2201, Section 3.36 as:

"40 CFR Part 51.165 (as in effect on December 19, 2002) and part D of Title I of the CAA (as in effect on December 19, 2002)."

40 CFR Part 51.165 (in effect on December 19, 2002) defines actual emissions for a non-electric utility steam generating unit in paragraph (a)(1)(xii)(D) as:

"For any emissions unit (other than an electric utility steam generating unit specified in paragraph (a)(1)(xii)(E) of this section) which has not begun normal operations on the particular date, ***actual emissions shall equal the potential to emit*** *of the unit on that date."*

However, paragraph (a)(1)(xii)(E) defines actual emissions for electric utility steam generating units as:

"For an electric utility steam generating unit ... ***actual emissions of the unit following the physical or operational change shall equal the representative actual annual emissions*** *of the unit provided the source owner or operator maintains and submits to the reviewing authority, on an annual basis for a period of 5 years from the date the unit resumes regular operation, information demonstrating that the physical or operation change did not result in an emissions increase. A longer period, not to exceed 10 years, may be required by the reviewing authority if it determines such a period to be more representative of normal source post-change operations."*

Representative actual emissions are defined in paragraph (a)(1)(xxi) as follows:

"the average rate, in tons per year, at which the source is projected to emit a pollutant ***for the two-year period after a physical change or change in the method of operation*** *of a unit,(or a different consecutive two-year period within 10 years after that change, where the reviewing authority determines that such period is more representative of source operations), considering the effect any such change will have on increasing or decreasing the hourly emissions rate and on projected capacity utilization. In projecting future emissions the reviewing authority shall:*

(A) Consider all relevant information, including but not limited to, historical operational data, the company's own representations, filings with the State or Federal regulatory authorities, and compliance plans under title IV of the Clean Air Act; and

(B) Exclude, in calculating any increase in emissions that results from the particular physical change or change in the method of operation at an electric utility steam generating unit, that portion of the unit's emissions following the change that could have been accommodated during the representative baseline period and is attributable to an increase in projected capacity utilization at the unit that is unrelated to the particular change, including any increased utilization due to the rate of electricity demand growth for the utility system as a whole."

Since this project involves an electric utility steam generating unit, the post project actual emissions (PAE) are used in comparison to the baseline actual emissions (BAE) instead of the post project potential to emit (PE2) and the NEI is calculated as:

NEI = PAE – BAE.

Where: PAE = the projected actual emissions for all permit units in the project, based on a two year period after the project is complete.
BAE = for units that are fully offset, the BAE = the PE1 for every unit, otherwise, the BAE is the actual annual emissions averaged over the baseline period for every unit.

NO_X emissions have been fully offset for this unit, therefore the BAE = PE1 for NO_X only.

The facility was offline during the last quarter of 2011 so the two consecutive years prior to this would be 2009 and 2010.

Ideally, and assuming the power could all be sold, the applicant would operate the facility at 80% natural gas on a heat input basis (gas is cheaper than other authorized fuels and this is the proposed limit for natural gas), at the maximum permitted heat input of the boiler, and 8,760 hours/year. This would represent the best case situation for the operator and the maximum potential to emit when operating with the maximum permitted volume of gas consumption.

Projected actual emissions using previously discussed emission factors for natural gas are calculated as follows:

PAE = [8,760 hrs/yr (389 MMBtu/hr x 0.8) Nat Gas EF] + [8,760 hrs/yr (389 MMBtu/hr x 0.2) Permitted Steady State EF]

The BAE are used to calculate the NEI and make the SB 288 Major Modification determination in the following table. Emission inventory reports for calendar years 2009 and 2010 and the BAE calculation is located in Appendix D.

The resulting Total Emissions Increases are summarized below:

SB 288 Major Modification Calculation and Determination					
Pollutant	PAE (lb/yr)	BAE (lb/yr)	NEI (lb/yr)	Thresholds (lb/yr)	SB 288 Major Modification?
NO_x	275,337	340,764[1]	-65,427	50,000	No
SO_x	34,864	92,560	-57,696	80,000	No
VOC	1,363[2]	4,000	-2,637	50,000	No

[1]This is equal to PE2 since unit is fully offset for NO_X emissions
[2]Projected actual VOC emissions use an emission factor for all fuels equal to the average source tested emissions for the past 5 years equal to 0.0004 lb/MMBtu (assuming that natural gas, worst case, will burn as incompletely as when combusting solid fuel that was tested in each of the last 5 years)

As demonstrated in the preceding table, this project does not constitute an SB 288 Major Modification for any pollutant.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

Since this facility is not a Major Source for PM_{10} it does not constitute a Federal Major Modification for these pollutants. Additionally, since the facility is not a major source for PM_{10} (140,000 lb/year), it is not a major source for PM2.5 (200,000 lb/year).

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

For existing emissions units, the increase in emissions is calculated as follows.

Emission Increase = PAE – BAE

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity or potential to emit). If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

The BAE are calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period (5 years for electric utility steam generating units). The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

Projected actual emissions using previously discussed emission factors for natural gas are calculated as follows:

PAE = [8,760 hrs/yr (389 MMBtu/hr x 0.8) Nat Gas EF] + [8,760 hrs/yr (389 MMBtu/hr x 0.2) Permitted Steady State EF]

The BAE are used to calculate the emissions increases in the following table. Emission inventory reports for calendar years 2009 and 2010 and the BAE calculation is located in Appendix D. The resulting NEI is summarized below:

Federal Major Modification Thresholds for Emission Increases					
Pollutant	PAE	BAE	Total Emissions Increases (lb/yr)	Thresholds (lb/yr)	Federal Major Modification?
NO_x*	275,337	279,550	-4,213	0	No
VOC*	34,864	92,560	-57,696	0	No
SO_x	1,363[1]	4,000	-2,637	80,000	No

*If there is any emission increases in NO_x or VOC, this project is a Federal Major Modification and no further analysis is required.

[1]Projected actual VOC emissions use an emission factor for all fuels equal to the average source tested emissions for the past 5 years equal to 0.0004 lb/MMBtu (assuming that natural gas, worst case, will burn as incompletely as when combusting solid fuel that was tested in each of the last 5 years)

Since none of the Federal Major Modification Thresholds are being surpassed with this project, this project does not constitute a Federal Major Modification and no further analysis is required.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to all regulated NSR pollutants, except for those which the District has been classified as non-attainment (including $PM_{2.5}$), and that of those pollutants, the ones emitted from the subject emission units are listed below:

- NO_2 (as a primary pollutant)
- SO_2 (as a primary pollutant)
- CO
- PM
- PM_{10}
- Greenhouse gases (GHG): CO_2, N_2O, CH_4, HFCs, PFCs, and SF_6

The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not (See Section VII.C.5 of this document).

In the case the facility is an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project results in a PSD significant increase.

In the case the facility is NOT an existing PSD Major Source but is an existing source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

In the case the facility is new source, the second step of the PSD evaluation is to determine if this new facility will become a new PSD major Source as a result of the project and if so, to determine which pollutant will result in a PSD significant increase.

I. Project Location Relative to Class 1 Area

As demonstrated in the "PSD Major Source Determination" Section above, the facility was determined to be a existing major source for PSD. Because the project is not located within 10 km of a Class 1 area – modeling of the emission increase is not required to determine if the project is subject to the requirements of Rule 2410.

II. Significance of Project Emission Increase Determination

a. Potential to Emit of attainment/unclassified pollutant for New or Modified Emission Units vs PSD Significant Emission Increase Thresholds

As a screening tool, the potential to emit from all new and modified units is compared to the PSD significant emission increase thresholds, and if total potential to emit from all new and modified units is below this threshold, no futher analysis will be needed.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)						
	NO_2	SO_2	CO	PM	PM_{10}	CO_2e
Total PE from New and Modified Units	170	68	460	19	19	451,342
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	Y	Y	Y	N	Y	Y

As demonstrated above, because the project has a total potential to emit from all new and modified emission units greater than PSD significant emission increase thresholds, further analysis is required to determine if the project has an emission increase greater than the PSD significant emission increase thresholds, see step below.

b. Emission Increase for Each Subject PSD Pollutant with a Significant Emission Increase vs PSD Significant Emission Increase Thresholds

In this step, the emission increase for each subject PSD pollutant is compared to the PSD significant emission increase thresholds, and if the emission increase for each attainment pollutant is below this threshold, no futher analysis is needed.

For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

For existing emissions units, the increase in emissions is calculated as follows:

Emission Increase = PAE – BAE

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity or potential to emit). If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

The BAE are calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period (5 years for electric utility steam generating units). The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

Projected actual emissions using previously discussed emission factors for natural gas are calculated as follows:

PAE =[8,760 hrs/yr (389 MMBtu/hr x 0.8) Nat Gas EF] + [8,760 hrs/yr (389 MMBtu/hr x 0.2) Permitted Steady State EF[1]]

The BAE are used to calculate the emissions increases in the following table. Emission inventory reports for calendar years 2009 and 2010 and the BAE calculation is located in Appendix D.

[1] Except for CO, where the average tested value of 0.042 lb/MMBtu is used as this is significantly less than the permitted EF and fuel burned with highest CO_2e factor, petroleum coke, was used to represent worst case projected emissions

The resulting emission increases are summarized in the table below:

PSD Significant Emission Increase Determination: Emission Increase (tons/year)						
	NO_2	SO_2	CO	PM*	PM_{10}	CO_2e
Emission Increases (only)	-2	-1	26	1	1	-128,699
PSD Significant Emission Increase Thresholds	40	40	100	25	15	75,000
PSD Significant Emission Increase?	N	N	N	N	N	N

*All PM is assumed to be PM_{10} due to PM control from cyclones and fabric collector.

As shown in the preceeding table, the project emission increase, for all new and modified emission units, does not exceed any of the PSD significant emission increase thresholds. Therefore the project does not result in a PSD major modification due to a significant emission increase and no further discussion is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix F.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

Authorization for the solid fuel fired boiler to combust PUC quality natural gas during steady state operation (not limited solely to startup and shut down periods) will not change the class and category of the boiler. The boiler will continue to burn solid fuel that will now be supplemented with natural gas.

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

a. Any new emissions unit with a potential to emit exceeding two pounds per day,
b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,

c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

As discussed in Section I above, there are no new emissions units associated with this project. Therefore BACT for new units with PE > 2 lb/day purposes is not triggered.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

AIPE = PE2 – HAPE

Where,
AIPE = Adjusted Increase in Permitted Emissions, (lb/day)
PE2 = Post-Project Potential to Emit, (lb/day)
HAPE = Historically Adjusted Potential to Emit, (lb/day)

HAPE = PE1 x (EF2/EF1)

Where,
PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)
EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1
EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

AIPE = PE2 – (PE1 * (EF2 / EF1)

Since the authorization to combust natural gas during steady state operation will not affect the unit's emission factors, which remain since the unit must continue to fire on solid fuel as it was designed, no change to the emission factors are made as a result of this project. As demonstrated previously, there is no potential increase in emissions for any pollutant; therefore, EF1 = EF2, PE2 = PE1, and the AIPE = 0 for all pollutants.

As demonstrated, the AIPE is not greater than 2.0 lb/day for any emissions. Therefore BACT is not triggered.

d. SB 288/Federal Major Modification

As discussed in Section VII.C.7 above, this project does not constitute an SB 288 and/or Federal Major Modification for any emissions. Therefore BACT is not triggered for any pollutant.

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO_X	SO_X	PM_{10}	CO	VOC
SSPE2	683,916	271,034	122,481	1,841,259	105,820
Offset Thresholds	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	Yes	Yes	Yes	Yes

2. Quantity of Offsets Required

As seen previously, the facility is an existing Major Source for NO_X, SO_X, CO, and VOC and the SSPE2 is greater than the offset thresholds. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for NO_X is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = (Σ[PE2 – BE] + ICCE) x DOR, for all new or modified emissions units in the project,

Where,
PE2 = Post Project Potential to Emit, (lb/year)
BE = Baseline Emissions, (lb/year)
ICCE = Increase in Cargo Carrier Emissions, (lb/year)
DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = HAE

As calculated in Section VII.C.6 above, the BE from this unit are equal to the PE1 since the unit is fully offset for NO_X emissions, a Clean Emissions Unit for SO_X, CO, and VOC, and is located at a non-Major Source for PM_{10}.

Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions. Therefore offsets can be determined as follows:

Offsets Required (lb/year) = PE2 – PE1, where PE2 = PE1 for all pollutants; therefore, offsets required = 0 for all pollutants and offsets will not be required for this project.

C. Public Notification

1. Applicability

Public noticing is required for:
a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
c. Any project which results in the offset thresholds being surpassed, and/or
d. Any project with an SSIPE of greater than 20,000 lb/year for any pollutant.

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in VII.C.7, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO_X	683,916	683,916	20,000 lb/year	No
SO_X	271,034	271,034	54,750 lb/year	No
PM_{10}	122,481	122,481	29,200 lb/year	No
CO	1,841,259	1,841,259	200,000 lb/year	No
VOC	105,820	105,820	20,000 lb/year	No

As detailed above, there were no thresholds surpassed with this project; therefore public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO_x	683,916	683,916	0	20,000 lb/year	No
SO_x	271,034	271,034	0	20,000 lb/year	No
PM_{10}	122,481	122,481	0	20,000 lb/year	No
CO	1,841,259	1,841,259	0	20,000 lb/year	No
VOC	105,820	105,820	0	20,000 lb/year	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

2. Public Notice Action

As discussed above, this project will not result in emissions, for any pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

Proposed New and Modified Rule 2201 (DEL) Conditions:

- Combustor shall be fired only on coal, petroleum coke, PUC-quality natural gas, and/or biomass fuel. Propane or natural gas may be used as start-up fuel. [District Rule 2201]
- Combustor shall not be fired solely on PUC quality natural gas except during startup, shutdown, and during upsets for flame stabilization. [District Rules 2201 and 4352]
- No more than 8.888 MMscf/day of natural gas shall be introduced into the combustor. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

Combustion of natural gas is expected to result in less actual emissions than historic fuels at this facility. Since the exhaust is equipped with CEMs for NO_X, SO_2, O_2, stack flow rate, and opacity and annual source testing for all pollutants is required, the following existing CEM condition and proposed source testing condition will ensure compliance with emissions limits when burning natural gas:

- The permittee shall maintain hourly, daily, and 30-day rolling average records of NOx and SOx emissions and of the percentage SOx reduction. [40 CFR 60.48Da (f), (g), 60.43Da (a), 60.51Da (b); and 40 CFR 64.9]
- Performance testing to measure NOx, SOx, CO, VOCs, and PM(10) at a steady-state steam production rate of at least ninety (90) percent of 305,000 pounds per hour and while firing on at least 80% (by heat input) natural gas from this unit shall be conducted during the next scheduled performance/source test according to the test methods listed on this permit. [District Rules 2201 and 4352]

2. Monitoring

No additional monitoring is required to demonstrate compliance with Rule 2201.

3. Recordkeeping

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following existing condition is sufficient for recording the amount of natural gas combusted and will be listed on the ATC:

- Permittee shall maintain an operating log containing type and quantity of fuel used and higher heating value of such fuels on daily basis. [District Rules 2201 and 4352, 6.2; and PSD SJ 85-07]

4. Reporting

No additional reporting is required to demonstrate compliance with Rule 2201.

Rule 2410 Prevention of Significant Deterioration (PSD) Applicability Determination

As discussed in Section VII. C.9, this modification is not considered a significant modification and this rule is not applicable. No further discussion is required.

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.

Rule 4001 New Source Performance Standards (NSPS)

The unit has been in operation since 1989. The combustor is subject to 40 CFR Part 60 Subpart Da which applies to Industrial-Commercial-Industrial Steam Generators greater than 250 MMBtu/hr (post-9/18/78 construction, modification, or reconstruction).

§ 60.42Da Lists standards for particulate matter (PM).

§ 60.42Da (a) requires PM limited 0.030 lb/MMBtu. The current limit on the permit is more stringent than this limit. The following condition will ensure compliance:

- Particulate matter (PM-10) emission rate shall not exceed 4.31 lb/hr, 0.0111 lb/MMBtu and 0.007 grains/dscf. [District Rule 2201 and 40 CFR 60.42Da (a)~~(1), (2)~~(e)]

§ 60.42Da (b) requires exhaust opacity less than 20% on a 6-minute average. The District's Rule 4101 is more stringent than this limit and will remain on the facility-wide permit to ensure compliance:

- No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (02/17/05). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101]

§ 60.42Da (c) and (d) apply to construction, reconstruction, or modification after February 28, 2005 but before May 4, 2011. The modification proposed will occur after this time period. Therefore, these paragraphs do not apply.

§ 60.42Da (e) requires facilities that have construction, reconstruction, or modification after May 3, 2011 to comply with paragraphs (e)(1) and (2) as follows:

§ 60.42Da (e)(1) lists PM limits of 0.090 lb/MWh (gross energy output) or 0.097 lb/MWh (net energy output) or 0.015 lb/MMBtu of heat input. The current PM limit is more stringent than the 0.015 lb/MMBtu limit; therefore continued compliance is expected:

- Particulate matter (PM-10) emission rate shall not exceed 4.31 lb/hr, 0.0111 lb/MMBtu and 0.007 grains/dscf. [District Rule 2201 and 40 CFR 60.42Da (a)~~(1), (2)~~and (e)]

§ 60.42Da (f) offers exemptions for facilities combusting only gaseous or liquid fuels or operating under a PM commercial demonstration permit. Neither of these apply to this facility.

§ 60.43Da Lists standards for sulfur dioxide (SO_2).

§ 60.43Da (a) applies to solid fuel fired units and lists the following SO_2 limits:

(1) 1.20 lb/MMBtu heat input and 90 percent reduction;
(2) 70 percent reduction when emissions are less than 0.60 lb/MMBtu heat input;
(3) 1.4 lb/MWh gross energy output; or
(4) 0.15 lb/MMBtu heat input.

§ 60.43Da (b) applies to liquid or gaseous fuel fired units and lists the following SO_2 limits:

(1) 0.80 lb/MMBtu heat input and 90 percent reduction;
(2) No reduction when emissions are less than 0.20 lb/MMBtu.

The SO_2 limit listed on the following condition is more stringent than any of the lb/MMBtu limits listed for either solid, liquid, or gaseous fuels; therefore, continued compliance with this section is expected:

- Except during periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 15.47 lb/hr and 0.0398 lb/MMBtu based on a 30 successive boiler operating day average. [District Rule 2201 and 40 CFR 60.43Da (a)(2) and (l)(2) and 60.48Da (b)]

- During periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 0.11 lb/MMBtu, calculated on a daily basis. [District Rule 2201 and 40 CFR 60.43Da (l)(2) and 60.48Da (b)]

- Except during periods of startup or shutdown, sulfur dioxide emissions shall not exceed 30% of the potential combustion concentration (70% reduction in potential emissions of sulfur dioxide based on sulfur analysis of "as-fired" fuel) based on a 30 successive boiler operating day average. [40 CFR 60.43Da (a)(2) and 60.48Da (b)]

§ 60.43Da (h) lists a formula for calculating the SO_2 limit when a mixture of fuels is combusted. Since the current emission limit is significantly more stringent than any limit listed for either solid, liquid, or gaseous fuels, the existing limit will result in fewer emissions than would be allowed by the formula in this paragraph.

§ 60.43Da (i) applies to construction, reconstruction, or modification after February 28, 2005 but before May 4, 2011. The modification proposed will occur after this time period. Therefore, this paragraph does not apply.

§ 60.43Da (j) applies to units that burn coal refuse. This unit does not burn coal refuse, therefore this paragraph does not apply.

§ 60.43Da (k) applies to construction, reconstruction, or modification after February 28, 2005 but before May 4, 2011. The modification proposed will occur after this time period. Therefore, this paragraph does not apply.

§ 60.43Da (l) lists requirements for units that are modified after May 3, 2011.

§ 60.43Da (l)(2) lists SO_2 limits of 1.4 lb/MWh (gross energy output) or 90 percent reduction. The unit is rated at 36 MW/h gross, which results in a 36(1.4) = 50.4 lb-SO_2/hr limit. The current limit for SO_2 is more stringent than this limit; therefore, the following conditions will ensure compliance with this paragraph:

- Except during periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 15.47 lb/hr and 0.0398 lb/MMBtu based on a 30 successive boiler operating day average. [District Rule 2201 and 40 CFR 60.43Da (a)(2) and (l)(2) and 60.48Da (b)]

- During periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 0.11 lb/MMBtu, calculated on a ~~daily basis~~block 24-hour average. [District Rule 2201 and 40 CFR 60.43Da (l)(2) and 60.48Da (b)]

§ 60.43Da (m) applies to units located in a noncontinental area. This unit is not located at a noncontinental area; therefore, this paragraph does not apply.

§ 60.44Da Lists standards for nitrogen oxides (NO_X).

§ 60.44Da (a)(1) lists the following applicable emission limits based on heat input:

Fuel Type	Emission Limit (lb/MMBtu)
Gaseous Fuel (all others)	0.20
Solid Fuel (coal derived)	0.50
Solid Fuel (coal, most stringent)	0.50
Solid Fuel (all others)	0.60

The current NO_X limit listed on the permit is more stringent than the requirements in the preceding table.

Therefore, the following existing conditions will ensure continued compliance with this paragraph:

- When exclusively burning biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed 38.90 lb/hr and 0.1000 lb/MMBtu, calculated on a block 24-hour average. [District Rule 2201 and 40 CFR 60.44Da (a)(1), and (2) and (g)(3) and 60.48Da (b)]

- When burning fuels other than or in combination with biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed 38.90 lb/hr and 65 ppmv @ 3% O2, calculated on a block 24-hour average. [District Rule 2201 and 40 CFR 60.44Da (a)(1), and (2) and (g)(3) and 60.48Da (b)]

- During periods of combustor start-up and shutdown, nitrogen oxide emissions (as NO2) shall not exceed 0.20 lb/MMBtu, calculated on a ~~daily basis~~block 24-hour average. [District Rule 2201 and 40 CFR 60.48Da (b)]

§ 60.44Da (a)(2) lists a formula for calculating the NO_X limit when a mixture of fuels is combusted. Since the current emission limit is equal to or more stringent than any limit listed for either solid or gaseous fuels, the existing limit will result in fewer emissions than would be allowed by the formula in this paragraph.

§ 60.44Da (d) applies to construction, reconstruction, or modification after July 9, 1997 but before March 1, 2005. The modification proposed will occur after this time period. Therefore, this paragraph does not apply.

§ 60.44Da (e) applies to construction, reconstruction, or modification after February 28, 2005 but before May 4, 2011. The modification proposed will occur after this time period. Therefore, this paragraph does not apply.

§ 60.44Da (f) applies to construction, reconstruction, or modification after February 28, 2005 but before May 4, 2011. The modification proposed will occur after this time period. Therefore, this paragraph does not apply.

§ 60.44Da (g) lists a NO_X emission limit for modified facilities, paragraph (g)(3), of 1.1 lb/MWh (gross energy output). The unit is rated at 36 MW/h gross, which results in a 36(1.1) = 39.6 lb-NO_X/hr limit. The current limit for NO_X is more stringent than this limit; therefore, the following condition will ensure compliance with this paragraph:

- When exclusively burning biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed 38.90 lb/hr and 0.1000 lb/MMBtu, calculated on a block 24-hour average. [District Rule 2201 and 40 CFR 60.44Da (a)(1), and (2) and (g)(3) and 60.48Da (b)]

- When burning fuels other than or in combination with biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed 38.90 lb/hr and 65 ppmv @ 3% O2, calculated on a block 24-hour average. [District Rule 2201 and 40 CFR 60.44Da (a)(1), and (2) and (g)(3) and 60.48Da (b)]

§ 60.44Da (h) applies to a facility operating under a commercial demonstration permit, which this facility does not operate under; therefore, this paragraph does not apply.

§ 60.45Da lists alternative standards to sections § 60.44Da. No alternative standards are proposed.

§ 60.48Da lists compliance provisions as follows:

§ 60.48Da (a) requires units modified since May 3, 2011 to comply with the applicable SO_2 and NO_X limits at all times (no exceptions for startup and shutdown periods). As shown previously, the startup and shutdown emission limits comply with the limits of this subpart.

§ 60.48Da (b) requires the SO_2 and NO_X limits to be based on a 30 successive boiler operating day period. Since NO_X emissions are already based on a 24-hour average they are more strict than what this subpart requires and will remain in place. The following conditions will ensure compliance with this paragraph:

- Except during periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 15.47 lb/hr and 0.0398 lb/MMBtu based on a 30 successive boiler operating day average. [District Rule 2201 and 40 CFR 60.43Da (a)(2) and (l)(2) and 60.48Da (b)]
- During periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 0.11 lb/MMBtu, calculated on a ~~daily basis~~block 24-hour average. [District Rule 2201 and 40 CFR 60.43Da (l)(2) and 60.48Da (b)]
- Except during periods of startup or shutdown, sulfur dioxide emissions shall not exceed 30% of the potential combustion concentration (70% reduction in potential emissions of sulfur dioxide based on sulfur analysis of "as-fired" fuel) based on a 30 successive boiler operating day average. [40 CFR 60.43Da (a)(2) and 60.48Da (b)]
- When exclusively burning biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed any of the following limits: 38.90 lb/hr, ~~and~~ 0.1000 lb/MMBtu, or 90 ppmv @ 3% O2 calculated on a ~~daily basis~~block 24-hour average. [District Rules 2201, 4352, and 40 CFR 60.44Da (a)(1), and (2) and (g)(3) and 60.48Da (b)]
- When burning fuels other than or in combination with biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed any of the following limits: 38.90 lb/hr, 0.1000 lb/MMBtu, or 65 ppmv @ 3% O2, calculated on a block 24-hour average. [District Rules 2201, 4352, and 40 CFR 60.44Da (a)(1), and (2) and (g)(3) and 60.48Da (b)]
- During periods of combustor start-up and shutdown, nitrogen oxide emissions (as NO2) shall not exceed 0.20 lb/MMBtu, calculated on a ~~daily basis~~block 24-hour average. [District Rule 2201 and 40 CFR 60.48Da (b)]

The remainder of **§ 60.48Da** and **§ 60.49Da, § 60.50Da, § 60.51Da, § 60.52Da** lists miscellaneous compliance provisions, emission monitoring requirements, compliance determination procedures and methods, reporting requirements, and recordkeeping requirements. The following existing conditions will ensure ongoing compliance with these requirements:

- Permittee shall comply in full with all applicable Rule 4001 requirements (New Source Performance Standards, 40 CFR, Part 60, Subpart Da). [District Rule 4001]
- Performance testing shall be witnessed or authorized by District personnel and EPA. Test results must be submitted to the District within 60 day of performance testing. [District Rule 1081, 7.2, 7.3; 40 CFR 60.51Da (a); and PSD SJ 85-07]

- Sulfur content of each type of fuel shall be measured and recorded on monthly basis using current ASTM Methods or shall be certified by supplier for each shipment. [District Rule 2520, 9.2.2; 40 CFR 60.49Da (e); and PSD SJ 85-07]

- Operator shall install, operate, and maintain in calibration a system which continuously measures and records control system operating parameters; elapsed time of operation; and exhaust gas opacity, NOx, SO2, and O2 (or CO) concentrations. [District Rules 2201 and 1080, 4.0; 40 CFR 60.49Da (a), (b), (c), (d), (e); 40 CFR 64.3; and PSD SJ 85-07]

- Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEMs that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3; 40 CFR 60.51Da (b); 40 CFR 64.9; and PSD SJ 85-07]

- The permittee shall maintain hourly, daily, and 30-day rolling average records of NOx and SOx emissions and of the percentage SOx reduction. [40 CFR 60.48Da (f), (g), 60.43Da (a), 60.51Da (b); and 40 CFR 64.9]

- The permittee shall obtain emission data from the CEMS for at least 18 hours in at least 22 out of 30 successive boiler operating days for compliance determination. If this minimum data requirement can not be met with the CEMS, the permittee shall supplement the emission data with other monitoring systems approved by the APCO or with the reference methods and procedures described in 40 CFR 60.49(h). [40 CFR 60.49Da(f); and 40 CFR 64.7]

- Permittee shall submit a CEMs written report for each calendar quarter to the District and to EPA. The report is due on the 30th day following the end of the calendar quarter. [District Rule 1080, 8.0; 40 CFR 60.51Da (a); 40 CFR 64.9; and PSD SJ 85-07]

Continued compliance with NSPS subpart Da is expected.

Note: the unit is not subject to Subpart Db – Subpart Db 60.40b (e) states that electric steam generating units are not subject to Subpart Db if they meet the requirements of Subpart Da i.e. supplies more than 1/3 of its potential electric output and more than 25 MW electrical output to a utility power distribution system.

Rule 4101 Visible Emissions

Rule 4101 states that no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity). This project authorizes a cleaner burning fuel than what this facility has historically been fired on. Therefore, based on past inspections of the facility, continued compliance 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.

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. This operation is currently in compliance with this rule. The modification to burn a cleaner fuel is not expected to jeopardize existing compliance. Therefore, continued compliance with this rule is expected.

Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO_2, NO_2, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to $\leq$ 0.1 gr/scf.

The combustor is currently in compliance with this rule and no modifications to the equipment or method of operation are proposed or expected that would jeopardize compliance. Therefore, continued compliance with this rule is expected.

Rule 4352 Solid Fuel Fired Boilers, Steam Generators, and Process Heaters

The purpose of this rule is to limit emissions of oxides of nitrogen (NO_x) and carbon monoxide (CO) from solid fuel fired boilers, steam generators and process heaters.

This rule applies to any boiler, steam generator or process heater fired on solid fuel. Heat may be supplied by liquid or gaseous fuels for start-ups, shutdowns, and during other flame stabilization periods, as deemed necessary by the owner/operator.

Although the ATC issued with this project will authorize the combustion of gaseous fuel other than during startup and shutdown periods, the boiler will still combust solid fuel and be subject to this rule.

Sections 5.1 and 5.2 limit NO_X and CO emissions to the limits stated in Table 5.1, except during periods of startup and shutdown, based on a block 24 hour average, effective January 1, 2013:

District Rule 4352 Limits (ppmv @ 3% O_2)		
Pollutant	**NO_x**	**CO**
Biomass	90	400
All Other Fuel	65	400

The current emission factors listed on the permit for coal, petroleum coke, and biomass combustion are 0.1000 lb-NO_X/MMBtu and 0.2701 lb-CO/MMBtu. As shown in Section VII.B, this heat based emission factor is not adequate in limiting the combustion of coal, coke, and natural gas to 65 ppmv NO_X @ 3% O_2, though based on source testing, this limit is achievable.

NO_X emission factors when burning solely biomass remain unchanged (as shown in Section VII.B). A concentration based limit will be listed for all fuels with biomass fuel having a separate limit as allowed by the rule. The following conditions will be listed on the permit to ensure compliance with the NO_X limit:

- When exclusively burning biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed any of the following limits: 38.90 lb/hr, ~~and~~ 0.1000 lb/MMBtu, or 90 ppmv @ 3% O2 calculated on a ~~daily basis~~block 24-hour average. [District Rules 2201, 4352, and 40 CFR 60.44Da (a)(1), and (2) and (g)(3) and 60.48Da (b)]
- When burning fuels other than or in combination with biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed any of the following limits: 38.90 lb/hr, 0.1000 lb/MMBtu, or 65 ppmv @ 3% O2, calculated on a block 24-hour average. [District Rules 2201, 4352, and 40 CFR 60.44Da (a)(1), and (2) and (g)(3) and 60.48Da (b)]

For the various F-factors calculated in Section VII.B, the resultant CO emissions from the approved and proposed fuels is calculated:

Natural Gas:

$$\frac{0.2701\ lb\cdot CO}{MMBtu}\left(\frac{MMBtu}{8{,}578\ dscf}\right)\frac{20.9-3}{20.9}\left(\frac{lb\cdot mole}{28\ lbs\cdot CO}\right)\frac{379.5\ dscf}{lb\cdot mole}\left(10^6\right)=365\ ppmv$$

Biomass:

$$\frac{0.2701\ lb\cdot CO}{MMBtu}\left(\frac{MMBtu}{9{,}100\ dscf}\right)\frac{20.9-3}{20.9}\left(\frac{lb\cdot mole}{28\ lbs\cdot CO}\right)\frac{379.5\ dscf}{lb\cdot mole}\left(10^6\right)=345\ ppmv$$

Coal/Coke:

$$\frac{0.2701\ lb\cdot CO}{MMBtu}\left(\frac{MMBtu}{9{,}947\ dscf}\right)\frac{20.9-3}{20.9}\left(\frac{lb\cdot mole}{28\ lbs\cdot CO}\right)\frac{379.5\ dscf}{lb\cdot mole}\left(10^6\right)=315\ ppmv$$

As demonstrated, compliance with the CO limit is achieved with the following existing condition:

- Carbon monoxide (CO) emission rate shall not exceed 105.10 lb/hr (3-hour average) and 0.2701 lb/MMBtu. [District Rule 2201 and PSD SJ 85-07]

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO_2) shall not exceed 0.2% by volume (or 2,000 ppmv). Using the ideal gas equation, the sulfur compound emissions are calculated as follows:

Volume SO_2 = (n x R x T) ÷ P
n = moles SO_2
T (standard temperature) = 60 °F or 520 °R
R (universal gas constant) = $\frac{10.73 \text{psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot {}^\circ\text{R}}$

Using combustor emissions during periods of startup and shutdown, 0.11 lb/MMBtu (worst case SO_X emissions), the following calculation is made:

$$\frac{0.11 lb \cdot SO_x}{MMBtu} \times \frac{MMBtu}{8{,}578\, ft^3} \times \frac{1 lb \cdot mol}{64 lb \cdot S} \times \frac{10.73\, psi \cdot ft^3}{lb \cdot mol \cdot {}^\circ R} \times \frac{520 {}^\circ R}{14.7 psi} \times \frac{1{,}000{,}000 \cdot parts}{million} = 76 \frac{parts \cdot SO_x}{million}$$

Since 76 ppmv is ≤ 2,000 ppmv, compliance with Rule 4801 is expected. The following conditions will remain on the ATC to ensure compliance:

- Except during periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 15.47 lb/hr and 0.0398 lb/MMBtu based on a 30 successive boiler operating day average. [District Rules 2201 and 4801 and 40 CFR 60.43Da (a)(2) and (l)(2) and 60.48Da (b)]
- During periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 0.11 lb/MMBtu, calculated on a daily basis. [District Rules 2201 and 4801 and 40 CFR 60.43Da (l)(2) and 60.48Da (b)]

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.

Greenhouse Gas (GHG) Significance Determination

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

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

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public and EPA noticing period, issue ATC S-1751-3-20 subject to the permit conditions on the attached draft ATC in **Appendix A**.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-883-3-21	3020-08A-G	36 MW, built <3/17/99	$10,215.00

Appendices

A: Draft ATC
B: Current PTO
C: BACT Guideline
D: Emission Inventories
E: Source Test Results
F: Quarterly Net Emissions Change
G: Emissions Profile
H: Compliance Certification
I: EPA Comments/District Response

Appendix A

Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-883-3-21 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: RIO BRAVO POSO
MAILING ADDRESS: 19100 VON KARMAN, STE 570
IRVINE, CA 92612

LOCATION: 16608 PORTERVILLE HWY
BAKERSFIELD, CA 93308

SECTION: SW28 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 36.0 MW SOLID FUEL FIRED CIRCULATING BED COMBUSTOR COGENERATION UNIT INCLUDING 389 MMBTU/HR COMBUSTOR WITH LOW-TEMPERATURE STAGED COMBUSTION, AMMONIA INJECTION, AND PULVERIZED LIMESTONE INJECTION - POSO CREEK: REPLACE EXISTING STARTUP GAS BURNERS WITH TWO 115 MMBTU/HR COEN LOW NOX GAS BURNERS, INSTALL TEN 18 MMBTU/HR COEN LOW NOX BED LANCE GAS BURNERS, AND AUTHORIZE COMBUSTION OF NATURAL GAS FOR FULL-TIME USE

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. Permittee shall comply in full with all applicable Rule 4001 requirements (New Source Performance Standards, 40 CFR, Part 60, Subpart Da). [District Rule 4001] Federally Enforceable Through Title V Permit
4. Fuel collecting conveyor, two fuel crushers, two bucket elevators, two boiler feed conveyors, fuel feed bin, fuel feeder, and limestone conveyor/feeder shall be totally enclosed and ventilated to fabric collector. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Operation shall be equipped with pneumatic limestone feed system. [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

DAVID WARNER, Director of Permit Services
S-883-3-21 : Feb 28 2013 3:53PM – RICKARDK : Joint Inspection NOT Required

6. Operation shall be equipped with primary and secondary combustion air blowers and air preheater with ash hopper. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Operation shall be equipped with fabric collector with ash hopper serving fuel/limestone handling equipment and combustor. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The main exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples using approved EPA test methods. [District Rule 1081, 3.0; and PSD SJ 85-07] Federally Enforceable Through Title V Permit
9. Combustor shall be fired only on coal, petroleum coke, PUC-quality natural gas, and/or biomass fuel. Propane or natural gas may be used as start-up fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Combustor shall not be fired solely on PUC quality natural gas except during startup, shutdown, and during upsets for flame stabilization. [District Rules 2201 and 4352] Federally Enforceable Through Title V Permit
11. Biomass introduced into the combustor shall not contain more than 2% by weight non-biomass material (plastics, metal, painted and preservative-treated wood, roofing material, fiberglass, etc.). [District Rule 4102]
12. At least once per quarter, operator shall collect a representative sample of the biomass material combusted and determine the weight percent of non-biomass material contained in that sample. 72-hour notice shall be given to the District prior to sampling. Prior to collecting the first quarterly sample, operator shall submit a sampling plan to the District's compliance division for approval and shall follow the approved plan for all subsequent sampling, unless a revised plan is submitted and approved. [District Rules 1081 and 4102] Federally Enforceable Through Title V Permit
13. "Biomass" means any organic material originating from plants including but not limited to products, by-products, residues and materials from agriculture, forestry, aquatic and related industries, such as agricultural, energy or feed crops, residues and wastes, orchard and vineyard prunings and removal, stone fruit pits, nut shells, cotton gin trash, corn stalks and stover, straw, seedhulls, sugarcane leavings and bagasse, aquatic plants and algae, cull logs, eucalyptus logs, poplars, willows, switchgrass, alfalfa, bark, lawn, yard and garden clippings, waste paper (unprinted), leaves, silvicultural residue, tree and brush pruning, sawdust, timber slash, mill scrap, wood and wood chips, and wood waste. Biomass does not include material containing sewage sludge or industrial, hazardous, radioactive, municipal solid waste, or any chemically treated wood or other material chemically treated or derived from fossil fuels. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
14. Wood waste includes clean, chipped wood products, plywood, wood products manufacturing wood materials, construction and demolition wood materials, wood boards with color coded ends, and wood pallets, crates and boxes. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
15. No more than 836,520 lb (on a dry basis) of coal or coke fuel per day of no more than 4.0% by weight sulfur shall be introduced into the combustor. Two (2) pounds of biomass fuel of no more than 4.0% by weight sulfur may be substituted for one (1) pound of coal or coke fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
16. No more than 836,520 lb (on a dry basis) of solid fuel per day of no more than 4.0% by weight sulfur shall be introduced into the combustor. [PSD SJ 85-07] Federally Enforceable Through Title V Permit
17. No more than 8.888 MMscf/day of natural gas shall be introduced into the combustor. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Limestone shall be capable of being directly injected into the combustor at a minimum of 0.042 lb limestone per lb of coal or coke introduced into the combustor, or 0.021 lb limestone per lb of biomass. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Peak temperature of combustor shall not exceed 1800 degrees F. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Unit shall be operated as staged-combustion device by introducing sub-stoichiometric amount of combustion air in primary combustion zone. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Ash shall be removed from combustion system only by means authorized by ash handling and loadout operation (Permit No. S-883-4). [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. Fuel feed and combustion air supply shall be automatically shutdown whenever fabric collector is shutdown. [District Rule 2201] Federally Enforceable Through Title V Permit

23. Visible emissions shall not exceed 1/4 Ringelmann or equivalent 5% opacity at any time from fuel conveyors, crusher, feed bin, feeder, and fabric collector. [District Rule 2201] Federally Enforceable Through Title V Permit

24. All combustor exhaust gas shall pass through fabric collector prior to emission to atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit

25. Ammonia injection system shall be capable of delivering at least 2.0 moles of NH3 for each mole of NOx. [District Rule 2201] Federally Enforceable Through Title V Permit

26. Soot-blowing shall not result in visible emissions of greater than Ringelmann 1 or equivalent 20% opacity, excluding uncombined water vapor, except for aggregate periods of less than 3 minutes in any one hour period. [District Rule 4101] Federally Enforceable Through Title V Permit

27. Start-up period is defined as the period of time, not exceeding 96 hours except during refractory curing when 192 hours are allowed, during which the combustor is heated to the operating temperature and pressure from a shutdown status. [District Rule 4352] Federally Enforceable Through Title V Permit

28. Shutdown period is defined as the period of time, not exceeding 12 hours, during which a unit is taken from operational to nonoperational status by allowing it to cool down from its operating temperature and pressure to an ambient temperature. [District Rule 4352] Federally Enforceable Through Title V Permit

29. "Non-operational (shutdown) status" is defined as a period when no combustion is occurring, and thus no combustion emissions are being generated or emitted, even though there is residual heat in the boiler. During "shutdown" status the unit shall be considered "boiler off-line" and no emission limits shall apply. "Shutdown" status ends with a startup. [District Rule 2201 5.7.1 and 5.7.2] Federally Enforceable Through Title V Permit

30. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. [District Rule 4352] Federally Enforceable Through Title V Permit

31. Particulate matter (PM-10) emission rate shall not exceed 4.31 lb/hr, 0.0111 lb/MMBtu and 0.007 grains/dscf. [District Rule 2201 and 40 CFR 60.42Da (a) and (e)] Federally Enforceable Through Title V Permit

32. Except during periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 15.47 lb/hr and 0.0398 lb/MMBtu based on a 30 successive boiler operating day average. [District Rules 2201 and 4801 and 40 CFR 60.43Da (a)(2) and (l)(2) and 60.48Da (b)] Federally Enforceable Through Title V Permit

33. Except during periods of startup or shutdown, sulfur dioxide emissions shall not exceed 30% of the potential combustion concentration (70% reduction in potential emissions of sulfur dioxide based on sulfur analysis of "as-fired" fuel). [40 CFR 60.43Da (a)(2) and 60.48Da (b)] Federally Enforceable Through Title V Permit

34. During periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 0.11 lb/MMBtu, calculated on a block 24-hour average. [District Rules 2201 and 4801 and 40 CFR 60.43Da (l)(2) and 60.48Da (b)] Federally Enforceable Through Title V Permit

35. Sulfur oxide emissions (as SO2) shall not exceed the following quarterly amounts: 1st Qtr., 33,415 lb; 2nd Qtr., 33,786 lb; 3rd Qtr., 34,158 lb; and 4th Qtr., 34,158 lb. [District Rule 2201] Federally Enforceable Through Title V Permit

36. When exclusively burning biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed any of the following limits: 38.90 lb/hr, 0.1000 lb/MMBtu, or 90 ppmv @ 3% O2, calculated on a block 24-hour average. [District Rules 2201, 4352, and 40 CFR 60.44 (a)(1) and (2) and (g)(3) and 60.48Da (b)] Federally Enforceable Through Title V Permit

37. When burning fuels other than or in combination with biomass, except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed any of the following limits: 38.90 lb/hr, 0.1000 lb/MMBtu, or 65 ppmv @ 3% O2, calculated on a block 24-hour average. [District Rules 2201, 4352, and 40 CFR 60.44 (a)(1) and (2) and (g)(3) and 60.48Da (b)] Federally Enforceable Through Title V Permit

38. During periods of combustor start-up and shutdown, nitrogen oxide emissions (as NO2) shall not exceed 0.20 lb/MMBtu, calculated on a block 24-hour average. [District Rule 2201 and 40 CFR 60.48Da (b)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

39. Nitrogen oxide emissions (as NO2) shall not exceed the following quarterly amounts: 1st Qtr., 84,024 lb; 2nd Qtr., 84,958 lb; 3rd Qtr., 85,891 lb; and 4th Qtr., 85,891 lb. [District Rule 2201] Federally Enforceable Through Title V Permit

40. Volatile organic compound (VOC) emission rate shall not exceed 6.03 lb/hr and 0.0155 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit

41. Carbon monoxide (CO) emission rate shall not exceed 105.10 lb/hr (3-hour average) and 0.2701 lb/MMBtu. [District Rule 2201 & PSD SJ 85-07] Federally Enforceable Through Title V Permit

42. Performance testing to measure NOx, SOx, CO, VOCs, and PM(10) at a steady-state steam production rate of at least ninety (90) percent of 305,000 pounds per hour and while firing on at least 80% (by heat input) natural gas from this unit shall be conducted during the next scheduled performance/source test according to the test methods listed on this permit. [District Rules 2201 and 4352] Federally Enforceable Through Title V Permit

43. Performance testing shall be conducted annually for NOx, SOx, CO, VOCs, and PM(10) at steady-state steam production rate of at least ninety (90) percent of 305,000 pounds per hour using the following test methods; for NOx EPA Methods 1-4 and 7 or ARB Method 100; for SOx EPA Methods 1-4 and 8 or ARB Method 100; for CO EPA Method 1-4 and 10 or ARB Method 100; for VOCs EPA Method 25 or 18; and for PM(10) EPA Method 201A in combination with EPA Method 202 or any other test methods and procedures approved by the District. [District Rules 4352, 6.4 and 2520, 9.3.2] Federally Enforceable Through Title V Permit

44. Performance testing shall be conducted annually for NOx, SOx, CO, VOCs, and PM(10) at the maximum operating capacity using following test methods; for NOx EPA Methods 1-4 and 7 or ARB Method 100; for SOx EPA Methods 1-4 and 8 or ARB Method 100; for CO EPA Method 1-4 and 10 or ARB Method 100; for VOCs EPA Method 25 or 18; and for PM(10) EPA Method 201A in combination with EPA Method 202. [PSD SJ 85-07] Federally Enforceable Through Title V Permit

45. The District and EPA must be notified 30 days prior to any performance testing and a test plan shall be submitted for District approval 15 days prior to such testing. [District Rule 1081, 7.1 & PSD SJ 85-07] Federally Enforceable Through Title V Permit

46. Performance testing shall be witnessed or authorized by District personnel and EPA. Test results must be submitted to the District within 60 day of performance testing. [District Rule 1081, 7.2, 7.3; 40 CFR 60.51Da (a) & PSD SJ 85-07] Federally Enforceable Through Title V Permit

47. Quarterly, start-up, and shutdown NOx and SOx emissions shall be measured by maintaining CEM, fuel use and fuel Btu content records, and such records shall be made available for District inspection upon request. [District Rule 1070, 4.0] Federally Enforceable Through Title V Permit

48. Permittee shall maintain an operating log containing type and quantity of fuel used and higher heating value of such fuels on daily basis. [District Rules 2201 and 4352, 6.2; PSD SJ 85-07] Federally Enforceable Through Title V Permit

49. Sulfur fuel of the each type of fuel shall be measured and recorded on monthly basis using current ASTM Methods or shall be certified by supplier for each shipment. [District Rule 2520, 9.3.2; 40 CFR 60.51Da (a) & PSD SJ 85-07] Federally Enforceable Through Title V Permit

50. Operator shall install, operate, and maintain in calibration a system which continuously measures and records control system operating parameters; elapsed time of operation; and exhaust gas opacity, NOx, SO2, and O2 (or CO) concentrations. [District Rules 2201 and 1080; 40 CFR 60.49Da(b); & PSD SJ 85-07] Federally Enforceable Through Title V Permit

51. The continuous emissions monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix B; 40 CFR 60, Appendix F; and 40 CFR 51, Appendix P, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.5; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

52. Operator shall install, operate, and maintain in calibration a system which continuously measures and records stack gas volumetric flow rates meeting the performance specifications of 40 CFR Part 52, Appendix E. [PSD SJ 85-07] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

53. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit

54. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEMs that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3; 40 CFR 60.52Da and PSD SJ 85-07] Federally Enforceable Through Title V Permit

55. The permittee shall maintain hourly, daily, and 30-day rolling average records of NOx and SOx emissions and of the percentage SOx reduction. [40 CFR 60.48Da (f), (g), 60.43Da (a), 60.51Da (b)] Federally Enforceable Through Title V Permit

56. The permittee shall obtain emission data from the CEMS for at least 22 out of 30 successive boiler operating days for compliance determination. If this minimum data requirement can not be met with the CEMS, the permittee shall supplement the emission data with other monitoring systems approved by the APCO or with the reference methods and procedures described in 40 CFR 60.49(h). [40 CFR 60.49Da(f)] Federally Enforceable Through Title V Permit

57. Permittee shall submit a CEMs written report for each calendar quarter to the District and to EPA. The report is due on the 30th day following the end of the calendar quarter. [District Rule 1080, 8.0; 40 CFR 60.51Da (a); and PSD SJ 85-07] Federally Enforceable Through Title V Permit

58. Quarterly report shall include: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 2520, 9.5.1; Rule 1080, 8.0 and PSD SJ 85-07] Federally Enforceable Through Title V Permit

59. Any violation of emission standards, as indicated by the CEM, shall be reported by the operator to the APCO within 96 hours. Excess emissions shall be defined as any three-hour period during which emissions of SOx or NOx as measured by CEM system exceeds the SOx and NOx maximum emission limits set forth for each the pollutants in this permit. [District Rule 1080, 9.0; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

60. Operator shall notify the District no later than one hour after the detection of a breakdown of the CEM unless the owner or operator demonstrates to the APCO's satisfaction that a longer noticing period was necessary. The operator shall inform the District of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080 and 1100 and 40 CFR 64] Federally Enforceable Through Title V Permit

61. Permittee shall not discharge or cause the discharge into the atmosphere SO2 in excess of the more stringent of 14.0 lb/hr or 20 ppm at 3% O2 (3-hour average) from stack venting from the combustion unit except during periods of startup and shutdown. [PSD SJ 85-07] Federally Enforceable Through Title V Permit

62. Permittee shall not discharge or cause the discharge into the atmosphere NOx in excess of the more stringent of 38.9 lb/hr or 78 ppm at 3% O2 (3-hour average) from stack venting from the combustion unit except during periods of startup and shutdown. [PSD SJ 85-07] Federally Enforceable Through Title V Permit

63. During startup or shutdown, permittee shall not discharge or cause the discharge into the atmosphere SO2 in excess of 0.11 lb/MMBtu averaged over a 24-hour period. [PSD ATC SJ 85-07] Federally Enforceable Through Title V Permit

64. During startup and shutdown, permittee shall not discharge or cause the discharge into the atmosphere NOx in excess of 0.20 lb/MMBtu averaged over a 24-hour period. [PSD ATC SJ 85-07] Federally Enforceable Through Title V Permit

65. Fabric collection system shall be completely inspected annually while in operation for evidence of particulate matter breakthrough and shall be repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

66. Fabric collector filters shall be completely inspected annually while not in operation for tears, scuffs, abrasives or holes which might interfere with PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

67. Records of fabric collector filter maintenance, inspection, and repairs shall be maintained. The records shall include identification of equipment, date of inspection, corrective action taken, and identification of individual performing inspection. [District Rule 2520, 9.4.1] Federally Enforceable Through Title V Permit

Appendix B

Current PTO

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-883-3-20 **EXPIRATION DATE:** 01/31/2015

SECTION: SW28 **TOWNSHIP:** 27S **RANGE:** 27E

EQUIPMENT DESCRIPTION:
36.0 MW SOLID FUEL FIRED CIRCULATING BED COMBUSTOR COGENERATION UNIT INCLUDING 389 MMBTU/HR COMBUSTOR WITH LOW-TEMPERATURE STAGED COMBUSTION, AMMONIA INJECTION, AND PULVERIZED LIMESTONE INJECTION - POSO CREEK

PERMIT UNIT REQUIREMENTS

1. Permittee shall comply in full with all applicable Rule 4001 requirements (New Source Performance Standards, 40 CFR, Part 60, Subpart Da). [District Rule 4001] Federally Enforceable Through Title V Permit
2. Fuel collecting conveyor, two fuel crushers, two bucket elevators, two boiler feed conveyors, fuel feed bin, fuel feeder, and limestone conveyor/feeder shall be totally enclosed and ventilated to fabric collector. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Operation shall be equipped with pneumatic limestone feed system. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Operation shall be equipped with primary and secondary combustion air blowers and air preheater with ash hopper. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Operation shall be equipped with fabric collector with ash hopper serving fuel/limestone handling equipment and combustor. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The main exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples using approved EPA test methods. [District Rule 1081, 3.0; and PSD SJ 85-07] Federally Enforceable Through Title V Permit
7. Combustor shall be fired only on coal, petroleum coke, and/or biomass fuel. Propane or natural gas may be used as start-up fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Biomass introduced into the combustor shall not contain more than 2% by weight non-biomass material (plastics, metal, painted and preservative-treated wood, roofing material, fiberglass, etc.). [District Rule 4102]
9. At least once per quarter, operator shall collect a representative sample of the biomass material combusted and determine the weight percent of non-biomass material contained in that sample. Prior to collecting the first quarterly sample, operator shall submit a sampling plan to the District's compliance division for approval and shall follow the approved plan for all subsequent sampling, unless a revised plan is submitted and approved. [District Rules 1081 and 4102] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

10. "Biomass" means any organic material originating from plants including but not limited to products, by-products, residues and wastes from agriculture, forestry, aquatic and related industries, such as agricultural, energy or feed crops, residues and wastes, orchard and vineyard prunings and removal, stone fruit pits, nut shells, cotton gin trash, corn stalks and stover, straw, seedhulls, sugarcane leavings and bagasse, aquatic plants and algae, cull logs, eucalyptus logs, poplars, willows, switchgrass, alfalfa, bark, lawn, yard and garden clippings, waste paper (unprinted), leaves, silvicultural residue, tree and brush pruning, sawdust, timber slash, mill scrap, wood and wood chips, and wood waste. Biomass does not include material containing sewage sludge or industrial, hazardous, radioactive, municipal solid waste, or any material chemically treated or derived from fossil fuels. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
11. Wood waste includes clean, chipped wood products, plywood, wood products manufacturing wood materials, construction and demolition wood materials, and wood pallets, crates and boxes. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
12. No more than 836,520 lb (on a dry basis) of coal or coke fuel per day of no more than 4.0% by weight sulfur shall be introduced into the combustor. Two (2) pounds of biomass fuel of no more than 4.0% by weight sulfur may be substituted for one (1) pound of coal or coke fuel. [District Rule 2201] Federally Enforceable Through Title V Permit
13. No more than 836,520 lb (on a dry basis) of solid fuel per day of no more than 4.0% by weight sulfur shall be introduced into the combustor. [PSD SJ 85-07] Federally Enforceable Through Title V Permit
14. Limestone shall be capable of being directly injected into the combustor at a minimum of 0.042 lb limestone per lb of coal or coke introduced into the combustor, or 0.021 lb limestone per lb of biomass. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Peak temperature of combustor shall not exceed 1800 degrees F. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Unit shall be operated as staged-combustion device by introducing sub-stoichiometric amount of combustion air in primary combustion zone. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Ash shall be removed from combustion system only by means authorized by ash handling and loadout operation (Permit No. S-883-4). [District Rule 2201] Federally Enforceable Through Title V Permit
18. Fuel feed and combustion air supply shall be automatically shutdown whenever fabric collector is shutdown. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Visible emissions shall not exceed 1/4 Ringelmann or equivalent 5% opacity at any time from fuel conveyors, crusher, feed bin, feeder, and fabric collector. [District Rule 2201] Federally Enforceable Through Title V Permit
20. All combustor exhaust gas shall pass through fabric collector prior to emission to atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Ammonia injection system shall be capable of delivering at least 2.0 moles of NH3 for each mole of NOx. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Soot-blowing shall not result in visible emissions of greater than Ringelmann 1 or equivalent 20% opacity, excluding uncombined water vapor, except for aggregate periods of less than 3 minutes in any one hour period. [District Rule 4101] Federally Enforceable Through Title V Permit
23. Start-up period is defined as the period of time, not exceeding 96 hours except during refractory curing when 192 hours are allowed, during which the combustor is heated to the operating temperature and pressure from a shutdown status. [District Rule 4352] Federally Enforceable Through Title V Permit
24. Shutdown period is defined as the period of time, not exceeding 12 hours, during which a unit is taken from operational to nonoperational status by allowing it to cool down from its operating temperature and pressure to an ambient temperature. [District Rule 4352] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

25. "Non-operational (shutdown) status" is defined as a period when no combustion is occurring, and thus no combustion emissions are being generated or emitted, even though there is residual heat in the boiler. During "shutdown" status the unit shall be considered "boiler off-line" and no emission limits shall apply. "Shutdown" status ends with a startup. [District Rule 2201 5.7.1 and 5.7.2] Federally Enforceable Through Title V Permit
26. The emission control system shall be in operation and emissions shall be minimized insofar as technologically feasible during start-up or shutdown. [District Rule 4352] Federally Enforceable Through Title V Permit
27. Particulate matter (PM-10) emission rate shall not exceed 4.31 lb/hr, 0.0111 lb/MMBtu and 0.007 grains/dscf. [District NSR Rule and 40 CFR 60.42 (a)(1)] Federally Enforceable Through Title V Permit
28. Except during periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 15.47 lb/hr and 0.0398 lb/MM Btu. [District Rule 2201 and 40 CFR 60.43 (a)(2)] Federally Enforceable Through Title V Permit
29. Except during periods of startup or shutdown, sulfur dioxide emissions shall not exceed 30% of the potential combustion concentration (70% reduction in potential emissions of sulfur dioxide based on sulfur analysis of "as-fired" fuel). [40CFR60 Subpart Da] Federally Enforceable Through Title V Permit
30. During periods of combustor start-up and shutdown, sulfur oxide emissions (as SO2) shall not exceed 0.11 lb/MMBtu, calculated on a daily basis. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Sulfur oxide emissions (as SO2) shall not exceed the following quarterly amounts: 1st Qtr., 33,415 lb; 2nd Qtr., 33,786 lb; 3rd Qtr., 34,158 lb; and 4th Qtr., 34,158 lb. [District Rule 2201 and 40 CFR 60.43Da] Federally Enforceable Through Title V Permit
32. Except during periods of combustor start-up and shutdown, nitrogen oxides emissions (as NO2) shall not exceed 38.90 lb/hr and 0.1000 lb/MMBtu, as calculated on a daily basis. [District Rule 2201 and 40 CFR 60.42 (a)(1), (2)] Federally Enforceable Through Title V Permit
33. During periods of combustor start-up and shutdown, nitrogen oxide emissions (as NO2) shall not exceed 0.20 lb/MMBtu, calculated on a daily basis. [District Rule 2201] Federally Enforceable Through Title V Permit
34. Nitrogen oxide emissions (as NO2) shall not exceed the following quarterly amounts: 1st Qtr., 84,024 lb; 2nd Qtr., 84,958 lb; 3rd Qtr., 85,891 lb; and 4th Qtr., 85,891 lb. [District Rule 2201] Federally Enforceable Through Title V Permit
35. Volatile organic compound (VOC) emission rate shall not exceed 6.03 lb/hr and 0.0155 lb/MMBtu. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Carbon monoxide (CO) emission rate shall not exceed 105.10 lb/hr (3-hour average) and 0.2701 lb/MMBtu. [District Rule 2201 & PSD SJ 85-07] Federally Enforceable Through Title V Permit
37. Performance testing shall be conducted annually for NOx, SOx, CO, VOCs, and PM(10) at steady-state steam production rate of at least ninety (90) percent of 305,000 pounds per hour using the following test methods; for NOx EPA Methods 1-4 and 7 or ARB Method 100; for SOx EPA Methods 1-4 and 8 or ARB Method 100; for CO EPA Method 1-4 and 10 or ARB Method 100; for VOCs EPA Method 25 or 18; and for PM(10) EPA Method 201A in combination with EPA Method 202 or any other test methods and procedures approved by the District. [District Rules 4352, 6.4 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
38. Performance testing shall be conducted annually for NOx, SOx, CO, VOCs, and PM(10) at the maximum operating capacity using following test methods; for NOx EPA Methods 1-4 and 7 or ARB Method 100; for SOx EPA Methods 1-4 and 8 or ARB Method 100; for CO EPA Method 1-4 and 10 or ARB Method 100; for VOCs EPA Method 25 or 18; and for PM(10) EPA Method 201A in combination with EPA Method 202. [PSD SJ 85-07] Federally Enforceable Through Title V Permit
39. The District and EPA must be notified 30 days prior to any performance testing and a test plan shall be submitted for District approval 15 days prior to such testing. [District Rule 1081, 7.1 & PSD SJ 85-07] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

40. Performance testing shall be witnessed or authorized District personnel and EPA. Test results must be submitted to the District within 60 day of performance testing. [District Rule 1081, 7.2, 7.3; 40 CFR 60.51Da (a) & PSD SJ 85-07] Federally Enforceable Through Title V Permit

41. Quarterly, start-up, and shutdown NOx and SOx emissions shall be measured by maintaining CEM, fuel use and fuel Btu content records, and such records shall be made available for District inspection upon request. [District Rule 1070, 4.0] Federally Enforceable Through Title V Permit

42. Permittee shall maintain an operating log containing type and quantity of fuel used and higher heating value of such fuels on daily basis. [District Rules 2201 and 4352, 6.2; PSD SJ 85-07] Federally Enforceable Through Title V Permit

43. Sulfur fuel of the each type of fuel shall be measured and recorded on monthly basis using current ASTM Methods or shall be certified by supplier for each shipment. [District Rule 2520, 9.3.2; 40 CFR 60.51Da (a) & PSD SJ 85-07] Federally Enforceable Through Title V Permit

44. Operator shall install, operate, and maintain in calibration a system which continuously measures and records control system operating parameters; elapsed time of operation; and exhaust gas opacity, NOx, SO2, and O2 (or CO) concentrations. [District Rules 2201 and 1080; 40 CFR 60.49Da(b); & PSD SJ 85-07] Federally Enforceable Through Title V Permit

45. The continuous emissions monitoring system shall meet the performance specification requirements in 40 CFR 60, Appendix B; 40 CFR 60, Appendix F; and 40 CFR 51, Appendix P, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080, 6.5; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

46. Operator shall install, operate, and maintain in calibration a system which continuously measures and records stack gas volumetric flow rates meeting the performance specifications of 40 CFR Part 52, Appendix E. [PSD SJ 85-07] Federally Enforceable Through Title V Permit

47. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080, 7.2] Federally Enforceable Through Title V Permit

48. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEMs that have been installed pursuant to District Rule 1080, and emission measurements. [District Rule 1080, 7.3; 40 CFR 60.52Da and PSD SJ 85-07] Federally Enforceable Through Title V Permit

49. The permittee shall maintain hourly, daily, and 30-day rolling average records of NOx and SOx emissions and of the percentage SOx reduction. [40 CFR 60.48Da (f), (g), 60.43Da (a), 60.51Da (b)] Federally Enforceable Through Title V Permit

50. The permittee shall obtain emission data from the CEMS for at least 22 out of 30 successive boiler operating days for compliance determination. If this minimum data requirement can not be met with the CEMS, the permittee shall supplement the emission data with other monitoring systems approved by the APCO or with the reference methods and procedures described in 40 CFR 60.49(h). [40 CFR 60.49Da(f)] Federally Enforceable Through Title V Permit

51. Permittee shall submit a CEMs written report for each calendar quarter to the District and to EPA. The report is due on the 30th day following the end of the calendar quarter. [District Rule 1080, 8.0; 40 CFR 60.51Da (a); and PSD SJ 85-07] Federally Enforceable Through Title V Permit

52. Quarterly report shall include: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 2520, 9.5.1; Rule 1080, 8.0 and PSD SJ 85-07] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

53. Any violation of emission standards, as indicated by the CEM, shall be reported by the operator to the APCO within 96 hours. Excess emissions shall be defined as any three-hour period during which emissions of SOx or NOx as measured by CEM system exceeds the SOx and NOx maximum emission limits set forth for each the pollutants in this permit. [District Rule 1080, 9.0; and PSD SJ 85-07] Federally Enforceable Through Title V Permit

54. Operator shall notify the District no later than one hour after the detection of a breakdown of the CEM unless the owner or operator demonstrates to the APCO's satisfaction that a longer noticing period was necessary. The operator shall inform the District of the intent to shut down the CEM at least 24 hours prior to the event. [District Rules 1080 and 1100 and 40 CFR 64] Federally Enforceable Through Title V Permit

55. Permittee shall not discharge or cause the discharge into the atmosphere SO2 in excess of the more stringent of 14.0 lb/hr or 20 ppm at 3% O2 (3-hour average) from stack venting from the combustion unit except during periods of startup and shutdown. [PSD SJ 85-07] Federally Enforceable Through Title V Permit

56. Permittee shall not discharge or cause the discharge into the atmosphere NOx in excess of the more stringent of 38.9 lb/hr or 78 ppm at 3% O2 (3-hour average) from stack venting from the combustion unit except during periods of startup and shutdown. [PSD SJ 85-07] Federally Enforceable Through Title V Permit

57. During startup or shutdown, permittee shall not discharge or cause the discharge into the atmosphere SO2 in excess of 0.11 lb/MMBtu averaged over a 24-hour period. [PSD ATC SJ 85-07] Federally Enforceable Through Title V Permit

58. During startup and shutdown, permittee shall not discharge or cause the discharge into the atmosphere NOx in excess of 0.20 lb/MMBtu averaged over a 24-hour period. [PSD ATC SJ 85-07] Federally Enforceable Through Title V Permit

59. Fabric collection system shall be completely inspected annually while in operation for evidence of particulate matter breakthrough and shall be repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

60. Fabric collector filters shall be completely inspected annually while not in operation for tears, scuffs, abrasives or holes which might interfere with PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

61. Records of fabric collector filter maintenance, inspection, and repairs shall be maintained. The records shall include identification of equipment, date of inspection, corrective action taken, and identification of individual performing inspection. [District Rule 2520, 9.4.1] Federally Enforceable Through Title V Permit

Appendix C

BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 1.3.1*

Last Update 8/27/2005

Fluidized-Bed Combustor => 272 MMBtu/hr, Cogeneration Operation, Fired with Delayed Petroleum Coke (DPC)

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	natural gas and fuel oil as auxiliary fuel		
NOx	28 ppmvd (as NO2 corrected to 3% O2), ammonia injection (less than 30 ppmvd ammonia slip) and natural gas and fuel oil as auxiliary fuel)		
PM10	0.005 gr/dscf corrected to 12% CO2, baghouse, natural gas and low sulfur fuel oil as auxiliary fuel		
SOx	20.2 ppmvd (as SO2 corrected to 3% O2) (DPC with 2% sulfur by weight) or lowest sulfur content fuel available when 2% sulfur by weight fuel is not available, Sorbent injection and natural gas and low-sulfur fuel oil (15 ppmvd sulfur or less), as auxiliary fuel	lowest sulfur content DPC fuel available, with Sorbent Injection and scrubber; natural gas and low-sulfur fuel oil (15 ppmvd sulfur or less), as auxiliary fuel	
VOC	0.008 lb/MMBtu, natural gas and fuel oil as auxiliary fuel		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

Appendix D

Emission Inventories

Date / Time Printed 8/29/2011 10:42:54 AM

UTM Zone : 11
UTM East: 311.889
UTM North: 3935.73

Emission Statement - Calendar Year 2010 Emissions

Please Sign and Return to:
San Joaquin Valley Unified APCD
1990 East Gettysburg Avenue
Fresno, CA 93726

Facility ID # S - 883
TAD # 15 - 883
SIC 4911 NAICS 221112
Facility Name RIO BRAVO POSO
TOXID # 50267
Planning Inventory:
Update Summary ☐

CHECK BOX IF PROCESS RATES ARE CONFIDENTIAL : N

Device ID #	Process #	Equipment Type	Yearly Process Rate	Units / Source Classification Code	NOX Lb / Unit	VOC Lb / Unit	SOX Lb / Unit	CO Lb / Unit	PM10 Lb / Unit	NH3 Lb / Unit	
1	1	FUEL RECEIVING & STORAGE OP	132471.4	TONS PROCESSED	.0	.0	.0	.0	.0	.0	
				30510203	.0	.0	.0	.0	.03	.0	(Tons/Yr)
2	1	LIMESTONE REC. & STORAGE	25448	TONS PROCESSED	.0	.0	.0	.0	.0	.0	
				30510205	.0	.0	.0	.0	.02	.0	(Tons/Yr)
3	1	COAL COGEN - 389 MMBTU/Hr	130883.7	TONS BURNED	2.01	.03	.65	1.86	.12	.03	
		Combustor		10200307	131.86	2.03	42.51	121.41	7.9	4554.75	(Tons/Yr)
3	2	COKE IN COAL COGEN	2893.8	TONS BURNED	2.01	.03	.65	1.86	.12	.03	
				10100801	2.92	.04	.94	2.68	.17	100.7	(Tons/Yr)
3	3	Fluid Coke in Coal COGEN	3233	TONS BURNED	2.01	.03	.65	1.86	.12	.03	
				10100217	3.26	.05	1.05	3.0	.2	112.51	(Tons/Yr)
3	4	COGEN - # OF TIRES BURNED	0	TIRES PROCESSED	.0	.0	.0	.0	.0	.0	
				30800501	.0	.0	.0	.0	.0	.0	(Tons/Yr)
4	1	ASH HANDLING & LOADOUT	34786.6	TONS PROCESSED	.0	.0	.0	.0	.0	.0	
				30510298	.0	.0	.0	.0	.0	.0	(Tons/Yr)
8	1	SAND REC. & STORAGE	0	TONS PROCESSED	.0	.0	.0	.0	.07	.0	
				30510298	.0	.0	.0	.0	.0	.0	(Tons/Yr)
11	1	gas flare	0	MILLION CUBIC FEET BURNED	.0	5.6	.0	.0	.0	.0	
				30600904	.0	.0	.0	.0	.0	.0	(Tons/Yr)
25	1	195 BHP DIESEL IC ENGINE	0.21	1000 GALLONS BURNED	469.0	32.1	31.2	102.0	33.5	.0	
				20100102	.05	.0	.0	.01	.0	.0	(Tons/Yr)
26	1	112 BHP DIESEL FIRED IC ENGINE	0.05	1000 GALLONS BURNED	469.0	32.1	31.2	102.0	33.5	.0	
				20100102	.01	.0	.0	.0	.0	.0	(Tons/Yr)
29	1	COOLING TOWER	161.55	MILLION GALLONS COOLING W	.0	.0	.0	.0	57.94	.0	
				30600701	.0	.0	.0	.0	4.68	.0	(Tons/Yr)
30	1	435 BHP CUMMINS DIESEL IC ENGINE	0.51	1000 GALLONS BURNED	469.0	32.1	31.2	102.0	33.5	.0	
				20100102	.12	.01	.01	.03	.01	.0	(Tons/Yr)
31	1	Fluid Coke Storage Silo	3378.6	TONS PROCESSED	.0	.0	.0	.0	.0	.0	
				30510204	.0	.0	.0	.0	.0	.0	(Tons/Yr)

Please Note: Emissions for NH3 are reported in Lbs / Year.

CO_2e using emission factors from SVII.B

tons CO_2e / yr = lbs of fuel (MMBtu / lbs fuel) EF (lb / MMBtu)

From assumptions SVII.A

Combustor MMBtu / lb of fuel = 0.012547

MMBtu / lb of fuel = 0.01421

MMBtu / lb of Fuel = 0.014727

355,949 ± / yr
9,246 ± / yr
10,454 ± / yr
355,649 ± - CO_2e / yr

Total 2010 :	138.04	2.12	44.50	127.09	8.27	tons/yr	355,649 ± / yr
Total 2009 :	141.51	1.87	48.06	47.64	4.5	tons/yr	345,159 ± / yr
2-year Average :	139.78	2.00	46.28	102.37	12.447	tons/yr	365,394 ± / yr
	279,550	4,000	92,560	204,730	25,540	lb / yr	← JSAE

This data was taken from last year's emissions inventory data. Please make any correction to this document in red ink.

Last Updated By BOTILLB

Date / Time Printed 6/23/2010 2:53:01 PM

UTM Zone : 11
UTM East: 311.864
UTM North: 3935.76

Emission Statement - Calendar Year 2009 Emissions

Please Sign and Return to:
San Joaquin Valley Unified APCD
1990 East Gettysburg Avenue
Fresno, CA 93726

Facility ID # S - 883
TAD # 15 - 883
SIC 4911 NAICS 221112
Facility Name RIO BRAVO POSO
TOXID # 50267
Planning Inventory:
Update Summary ☐

CHECK BOX IF PROCESS RATES ARE CONFIDENTIAL : N

Device ID #	Process Number	Equipment Type	Yearly Process Rate	Units / Source Classification Code	NOX Lb / Unit	VOC Lb / Unit	SOX Lb / Unit	CO Lb / Unit	PM10 Lb / Unit	NH3 Lb / Unit	
1	1	FUEL RECEIVING & STORAGE OP	125697.5	TONS PROCESSED	.0	.0	.0	.0	.0	.0	
				30510203	.0	.0	.0	.0	.04	.0	(Tons/Yr)
2	1	LIMESTONE REC. & STORAGE	20901	TONS PROCESSED	.0	.0	.0	.0	.0	.0	
				30510205	.0	.0	.0	.0	.01	.0	(Tons/Yr)
3	1	COAL COGEN - 389 MMBTU/Hr Combustor	74198.3	TONS BURNED	2.15	.03	.73	1.18	.07	.02	
				10200307	79.59	1.05	27.03	43.66	2.53	1493.61	(Tons/Yr)
3	2	COKE IN COAL COGEN	51670.9	TONS BURNED	2.15	.03	.73	1.18	.07	.02	
				10100801	55.42	.73	18.82	30.41	1.76	1040.24	(Tons/Yr)
3	3	Fluid Coke in Coal COGEN	6060.4	TONS BURNED	2.15	.03	.73	1.18	.07	.02	
				10100217	6.5	.09	2.21	3.57	.21	122.01	(Tons/Yr)
3	4	COGEN - TIRES BURNED	0	TIRES PROCESSED	.0	.0	.0	.0	.0	.0	
				30800501	.0	.0	.0	.0	.0	.0	(Tons/Yr)
4	1	ASH HANDLING & LOADOUT	26123.3	TONS PROCESSED	.0	.0	.0	.0	.0	.0	
				30510298	.0	.0	.0	.0	.0	.0	(Tons/Yr)
8	1	SAND REC. & STORAGE	0	TONS PROCESSED	.0	.0	.0	.0	.07	.0	
				30510298	.0	.0	.0	.0	.0	.0	(Tons/Yr)
11	1	gas flare	0	MILLION CUBIC FEET BURNED	.0	5.6	.0	.0	.0	.0	
				30600904	.0	.0	.0	.0	.0	.0	(Tons/Yr)
25	1	195 BHP DIESEL IC ENGINE	0.255	1000 GALLONS BURNED	469.0	32.1	31.2	102.0	33.5	.0	
				20100102	.06	.0	.0	.01	.0	.0	(Tons/Yr)
26	1	112 BHP DIESEL FIRED IC ENGINE	0.11	1000 GALLONS BURNED	469.0	32.1	31.2	102.0	33.5	.0	
				20100102	.03	.0	.0	.01	.0	.0	(Tons/Yr)
29	1	COOLING TOWER	164.8456	MILLION GALLONS COOLING W	.0	.0	.0	.0	66.37	.0	
				30600701	.0	.0	.0	.0	5.47	.0	(Tons/Yr)
30	1	435 BHP CUMMINS DIESEL IC ENGINE	0.397	1000 GALLONS BURNED	469.0	32.1	31.2	102.0	33.5	.0	
				20100102	.09	.01	.01	.02	.01	.0	(Tons/Yr)
31	1	Fluid Coke Storage Silo	6413	TONS PROCESSED	.0	.0	.0	.0	.0	.0	
				30510204	.0	.0	.0	.0	.0	.0	(Tons/Yr)
				2009 Total :	141.51	1.87	48.06	77.04	4.5	tons/yr	

Please Note: Emissions for NH3 are reported in Lbs / Year.

CO_2e

190,450 t/yr
165,092 t/yr
19,597 t/yr
375,139 t-CO_2e/yr

This data was taken from last year's emissions inventory data. Please make any correction to this document in red ink.

Last Updated By BOTILLB

Appendix E

Source Test Results

San Joaquin Valley Air Pollution Control District

Source Test Results

Company: RIO BRAVO POSO **Test Date:** 09/10/2008 **Pass** ☒ **Fail** ☐

Permit#: S-883-3-13 **FacilityID:** 883 **Unit ID:** COMBUSTOR

Witnessed By: ROACHJ **Area Inspector:** DEMERSJ

Reason For Testing:

Annual ☒ Initial ☐ CGA ☐ RATA ☐ Stationary/RATA ☒ QTR: 3
ReTest ☐ RepTest ☐ AMS ☐ Dist Performed ☐ Unit Dormant ☐
Postponed ☐

Test Company: Delta Air Quality Services, Inc. **Project Number:** R016552

Next Test: 9/12/2009 **Test Company Contact:** Mr. Stafford Pease

Equipment: 36 MW COAL/COKE FIRED FLUIDIZED BED BOILER W/ NH3 INJ, LIMESTONE INJ, BAGHOUSE, CEM

Equipment Type: Boiler **Input Rate:** 389.0 MMBTU **Output Rate:** 36.0 MW

Control Equipment:

Catalyst ☐ Scrubber ☐ Baghouse ☒ FGR ☐ O2 ☐
LoNOx ☐ Incin ☐ ESP ☐ H2O/Stm Inj ☐ NH3/SCR ☒
DLN ☐ PSC ☐ PCC ☐ Rich Burn ☐ Lean Burn ☐
Cyclone ☐ TEOR-Gas ☐

Fuel Data And Operational Data:

Fuel Type: COAL/COKE **F-Factor:** 9853 **BTU:** **Fuel Rate:** 16.1 TPH
Second Fuel: **O2 % Stack:** 5.1 **Stack Flow:** 97500 **Process Rate:** 38.4 MW

Comments:

ANNUAL COMPLIANCE AND RATA

Enforcement Action: ☐ **NOV#:**

Report Rec: 10/21/2008 **Reviewed By:** LAFOREG **Results Sent Date:**

Test Results:

Pollutant	Unit	Result	Limit	O2 Correction	Failed	Unit ID
CO	lbs/MMBtu	0.0379	0.2701			COMBUSTOR
CO	lbs/hr	17.1	105.1			COMBUSTOR
Flow RATA	dscfm	3.1	15.0			COMBUSTOR
Fuel S	%	0.83	4.0			COMBUSTOR
NOx	lbs/MMBtu	0.0701	0.1			COMBUSTOR
NOx	lbs/hr	31.6	38.9			COMBUSTOR
NOx RATA	ppm	2.1	20.0	0		COMBUSTOR
O2 RATA	% Difference	0.23	1.0			COMBUSTOR
PM10	gr/dscf	0.001	0.007			COMBUSTOR
PM10	lbs/MMBtu	0.0014	0.0111			COMBUSTOR
PM10	lbs/hr	0.84	4.31			COMBUSTOR
SO2	lb/MMBtu	0.0245	0.0398			COMBUSTOR
SO2	lb/hr	11.05	14.0			COMBUSTOR
SO2 RATA	ppm	11.5	20.0			COMBUSTOR
VOC	lbs/MMBtu	0.0003	0.0155			COMBUSTOR
VOC	lbs/hr	0.16	6.03			COMBUSTOR

San Joaquin Valley Air Pollution Control District

Source Test Results

Company: RIO BRAVO POSO **Test Date:** 09/16/2009 **Pass** ☒ **Fail** ☐

Permit#: S-883-3-13 **FacilityID:** 883 **Unit ID:** COMBUSTOR

Witnessed By: LAFOREG **Area Inspector:** DEMERSJ

Reason For Testing:

Annual ☒ Initial ☐ CGA ☐ RATA ☐ Stationary/RATA ☒ QTR: 3
ReTest ☐ RepTest ☐ AMS ☐ Dist Performed ☐ Unit Dormant ☐
Postponed ☐

Test Company: Delta Air Quality Services, Inc. **Project Number:** R017385

Next Test: 9/12/2010 **Test Company Contact:** Mr. Stafford Pease

Equipment: 36 MW COAL/COKE FIRED FLUIDIZED BED BOILER W/ NH3 INJ, LIMESTONE INJ, BAGHOUSE, CEM

Equipment Type: Boiler **Input Rate:** 389.0 MMBTU **Output Rate:** 36.0 MW

Control Equipment:

Catalyst ☐ Scrubber ☐ Baghouse ☒ FGR ☐ O2 ☐
LoNOx ☐ Incin ☐ ESP ☐ H2O/Stm Inj ☐ NH3/SCR ☒
DLN ☐ PSC ☐ PCC ☐ Rich Burn ☐ Lean Burn ☐
Cyclone ☐ TEOR-Gas ☐

Fuel Data And Operational Data:

Fuel Type: COAL/COKE **F-Factor:** 9803 **BTU:** **Fuel Rate:** TPH
Second Fuel: **O2 % Stack:** **Stack Flow:** **Process Rate:** MW

Comments:

Enforcement Action: ☐ **NOV#:**

Report Rec: 10/20/2009 **Reviewed By:** RODRIGUU **Results Sent Date:** 10/20/2009

Test Results:

Pollutant	Unit	Result	Limit	O2 Correction	Failed	Unit ID
CO	lbs/MMBtu	0.0369	0.2701			COMBUSTOR
CO	lbs/hr	17.1	105.1			COMBUSTOR
CO2 RATA	% Difference	0.3	1.0			COMBUSTOR
Flow RATA	dscfm	1.2	15.0			COMBUSTOR
Fuel S	%		4.0			COMBUSTOR
NOx	lbs/MMBtu	0.0708	0.1			COMBUSTOR
NOx	lbs/hr	32.8	38.9			COMBUSTOR
NOx RATA	lb/MMBtu	0.005	0.02			COMBUSTOR
NOx RATA	ppm	5.2	20.0	3		COMBUSTOR
O2 RATA	% Difference	0.2	1.0			COMBUSTOR
PM10	gr/dscf	0.0012	0.007			COMBUSTOR
PM10	lbs/MMBtu	0.0021	0.0111			COMBUSTOR
PM10	lbs/hr	0.99	4.31			COMBUSTOR
SO2	lb/MMBtu	0.0246	0.0398			COMBUSTOR
SO2	lb/hr	11.4	15.47			COMBUSTOR
SO2 RATA	lb/MMBtu	0.002	0.02			COMBUSTOR
SO2 RATA	ppm	7.7	20.0	3		COMBUSTOR
VOC	lbs/MMBtu	0.0004	0.0155			COMBUSTOR
VOC	lbs/hr	0.2	6.03	0		COMBUSTOR

SJVUAPCD
SOUTHERN

San Joaquin Valley Air Pollution Control District

Source Test Results

11/8/10
3:42 pm

Company: RIO BRAVO POSO **Test Date:** 09/15/2010 **Pass** ☒ **Fail** ☐

Permit#: S-883-3-13 **FacilityID:** 883 **Unit ID:** COMBUSTOR

Witnessed By: HOLMESD **Area Inspector:** DEMERSJ

Reason For Testing:

Annual	☒	Initial	☐	CGA	☐	RATA	☐	Stationary/RATA	☒ QTR: 3
ReTest	☐	RepTest	☐	AMS	☐	Dist Performed	☐	Unit Dormant	☐
Postponed	☐								

Test Company: Delta Air Quality Services, Inc. **Project Number:** R-018315

Next Test: 9/12/2011 **Test Company Contact:** Mr. Stafford Pease

Equipment: 36 MW COAL/COKE FIRED FLUIDIZED BED BOILER W/ NH3 INJ, LIMESTONE INJ, BAGHOUSE, CEM

Equipment Type: Boiler **Input Rate:** 389.0 MMBTU **Output Rate:** 36.0 MW

Control Equipment:

Catalyst	☐	Scrubber	☐	Baghouse	☒	FGR	☐	O2	☐
LoNOx	☐	Incin	☐	ESP	☐	H2O/Stm Inj	☐	NH3/SCR	☒
DLN	☐	PSC	☐	PCC	☐	Rich Burn	☐	Lean Burn	☐
Cyclone	☒	TEOR-Gas	☐						

Fuel Data And Operational Data:

Fuel Type: COAL/COKE **F-Factor:** 9614 **BTU:** 13301.0 BTU/LB **Fuel Rate:** 14.6 TPH

Second Fuel: **O2 % Stack:** 5.1 **Stack Flow:** 96295 **Process Rate:** 40.1 MW

Comments:

ANNUAL, RATA

Enforcement Action: ☐ **NOV#:**

Report Rec: 10/25/2010 **Reviewed By:** RODRIGUU **Results Sent Date:** 11/02/2010

Test Results:

Pollutant	Unit	Result	Limit	O2 Correction	Failed	Unit ID
CO	lbs/MMBtu	0.0602	0.2701			COMBUSTOR
CO	lbs/hr	26.9	105.1			COMBUSTOR
Flow RATA	dscfm	3.3	15.0			COMBUSTOR
Fuel S	%	2.7	4.0			COMBUSTOR
NOx	lbs/MMBtu	0.0706	0.1			COMBUSTOR
NOx	lbs/hr	31.6	38.9			COMBUSTOR
NOx RATA	ppm	4.8	20.0			COMBUSTOR
O2 RATA	% Difference	0.44	1.0			COMBUSTOR
PM10	gr/dscf	0.0021	0.007			COMBUSTOR
PM10	lbs/MMBtu	0.0038	0.0111			COMBUSTOR
PM10	lbs/hr	1.75	4.31			COMBUSTOR
SO2	lb/MMBtu	0.024	0.0398			COMBUSTOR
SO2	lb/hr	10.7	14.0			COMBUSTOR
SO2 RATA	ppm	12.7	20.0			COMBUSTOR
VOC	lbs/MMBtu	0.0005	0.0155			COMBUSTOR
VOC	lbs/hr	0.23	6.03			COMBUSTOR

SJVUAPCD
SOUTHERN

San Joaquin Valley Air Pollution Control District

Source Test Results

10/26/11
9:48 am

Company: RIO BRAVO POSO **Test Date:** 08/23/2011 **Pass** ☒ **Fail** ☐

Permit#: S-883-3-18 **FacilityID:** 883 **Unit ID:** COMBUSTOR

Witnessed By: LAFOREG **Area Inspector:** TURNIPSJ

Reason For Testing:

Annual	☒	Initial	☒	CGA	☐	RATA	☐	Stationary/RATA	☒ QTR: 3
ReTest	☐	RepTest	☐	AMS	☐	Dist Performed	☐	Unit Dormant	☐
Postponed	☐								

Test Company: Delta Air Quality Services, Inc. **Project Number:** R019133

Next Test: 8/22/2012 **Test Company Contact:** Mr. Stafford Pease

Equipment: 36 MW SOLID FUEL (COAL/COKE/BIOMASS) FIRED FLUIDIZED BED BOILER W/ CYCLONE, BAGHOUSE, NH3 INJ, LIMESTONE INJ.

Equipment Type: Boiler **Input Rate:** 389.0 MMBTU **Output Rate:** 36.0 MW

Control Equipment:

Catalyst	☐	Scrubber	☒	Baghouse	☒	FGR	☐	O2	☐
LoNOx	☐	Incin	☐	ESP	☐	H2O/Stm Inj	☐	NH3/SCR	☒
DLN	☐	PSC	☐	PCC	☐	Rich Burn	☐	Lean Burn	☐
Cyclone	☐	TEOR-Gas	☐						

Fuel Data And Operational Data:

Fuel Type: COAL/BIOMASS **F-Factor:** 10000 **BTU:** **Fuel Rate:** 17.66 TPH

Second Fuel: 1.0 TPH **O2 % Stack:** 6.4 **Stack Flow:** 99073 **Process Rate:** 36.0 MW

Comments:

ATC, BIOMASS, RATA c/o S-00467

Enforcement Action: ☐ **NOV#:**

Report Rec: 09/26/2011 **Reviewed By:** GLAPENSK **Results Sent Date:** 10/17/2011

Test Results:

Pollutant	Unit	Result	Limit	O2 Correction	Failed	Unit ID
CO	lbs/MMBtu	0.0631	0.2701			COMBUSTOR
CO	lbs/hr	25.9	105.1			COMBUSTOR
CO2 RATA	% Difference	-0.05	1.0			COMBUSTOR
Flow RATA	%RM	6.4	20.0			COMBUSTOR
NOx	lbs/MMBtu	0.0745	0.1			COMBUSTOR
NOx	lbs/hr	30.6	38.9			COMBUSTOR
NOx	ppm	53.0	78.0	3		COMBUSTOR
NOx RATA	ppm	3.7	20.0	3		COMBUSTOR
O2 RATA	% Difference	0.22	1.0			COMBUSTOR
PM10	gr/dscf	0.003	0.007			COMBUSTOR
PM10	lbs/MMBtu	0.0061	0.0111			COMBUSTOR
PM10	lbs/hr	2.63	4.31			COMBUSTOR
SO2	lb/MMBtu	0.0272	0.0398			COMBUSTOR
SO2	lb/hr	11.2	15.47			COMBUSTOR
SO2	ppm	14.0	20.0	3		COMBUSTOR
SO2 RATA	ppm	7.0	20.0	3		COMBUSTOR
VOC	lbs/MMBtu	0.0006	0.0155			COMBUSTOR
VOC	lbs/hr	0.24	6.03			COMBUSTOR

San Joaquin Valley Air Pollution Control District

Source Test Results

Company: RIO BRAVO POSO **Test Date:** 08/16/2012 **Pass** ☒ **Fail** ☐

Permit#: S-883-3-20 **FacilityID:** 883 **Unit ID:** COMBUSTOR

Witnessed By: LAFOREG **Area Inspector:** TURNIPSJ

Reason For Testing:

Annual ☒ Initial ☐ CGA ☐ RATA ☐ Stationary/RATA ☒ QTR: 3
ReTest ☐ RepTest ☐ AMS ☐ Dist Performed ☐ Unit Dormant ☐
Postponed ☐

Test Company: Delta Air Quality Services, Inc. **Project Number:** R0110043

Next Test: 8/22/2013 **Test Company Contact:** Mr. Stafford Pease

Equipment: 36 MW SOLID FUEL FIRED CIRCULATING BED COMBUSTOR COGEN W/ STAGED COMBUSTION, NH3 INJECTION, LIMESTONE INJECTION, CYCLONE, BAGHOUSE

Equipment Type: Boiler **Input Rate:** 389.0 MMBTU **Output Rate:** 36.0 MW

Control Equipment:

Catalyst ☐ Scrubber ☐ Baghouse ☒ FGR ☐ O2 ☐
LoNOx ☐ Incin ☐ ESP ☐ H2O/Stm Inj ☐ NH3/SCR ☒
DLN ☐ PSC ☐ PCC ☐ Rich Burn ☐ Lean Burn ☐
Cyclone ☒ TEOR-Gas ☐

Fuel Data And Operational Data:

Fuel Type: SOLID FUEL **F-Factor:** 9692 **BTU:** **Fuel Rate:** 15.7 TPH
Second Fuel: **O2 % Stack:** 5.0 **Stack Flow:** 97891 **Process Rate:** 35.1 MW

Comments:

ANNUAL, RATA, PSD SJ 85-07

Enforcement Action: ☐ **NOV#:**

Report Rec: 09/19/2012 **Reviewed By:** LAFOREG **Results Sent Date:**

Test Results:

Pollutant	Unit	Result	Limit	O2 Correction	Failed	Unit ID
CO	lbs/MMBtu	0.0721	0.2701			COMBUSTOR
CO	lbs/hr	32.9	105.1			COMBUSTOR
CO2 RATA	% Difference	0.32	1.0			COMBUSTOR
Fuel S	%	1.17	4.0			COMBUSTOR
NOx	lbs/MMBtu	0.0728	0.1			COMBUSTOR
NOx	lbs/hr	33.2	38.9			COMBUSTOR
NOx (PSD)	LB/HR	33.2	38.9			COMBUSTOR
NOx (PSD)	ppm	53.0	78.0	3		COMBUSTOR
NOx RATA	ppm	3.0	20.0	3		COMBUSTOR
O2 RATA	% Difference	0.07	1.0			COMBUSTOR
PM	gr/dscf	0.0015	0.007			COMBUSTOR
PM	lbs/MMBtu	0.0028	0.0111			COMBUSTOR
PM	lbs/hr	1.3	4.31			COMBUSTOR
SO2	lb/MMBtu	0.0193	0.0398			COMBUSTOR
SO2	lb/hr	8.8	15.47			COMBUSTOR
SO2 (PSD)	LB/HR	8.8	14.0			COMBUSTOR
SO2 (PSD)	PPM	10.0	20.0	3		COMBUSTOR
SO2 RATA	ppm	9.6	20.0			COMBUSTOR

Appendix F

Quarterly Net Emissions Change

Quarterly Net Emissions Change (QNEC)

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

QNEC = PE2 - PE1, where:

QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.6 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$PE2_{quarterly} = PE2_{annual} \div 4$ quarters/year
$PE1_{quarterly} = PE1_{annual} \div 4$ quarters/year

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO_X	85,191	85,191	0
SO_X	33,879	33,879	0
PM_{10}	9,456	9,456	0
CO	230,101	230,101	0
VOC	13,205	13,205	0

Appendix G

Emissions Profile

Permit #: S-883-3-21	**Last Updated**
Facility: RIO BRAVO POSO	02/01/2013 RICKARDK

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	340764.0	135517.0	37825.0	920404.0	52818.0
Daily Emis. Limit (lb/Day)	1867.2	1027.0	103.6	2521.7	144.7
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Appendix H

Compliance Certification

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SJVAPCD
Southern Region

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[ ] SIGNIFICANT PERMIT MODIFICATION
[X] MINOR PERMIT MODIFICATION
[ ] ADMINISTRATIVE AMENDMENT

COMPANY NAME: Rio Bravo Poso	FACILITY ID: S- 883
1. Type of Organization:[ ] Corporation [ ] Sole Ownership [ ] Government [X] Partnership [ ] Utility	
2. Owner's Name: Rio Bravo Poso	
3. Agent to the Owner: Maggie Estrada	

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

(SG) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

(SG) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

(SG) Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

(SG) Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

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

Signature of Responsible Official

11/27/2012
Date

Stephen B. Gross
Name of Responsible Official (please print)

CEO
Title of Responsible Official (please print)

Appendix I

EPA Comments/District Response

EPA Comments for Proposed Title V Permit Modification for Rio Bravo Poso, Facility ID S-883, Project # S-1124316

Comment 1:
The District's evaluation of whether the project will result in any emission increases subject to PSD begins on page 17, under Section VII.C.9.II.b. The evaluation makes the following statement:

> As discussed in the Federal Major Modification section previously, Mt Poso is *not expecting* an increase in operations as a result of this project compared to the baseline period. Since natural gas has fewer emissions (should read: lower emission factors) for all criteria pollutants and greenhouse gas (shown in Section VII.B) *no increase is expected* for any pollutants as summarized in the following table: (emphasis added)

No explanation is given for why the source is "not expecting" an increase in operations. Such an explanation and justification is required when a source requests to use the projected actual emissions (PAE) test. See 52.21 (b)(41)(ii). While using a fuel with lower emission factors will result in decreased emissions on a lb/ MMBTU basis, there is nothing to prevent the source from increasing its operations. In order to use PAE in the emission increase calculation, the source must comply with the provisions of 52.21(B)(41)(ii) and explain the basis for estimating that the specified PAE rate is the highest actual emission rate the source expects to emit in the next 5 years. An alternative is to use the Potential to Emit (PTE) limit for the source, which in this case it appears the District did use the numerical value, but labeled it as the PAE.

For calculating the Baseline Actual Emissions (BAE), the evaluation points to the discussion under the FMM evaluation on page 15, which in turn points to the SB288 Major Modification on page 12, under Section 7. For the purposes of a SB288 Major Modification determination, the Baseline Emissions (BE) are determined pursuant to Rule 2201, Section XX, which allows the BE to equal the PE1, in four specific cases. For example, in the case of NOx, the emission unit being modified was "fully offset" and therefore for NOx, the BE=PE1 provision is applicable. However, this provision does not apply when determining the BAE for a FMM or PSD. For both of these evaluations, the emission increase calculation must be based on the difference between BAE; and PTE or PAE. One cannot assume that PAE equals BAE. And while not discussed in this evaluation, one cannot assume any unused capacity could have otherwise been accommodated, because the capacity to burn natural gas is increasing. Please revise this evaluation to calculate the BAE for this unit, and then calculate the emissions increase using a PAE for the unit that has been adequately justified, as explained above. Then compare this value to the PSD significance thresholds to determine if the project constitutes a major modification which trigger PSD requirements.

District Response: Assumptions were removed from SB 288, Federal Major Modification, and Rule 2410 sections of the evaluation.