



NOV - 5 2009

Mr. Roger Allred
Mt. Poso Cogeneration Company
PO Box 81256
Bakersfield, CA 93380-1256

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-91
Project # S-1091829**

Dear Mr. Allred:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Mt. Poso Cogeneration Company at 36157 Famoso Road in Bakersfield, CA. Mt. Poso proposes to install a new biomass fuel receiving and storage yard and modify the existing combustor by limiting the SOx emissions.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the Authorities to Construct will be issued to the facility with Certificates of Conformity. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

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

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

DW:KR/lis

Enclosures

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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

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

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
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NOV - 5 2009

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

**Re: Notice of Preliminary Decision - ATC / Certificate of Conformity
Facility # S-91
Project # S-1091829**

Dear Mr. Rios:

Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Mt. Poso Cogeneration Company at 36157 Famoso Road in Bakersfield, CA, which has been issued a Title V permit. Mt. Poso Cogeneration Company is requesting that Certificates of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Mt. Poso proposes to install a new biomass fuel receiving and storage yard and modify the existing combustor by limiting the SO_x emissions.

Enclosed is the engineering evaluation of this application, along with the current Title V permit, and proposed Authorities to Construct # S-91-3-14, '-10-0, '-11-0 with Certificates of Conformity. After demonstrating compliance with the Authority to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

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

Thank you for your cooperation in this matter.

Sincerely,



David Warner
Director of Permit Services

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NOV - 5 2009

Mike Tollstrup, Chief
Project Assessment Branch
Air Resources Board
P O Box 2815
Sacramento, CA 95812-2815

Re: **Notice of Preliminary Decision - ATC / Certificate of Conformity**
Facility # S-91
Project # S-1091829

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of an application for Authorities to Construct for Mt. Poso Cogeneration Company at 36157 Famoso Road in Bakersfield, CA. Mt. Poso proposes to install a new biomass fuel receiving and storage yard and modify the existing combustor by limiting the SOx emissions.

The public notice will be published approximately three days from the date of this letter. Please submit your written comments within the 30-day public comment period which begins on the date of publication of the public notice.

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.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW:KR/ls

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Bakersfield Californian

**NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Air Pollution Control District solicits public comment on the proposed issuance of Authority To Construct to Mt. Poso Cogeneration Company for its cogeneration plant at 36157 Famoso Road in Bakersfield, California. Mt. Poso proposes to install a new biomass fuel receiving and storage yard and modify the existing combustor by limiting the SOx emissions.

The analysis of the regulatory basis for these proposed actions, Project #S-1091829, is available for public inspection at the District office at the address below. Written comments on the proposed initial permit must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 1990 E. GETTYSBURG AVE, FRESNO, CA 93726-0244.**

II. Applicable Rules

- Rule 2201 New and Modified Stationary Source Review Rule (09/21/06)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99) – Subpart Da - Standards of Performance for Electric Utility Steam Generation Units for Which Construction is Commenced After September 18, 1978
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 (05/18/06)
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 at 36157 Famoso Road in Bakersfield, CA. The equipment is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The 49.9 MW boiler is a fully circulating fluidized bed combustor manufactured by Pyropower. The unit has been in operation since 1989.

Circulating fluidized combustion conditions ensure maximum fuel residence time resulting in fuel burn out with minimal levels of CO and hydrocarbons. The combustor operates as a fully circulating fluidized bed and therefore does not experience detached plumes which may occur with bubbling bed combustors.

Ammonia and limestone injection are used to control NO_x and SO_x emissions, respectively. The ammonia injection system consists of two nozzles located at the inlet to each of the two cyclones (which collect bed material and ash). The temperature in this zone is approximately 1650 °F. The boiler is equipped with a superheater and an economizer to achieve optimum

efficiency in production of steam (of which over 90% plus drives a steam turbine to produce electricity and between 5% and 10% of the steam is diverted to a nearby thermally enhanced oil recovery operation). Cyclones followed by a baghouse are utilized for particulate control.

The current fuel authorized by unconverted ATC S-91-3-12 allows MPCC to combust coal, petroleum coke, tire derived material, and biomass fuel. Biomass consists of agricultural prunings, forest residue, and urban wood waste.

MPCC is proposing to fire this boiler on a high percentage of biomass. Due to the higher heating value (HHV) of biomass being approximately half that of the current permitted fuel additional fuel receiving facilities and storage capacity is required.

The facility will construct a new receiving, conveying, screening, and stacking operation (unit S-91-10-0) and a reclaiming operation (unit S-91-11-0) to store the additional fuel required for the combustor conversion.

S-91-10-0:

The proposed system will consist of four truck receiving areas equipped with enclosed hoppers and truck tippers and one walking floor capable of receiving 250 tons/hr of material (12 hours/day, 6 days/week). The biomass will be sent through a magnetic separator and will then be sorted through a disc screen and a hammer mill (hog). Fully enclosed Tubulators that float a rubber conveyor belt over a thin sheet of air will carry the material through fully enclosed transfer towers and stack the material in two piles (4 million ft³ capacity per pile).

S-91-11-0:

The reclaiming portion of this operation consists of a reclaiming chain (both towers capable of pulling 60 tons/hr of material 24 hours/day and 7 days/week) that will rake the material off the pile onto a conventional conveyor belt, through another magnetic pickup point, and into a gyrating screen to remove fines. From here the fines will be exported to a fully enclosed truck loadout using a screw-type conveyor. The biomass that passes the screen will then be transported to the fuel bin for combustion.

The existing fuel receiving and transferring operation, permit S-91-1-9, will be cancelled upon implementation of these new ATCs.

Combustion characteristics and emissions from the combustor are not expected to change with the use of biomass as a fuel or due to the inclusion of the dewatered lime cake sludge obtained from the raw water treatment processing operation onsite.

A process diagram is included in Appendix C.

V. Equipment Listing

Pre-Project Equipment Description:

(ATC) S-91-3-12: 49.9 MW COAL/PETROLEUM COKE/BIOMASS AND TIRE DERIVED FUEL (TDF) FIRED ATMOSPHERIC CIRCULATING FLUIDIZED BED COMBUSTOR COGENERATION POWER PLANT

Proposed Modification:

(ATC) S-91-3-14: MODIFICATION OF 49.9 MW COAL/PETROLEUM COKE/BIOMASS AND TIRE DERIVED FUEL (TDF) FIRED ATMOSPHERIC CIRCULATING FLUIDIZED BED COMBUSTOR COGENERATION POWER PLANT: INCLUDE LIME CAKE INJECTION FOR SOX CONTROL AND LOWER SOX EMISSION RATE

Post Project Equipment Description:

(PTO) S-91-3-14: 49.9 MW COAL/PETROLEUM COKE/BIOMASS AND TIRE DERIVED FUEL (TDF) FIRED ATMOSPHERIC CIRCULATING FLUIDIZED BED COMBUSTOR COGENERATION POWER PLANT

(PTO) S-91-10-0: BIOMASS FUEL RECEIVING, CONVEYING, SCREENING AND STORAGE OPERATION, INCLUDING TWO TRUCK TIPPERS W/ HOPPERS, WALKING FLOOR UNLOADING STATIONS W/ HOPPERS, ONE HAMMER MILL (HOG), FOUR TRANSFER TOWERS, AND TWO RADIAL STACKERS ALL SERVED BY BAGHOUSE.

(PTO) S-91-11-0: BIOMASS RECLAIM OPERATION WITH TWO RECLAIMERS, CONVEYORS, SCREEN, SCREENED FINES DISCHARGING TO TRUCK LOADOUT CONVEYOR, SCREENED FUEL CONVEYED TO COMBUSTOR FUEL BIN ALL SERVED BY BAGHOUSE.

VI. Emission Control Technology Evaluation

MPCC will construct a receiving, conveying, and screening operation (process diagram is located in Appendix C) consisting of:

S-91-10-0:

- 2 truck tippers (served by baghouse 1)
- 4 – 250 tons/hr receiving hoppers (served by baghouse 1)
- 1 conventional conveyor belt
- 1 magnetic separator
- 5 Tubulator conveyor belts (see Appendix C)
- 1 disc scalping screen (served by baghouse 1)
- 1 hammer mill (hog) (served by baghouse 2)
- 4 fully enclosed transfer towers
- 2 radial stackers/reclaimer (served by baghouse 3)¹
- 5 cartridge-type dust collectors

¹ The reclaiming operation is listed on permit S-91-11-0 but the stacking/reclaiming equipment is one piece. The hp for the entire piece of equipment will be listed on permit S-91-10-0.

Equipment	Manufacturer	Model	Hp	Qty	Tot. Hp
Truck Tipper	Bruks Rockwood	C1111-912-100	75	4	300
Hopper	Bruks Rockwood	C1111-902-100	25	4	100
Conventional Belt	--	--	30	1	30
Magnetic Separator	--	--	12	1	12
Disc Screen	Bruks Klockner	BDS D 1750 x 1118	5	1	5
Hammer Mill (Hog)	Bruks Klockner	Rotom hog HHG 12-16	504	1	504
Stacker/Reclaimer	Bruks Rockwood	COSR 4M	152.5	2	305
Tubulator	Bruks Rockwood	Various	54	2	108
Tubulator	Bruks Rockwood	Various	44	3	132
Dust Collector	GE, BHA, or equiv. ²	CPV-12	15	4	60
Dust Collector	GE, BHA, or equiv.	CPV-4	3	4	12
Dust Collector	GE, BHA, or equiv.	CPV-6	5	1	5
Dust Collector	GE, BHA, or equiv.	CPV-8	7.5	1	7.5
Dust Collector	GE, BHA, or equiv.	CPV-16	20	1	20
				Total	1,600.5

S-91-11-0:

- 2 reclaimer chain conveyors (served by baghouse 3)
- 2 conventional conveyor belts
- 2 magnetic separators
- 1 gyratory screen (served by baghouse 3)
- 1 truck loadout
- 3 tubulator-type conveyor belts
- 4 cartridge-type dust collectors

Equipment	Manufacturer	Model	Hp	Qty	Tot. Hp
Conventional Belt	--	--	20	2	40
Magnetic Separator	--	--	12	2	24
Gyratory Screen	BM & M	10 x 20 2CS	15	1	15
Truck Loadout	--	--	15	1	15
Tubulator	Bruks Rockwood	Various	22.5	1	22.5
Tubulator	Bruks Rockwood	Various	52.5	1	52.5
Tubulator	Bruks Rockwood	Various	17.5	1	17.5
Dust Collector	GE, BHA, or equiv.	CPV-6	5	5	25
Dust Collector	GE, BHA, or equiv.	CPV-6	15	1	15
				Total	226.5

All trucks will remain on the 0.2 miles of paved road between the street and the dumping point. The hoppers will be contained in the truck unloading shroud that will also extend to cover ¾ of the trailer and will be vented to a filter house.

² Air filtration models are GE Energy models provided by the applicant. If alternative equipment is chosen it will meet the same filtration effectiveness and air flow rate of the GE models.

The Tubulator conveyor belts are fully enclosed as are the transfer towers where exchanges in material are made and all belts are vented to a dust collector. MPCC proposes to install 4 baghouses with multiple cartridge-type dust collecting units (different model numbers and all capable of 99.99% PM₁₀ control efficiency) inside each baghouse serving eighteen total pickup points throughout the operation described in permits S-91-10-0 and '-11-0. These multiple pickups were chosen to limit the parasitic draw from operating with fewer points and dragging the air along longer distances.

The two screens and hammer mill are equipped with hoods and vented to a baghouse. The stacker unit uses a retractable spout equipped with a spray ring for dust suppression which also increases the moisture content of the stacked material. The reclaimer chain is equipped with a hood vented to a baghouse at the pickup point.

The screened fines are loaded into a fully enclosed truck loadout building. A screw-type conveyor moves the fines into a trailer and the entire enclosure is served by a dedicated baghouse.

VII. General Calculations

A. Assumptions

Fuel Yard (S-91-10-0 and '-11-0):

- Air filtration units will be calculated at 0.005 gr/scf (the units are capable of 99.99% PM₁₀ control or 0.002 gr/scf but the applicant has requested this higher rate to ensure compliance)
- Receiving operation (S-91-10-0) operates 12 hours/day and 6 days/week (per applicant)
- Reclaiming operation (S-91-11-0) operates 24 hours/day and 7 days/week (per applicant)
- Emissions consist of PM₁₀ only

Conveyor Transfer Points and Stacking Emissions (S-91-10-0 and '-11-0):

- An emissions factor of 0.0011 lb-PM₁₀/ton (AP-42 11.19.2)³ will be used for the conveyor belt transfer points at a receiving rate of 3,000 tons/day (reclaim rate is 1,440 tons/day with the same emissions factor)

Combustor (S-91-3-14):

- There will be no change in emissions for PM₁₀, NO_x, CO, or VOC as a result of this project
- SO_x actual emissions will be reduced to allow for the increase in PM₁₀ emissions generated by way of an in-project, interpollutant trade of SO_x for PM₁₀ at a 1:1 ratio
- Daily and hourly SO_x emission limits will not change. SO_x will be reduced annually.
- Combustor operates 24 hours/day, 365 days/year (per applicant)

³ The uncontrolled emission factor from AP-42 11.19.2 was used as the equation portion to calculate controlled emissions from AP-42 11.19.2 for crushed stone processing and pulverized mineral processing is not applicable or appropriate as there is no way to determine the applicable "equivalent" moisture content used in the equation

B. Emission Factors

Uncontrolled emissions from conveyor transfer points and stacking emissions, emissions factor of 0.0011 lb-PM₁₀/ton (AP-42 11.19.2)⁴, are reduced by 50% through the use of:

- A filter house attached to the tubulator at the transfer point where the tubulator transfers material onto the stacker conveyor will create a draft as the tubulator is fully enclosed
- A spray ring mounted on the telescoping material spouts on the stackers
- A filter house attached to the transfer points where the conventional conveyor belt transfers material onto the tubulator as it is fully enclosed and a draft will be created

S-91-3-14 NO_x emissions limit is 115 ppmv for compliance with Rule 4352 table 5.1 effective January 1, 2007 and is calculated as follows:

Where the F Factor = 8,578⁵ dscf/MMBtu and NO_x is calculated at 3% O₂:

$$\frac{\text{lb} - \text{NO}_x}{\text{MMBtu}} = \frac{115 \text{ ppmv}}{10^6} \left[\left(\frac{20.9 - 3\% \text{O}_2}{20.9} \right) \left(\frac{\text{MMBtu}}{8,578 \text{ dscf}} \right) \left(\frac{\text{lb} - \text{mol NO}_x}{46 \text{ lb} - \text{NO}_x} \right) \left(\frac{379.5 \text{ dscf}}{\text{lb} - \text{mol air}} \right) \right]^{-1} = 0.14 \frac{\text{lb} - \text{NO}_x}{\text{MMBtu}}$$

The permit currently lists the following two emission limits for NO_x:

- NO_x emissions shall not exceed 0.20 lb/MMBtu at any time, except during startup and shutdown (as defined in Rule 4352), based on a 24 hour averaging period. [District Rule 4352, 5.1]
- NO_x emissions shall not exceed 0.092 lb/MMBtu, based on a three hour rolling average, during any period in which the power output exceeds 40 MW. [District NSR Rule and PSD ATC SJ 86-09]

The facility emissions are currently based on the more strict NO_x emissions limit of 0.092 lb/MMBtu listed on the latter condition. Therefore the lower NO_x emissions factor will continue to be used for the post project calculations.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

The combustor, S-91-3-14:

Emissions were obtained from the District's PAS database and summarized in the following table.

⁴ The uncontrolled emission factor from AP-42 11.19.2 was used as the equation portion to calculate controlled emissions from AP-42 11.19.2 for crushed stone processing and pulverized mineral processing is not applicable or appropriate as there is no way to determine the applicable "equivalent" moisture content used in the equation

⁵ EPA Method 19 F factor corrected to 60° F

Pre-Project Potential to Emit (PE1)		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	1406.4	463,084
SO _x	699.4	209,016
PM ₁₀	190.0	68,350
CO	1,207.2	371,312
VOC	149.9	54,714

The fuel yard, S-91-10-0 and '-11-0:

Since these are new emissions units, PE1 = 0 for all pollutants.

2. Post Project Potential to Emit (PE2)

The PE2 for the fuel yard will be calculated first so that the SO_x emission reduction (using a 1:1 ratio with the PM₁₀ emissions) can be calculated for the combustor (additional calculation details are contained in Appendix D):

S-91-10-0:

Receiving operations are calculated at 6 days/week or 52 ¹/₇ weeks/year (as a year consists of 52 weeks and a day), 3,000 tons/day, and summarized in the table at the end of this section (detailed baghouse specifications in Appendix D).

The filter house emissions are calculated using the permitted particulate matter limit and the maximum combined volumetric flow rate:

$$\text{Receiving Emissions} \left(\frac{\text{lb} - \text{PM}_{10}}{\text{hr}} \right) = \left(\frac{0.005 \text{ gr}}{\frac{\text{ft}^3}{\text{min}}} \right) \frac{47,000 \text{ ft}^3}{\text{min}} \left(\frac{60 \text{ min}}{\text{hr}} \right) \frac{\text{lb}}{7,000 \text{ gr}} = 2.014 \frac{\text{lb} - \text{PM}_{10}}{\text{hr}}$$

$$\text{Where, at 12 hours of receiving per day} = 12 \frac{\text{hr}}{\text{day}} \left(\frac{2.014 \text{ lb} - \text{PM}_{10}}{\text{hr}} \right) = 24.17 \frac{\text{lb} - \text{PM}_{10}}{\text{day}}$$

Filter house emissions = 24.2 lb-PM₁₀/day

4 emission transfer points not served by filter houses:

- Tubulator conveyor #5 (C5) to stacker #1 belt conveyor
- Tubulator conveyor #6 (C6) to stacker #2 belt conveyor
- Stacker #1 conveyor to pile
- Stacker #2 conveyor to pile

The emissions factor of 0.0011 lb-PM₁₀/ton for the conveyor belt transfer points and a receiving rate of 3,000 tons/day will be used to calculate controlled transfer point emissions. Each stacker is capable of stacking half the total receiving capability of

3,000 tons/day or 1,500 tons/day per stacker. An efficiency (explained in section VII.B) of 50% exists at these 4 points.

The following emissions exist (for all four points):

$$PM_{10} = 1,500 \frac{\text{tons}}{\text{day}} \times 0.0011 \frac{\text{lb} - PM_{10}}{\text{ton}} \times (1 - 0.5) \times 4 \text{ points} = 3.3 \frac{\text{lb}}{\text{day}}$$

Transfer points = 3.3 lb-PM₁₀/day

Post Project Potential to Emit (PE2)			
S-91-10-0	Daily PM ₁₀ (lb/day)	Weekly PM ₁₀ (lb/week)	Annual PM ₁₀ (lb/year)
Filter House	24.2	145.0	7,562
Transfer Points	3.3	19.8	1,032
PE2	27.5	164.8	8,594

S-91-11-0:

Reclaiming operations are calculated at 7 days/week, 1,440 tons/day, and summarized in the table below (detailed baghouse specifications in Appendix D):

$$\text{Reclaiming Emissions} \left(\frac{\text{lb} - PM_{10}}{\text{hr}} \right) = \left(\frac{0.005 \text{ gr}}{\frac{\text{ft}^3}{\text{min}}} \right) \frac{21,000 \text{ ft}^3}{\text{min}} \left(\frac{60 \text{ min}}{\text{hr}} \right) \frac{\text{lb}}{7,000 \text{ gr}} = 0.9 \frac{\text{lb} - PM_{10}}{\text{hr}}$$

$$\text{Where, at 24 hours of reclaiming per day} = 24 \frac{\text{hr}}{\text{day}} \left(\frac{0.9 \text{ lb} - PM_{10}}{\text{hr}} \right) = 21.6 \frac{\text{lb} - PM_{10}}{\text{day}}$$

Filter house emissions = 21.6 lb-PM₁₀/day

2 emission transfer points not served by filter houses:

- Reclaimer chain #1 to reclaim conveyor (C7)
- Reclaimer chain #2 to reclaim conveyor (C8)

The emissions factor of 0.0011 lb-PM₁₀/ton for the conveyor belt transfer points and a receiving rate of 3,000 tons/day will be used to calculate controlled transfer point emissions. Each stacker is capable of stacking half the total receiving capability of 1,440 tons/day or 720 tons/day per stacker. An efficiency (explained in section VII.B) of 50% exists at these 2 points.

The following emissions exist (for both points):

$$PM_{10} = 720 \frac{\text{tons}}{\text{day}} \times 0.0011 \frac{\text{lb} - PM_{10}}{\text{ton}} \times (1 - 0.5) \times 2 \text{ points} = 0.8 \frac{\text{lb}}{\text{day}}$$

Transfer points = 0.8 lb/day

Post Project Potential to Emit (PE2)		
S-91-11-0	Daily PM ₁₀ (lb/day)	Annual PM ₁₀ (lb/year)
Filter House	21.6	7,884
Transfer Points	0.8	289
PE2	24.9	8,173

S-91-3-14:

NO_x emissions will be calculated using the heat input rating of 640 MMBtu/hr (project 990195) and the previously discussed NO_x emission factor of 0.092 lb/MMBtu to get 58.6 lb-NO_x/hr. At 24 hours of operation/day NO_x emissions would be 1,406.4 lb/day.

SO_x emissions for the combustor are proposed to be reduced by 22,805 lb/yr to mitigate the increased PM₁₀ emissions from S-91-10-0 and '-11-0 (the new receiving operation):

S-91-10 8,594 lb-PM₁₀/year
 S-91-11 +8,173 lb-PM₁₀/year
 16,767 lb-PM₁₀/year or lb-SO_x/year reduction needed on S-91-3

From actual emission reductions calculated in section VIII:

$$PE_{2SO_x} = 134,880 \text{ lb-SO}_x/\text{year} - 16,767 \text{ lb/year} = 118,113 \text{ lb-SO}_x/\text{year}$$

Post-Project Potential to Emit (PE2)		
S-91-3-14	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	1406.4	463,084
SO _x	699.4	118,113
PM ₁₀	190.0	68,350
CO	1,207.2	371,312
VOC	149.9	54,714

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (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 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-91-1-9	0	0	2,154	0	0
S-91-2-5	0	0	0	0	0
S-91-3-12	463,084	209,016	68,350	371,312	54,714
S-91-4-5	0	0	0	0	0
S-91-5-2	0	0	1,489	0	0
S-91-7-3	295	9	52	275	2
S-91-8-2	0	0	0	0	0
S-91-9-2	0	0	730	0	0
Pre-Project SSPE (SSPE1)	463,379	209,025	72,775	371,587	54,716

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

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) 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 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-91-1-9	0	0	2,154	0	0
S-91-2-5	0	0	0	0	0
S-91-3-14	463,084	118,113	68,350	371,312	54,714
S-91-4-5	0	0	0	0	0
S-91-5-2	0	0	1,489	0	0
S-91-7-3	295	9	52	275	2
S-91-8-2	0	0	0	0	0
S-91-9-2	0	0	730	0	0
S-91-10-0	0	0	8,594	0	0
S-91-11-0	0	0	8,173	0	0
Post Project SSPE (SSPE2)	463,379	118,122	89,542	371,587	54,716

5. Major Source Determination

Pursuant to Section 3.24 of District Rule 2201, a Major Source is a stationary source with post-project emissions or a Post Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the following threshold values. However, Section 3.24.2 states, "for the purposes of determining major source status, the SSPE2 shall not include the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site."

Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Pre-Project SSPE (SSPE1)	463,379	209,025	72,775	371,587	54,716
Post Project SSPE (SSPE2)	463,379	118,122	89,542	371,587	54,716
Major Source Threshold	50,000	140,000	140,000	200,000	50,000
Major Source?	Yes	No	No	Yes	Yes

This source is an existing Major Source for NO_x, SO_x, CO, and VOC emissions and will remain a Major Source for NO_x, CO, and VOC.

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 Section 3.7 of District Rule 2201, BE = Pre-project Potential to Emit 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 Section 3.22 of District Rule 2201.

S-91-3-14:

Clean Emissions Unit, Located at a Major Source

Pursuant to Rule 2201, Section 3.12, 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.

Unit S-91-3-14 is a clean emissions for NO_x, SO_x, PM₁₀, CO, and VOC as it satisfies the following requirements of BACT Guideline 1.3.1 Fluidized-Bed Combustor - \geq 272 MMBtu/hr, Cogeneration Operation, Fired with Delayed Petroleum Coke, 3rd Quarter 2003 (within the last 5 years):

NO_x: 0.10 lb/MMBtu, ammonia injection and natural gas and fuel oil as auxiliary fuel
 SO_x: 23 ppmvd, limestone injection and natural gas and fuel oil as auxiliary fuel
 PM₁₀: 0.045 lb/MMBtu, baghouse or ESP, and natural gas auxiliary fuel
 CO: 183 ppmvd, natural gas and fuel oil as auxiliary fuel
 VOC: 0.02 lb/MMBtu, natural gas and fuel oil as auxiliary fuel

BACT Guideline 1.3.1 3rd Quarter 2003 is included in Appendix E.

Therefore BE = PE1 for NO_x, SO_x, PM₁₀, CO, and VOC.

Baseline Emissions [BE] (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
S-91-3-14	463,084	209,016	68,350	371,312	54,714

S-91-10-0 and '-11-0:

Since these are new emissions units, BE = PE1 = 0 for all pollutants.

7. Major Modification

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."

As discussed in Section VII.C.5 above, the facility is not becoming a major source for PM₁₀ or SO_x. Therefore the project cannot be a major modification for PM₁₀ or SO_x. Since units S-91-10-0 and '-11-0 consist of PM₁₀ emissions only they will not be considered. The facility is a Major Source for NO_x and VOC; however, the project by itself would need to be a significant increase in order to trigger a Major Modification.

Major Modification Thresholds (Existing Major Source)			
Pollutant	Project PE (lb/year)	Threshold (lb/year)	Major Modification calculations required?
NO _x	463,084	50,000	Yes
SO _x	118,113	80,000	No ⁶
PM ₁₀	85,117	30,000	No ⁶
VOC	54,714	50,000	Yes

As indicated in the previous table, the emissions unit within this project has a total potential to emit which is greater than the Major Modification thresholds for NO_x and VOC (the facility is not a major source for SO_x or PM₁₀). Therefore, the increase from baseline actual emissions (BAE) to potential emissions (PE2) are calculated for comparison with the above thresholds. For the Major Modification calculation, BAE may be calculated using actual emissions during 2 years of representative operation within the 5-year period immediately preceding the date a complete permit application is received by the District. The application was received April 7, 2009. The baseline period will be January 1, 2007 through December 31, 2008. The Net Project Increase is calculated as:

$$Net\ Project\ Increase = \sum (PE2 - BAE)$$

⁶ Not a major source for SO_x or PM₁₀

Source test results were used to calculate the BAE for VOC for the years 2007 and 2008. The results for both years were less than the detection limits and therefore the HAEs for 2007 and 2008 are assumed to be the detection limits of 0.32 lb/hr for 2007 (based on source test submitted 12-6-2007) and 7,397 hours of operation, per applicant and 0.15 lb/hr for 2008 (based on source test submitted 11/4/2008) and 8,032 hours of operation, per applicant. The results of the BAE calculations are summarized in the following table:

BAE (lb/year)			
Permit Unit	2007	2008	HAE (average of two years)
NO _x	377,460	361,200	369,330
VOC	2,367	1,205	1,786

The Net Project Increase is calculated as the sum of the post-project potentials to emit (PE2) for all units in the project minus the sum of the baseline actual emissions (BAE) for all units in the project, $\sum[PE2 - BAE]$. The results of the calculations are summarized in the following table:

NO _x		VOC	
PE2	BAE	PE2	BAE
463,084	369,330	54,714	1,786
PE2 - BAE = 93,754		PE2 - BAE = 52,928	
50,000		50,000	
Major Mod? Yes		Major Mod? Yes	

As demonstrated in the table above, the emissions unit within this project has a Net Project Increase which is greater than the Major Modification thresholds for NO_x and VOC; therefore the project does constitute a Major Modification for NO_x and VOC emissions.

40 CFR Part 51 - Appendix S requirement for PM_{2.5}

On May 8, 2008 EPA finalized regulations to implement NSR program for PM_{2.5}. The new requirements became effective July 15, 2008. Under the new regulations a major source and "significant emissions rate" for PM_{2.5} are defined as 100 tons/yr and 10 tons/yr, respectively.

The total annual PM₁₀, as discussed in Section VII.C.4, is <100 tons/yr. Therefore the facility is not a major source of PM_{2.5} and Appendix S does not apply.

8. Federal Major Modification

District Rule 2201, Section 3.17 states that major modifications are also federal major modifications, unless they qualify for either a "Less-Than-Significant Emissions Increase" exclusion or a "Plantwide Applicability Limit" (PAL) exclusion.

A Less-Than-Significant Emissions Increase exclusion is for an emissions increase for the project, or a Net Emissions Increase for the project (as defined in 40 CFR 51.165 (a)(2)(ii)(B) through (D), and (F)), that is not significant for a given regulated NSR pollutant, and therefore is not a federal major modification for that pollutant.

- To determine the post-project projected actual emissions from existing units, the provisions of 40 CFR 51.165 (a)(1)(xxviii) shall be used.
- To determine the pre-project baseline actual emissions, the provisions of 40 CFR 51.165 (a)(1)(xxxv)(A) through (D) shall be used.
- If the project is determined not to be a federal major modification pursuant to the provisions of 40 CFR 51.165 (a)(2)(ii)(B), but there is a reasonable possibility that the project may result in a significant emissions increase, the owner or operator shall comply with all of the provisions of 40 CFR 51.165 (a)(6) and (a)(7).
- Emissions increases calculated pursuant to this section are significant if they exceed the significance thresholds specified in the table below.

Significant Threshold (lb/year)	
Pollutant	Threshold (lb/year)
VOC	50,000
NO _x	50,000
PM ₁₀	30,000
SO _x	80,000

The Net Emissions Increases (NEI) will be calculated below to determine if this project has any significant emission increases.

$$NEI = PAE - BAE$$

NEI = Net Emissions Increase.

PAE = Projected Actual Emissions. The post-project projected emissions of the units in this project.

BAE = Baseline Actual Emissions. The actual emissions created by the project during the baseline period.

Since Mt. Poso is only considered a major source for NO_x and VOC these are the only two pollutants that will be considered. The following sources were used for the calculation:

BAE: Calculated in section VII.C.7 above.

PAE: Calculated using the actual emission factors, maximum capacity, and 7,700 hours of projected actual run time (estimate obtained from applicant based on historical operating hours).

It is, conservatively, assumed that there was no unused actual capacity during the baseline period to subtract from the PAE nor is the facility expected to increase the utilization of this unit in the future.

Therefore:

$$\begin{aligned} \text{NEI}_{\text{NO}_x} &= \text{PAE} - \text{BAE} \\ &= 463,084 \text{ lb-NO}_x/\text{yr} (7,700 \text{ hrs} / 8,760 \text{ hrs}) - 369,330 \text{ lb-NO}_x/\text{yr} \\ &= 37,719 \text{ lb-NO}_x/\text{yr} \end{aligned}$$

$$\begin{aligned} \text{NEI}_{\text{VOC}} &= \text{PAE} - \text{BAE} \\ &= 54,714 \text{ lb-VOC/yr} (7,700 \text{ hrs} / 8,760 \text{ hrs}) - 1,786 \text{ lb-VOC/yr} \\ &= 46,307 \text{ lb-VOC/yr} \end{aligned}$$

The Net Emissions Increases are below the Significance thresholds. Therefore, this is not considered a Federal Major Modification.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis for the following*:

- 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 APE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in a Major Modification.

*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

Since the fuel receiving and transporting operation are new emissions units, the daily emissions are compared to the BACT thresholds in the following tables:

S-91-10-0 Emissions Unit BACT Applicability				
Pollutant	Daily Emissions (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	0.0	> 2.0	n/a	No
SO _x	0.0	> 2.0	n/a	No
PM ₁₀	27.5	> 2.0	n/a	Yes
CO*	0.0	> 2.0 and SSPE2 ≥ 200,000 lb/yr	0	No
VOC	0.0	> 2.0	n/a	No

S-91-11-0 Emissions Unit BACT Applicability				
Pollutant	Daily Emissions (lb/day)	BACT Threshold (lb/day)	SSPE2 (lb/yr)	BACT Triggered?
NO _x	0.0	> 2.0	n/a	No
SO _x	0.0	> 2.0	n/a	No
PM ₁₀	24.9	> 2.0	n/a	Yes
CO	0.0	> 2.0 and SSPE2 ≥ 200,000 lb/yr	0	No
VOC	0.0	> 2.0	n/a	No

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

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

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)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's Potential to Emit 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

$$\text{AIPE} = \text{PE2} - (\text{PE1} * (\text{EF2} / \text{EF1})) \text{ where: } \text{EF2} = \text{EF1} \text{ so } \text{AIPE} = \text{PE2} - \text{PE1}$$

The combustor (S-91-3-14) daily emissions are not proposed nor expected to change as a result of this project; therefore BACT is not triggered.

d. Major Modification

As discussed in Section VII.C.7 above, this project does constitute a Major Modification for NO_x and VOC emissions; therefore BACT is triggered for NO_x and VOC for all emissions units associated with this stationary source project.

APPENDIX A
Current Base Document (ATC S-91-3-12)

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COPY

AUTHORITY TO CONSTRUCT

PERMIT NO: S-91-3-12

ISSUANCE DATE: 12/12/2008

LEGAL OWNER OR OPERATOR: MT POSO COGENERATION COMPANY
MAILING ADDRESS: PO BOX 81256
BAKERSFIELD, CA 93380-1256

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: 18 TOWNSHIP: 27S RANGE: 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 49.9 MW COAL/PETROLEUM COKE AND TIRE DERIVED FUEL (TDF) FIRED ATMOSPHERIC CIRCULATING FLUIDIZED BED COMBUSTOR COGENERATION POWER PLANT: AUTHORIZE COMBUSTION OF BIOMASS, ADD CO EMISSIONS LIMIT FOR BIOMASS FUEL AND ESTABLISH ANNUAL EMISSION LIMITS FOR NOX, SOX, AND CO TO AVOID PSD APPLICABILITY

CONDITIONS

1. The facility shall submit an application to modify the Title V permit in accordance with the timeframes and procedures of District Rule 2520. [District Rule 2520] Federally Enforceable Through Title V Permit
2. 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]
3. 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]
4. Operation shall include Ahlstrom Pyroflow atmospheric fluidized bed combustor incorporating low temperature staged combustion and ammonia injection (NOx control), and pulverized limestone injection (SOx control). [District Rule 2201] Federally Enforceable Through Title V Permit
5. Operation shall include enclosed gravimetric belt weigh feeder discharging to fuel feed chutes and enclosed limestone volumetric feeder with air lock 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-91-3-12: Aug 10 2009 9:13AM - RICKARDK : Joint Inspection NOT Required

6. Operation shall include four natural gas fired 62 MMBtu/hr Coen startup burners and two natural gas fired 23 MMBtu/hr Coen duct burners. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Operation shall include two fly ash recycle cyclones, air heater with two fly ash hoppers, economizer and ash handling system. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Operation shall include 1250 HP primary combustion air fan, 500 HP secondary combustion air fan and 150 HP multi-staged centrifugal fluidizing air blower. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Operation shall include 12 compartment fabric collector with 1750 HP induced draft fan, reverse air cleaning mechanism and 100 HP reverse air fan. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Fabric collector shall include a minimum of 134,230 sq. ft. of filtering area, fly ash hopper, with 8 KW electric heater, d.p. transmitter, capacitance type high level detector, vibrator and aeration pad. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Fly ash collected at fabric collector shall be discharged only to fly ash handling system. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Ash shall only be removed from combustion system by means authorized to Permit to Operate S-91-4. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Operation shall be equipped with the following indicators: combustion temperature, combustion air system pressure, primary and secondary fan air flow, ammonia injection flow, fuel use rate and limestone use rate. The permittee shall operate and maintain instrumentation to continuously monitor and record levels of combustion temperature, consumption of fuel, ammonia, and limestone in boiler. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
14. Each fabric collector compartment shall be equipped with access door and differential pressure indicator. The differential pressure across each compartment shall be maintained between 2" and 9.5" water column. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Fabric collector inlet shall be equipped with operational pressure indicator and high temperature alarm which activates prior to high temperature failure. The pressure shall not exceed negative 35" water column. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Fabric collector shall be equipped with automatic cleaning mechanism. [District Rule 2201] Federally Enforceable Through Title V Permit
17. All combustor exhaust gas shall pass through fabric collector prior to being emitted to atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Unit shall be operated as a low temperature combustor with a peak temperature range of 1550 to 1750 deg F. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Unit shall be operated as a staged combustion device by introducing a substoichiometric amount of combustion air into primary combustion zone. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Flue gas O₂ content shall be maintained at a level (3%-5%) which shows compliance with all emission limits and which minimizes NO_x emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
21. There shall be no provisions for introduction of air into combustion system or exhaust system downstream of the combustion chamber except for air utilized for cyclone center pipe supports and cooling. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Combustor shall be fired only on natural gas, coal, petroleum coke, biomass, tire derived fuel (TDF) or combinations thereof as allowed for by this permit. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
23. The sum of the combined coal, coke, and tire derived fuel throughput and 1/2 times the throughput of biomass introduced into the combustor shall not exceed 1,400,000 lbs/day and 58,333 lbs/hr (on a dry basis). Solid fuel introduced into the combustor shall contain no more than 4.0% by weight sulfur. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

24. Of the total fuel introduced into the combustor, no more than 154,000 lbs per day (on a dry basis) shall be TDF. [District Rule 2201] Federally Enforceable Through Title V Permit
25. A minimum of 0.035 lbm limestone/lbm of fuel shall be introduced into the combustor. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Limestone shall be introduced into combustor at a rate sufficient to maintain a minimum Ca/S molar ratio of 3. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Ammonia breakthrough shall not result in ground level odors and exhaust stack concentrations, except during periods of start-up/shutdown, shall not exceed 20.0 ppmv based on three hour rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
28. Emissions rates from boiler exhaust shall not exceed the following: PM10: 190.0 lb/day, VOC: 149.9 lb/day, NOx (as NO2): 1406.4 lb/day nor 463,084 lbs/yr, SOx (as SO2): 699.4 lb/day nor 209,016 lb/yr, and CO: 1207.2 lb/day nor 371,312 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Emission rate of PM-10 shall not exceed 7.92 lb/hr and 0.012 lb/MMBtu. Particulate Matter (PM) emissions shall not exceed 0.01 gr/dscf @ 12% CO2. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
30. Emission rate of SOx (as SO2) shall not exceed 25.0 lb/hr, based on three hour rolling average. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
31. SOx emissions (as SO2) shall not exceed 0.04 lb/MMBtu, based on a three hour rolling average, during any period in which the power output exceeds 40 MW. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
32. Emission rate of oxides of nitrogen as NO2 shall not exceed 58.60 lb/hr, based on three hour rolling average. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
33. NOx emissions shall not exceed 0.20 lb/MMBtu at any time, except during startup and shutdown (as defined in Rule 4352), based on a 24 hour averaging period. [District Rule 4352, 5.1] Federally Enforceable Through Title V Permit
34. NOx emissions shall not exceed 0.092 lb/MMBtu, based on a three hour rolling average, during any period in which the power output exceeds 40 MW. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
35. Emission rate of volatile organic compounds shall not exceed 6.25 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
36. Emission rate of carbon monoxide shall not exceed 50.30 lb/hr based on three hour rolling average. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
37. Except during periods of startup and shutdown (as defined in Rule 4352), when fired on coal, petroleum coke, or TDF the emission rate of carbon monoxide shall not exceed 400 ppmv @ 3% O2. Except during periods of startup and shutdown (as defined in Rule 4352), on any calendar day when at least 50% by weight biomass is fired the emission rate of carbon monoxide shall not exceed 183 ppmv @ 3% O2. Compliance with the carbon monoxide emission limit shall be based on a based on a block 24 hour average. [District Rules 2201 and 4352] Federally Enforceable Through Title V Permit
38. 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] Federally Enforceable Through Title V Permit
39. Performance testing at maximum operating capacity shall be conducted annually for NOx, SOx, CO, PM-10, PM, and VOCs 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 6 or ARB Method 100; for CO EPA Method 1-4 and 10 or ARB Method 100; for PM(10) EPA Method 201A in combination with EPA Method 202; for PM EPA Methods 1-4 and 5; and for VOCs EPA Method 25 or 18. [District Rule 4352, 6.4; District Rule 2520, 9.4.2; PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit

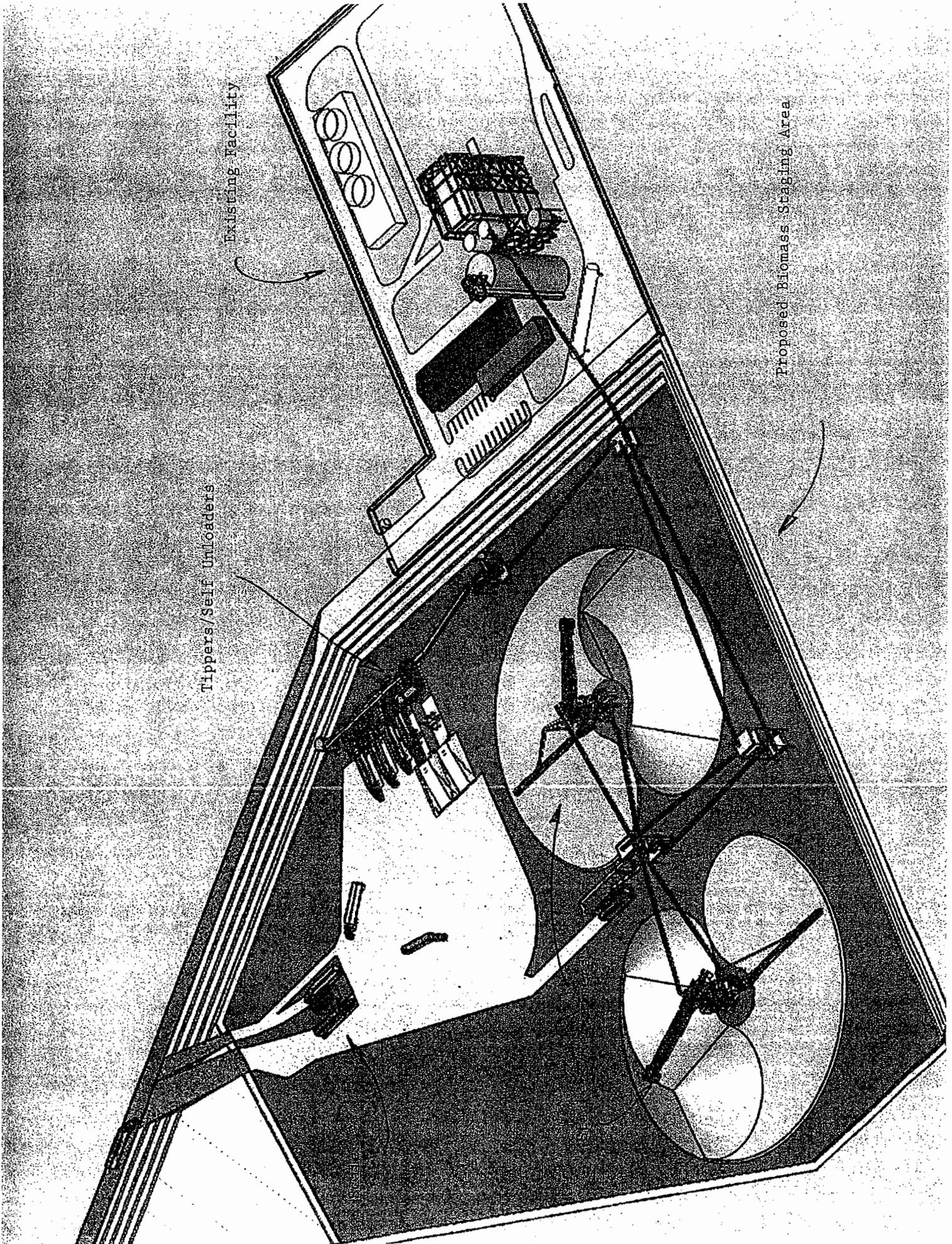
CONDITIONS CONTINUE ON NEXT PAGE

40. 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 ATC SJ 86-09] Federally Enforceable Through Title V Permit
41. 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 & PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
42. Permittee shall report the following emission exceedences to the District: SO₂, NO_x, and CO hourly emission rates on a three hour rolling average and daily emissions limitations. Excess emissions shall be defined as any consecutive 3-hour period during which the average emissions for CO, SO₂, and NO_x as measured by continuous monitoring system, exceeds the mass or concentration limit set for each pollutant. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
43. At the time of performance testing fuel being burned shall be tested for sulfur, nitrogen, ash content and heating value. [District Rule 2201] Federally Enforceable Through Title V Permit
44. Operator shall operate and maintain in calibration a system which continuously measures and records control system operating parameters; elapsed time of operation; exhaust gas Opacity, NO_x, SO₂, CO, and NH₃ concentrations. [District Rule 2201; District Rule 1080, 4.0; & PSD ATC SJ 86-09] 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 ATC SJ 86-09] Federally Enforceable Through Title V Permit
46. Operator shall 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 ATC SJ 86-09] 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 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
49. 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 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
50. 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, 9.6.1; Rule 1080, 8.0; and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
51. Any violation of emission standards, as indicated by the CEM, shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
52. Operator shall notify the District no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the District of the intent to shut down the CEM at least 24 hours prior to the event. [District Rule 1080, 10.0] Federally Enforceable Through Title V Permit
53. Permittee shall maintain an operating log containing type and quantity of fuel used and higher heating value of such fuels on daily basis. [District Rule 2520, 9.4.2; District Rule 4352, 6.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

54. Sulfur content of the each type of fuel shall be measured and recorded at least every calender quarter using current ASTM Methods or shall be certified by supplier for each shipment. [District Rule 2520, 9.3.2 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
55. The differential pressure across each compartment of the fabric collectors shall be checked and the results recorded quarterly. If the differential pressure across each compartment of the fabric collectors is not between 2" and 9.5" water column, corrective action is required prior to further operation of the equipment. Corrective action means that the cause of the improper pressure differential is corrected before operation of the equipment is resumed. [District Rule 2520, 9.3.2 and 9.4.2] Federally Enforceable Through Title V Permit
56. The pressure at the fabric collector inlet shall be checked and the results recorded quarterly. If the pressure at the fabric collector inlet is greater than negative 35" water column, corrective action is required prior to further operation of the equipment. Corrective action means that the cause of the improper pressure is corrected before operation of the equipment is resumed. [District Rule 2520, 9.3.2 and 9.4.2] Federally Enforceable Through Title V Permit
57. 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
58. 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
59. 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, 9.4.2] Federally Enforceable Through Title V Permit
60. Permittee shall maintain monthly records of NOx, SOx, and CO to ensure that emissions limits on an annual rolling average are met. [District Rule 2201]

APPENDIX B
Facility Diagram



Tippers/Self Unloaders

Existing Facility

Proposed Biomass Staging Area

APPENDIX C
Process Diagram

APPENDIX D

S-91-10-0 and '-11-0 Detailed PM₁₀ Calculations

control method	emission points	grain/scfm	total scfm	emission (lbs/hr)	emission (lbs/day)	emission (lbs/wk)
receiving hopper	4	0.005	24,000.00	1.03	12.3	74.1
receiving hopper xfer point	4	0.005	8,000.00	0.34	4.1	24.7
screen/hog inlet	1	0.005	3,000.00	0.13	1.5	9.3
disc screen	1	0.005	4,000.00	0.17	2.1	12.3
hog	1	0.005	8,000.00	0.34	4.1	24.7
reclaim xfer point	2	0.005	6,000.00	0.26	6.2	43.2
finer screen inlet	2	0.005	6,000.00	0.26	6.2	43.2
finer screen	1	0.005	3,000.00	0.13	3.1	21.6
trailer load out	1	0.005	6,000.00	0.26	6.2	43.2
				Receiving filter house emissions	24.2	145.0
				Reclaiming filter house emissions	21.6	151.2

receiving system:
calculation uses receiving hours based on projected delivery hours, six days per week

reclaim system:
calculation uses facility in feed hours per day (24) based on projected facility availability factor and 7 days per week

Other**
- 25.3 ← (19.8 lb/wk stacking & 5.6 lb/week reclaiming)
8,594 S-91-10 (receiving, lb/year at 6 days/week)
8,173 S-91-11 (reclaiming, lb/year at 7 days/week)
16,767 lbs per year over allowance

100% availability factor
12 receiving hours per day

**Other
The following points were calculated using emission factors listed in AP-42 11.19.2:
conveyor #5 xfer point at stacker #1 3,000 receiving system tons/day
stacker #1 xfer to storage pile
conveyor #6 xfer point at stacker #2 3.3 lbs/day stacker emissions (6 days/week)
stacker #2 xfer to storage pile 0.8 lbs/day reclaim emissions (7 days/week)
reclaimer #1 xfer to conveyor #8
reclaimer #2 xfer to conveyor #9

ID	Location	Model	Airflow	Hp.	Filter Pac's	Media Area	Air/ Media	Type of Media	Filter Cleaning	Pulse Air 100 PSI	Height of Discharge	Dia. Discharge	Direction of Stack	PM 10 Efficiency	Less Than	LB/Hr	LB/Day
1A	receiving hopper	CPV-12	6,000	15.0	12	804	7.5	Ultra Web	Pulse	15	20'	16"	Up	99.99	0.005	0.257	3,086
1B	hopper belt	CPV - 4	2,000	3.0	4	268	7.5	Ultra Web	Pulse	5	10'	10"	Up	99.99	0.005	0.086	1,029
2A	receiving hopper	CPV-12	6,000	15.0	12	804	7.5	Ultra Web	Pulse	15	20'	16"	Up	99.99	0.005	0.257	3,086
2B	hopper belt	CPV - 4	2,000	3.0	4	268	7.5	Ultra Web	Pulse	5	10'	10"	Up	99.99	0.005	0.086	1,029
3A	receiving hopper	CPV-12	6,000	15.0	12	804	7.5	Ultra Web	Pulse	15	20'	16"	Up	99.99	0.005	0.257	3,086
3B	hopper belt	CPV - 4	2,000	3.0	4	268	7.5	Ultra Web	Pulse	5	10'	10"	Up	99.99	0.005	0.086	1,029
4A	receiving hopper	CPV-12	6,000	15.0	12	804	7.5	Ultra Web	Pulse	15	20'	16"	Up	99.99	0.005	0.257	3,086
4B	hopper belt	CPV - 4	2,000	3.0	4	268	7.5	Ultra Web	Pulse	5	10'	10"	Up	99.99	0.005	0.086	1,029
9	screen/hog inlet feed	CPV - 6	3,000	5.0	6	402	7.5	Ultra Web	Pulse	7.5	45'	14"	Up	99.99	0.005	0.129	1,543
10	disc screen	CPV - 8	4,000	7.5	8	536	7.5	Ultra Web	Pulse	10	40'	16"	Up	99.99	0.005	0.171	2,057
11	hog	CPV - 16	8,000	20.0	16	1072	7.5	Ultra Web	Pulse	20	25'	20"	Up	99.99	0.005	0.343	4,114
12	reclaimer discharge	CPV - 6	3,000	5.0	6	402	7.5	Ultra Web	Pulse	7.5	45'	14"	Up	99.99	0.005	0.129	3,086
13	reclaimer discharge	CPV - 6	3,000	5.0	6	402	7.5	Ultra Web	Pulse	7.5	45'	14"	Up	99.99	0.005	0.129	3,086
14	gyratory screen inlet	CPV - 6	3,000	5.0	6	402	7.5	Ultra Web	Pulse	7.5	45'	14"	Up	99.99	0.005	0.129	3,086
15	gyratory screen inlet	CPV - 6	3,000	5.0	6	402	7.5	Ultra Web	Pulse	7.5	45'	14"	Up	99.99	0.005	0.129	3,086
16	gyratory screen	CPV - 6	3,000	5.0	6	402	7.5	Ultra Web	Pulse	7.5	45'	14"	Up	99.99	0.005	0.129	3,086
17	truck load out	CPV - 6	6,000	15.0	12	804	7.5	Ultra Web	Pulse	15	20'	16"	Up	99.99	0.005	0.257	6,171
			68,000	144.5												2,914	

Notes

- 1 Unit is sized for 6000 CFM based on an estimated 40 - 60 ft/sq of free air intake around and under truck and feed points
- 2 Unit is sized for 2000 CFM based on a design of 500 - 700 CFM per foot of belt width
- 3 Unit is sized for 3000 CFM based on a design of 500 - 700 CFM per foot of belt width
- 4 Unit is sized for 4000 CFM based on a design of 100 - 150 CFM per foot of feed and discharge spouting open
- 5 Unit is sized for 8000 CFM based on a design of similar grinder applications

APPENDIX E
BACT Guideline

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 1.3.2*

Last Update: 11/21/2002

Fluidized Bubbling Bed Combustor (biomass-fired)

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	183 ppmvd, natural gas auxiliary fuel		
NOx	0.10 lb/MMBtu, ammonia injection and natural gas auxiliary fuel		fluidized circulating bed combustor w/NH3 injection
PM10	0.045 lb/MMBtu, baghouse or ESP, and natural gas auxiliary fuel		
SOx	23 ppmvd, limestone injection and natural gas auxiliary fuel		
VOC	0.02 lb/MMBtu, natural gas 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 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 - Permit Specific BACT Determinations on Next Page(s)**

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 8.4.1*

Last Update: 10/20/1992

Dry Material Storage and Conveying Operation, 100 tons/day

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
PM10	Storage, augers, elevators, conveyors all enclosed and vented to a fabric filter baghouse		

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 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 - Permit Specific BACT Determinations on Next Page(s)**

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 6.4.5*

Last Update: 9/7/1998

Biomass - Fuel Receiving, Handling, and Storage

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
PM10	Use of a wet suppression system on all emission units, transfer points, and raw material stockpiles to maintain an adequate moisture to prevent visible emissions in excess of 20%.		

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 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 - Permit Specific BACT Determinations on Next Page(s)**

2. BACT Guideline

S-91-3-14:

BACT Guideline 1.3.2, applies to a fluidized bubbling bed combustor (biomass-fired, see Appendix E).

S-91-10-0 and '-11-0:

BACT Guideline 6.4.5, applies to a biomass-fuel receiving, handling, and storage operation and BACT Guideline 8.4.1, applies to a dry material storage and conveying operation (see Appendix E). This operation will be incorporating BACT from both guidelines.

3. Top-Down BACT Analysis

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

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

S-91-3-14:

NO_x: 0.092 lb/MMBtu, ammonia injection, and natural gas auxiliary fuel
SO_x: 23 ppmvd, limestone injection, and natural gas auxiliary fuel
PM₁₀: 0.012 lb/MMBtu, baghouse or ESP, and natural gas auxiliary fuel
CO: 183 ppmvd, natural gas auxiliary fuel
VOC: 0.01 lb/MMBtu, natural gas auxiliary fuel

S-91-10-0 and '-11-0:

PM₁₀: Use of a wet suppression system on all emission units, transfer points, and raw material stockpiles to maintain an adequate moisture to prevent visible emissions in excess of 20% (Guideline 6.4.5). Storage, augers, elevators, conveyors all enclosed and vented to a fabric filter baghouse (Guideline 8.4.1).

All transfer points in this system will be controlled with a baghouse except the telescoping stacker unit, which will use a wet suppression system to reduce PM₁₀ and add moisture to the stacked biomass pile.

B. Offsets

1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the Post Project Stationary Source Potential to Emit (SSPE2) equals or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The following table compares the post-project facility-wide annual emissions in order to determine if offsets will be required for this project.

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Post Project SSPE (SSPE2)	463,379	118,122	86,542	371,587	54,716
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	Yes	Yes	Yes	Yes	Yes

2. Quantity of Offsets Required

As seen above, the facility is an existing Major Source for all pollutants and the SSPE2 is greater than the offset thresholds for all pollutants; therefore offset calculations will be required for this project.

Per Sections 4.7.1 and 4.7.3, the quantity of offsets in pounds per year is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

$$\text{Offsets Required (lb/year)} = (\Sigma[\text{PE2} - \text{BE}] + \text{ICCE}) \times \text{DOR, for all new or modified emissions units in the project}$$

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 = Pre-project Potential to Emit 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)

As calculated in Section VII.C.6 above, the Baseline Emissions (BE) from unit S-91-3-14 are equal to the Pre-Project Potential to Emit (PE1) since the unit is a Clean Emissions Unit. Units S-91-10-0 and '11-0 are new units and BE = 0.

Also, there are no increases in cargo carrier emissions and all units and emissions associated with this project are occurring at the same stationary source; therefore offsets can be determined as follows:

ICCE = 0, DOR = 1, and:
Offsets Required (lb/year) = PE2 – BE

S-91-3-14:

PE2 (NO_x) = 463,084 lb/year
BE (NO_x) = 463,084 lb/year

Offsets Required (lb/year) = 463,084 – 463,084
= 0 lb-NO_x/year

To offset the increased PM₁₀ from the fuel yard, MPCC is proposing to net with an actual reduction in SO_x emissions. The SO_x annual emissions are averaged from the previous two years of emissions inventory (District recorded actual emissions) and summarized in the following table:

S-91-3-14 Historical Actual SO_x Emissions	
	Annual Emissions (lb/year)
2007 SO _x	138,960
2008 SO _x	130,800
Average SO_x	134,880

PE2 (SO_x) = 118,113 lb/year
PE1 (SO_x) = 134,880 lb/year (from actual SO_x emissions in above table)

Offsets Required (lb/year) = 118,113 – 134,880
= -16,767 lb-SO_x/year

PE2 (PM₁₀) = 68,350 lb/year
BE (PM₁₀) = 68,350 lb/year

Offsets Required (lb/year) = 68,350 – 68,350
= 0 lb- PM₁₀/year

PE2 (CO) = 371,312 lb/year
BE (CO) = 371,312 lb/year

Offsets Required (lb/year) = 371,312 – 371,312
= 0 lb- CO/year

PE2 (VOC) = 54,714 lb/year
BE (VOC) = 54,714 lb/year

Offsets Required (lb/year) = 54,714 – 54,714
= 0 lb-VOC/year

S-91-10-0:

PE2 (PM₁₀) = 8,594 lb/year
BE (PM₁₀) = 0 lb/year

Offsets Required (lb/year) = 8,594 – 0
= 8,594 lb-PM₁₀/year

S-91-11-0:

PE2 (PM₁₀) = 8,173 lb/year
BE (PM₁₀) = 0 lb/year

Offsets Required (lb/year) = 8,173 – 0
= 8,173 lb-PM₁₀/year

The above calculations shows the quantities of offsets that would be required for each unit if offsets were triggered on a unit by unit basis; however, District Rule 2201 Section 4.5.1 states that offsets are required for the “net emission increases resulting from a project”. Since offsets are triggered for net emissions increases for a project rather than on a unit by unit basis, decreases in emissions from one unit within a project can be used to counteract increases in emissions from another unit within the project, such that the net emissions increase is equal to or less than zero. This is commonly referred to as “netting”. The following table shows quantity of offsets required for the project, based on the net emission increases from the project:

Offset Quantity Determination		
	SO _x (lb/year)	PM ₁₀ (lb/year)
S-91-3-14	-16,767	0
S-91-10-0	0	8,594
S-91-11-0	0	8,173
Total Net Emissions Increase	-16,767	16,767

As shown in the previous table, there is a net increase in PM₁₀ emissions; while there is a net decrease in SO_x emissions from the project.

The applicant has proposed to use the net decrease in SO_x emissions to mitigate the increase in PM₁₀ emissions. For the purposes of this document, this action will be referred to as “interpollutant netting”. District Rule 2201 recognizes that SO_x is a precursor for PM₁₀. The District has evaluated the applicant’s interpollutant netting proposal and determined that this proposal is consistent with District Rule 2201 requirements.

Interpollutant offset ratios for trades between SO_x and PM₁₀ will be used to determine the quantity of SO_x required to counteract the PM₁₀ emission increases in the project. An interpollutant ratio of 1.000:1 for SO_x to PM₁₀ will be applied. Please refer to the interpollutant offset analysis in Appendix J of this evaluation for an explanation of the derivation of the SO_x:PM₁₀ interpollutant offset ratio.

The increase in PM₁₀ emissions is 16,767 lb/year. The quantity of SO_x reductions required to counteract the PM₁₀ increase from the project is:

$$\text{SO}_x \text{ for PM}_{10} = 16,767 \text{ lb-PM}_{10}/\text{year} \times 1.000 \text{ lb-NO}_x/\text{lb-PM}_{10} = 16,767 \text{ lb-NO}_x/\text{year}$$

Based on the previous table, the project will decrease SO_x emissions by 16,767 lb/year. All of this decrease will be applied toward the PM₁₀ emission increases, such that the quantity of offsets required for PM₁₀ from the project is equal to zero.

While the above analysis demonstrates that District offset requirements are satisfied, the District is required to conduct an annual analysis to demonstrate equivalency between the District offset requirements and Federal offset requirements. To properly address the equivalency determination and to ensure that federal offsets are provided for this project, the District will debit the Districts offset equivalency tracking program by the appropriate PM₁₀ quantities. Pursuant to EPA Region 9, this will satisfy the federal offset requirements for this project.

C. Public Notification

1. Applicability

Public noticing is required for:

- a. Any new Major Source, which is a new facility that is also a Major Source,
- b. Major Modifications,
- c. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- d. Any project which results in the offset thresholds being surpassed, and/or
- e. Any project with an SSIFE of greater than 20,000 lb/year for any pollutant.

a. New Major Source

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.

b. Major Modification

As demonstrated in VII.C.7, this project is a Major Modification; therefore, public noticing for Major Modification purposes is required.

c. PE > 100 lb/day

Applications which include a new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not required.

d. Offset Threshold

The following table compares the SSPE1 with the SSPE2 in order to determine if any offset thresholds have been surpassed with this project.

Offset Threshold				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO _x	463,379	463,379	20,000 lb/year	No
SO _x	209,025	118,122	54,750 lb/year	No
PM ₁₀	72,775	89,542	29,200 lb/year	No
CO	371,587	371,587	200,000 lb/year	No
VOC	54,716	54,716	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.

e. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a Stationary Source Increase in Permitted Emissions (SSIPE) of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE is calculated as the Post Project Stationary Source Potential to Emit (SSPE2) minus the Pre-Project Stationary Source Potential to Emit (SSPE1), i.e. $SSIPE = SSPE2 - SSPE1$. The values for SSPE2 and SSPE1 are calculated according to Rule 2201, Sections 4.9 and 4.10, respectively. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table:

Stationary Source Increase in Permitted Emissions [SSIPE] – Public Notice					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO _x	463,379	463,379	0	20,000 lb/year	No
SO _x	118,122	209,025	-90,903	20,000 lb/year	No
PM ₁₀	89,542	72,775	16,767	20,000 lb/year	No
CO	371,587	371,587	0	20,000 lb/year	No
VOC	54,716	54,716	0	20,000 lb/year	No

As demonstrated above, the SSIPE threshold was not surpassed for any pollutants; therefore public noticing for SSIPE purposes is not required.

2. Public Notice Action

As discussed above, public noticing is required for this project for Major Modification purposes. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for this equipment.

D. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. Per Sections 3.15.1 and 3.15.2, 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 Rule 2201 (DEL) Conditions:

S-91-3-14:

- "Biomass" means any organic material not derived from fossil fuels, such as agricultural crop residue, orchard prunings and removal, stone fruit pits, nut shells, cotton gin trash, cotton stalks, vineyard prunings, cull logs, eucalyptus logs, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste. Biomass does not include material containing sewage sludge or industrial, hazardous, radioactive or municipal solid waste. [District Rules 2201 and 4102]
- 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]
- Emissions rates from boiler exhaust shall not exceed the following: PM10: 190.0 lb/day, VOC: 149.9 lb/day, NOx (as NO₂): 1406.4 lb/day nor 463,084 lbs/yr, SOx (as SO₂): 699.4 lb/day nor 118,113 lb/yr, and CO: 1207.2 lb/day nor 371,312 lb/yr. [District Rule 2201]
- Except during periods of startup and shutdown (as defined in Rule 4352) the emission rate of carbon monoxide shall not exceed 183 ppmv @ 3% O₂. Compliance with the carbon monoxide emission limit shall be based on a block 24 hour average. [District Rules 2201 and 4352]

S-91-10-0 & '-11-0:

- All dust collectors shall be equipped with a differential pressure gauge which shall not exceed 5.0 inches w.c. [District Rule 2201]
- Baghouse particulate matter (PM10) emissions shall not exceed 0.005 gr/dscf. [District Rules 2201 and 4201]
- Particulate matter collected by baghouses shall be stored in closed containers when such material is not actively being returned to the boiler via permitted conveying equipment. [District Rule 2201]

- Particulate matter collected by baghouses shall be disposed of in a manner preventing entrainment in atmosphere. [District Rule 2201]
- A spare filter shall be maintained on the premises at all times for each dust collector. [District Rule 2201]

S-91-10-0:

- Bag house 1 and 2 shall operate whenever material is being received or conveyed. [District Rule 2201]
- Material receiving shall not exceed 3,000 tons/day nor 6 days/week. [District Rule 2201]
- Fuel delivery trucks shall remain covered during entire unloading operation. [District Rule 2201]
- Baghouse #1 shall consist of: filter model CPV-12 or equivalent equipped with 3,216 sq.ft. of filter area operating with an air speed not to exceed 24,000 scfm and filter model CPV-4 or equivalent equipped with 1,072 sq.ft. of filter area operating with an air speed not to exceed 8,000 scfm. [District Rule 2201]
- Baghouse #2 shall consist of: filter model CPV-6 or equivalent equipped with 402 sq.ft. of filter area operating with an air speed not to exceed 3,000 scfm, filter model CPV-8 or equivalent equipped with 536 sq.ft. of filter area operating with an air speed not to exceed 4,000 scfm, and filter model CPV-16 or equivalent equipped with 1,072 sq.ft. of filter area operating with an air speed not to exceed 8,000 scfm. [District Rule 2201]
- Operation shall include 2 radial stackers with telescoping spouts equipped with water spray rings. [District Rule 2201]
- Telescoping stackers shall operate water spray rings whenever material is being stacked out and shall be maintained as close as possible to the storage pile to minimize drop distance. [District Rule 2201]
- Emissions for this operation shall not exceed 27.5 lb-PM10/day nor 8,594 lb-PM10/year. [District Rule 2201]

S-91-11-0:

- Bag house 3 shall operate whenever material is being reclaimed or conveyed. [District Rule 2201] N
- Bag house 4 shall operate whenever fine material is being unloaded at truck loadout station. [District Rule 2201]
- Material reclaiming shall not exceed 1,440 tons/day. [District Rule 2201] N
- Baghouse #3 shall consist of filter model CPV-6 or equivalent equipped with 2,010 sq.ft. of filter area operating with an air speed not to exceed 15,000 scfm. [District Rule 2201] N
- Baghouse #4 shall consist of filter model CPV-6 or equivalent equipped with 804 sq.ft. of filter area operating with an air speed not to exceed 6,000 scfm. [District Rule 2201] N
- Emissions for this operation shall not exceed 24.9 lb-PM10/day nor 8,173 lb-PM10/year. [District Rule 2201] N

E. Compliance Assurance

1. Source Testing

Startup source testing will not be required. The following source test conditions will remain on the combustor ATC (S-91-3-14):

- Performance testing at maximum operating capacity shall be conducted annually for NO_x, SO_x, CO, PM-10, PM, and VOCs at the maximum operating capacity using following test methods; for NO_x EPA Methods 1-4 and 7 or ARB Method 100; for SO_x EPA Methods 1-4 and 6 or ARB Method 100; for CO EPA Method 1-4 and 10 or ARB Method 100; for PM(10) EPA Method 201A in combination with EPA Method 202; for PM EPA Methods 1-4 and 5; and for VOCs EPA Method 25 or 18. [District Rule 4352, 6.4; District Rule 2520, 9.4.2; PSD ATC SJ 86-09]
- 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 ATC SJ 86-09]
- 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 & PSD ATC SJ 86-09]

2. Monitoring

No additional monitoring of the combustor (S-91-3-14) will be required. The following monitoring conditions will remain on ATC S-91-3-14:

- Operator shall operate and maintain in calibration a system which continuously measures and records control system operating parameters; elapsed time of operation; exhaust gas Opacity, NO_x, SO₂, CO, and NH₃ concentrations. [District NSR Rule; District Rule 1080, 4.0; & PSD ATC SJ 86-09]
- 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 ATC SJ 86-09]
- Operator shall 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 ATC SJ 86-09]
- 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]
- Sulfur content of each type of fuel shall be measured and recorded at least every calendar quarter using current ASTM Methods or shall be certified by supplier for each shipment. [District Rule 2520, 9.3.2 and PSD ATC SJ 86-09]
- The differential pressure across each compartment of the fabric collectors shall be checked and the results recorded quarterly. If the differential pressure across each compartment of

the fabric collectors is not between 2" and 9.5" water column, corrective action is required prior to further operation of the equipment. Corrective action means that the cause of the improper pressure differential is corrected before operation of the equipment is resumed. [District Rule 2520, 9.3.2 and 9.4.2]

- The pressure at the fabric collector inlet shall be checked and the results recorded quarterly. If the pressure at the fabric collector inlet is greater than negative 35" water column, corrective action is required prior to further operation of the equipment. Corrective action means that the cause of the improper pressure is corrected before operation of the equipment is resumed. [District Rule 2520, 9.3.2 and 9.4.2]

Monitoring is also required for the proposed fuel receiving and conveying operations. The following monitoring conditions are included on ATCs S-91-10-0 and '-11-0:

- Visible emissions from dust collectors shall be inspected monthly during operation. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2]
- Dust collector system shall be thoroughly inspected annually for any evidence of particulate matter leaks and shall be repaired as needed. [District Rule 2520, 9.3.2]
- Dust collector filters shall be thoroughly inspected at least annually when the unit is not in operation for tears, scuffs, abrasions, holes or any evidence of particulate matter leaks and shall be replaced as needed. [District Rule 2520, 9.3.2]

S-91-10:

- Visible emissions from truck tipper receiving hopper ventilation pickup points, conveyor transfer points, screens, and hog enclosures (including inlet and outlet openings) shall be inspected quarterly during operation. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2]

S-91-11-0:

- Visible emissions from truck loadout ventilation pickup points, conveyor transfer points, and screens shall be inspected quarterly during operation. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2]

3. Recordkeeping

There are no additional record-keeping requirements for the combustor. The following record-keeping requirements will remain on ATC S-91-3-14:

- 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 and PSD ATC SJ 86-09]

- Permittee shall maintain an operating log containing type and quantity of fuel used and higher heating value of such fuels on daily basis. [District Rule 2520, 9.4.2; District Rule 4352, 6.2]
- Permittee shall maintain monthly records of NOx, SOx, and CO to ensure that rolling annual limits are met. [District Rule 2201]

Recordkeeping is also required for the proposed fuel receiving and conveying operations. The following monitoring conditions are included on ATCs S-91-10-0 and '-11-0:

- Records of dust collector maintenance, inspections, and repair shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.4.2]

S-91-10-0:

- Records of types, amounts and origins (including copies of all purchase contracts and # of trucks) of fuels received shall be maintained and made readily available for District inspection upon request. [District Rule 2201]
- Operator shall record the daily number of fuel delivery truck loads. [District Rule 2520, 9.4.2]

S-91-11-0:

- Daily Records of screened fines and material weight sent to fuel bin shall be maintained. [District Rule 2201]

4. Reporting

There are no additional reporting requirements for the combustor. There are no reporting requirements for ATCs S-91-10-0 or '-11-0. The following reporting requirements will remain on ATC S-91-3-14:

- 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 and PSD ATC SJ 86-09]
- 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, 9.6.1; Rule 1080, 8.0; and PSD ATC SJ 86-09]
- Any violation of emission standards, as indicated by the CEM, shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0]

- Operator shall notify the District no later than one hour after the detection of a breakdown of the CEM. 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]

F. Ambient Air Quality Analysis

Section 4.14.1 of this Rule requires that an ambient air quality analysis (AAQA) be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of a State or National ambient air quality standard. An AAQA is required to be performed for all New Source Review (NSR) public notice projects. As previously discussed in Section VIII.C this project requires that a public notice be performed before issuance of the ATC for this project. Therefore, the District is required to perform an AAQA for this project.

The Technical Services Division of the SJVAPCD conducted the required AAQA for this project. The results of the AAQA are presented in the following table. Refer to Appendix G of this document for the AAQA summary.

AAQA Results Summary					
Pollutant	1 hr Average	3 hr Average	8 hr Average	24 hr Average	Annual Average
CO	Pass	N/A	Pass	N/A	N/A
NO _x	Pass	N/A	N/A	N/A	Pass
SO _x	Pass	Pass	N/A	Pass	Pass
PM ₁₀	N/A	N/A	N/A	Pass ⁷	Pass ⁷

The proposed location of installation of the fuel receiving yard is in an attainment area for NO_x, CO, and SO_x. As shown by the preceding table of AAQA results the proposed installation of the fuel receiving yard will not cause a violation of a State or National ambient air quality standard for NO_x, CO, or SO_x. The proposed location for installation of the fuel receiving yard is in a non-attainment area for PM₁₀ (this is because the ambient concentration of PM₁₀ exceeds the National ambient air quality standard). Therefore, the increase in the ambient PM₁₀ concentration due to the installation of the proposed equipment is compared to the EPA PM₁₀ level of significance, from 40 CFR Part 51.165 (b)(2).

As shown in the preceding table, the calculated contribution of PM₁₀ from the proposed installation of the fuel receiving yard will not exceed the EPA PM₁₀ significance level.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. Section 3.29 defines a significant permit modification as a "permit amendment that does not qualify as a minor permit modification or administrative amendment."

⁷The concentration is above EPA's level of significance as found in 40 CFR Part 51.165 (b)(2) and the facility will fully offset the emissions increase for PM₁₀.

Section 3.20.5 states that a minor modification is not one that qualifies as a Title I modification (major modification). This modification does not qualify as a minor modification as the combustor, S-91-3-14, is being considered to undergo a major modification. Therefore, this project is a significant modification.

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 shall not implement the changes requested until the final permit is issued.

Rule 4001 New Source Performance Standards (NSPS)

40 CFR Part 60, Subpart A, section 14, defines the meaning of modification to which the standards are applicable. §60.14, paragraph (e)(5) states that the following will not be considered as a modification: *"the addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or replaced by a system which the Administrator determines to be less environmentally beneficial"*.

The unit has been in operation since 1989. The combustor is not newly constructed or reconstructed, nor is the unit being modified (as defined above). Since the modification to the combustor unit will result in the reduction of air pollutants the requirements of these sections do not apply to the unit. Therefore, it continues to be 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).

Continued compliance with NSPS subpart Da is expected.

No subparts of 40 CFR Part 60 apply to the proposed biomass fuel receiving operation.

Rule 4101 Visible Emissions

Per Section 5.0, 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). All transfer points from materials in this operation are served by baghouse or spray ring to suppress visible emissions. Therefore the following condition will be included on the ATCs:

S-91-10-0:

- There shall be no visible emissions of 5% opacity or greater from any point in this operation including baghouse exhaust, paved road, hoppers, conveyor transfer points, scalping screen, hammermill/hog, or stacking. [District Rules 2201 and 4101]
- Fuel truck delivery road shall be cleaned at least weekly or as needed to reduce visible emissions. [District Rule 4101]

S-91-11-0:

- There shall be no visible emissions of 5% opacity or greater from any point in this operation including baghouse exhaust, conveyor transfer points, reclaiming, gyratory screen, or truck loadout. [District Rules 2201 and 4101]

Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. The following condition will appear on the permits to ensure compliance:

- No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

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.

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (Appendix G), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

BACT for toxic emission control (T-BACT) is required if the cancer risk exceeds one in one million. As demonstrated above, T-BACT is not required for this project because the HRA indicates that the risk is not above the District's thresholds for triggering T-BACT requirements; therefore, compliance with the District's Risk Management Policy is expected.

District policy APR 1905 also specifies that the increase in emissions associated with a proposed new source or modification not have acute or chronic indices, or a cancer risk greater than the District's significance levels (i.e. acute and/or chronic indices greater than 1 and a cancer risk greater than 10 in a million). As outlined by the HRA Summary in Appendix G of this report, the emissions increases for this project was determined to be less than significant.

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. ATC S-91-3-14 lists the following condition for PM₁₀ emissions:

- Emission rate of PM-10 shall not exceed 7.92 lb/hr and 0.012 lb/MMBtu. Particulate Matter (PM) emissions shall not exceed 0.01 gr/dscf @ 12% CO₂. [District Rule 2201 and PSD ATC SJ 86-09]

The expected PM10 exhaust concentration in gr/dscf of gas at dry standard conditions is calculated as follows:

$$\begin{aligned} \text{PM Conc.} &= (\text{Emission rate}) \times (\text{lb to gr conversion}) / (\text{F factor}) \\ &= (0.012 \text{ lb/MMBtu}) \times (7,000 \text{ gr/lb}) / (8,578 \text{ dscf/MMBtu}^8) \\ &= 0.01 \text{ gr/dscf} \end{aligned}$$

Therefore, compliance with this rule is expected.

All proposed baghouses have a daily emissions limit equal to 0.005 grains per dry standard cubic foot (manufacturer guaranteed at 0.002 gr/dscf). Therefore compliance is expected. The following condition will be included on the ATCs:

- Baghouse particulate matter (PM10) emissions shall not exceed 0.005 gr/dscf. [District Rules 2201 and 4201]

Rule 4301 Fuel Burning Equipment

This rule specifies maximum emission rates in lb/hr for SO₂, NO₂, and combustion contaminants (defined as total PM in Rule 1020). This rule also limits combustion contaminants to ≤ 0.1 gr/scf. Per the Rule 4201 discussion the unit will remain in compliance with particulate matter emissions.

District Rule 4301 Limits (lb/hr)			
Pollutant	NO ₂	Total PM	SO ₂
ATC S-91-3-14	58.60	7.92	25.00
Rule Limit (lb/hr)	140	10	200

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

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. Table 5.1 limits from this rule are as follows:

District Rule 4352 Limits (ppmv)		
Pollutant	NO _x	CO
ATC S-91-3-14	115	183
Rule Limit (ppmv)	115	400

⁸ EPA Method 19 F factor corrected to 60° F

The previous table indicates compliance with the maximum lb/hr emissions in this rule; therefore, continued compliance is expected. The following condition will be included on the ATC:

- NOx emissions shall not exceed 115 ppmv at any time, except during startup and shutdown (as defined in Rule 4352), based on a 24 hour averaging period. [District Rule 4352, 5.1]

Rule 4801 Sulfur Compounds

Rule 4801 requires that sulfur compound emissions (as SO₂) shall not exceed 0.2% by volume. The combustor is limited to 23 ppmv (or 0.0023%) at 3% O₂ by BACT and permit condition. So:

$$\frac{23 \text{ parts}}{10^6 \text{ parts}} \left(\frac{8,578 \text{ dscf}}{\text{MMBtu}} \right) \frac{64 \text{ lb} - \text{SO}_2}{\text{lb} - \text{mole}} \left(\frac{20.9}{20.9 - 3} \right) \frac{\text{lb}}{379.5 \text{ dscf}} = 0.039 \frac{\text{lb} - \text{SO}_x}{\text{MMBtu}}$$

Therefore the following condition will remain on the permit:

- SOx emissions (as SO₂) shall not exceed 0.04 lb/MMBtu, based on a three hour rolling average, during any period in which the power output exceeds 40 MW. [District Rules 2201 and 4801 and PSD ATC SJ 86-09]

California Health & Safety Code 42301.6 (School Notice)

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

California Environmental Quality Act (CEQA)

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

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

The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the Kern County Planning Department found this activity to be categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301, 15302, and 15329 (see Appendix I).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authorities to Construct S-91-3-14, '-10-0, and '-11-0 subject to the permit conditions on the attached draft Authorities to Construct in Appendix H.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-91-3-14	3020-08-G	49.9 MW, built before 3/17/99	\$10,215.00
S-91-10-0	3020-01-H	1,600.5 hp	\$1,030.00
S-91-11-0	3020-01-E	226.5 hp	\$412.00

Appendices

- A: Current Base Document (ATC S-91-3-12)
- B: Facility Diagram
- C: Process Diagram
- D: S-91-10-0 and '-11-0 Detailed PM₁₀ Calculations
- E: BACT Guideline
- F: BACT Analysis
- G: HRA/AAQA Summary
- H: Draft ATCs
- I: CEQA Notice of Exemption
- J: Interpollutant Offset Ratio Explanation
- K: ATC S-91-3-12 conditions changed

APPENDIX F
BACT Analysis

Top Down BACT Analysis for the Combustor, S-91-3-14

1. BACT Analysis for NO_x Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.3.2, 4th quarter 2002, identifies achieved in practice BACT for NO_x emissions from Fluidized Bubbling Bed Combustor (biomass-fired) as follows:

- 1) 0.10 lb/MMBtu, ammonia injection and natural gas auxiliary fuel

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because the applicant has proposed the achieved in practice option.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control achieved in practice in the ranking list from Step 3. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for NO_x emissions from this Fluidized Bubbling Bed Combustor (biomass-fired) is having 0.10 lb/MMBtu, ammonia injection and natural gas auxiliary fuel. The applicant has proposed a Fluidized Bubbling Bed Combustor (biomass-fired) with 0.092 lb/MMBtu or less, ammonia injection and natural gas auxiliary fuel; therefore BACT for NO_x emissions is satisfied.

2. BACT Analysis for SO_x Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.3.2, 4th quarter 2002, identifies achieved in practice BACT for SO_x emissions from Fluidized Bubbling Bed Combustor (biomass-fired) as follows:

- 1) 23 ppmvd, limestone injection and natural gas auxiliary fuel

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because the applicant has proposed the achieved in practice option.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control achieved in practice in the ranking list from Step 3. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for SO_x emissions from this Fluidized Bubbling Bed Combustor (biomass-fired) is having 23 ppmvd, limestone injection and natural gas auxiliary fuel. The applicant has proposed a Fluidized Bubbling Bed Combustor (biomass-fired) with 23 ppmvd or less, limestone injection and natural gas auxiliary fuel; therefore BACT for SO_x emissions is satisfied.

3. BACT Analysis for PM₁₀ Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.3.2, 4th quarter 2002, identifies achieved in practice BACT for PM₁₀ emissions from Fluidized Bubbling Bed Combustor (biomass-fired) as follows:

- 1) 0.045 lb/MMBtu, baghouse or EST, and natural gas auxiliary fuel

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because the applicant has proposed the achieved in practice option.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control achieved in practice in the ranking list from Step 3. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for PM₁₀ emissions from this Fluidized Bubbling Bed Combustor (biomass-fired) is having 0.045 lb/MMBtu, baghouse or EST, and natural gas auxiliary fuel. The applicant has proposed a Fluidized Bubbling Bed Combustor (biomass-fired) with 0.012 lb/MMBtu or less, baghouse or EST, and natural gas auxiliary fuel; therefore BACT for PM₁₀ emissions is satisfied.

4. BACT Analysis for CO Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.3.2, 4th quarter 2002, identifies achieved in practice BACT for CO emissions from Fluidized Bubbling Bed Combustor (biomass-fired) as follows:

- 1) 183 ppmvd, natural gas auxiliary fuel

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because the applicant has proposed the achieved in practice option.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control achieved in practice in the ranking list from Step 3. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for CO emissions from this Fluidized Bubbling Bed Combustor (biomass-fired) is having 183 ppmvd, natural gas auxiliary fuel. The applicant has proposed a Fluidized Bubbling Bed Combustor (biomass-fired) with 183 ppmvd, natural gas auxiliary fuel; therefore BACT for CO emissions is satisfied.

5. BACT Analysis for VOC Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 1.3.2, 4th quarter 2002, identifies achieved in practice BACT for VOC emissions from Fluidized Bubbling Bed Combustor (biomass-fired) as follows:

- 1) 0.02 lb/MMBtu, natural gas auxiliary fuel

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because the applicant has proposed the achieved in practice option.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control achieved in practice in the ranking list from Step 3. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for VOC emissions from this Fluidized Bubbling Bed Combustor (biomass-fired) is having 0.02 lb/MMBtu, natural gas auxiliary fuel. The applicant has proposed a Fluidized Bubbling Bed Combustor (biomass-fired) with 0.01 lb/MMBtu or less, natural gas auxiliary fuel; therefore BACT for VOC emissions is satisfied.

Top Down BACT Analysis for all Fuel Receiving and Storage Transfer Points except the Telescoping Material Stacker (addressed by BACT Guideline 6.4.5), S-91-10-0 and '-11-0.

1. BACT Analysis for PM₁₀ Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 8.4.1, 4th quarter 1992, identifies achieved in practice BACT for PM₁₀ emissions from Dry Material Storage and Conveying Operation, 100 tons/day as follows:

- 1) Storage, augers, elevators, conveyors all enclosed and vented to a fabric filter baghouse

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because the applicant has proposed the achieved in practice option.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control achieved in practice in the ranking list from Step 3. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for PM₁₀ emissions from this Fluidized Bubbling Bed Combustor (biomass-fired) is having Storage, augers, elevators, conveyors all enclosed and vented to a fabric filter baghouse. The applicant has proposed a Fluidized Bubbling Bed Combustor (biomass-fired) with Storage, augers, elevators, and conveyors all enclosed and vented to a fabric filter baghouse (except for the telescoping material stacker addressed by BACT Guideline 6.4.5); therefore BACT for PM₁₀ emissions is satisfied.

Top Down BACT Analysis for the Telescoping Material Stacker, S-91-11-0.

1. BACT Analysis for PM₁₀ Emissions:

a. Step 1 - Identify all control technologies

The SJVUAPCD BACT Clearinghouse guideline 6.4.5, 3rd quarter 1998, identifies achieved in practice BACT for PM₁₀ emissions from Biomass – Fuel Receiving, Handling, and Storage as follows:

- 1) Use of a wet suppression system on all emission units, transfer points, and raw material stockpiles to maintain an adequate moisture to prevent visible emissions in excess of 20%

No technologically feasible alternatives or control alternatives identified as alternate basic equipment for this class and category of source are listed.

b. Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options to eliminate from step 1.

c. Step 3 - Rank remaining options by control effectiveness

No ranking needs to be done because the applicant has proposed the achieved in practice option.

d. Step 4 - Cost Effectiveness Analysis

The applicant has proposed the only control achieved in practice in the ranking list from Step 3. Therefore, per SJVUAPCD BACT policy, the cost effectiveness analysis is not required.

e. Step 5 - Select BACT

BACT for PM₁₀ emissions from this Fluidized Bubbling Bed Combustor (biomass-fired) is having a wet suppression system on all emission units, transfer points, and raw material stockpiles to maintain an adequate moisture to prevent visible emissions in excess of 20%. The applicant has proposed a Fluidized Bubbling Bed Combustor (biomass-fired) with a wet suppression system on the telescoping material stacker to maintain an adequate moisture to prevent visible emissions in excess of 20%; therefore BACT for PM₁₀ emissions is satisfied.

APPENDIX G
HRA/AAQA Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Kristopher Rickards – Permit Services
 From: Leland Villalvazo – Technical Services
 Date: August 18, 2009
 Facility Name: Mt. Poso Cogen
 Location: Bakersfield, Ca
 Application #(s): S-91-3-14, 10-0, 11-0
 Project #: S-1091829

A. RMR SUMMARY

RMR Summary				
Categories	Type of Unit (Units 3-14, 10-0 & 11-0)		Project Totals	Facility Totals
Prioritization Score	0.06		0.06	0.06
Acute Hazard Index	NA		NA	NA
Chronic Hazard Index	NA		NA	NA
Maximum Individual Cancer Risk (10^{-6})	NA		NA	NA
T-BACT Required?	No			
Special Permit Conditions?	No			

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 3-14, 10-0, 11-0

- 1) No special conditions are required for any unit.
- 2) The facility will fully offset the emissions increase (139.2 lbs/day and 25,240 lbs / Yr).

B. RMR REPORT

I. Project Description

Technical Services received a request on July 24, 2009, to perform an Ambient Air Quality Analysis and a Risk Management Review for a modification to a cogeneration operation to add a biomass fuel receiving and handling operation.

II. Analysis

Technical Services performed modeling for criteria pollutants PM₁₀; as well as a RMR. The emission rates used for criteria pollutant modeling was 5.8 lb/hr PM₁₀. The engineer supplied the maximum fuel rate for the IC engine used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass	Pass

*Results were taken from the attached PSD spreadsheet.

¹The concentration is above EPA's level of significance as found in 40 CFR Part 51.165 (b)(2) and the facility will fully offset the emissions increase for PM₁₀ as per the processing engineer.

III. Conclusion

The prioritization score is less than 1.0. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

The emissions from the proposed equipment will cause or contribute significantly to a violation of the State and National AAQS. The facility will fully offset the emissions increase from this project with onsite reductions

Attachments:

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Toxic emissions summary
- D. Prioritization score

APPENDIX H
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-91-3-14

LEGAL OWNER OR OPERATOR: MT POSO COGENERATION COMPANY
MAILING ADDRESS: PO BOX 81256
BAKERSFIELD, CA 93380-1256

LOCATION: HEAVY OIL CENTRAL
CA

SECTION: 18 TOWNSHIP: 27S RANGE: 28E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 49.9 MW COAL/PETROLEUM COKE/BIOMASS AND TIRE DERIVED FUEL (TDF) FIRED ATMOSPHERIC CIRCULATING FLUIDIZED BED COMBUSTOR COGENERATION POWER PLANT: INCLUDE LIME CAKE INJECTION FOR SOX CONTROL AND LOWER SOX EMISSION RATE

CONDITIONS

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

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

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DAVID WARNER, Director of Permit Services
S-91-3-14 : Oct 29 2009 10:18AM - RICKARDK : Joint Inspection Required with RICKARDK

5. Operation shall include Ahlstrom Pyroflow atmospheric fluidized bed combustor incorporating low temperature staged combustion and ammonia injection (NOx control), and pulverized limestone/lime cake injection (SOx control). [District Rule 2201] Federally Enforceable Through Title V Permit
6. Operation shall include enclosed gravimetric belt weigh feeder discharging to fuel feed chutes and enclosed limestone/lime cake volumetric feeder with air lock system. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Operation shall include four natural gas fired 62 MMBtu/hr Coen startup burners and two natural gas fired 23 MMBtu/hr Coen duct burners. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Operation shall include two fly ash recycle cyclones, air heater with two fly ash hoppers, economizer and ash handling system. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Operation shall include 1250 HP primary combustion air fan, 500 HP secondary combustion air fan and 150 HP multi-staged centrifugal fluidizing air blower. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Operation shall include 12 compartment fabric collector with 1750 HP induced draft fan, reverse air cleaning mechanism and 100 HP reverse air fan. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Fabric collector shall include a minimum of 134,230 sq. ft. of filtering area, fly ash hopper, with 8 KW electric heater, d.p. transmitter, capacitance type high level detector, vibrator and aeration pad. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Fly ash collected at fabric collector shall be discharged only to fly ash handling system. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Ash shall only be removed from combustion system by means authorized to Permit to Operate S-91-4. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Operation shall be equipped with the following indicators: combustion temperature, combustion air system pressure, primary and secondary fan air flow, ammonia injection flow, fuel use rate and limestone use rate. The permittee shall operate and maintain instrumentation to continuously monitor and record levels of combustion temperature, consumption of fuel, ammonia, and limestone in boiler. [PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
15. Operation shall be equipped with the following indicators: combustion temperature, combustion air system pressure, primary and secondary fan air flow, ammonia injection flow, fuel use rate and limestone/lime cake use rate. The permittee shall operate and maintain instrumentation to continuously monitor and record levels of combustion temperature, consumption of fuel, ammonia, and limestone/lime cake in boiler. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Each fabric collector compartment shall be equipped with access door and differential pressure indicator. The differential pressure across each compartment shall be maintained between 2" and 9.5" water column. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Fabric collector inlet shall be equipped with operational pressure indicator and high temperature alarm which activates prior to high temperature failure. The pressure shall not exceed negative 35" water column. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Fabric collector shall be equipped with automatic cleaning mechanism. [District Rule 2201] Federally Enforceable Through Title V Permit
19. All combustor exhaust gas shall pass through fabric collector prior to being emitted to atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Unit shall be operated as a low temperature combustor with a peak temperature range of 1550 to 1750 deg F. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Unit shall be operated as a staged combustion device by introducing a substoichiometric amount of combustion air into primary combustion zone. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Flue gas O2 content shall be maintained at a level (3%-3%) which shows compliance with all emission limits and which minimizes NOx emissions. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. There shall be no provisions for introduction of air into combustion system or exhaust system downstream of the combustion chamber except for air utilized for cyclone center pipe supports and cooling. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Combustor shall be fired only on natural gas, coal, petroleum coke, biomass, tire derived fuel (TDF) or combinations thereof as allowed for by this permit. [PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
25. The sum of the combined coal, coke, and tire derived fuel throughput and 1/2 times the throughput of biomass introduced into the combustor shall not exceed 1,400,000 lbs/day and 58,333 lbs/hr (on a dry basis). Solid fuel introduced into the combustor shall contain no more than 4.0% by weight sulfur. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
26. Of the total fuel introduced into the combustor, no more than 154,000 lbs per day (on a dry basis) shall be TDF. [District Rule 2201] Federally Enforceable Through Title V Permit
27. "Biomass" means any organic material not derived from fossil fuels, such as agricultural crop residue, orchard prunings and removal, stone fruit pits, nut shells, cotton gin trash, cotton stalks, vineyard prunings, cull logs, eucalyptus logs, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste. Biomass does not include material containing sewage sludge or industrial, hazardous, radioactive or municipal solid waste. [District Rules 2201 and Rule 4102] Federally Enforceable Through Title V Permit
28. 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
29. Limestone/lime cake shall be introduced into combustor at a rate sufficient to maintain a minimum Ca/S molar ratio of 3. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Ammonia breakthrough shall not result in ground level odors and exhaust stack concentrations, except during periods of start-up/shutdown, shall not exceed 20.0 ppmv based on three hour rolling average. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Emissions rates from boiler exhaust shall not exceed the following: PM10: 190.0 lb/day, VOC: 149.9 lb/day, NOx (as NO2): 1406.4 lb/day nor 463,084 lbs/yr, SOx (as SO2): 699.4 lb/day nor 118,113 lb/yr, or CO: 1207.2 lb/day nor 371,312 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Emission rate of PM-10 shall not exceed 7.92 lb/hr and 0.012 lb/MMBtu. Particulate Matter (PM) emissions shall not exceed 0.01 gr/dscf @ 12% CO2. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
33. Emission rate of SOx (as SO2) shall not exceed 25.0 lb/hr, based on three hour rolling average. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
34. SOx emissions (as SO2) shall not exceed 0.04 lb/MMBtu, based on a three hour rolling average, during any period in which the power output exceeds 40 MW. [District Rules 2201 and 4801 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
35. Emission rate of oxides of nitrogen as NO2 shall not exceed 58.60 lb/hr, based on three hour rolling average. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
36. NOx emissions shall not exceed 115 ppmv at any time, except during startup and shutdown (as defined in Rule 4352), based on a 24 hour averaging period. [District Rule 4352, 5.1] Federally Enforceable Through Title V Permit
37. NOx emissions shall not exceed 0.092 lb/MMBtu, based on a three hour rolling average, during any period in which the power output exceeds 40 MW. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
38. Emission rate of volatile organic compounds shall not exceed 6.25 lb/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
39. Emission rate of carbon monoxide shall not exceed 50.30 lb/hr based on three hour rolling average. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

40. Except during periods of startup and shutdown (as defined in Rule 4352) the emission rate of carbon monoxide shall not exceed 183 ppmv @ 3% O₂. Compliance with the carbon monoxide emission limit shall be based on a block 24 hour average. [District Rules 2201 and 4352] Federally Enforceable Through Title V Permit
41. 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] Federally Enforceable Through Title V Permit
42. Performance testing at maximum operating capacity shall be conducted annually for NO_x, SO_x, CO, PM-10, PM, and VOCs at the maximum operating capacity using following test methods; for NO_x EPA Methods 1-4 and 7 or ARB Method 100; for SO_x EPA Methods 1-4 and 6 or ARB Method 100; for CO EPA Method 1-4 and 10 or ARB Method 100; for PM(10) EPA Method 201A in combination with EPA Method 202; for PM EPA Methods 1-4 and 5; and for VOCs EPA Method 25 or 18. [District Rule 4352, 6.4; District Rule 2520, 9.4.2; PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
43. 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 ATC SJ 86-09] Federally Enforceable Through Title V Permit
44. 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 & PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
45. Permittee shall report the following emission exceedences to the District: SO₂, NO_x, and CO hourly emission rates on a three hour rolling average and daily emissions limitations. Excess emissions shall be defined as any consecutive 3-hour period during which the average emissions for CO, SO₂, and NO_x as measured by continuous monitoring system, exceeds the mass or concentration limit set for each pollutant. [District Rule 2201 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
46. At the time of performance testing fuel being burned shall be tested for sulfur, nitrogen, ash content and heating value. [District Rule 2201] Federally Enforceable Through Title V Permit
47. Operator shall operate and maintain in calibration a system which continuously measures and records control system operating parameters; elapsed time of operation; exhaust gas Opacity, NO_x, SO₂, CO, and NH₃ concentrations. [District Rule 2201; District Rule 1080, 4.0; & PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
48. 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 ATC SJ 86-09] Federally Enforceable Through Title V Permit
49. Operator shall 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 ATC SJ 86-09] Federally Enforceable Through Title V Permit
50. 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
51. 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 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
52. 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 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

53. 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, 9.6.1; Rule 1080, 8.0; and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
54. Any violation of emission standards, as indicated by the CEM, shall be reported by the operator to the APCO within 96 hours. [District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
55. Operator shall notify the District no later than one hour after the detection of a breakdown of the CEM. 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] Federally Enforceable Through Title V Permit
56. Permittee shall maintain an operating log containing type and quantity of fuel used and higher heating value of such fuels on daily basis. [District Rule 2520, 9.4.2; District Rule 4352, 6.2] Federally Enforceable Through Title V Permit
57. Sulfur content of each type of fuel shall be measured and recorded at least every calendar quarter using current ASTM Methods or shall be certified by supplier for each shipment. [District Rule 2520, 9.3.2 and PSD ATC SJ 86-09] Federally Enforceable Through Title V Permit
58. The differential pressure across each compartment of the fabric collectors shall be checked and the results recorded quarterly. If the differential pressure across each compartment of the fabric collectors is not between 2" and 9.5" water column, corrective action is required prior to further operation of the equipment. Corrective action means that the cause of the improper pressure differential is corrected before operation of the equipment is resumed. [District Rule 2520, 9.3.2 and 9.4.2] Federally Enforceable Through Title V Permit
59. The pressure at the fabric collector inlet shall be checked and the results recorded quarterly. If the pressure at the fabric collector inlet is greater than negative 35" water column, corrective action is required prior to further operation of the equipment. Corrective action means that the cause of the improper pressure is corrected before operation of the equipment is resumed. [District Rule 2520, 9.3.2 and 9.4.2] Federally Enforceable Through Title V Permit
60. 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
61. 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
62. 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, 9.4.2] Federally Enforceable Through Title V Permit
63. Permittee shall maintain monthly records of NO_x, SO_x, and CO to ensure that emissions limits on an annual rolling average are met. [District Rule 2201] Federally Enforceable Through Title V Permit
64. Authority to Construct (ATC) S-91-3-12 shall be implemented prior to or concurrently with this ATC [District Rule 2201]

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San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: S-91-10-0

LEGAL OWNER OR OPERATOR: MT POSO COGENERATION COMPANY
MAILING ADDRESS: PO BOX 81256
BAKERSFIELD, CA 93380-1256

LOCATION: HEAVY OIL CENTRAL
CA

EQUIPMENT DESCRIPTION:

BIOMASS FUEL RECEIVING, CONVEYING, SCREENING AND STORAGE OPERATION, INCLUDING TWO TRUCK TIPPERS W/ HOPPERS, WALKING FLOOR UNLOADING STATIONS W/ HOPPERS, ONE HAMMER MILL (HOG), FOUR TRANSFER TOWERS, AND TWO RADIAL STACKERS ALL SERVED BY BAGHOUSE.

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) S-91-3-14 shall be implemented concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the authorized equipment [District Rule 2010] Federally Enforceable Through Title V Permit
5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters [District Rule 2010] Federally Enforceable Through Title V Permit
6. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director, APCO

DAVID WARNER, Director of Permit Services

S-91-10-0 : Oct 29 2009 10:18AM - RICKARDK : Joint Inspection Required with RICKARDK

7. There shall be no visible emissions of 5% opacity or greater from any point in this operation including baghouse exhaust, paved road, hoppers, conveyor transfer points, scalping screen, hammermill/hog, or stacking. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
8. Fuel truck delivery road shall be cleaned at least weekly or as needed to reduce visible emissions. [District Rule 4101] Federally Enforceable Through Title V Permit
9. Bag house 1 and 2 shall operate whenever material is being received or conveyed. [District Rule 2201] Federally Enforceable Through Title V Permit
10. All dust collectors shall be equipped with a differential pressure gauge which shall not exceed 5.0 inches w.c. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Baghouse particulate matter (PM10) emissions shall not exceed 0.005 gr/dscf. [District Rules 2201 and 4201] Federally Enforceable Through Title V Permit
12. Each dust collector shall be equipped with an adjustable pulse jet cleaning system set to within manufacturers recommendations (all model CPV dust collectors manufacturer recommends turning on pulse cleaning at 4.0 inches and off at 3.5 inches w.c.). [District Rule 2201] Federally Enforceable Through Title V Permit
13. Each dust collector exhaust stack shall be equipped with adequate stack sampling provisions (ports, platform, ladder, etc.) consistent with EPA test methods pursuant to Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
14. Particulate matter collected by baghouses shall be stored in closed containers when such material is not actively being returned to the boiler via permitted conveying equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Particulate matter collected by baghouses shall be disposed of in a manner preventing entrainment in atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
16. A spare filter shall be maintained on the premises at all times for each dust collector. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Material receiving shall not exceed 3,000 tons/day nor 6 days/week. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Fuel delivery trucks shall remain covered during entire unloading operation. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Receiving hoppers shall be vented to baghouse #1. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Baghouse #1 shall consist of: filter model CPV-12 or equivalent equipped with 3,216 sq.ft. of filter area operating with an air speed not to exceed 24,000 scfm and filter model CPV-4 or equivalent equipped with 1,072 sq.ft. of filter area operating with an air speed not to exceed 8,000 scfm. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Operation shall include belt type magnetic separator and magnetic separator take away conveyor. [District Rule 2201] Federally Enforceable Through Title V Permit
22. Disk type scalping screen and hammermill type hog shall both be vented to baghouse #2. [District Rule 2201] Federally Enforceable Through Title V Permit
23. All tubulators and connecting transfer towers shall be fully enclosed. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Baghouse #2 shall consist of: filter model CPV-6 or equivalent equipped with 402 sq.ft. of filter area operating with an air speed not to exceed 3,000 scfm, filter model CPV-8 or equivalent equipped with 536 sq.ft. of filter area operating with an air speed not to exceed 4,000 scfm, and filter model CPV-16 or equivalent equipped with 1,072 sq.ft. of filter area operating with an air speed not to exceed 8,000 scfm. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Operation shall include 2 radial stackers with telescoping spouts equipped with water spray rings. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

26. Telescoping stackers shall operate water spray rings whenever material is being stacked out and shall be maintained as close as possible to the storage pile to minimize drop distance. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Any stored fuel which is burning shall be immediately segregated and extinguished. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
28. Emissions for this operation shall not exceed 27.5 lb-PM10/day nor 8,594 lb-PM10/year. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Records of types, amounts and origins (including copies of all purchase contracts and # of trucks) of fuels received shall be maintained and made readily available for District inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Operator shall record the daily number of fuel delivery truck loads. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
31. Visible emissions from dust collectors shall be inspected monthly during operation. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
32. Visible emissions from truck tipper receiving hopper ventilation pickup points, conveyor transfer points, screens, and hog enclosures (including inlet and outlet openings) shall be inspected quarterly during operation. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
33. Dust collector system shall be thoroughly inspected annually for any evidence of particulate matter leaks and shall be repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
34. Dust collector filters shall be thoroughly inspected at least annually when the unit is not in operation for tears, scuffs, abrasions, holes or any evidence of particulate matter leaks and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
35. Records of dust collector maintenance, inspections, and repair shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

DRAFT

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-91-11-0

LEGAL OWNER OR OPERATOR: MT POSO COGENERATION COMPANY
MAILING ADDRESS: PO BOX 81256
BAKERSFIELD, CA 93380-1256

LOCATION: HEAVY OIL CENTRAL
CA

EQUIPMENT DESCRIPTION:
BIOMASS RECLAIM OPERATION WITH TWO RECLAIMERS, CONVEYORS, SCREEN, SCREENED FINES
DISCHARGING TO TRUCK LOADOUT CONVEYOR, SCREENED FUEL CONVEYED TO COMBUSTOR FUEL BIN ALL
SERVED BY BAGHOUSE.

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Authority to Construct (ATC) S-91-3-14 shall be implemented concurrently with this ATC. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The permittee shall obtain written District approval for the use of any equivalent equipment not specifically approved by this ATC. Approval of the equivalent equipment shall be made in writing and only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the authorized equipment [District Rule 2010] Federally Enforceable Through Title V Permit
5. The permittee's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emissions rates, equipment drawing(s) and operational characteristics/parameters [District Rule 2010] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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

Seyed Sadredin, Executive Director APCO

DRAFT

DAVID WARNER, Director of Permit Services
S-91-11-0 : Oct 20 2009 10:28AM - RICKARDK : Joint Inspection Required with RICKARDK

6. There shall be no visible emissions of 5% opacity or greater from any point in this operation including baghouse exhaust, conveyor transfer points, reclaiming, gyratory screen, or truck loadout. [District Rules 2201 and 4101] Federally Enforceable Through Title V Permit
7. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
8. Bag house 3 shall operate whenever material is being reclaimed or conveyed. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Bag house 4 shall operate whenever fine material is being unloaded at truck loadout station. [District Rule 2201] Federally Enforceable Through Title V Permit
10. All dust collectors shall be equipped with a differential pressure gauge which shall not exceed 5.0 inches w.c. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Baghouse particulate matter (PM10) emissions shall not exceed 0.005 gr/dscf. [District Rules 2201 and 4201] Federally Enforceable Through Title V Permit
12. Each dust collector shall be equipped with an adjustable pulse jet cleaning system set to within manufacturers recommendations (all model CPV dust collectors manufacturer recommends turning on pulse cleaning at 4.0 inches and off at 3.5 inches w.c.). [District Rule 2201] Federally Enforceable Through Title V Permit
13. Each dust collector exhaust stack shall be equipped with adequate stack sampling provisions (ports, platform, ladder, etc.) consistent with EPA test methods pursuant to Rule 1081. [District Rule 1081] Federally Enforceable Through Title V Permit
14. Particulate matter collected by baghouses shall be stored in closed containers when such material is not actively being returned to the boiler via permitted conveying equipment. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Particulate matter collected by baghouses shall be disposed of in a manner preventing entrainment in atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
16. A spare filter shall be maintained on the premises at all times for each dust collector. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Material reclaiming shall not exceed 1,440 tons/day. [District Rule 2201] Federally Enforceable Through Title V Permit
18. Any stored fuel which is burning shall be immediately segregated and extinguished. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
19. Reclaiming pickup points shall be vented to baghouse #3. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Operation shall include belt type magnetic separator at each reclaiming point magnetic separator take away conveyor. [District Rule 2201] Federally Enforceable Through Title V Permit
21. Gyrating type screen shall be vented to baghouse #3. [District Rule 2201] Federally Enforceable Through Title V Permit
22. All tubulators and connecting transfer towers shall be fully enclosed. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Baghouse #3 shall consist of filter model CPV-6 or equivalent equipped with 2,010 sq.ft. of filter area operating with an air speed not to exceed 15,000 scfm. [District Rule 2201] Federally Enforceable Through Title V Permit
24. Operation shall include a fully enclosed fine material truck loadout vented to baghouse #4. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Baghouse #4 shall consist of filter model CPV-6 or equivalent equipped with 804 sq.ft. of filter area operating with an air speed not to exceed 6,000 scfm. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Emissions for this operation shall not exceed 24.9 lb-PM10/day nor 8,173 lb-PM10/year. [District Rule 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

27. Visible emissions from dust collectors shall be inspected monthly during operation. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
28. Visible emissions from truck loadout ventilation pickup points, conveyor transfer points, and screens shall be inspected quarterly during operation. If visible emissions are observed, corrective action shall be taken to eliminate visible emissions. If visible emissions cannot be corrected within 24 hours, a visible emissions test using EPA Method 9 shall be conducted. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
29. Dust collector system shall be thoroughly inspected annually for any evidence of particulate matter leaks and shall be repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
30. Dust collector filters shall be thoroughly inspected at least annually when the unit is not in operation for tears, scuffs, abrasions, holes or any evidence of particulate matter leaks and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
31. Daily Records of screened fines and material weight sent to fuel bin shall be maintained. [District Rule 2201] Federally Enforceable Through Title V Permit
32. Records of dust collector maintenance, inspections, and repair shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

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APPENDIX I
CEQA Notice of Exemption

NOTICE OF EXEMPTION

FILED
KERN COUNTY

MAR 17 2009

From: Kern County Planning Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

ANN K. BARNETT
AUDITOR CONTROLLER-COUNTY CLERK
BY [Signature] DEPUTY

Project Title: Conditional Use Permit Case No. 4, Map No. 59

Project Location -- Specific: 36157 Famoso Road, approximately 15 miles north of Bakersfield

Project Location -- City: Bakersfield

Project Location -- County: Kern

Description of Project: A Conditional Use Permit to allow for the conversion of an existing coal-based cogeneration facility to primarily biomass cogeneration waste-to-energy facility (Section 19.12.030.H) in an A (Exclusive Agriculture) District

Name of Public Agency Approving Project: KERN COUNTY PLANNING COMMISSION

Name of Person or Agency Carrying Out Project: Millennium Energy, LLC (PP09237)

Exempt Status: Categorically Exempt, Section 15301, 15302, and 15329

Reasons Why Project Is Exempt: Section 15301, 15302, and 15329 of the State CEQA Guidelines

Contact Person: Craig M. Murphy, Supervising Planner ((661) 862-8739)

Date Received for Filing:

March 26, 2009

[Signature]
James E. Ellis, AICP
Planning Operations Division Chief

Date of Hearing: March 12, 2009

sc

cc: Environmental Status Board
Applicant

COPY

Notice of Environmental Document
Posted by County Clerk on 3-17-09
and for 30 days thereafter, Pursuant to
Section 21152(C), Public Resources Code

1066

APPENDIX J
Interpollutant Offset Ratio Explanation

Interpollutant Offset Ratio Explanation

The Air District's Rule 2201, "New and Modified Source Review", requires facilities to supply "emissions offsets" when a permittee requests new or modified permits that allow emissions of air contaminants above certain annual emission offset thresholds. In addition, Rule 2201 allows interpollutant trading of offsets amongst criteria pollutants and their precursors upon the appropriate scientific demonstration of an adequate trading ratio, herein referred to as the interpollutant ratio. A technical analysis is required to determine the interpollutant offset ratio that is justified by evaluation of atmospheric chemistry. This evaluation has been conducted using the most recent modeling analysis available for the San Joaquin Valley. The results of the analysis are designed to be protective of health for the entire Valley for the entire year, by applying the most stringent interpollutant ratio throughout the Valley.

It is appropriate for District particulate offset requirements to be achieved by either a reduction of directly emitted particulate or by reduction of the gases, called particulate precursors, which become particulates from chemical and physical processes in the atmosphere. The District interpollutant offset relationship quantifies precursor gas reductions sufficient to serve as a substitute for a required direct particulate emissions reduction. Emission control measures that reduce gas precursor emissions at the facility may be used to provide the offset reductions. Alternatively, emission credits for precursor reductions may be used in accordance with District regulations.

The amount of particulate formed by the gaseous emissions must be evaluated to determine how much credit should be given for the gaseous reductions. Gases combine and merge with other material adding molecular weight when forming into particles. Some of the gases do not become particulate matter and remain a gas. Both the extent of conversion into particles and resulting weight of the particles are considered to establish mass equivalency between direct particulate emissions and particulate formed from gas precursors. The Interpollutant offset ratio is expressed as a per-ton equivalency.

The District interpollutant analysis uses the most recent and comprehensive modeling of San Joaquin Valley particulate formation from sulfur oxides (SO_x) and nitrogen oxides (NO_x). Modeling compares industrial directly emitted particulate to particulate matter from precursor emissions. The interpollutant modeling procedure, assumptions and uncertainties are documented in an extensive analysis file. Additional documentation of the modeling procedure for the San Joaquin Valley is contained in the 2008 PM_{2.5} Plan and its appendices. The 2008 PM_{2.5} Plan provides evaluation of the atmospheric relationships for direct particulate emissions and precursor gases when they are highest during the fourth quarter of the year. The southern portion of the Valley is evaluated by both receptor modeling and regional modeling of chemical relationships for precursor particulate formation. Regional modeling was conducted for the entire Valley through 2014. The two modeling approaches are combined to determine interpollutant offset ratios applicable to, and protective of, the entire Valley (SO_x for PM 1:1 and NO_x for PM 2.629:1).

DEVELOPMENT OF THE INTERPOLLUTANT RATIO

For the proposed substitution of reductions of sulfur oxides (SO_x)
or nitrogen oxides (NO_x) for directly emitted particulate matter

March 2009

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Introduction

Goal of Interpollutant Evaluation: Establish the atmospheric exchange relationship for substitution of alternative pollutant or precursor reductions for required reductions of directly emitted particulate

Evaluation to establish the atmospheric relationship of different pollutants is required as a prerequisite for establishing procedures for allowing a required reduction to be met by substitution of a reduction of a different pollutant or pollutant precursor. Proposed new facility construction or facility modifications may result in increased emissions of a pollutant. The District establishes requirements for reductions of the pollutant to "offset" the proposed increase. A facility may propose a reduction of an alternative pollutant or pollutant precursor where reductions of that material have already been achieved at the facility beyond the amount required by District regulations or where emission reductions credits for reductions achieved by other facilities are economically available; however, for such a substitution to be allowed the District must establish equivalency standards for the substitution. The equivalency relationship used for offset requirements is referred to in this discussion as the interpollutant ratio. The interpollutant ratio is a mathematical formula expressing the amount of alternative pollutant or precursor reduction required to be substituted for the required regulatory reduction. This discussion is limited to the atmospheric relationships and does not address other policy or regulatory requirements for offsets such as are contained in District Rule 2201.

The following description is provided to explain key elements of the analysis conducted to develop the atmospheric relationship between the commonly requested substitutions. Emission reductions of sulfur oxide emissions or nitrogen oxide emissions are proposed by many facilities as a substitution for reduction of directly emitted particulates. Elemental and organic carbon emissions are the predominant case and dominant contribution to directly emitted particulate mass from industrial facilities, although other types of directly emitted particulates do occur. Therefore this atmospheric analysis examines directly emitted carbon particulates from industrial sources in comparison to the formation of particles from gaseous emissions of sulfur oxides and nitrogen oxides.

Analyses included in Interpollutant evaluation

Factors Considered

The foundation for this analysis is provided by the atmospheric modeling conducted for the 2008 PM_{2.5} Plan. Modeling conducted for this State Implementation Plan was conducted by the District and the California Air Resources Board using a variety of modeling approaches. Each separate model has technical limitations and uncertainties. To reduce the uncertainty of findings, a combined evaluation of results of all of the modeling methods is used to establish "weight of evidence" support for technical analysis and conclusions. The modeling methods are supported by a modeling protocol which was sent to ARB and EPA Region IX for review and was included in the appendices to the Plan.

The analysis file prepared for the interpollutant ratio evaluation includes emissions inventories, regional model daily output files, chemical mass balance modeling and speciated rollback modeling as produced for the 2008 PM_{2.5} Plan. This well examined and documented modeling information was used as a starting point for additional evaluation to determine interrelationships between directly emitted pollutants and particulates from precursors.

The interpollutant ratio analysis is limited to evaluation of directly emitted PM_{2.5} from industrial sources and formation of PM_{2.5} from precursor gases. While both directly emitted particulates and particulate from precursor gases also occur in the PM₁₀ size range, there is much more uncertainty associated with deposition rates and particle formation rates for the larger size ranges. Additionally, because PM_{2.5} is a subset of PM₁₀; all reductions of PM_{2.5} are fully creditable as reductions towards PM₁₀ requirements. This analysis concentrates on the quarter of the year when both directly emitted carbon from industrial sources and secondary particulates are measured at the highest levels. Assessing atmospheric ratios at low concentrations is subject to much greater uncertainty and has limited value toward assessment of actions to comply with the air quality standards.

Elements from 2008 PM 2.5 Plan

- Regional modeling daily output for eleven locations
- Chemical Mass Balance (CMB) modeling for four locations – source analysis, speciation profile selection, event meteorology evaluation
- Receptor speciated rollback modeling with adjustment for nitrate nonlinearity for four locations, evaluation of spatial extent of contributing sources
- Emission inventories and projections to future years as developed for the 2008 PM 2.5 Plan

DEVELOPMENT OF THE INTERPOLLUTANT RATIO

- Modeling protocols for receptor modeling, regional modeling, and Positive matrix Factorization (PMF) analysis and evaluation of technical issues applicable to particulate formation in the San Joaquin Valley
- Model performance analysis as documented in appendices to the 2008 PM 2.5 Plan

Extension by additional analysis

Additional evaluation was conducted to evaluate the receptor modeling relationship between direct PM from industrial sources and sulfate and nitrate particulate formed from SO_x and NO_x precursor gases. Area of influence adjustments were evaluated to ensure appropriate consideration of contributing source area for different types of pollutants for both directly emitted and secondary particulate. This evaluation was possible only for the southern four Valley counties and was conducted for both 2000 and 2009.

The regional model output was evaluated for the fourth quarter to evaluate general atmospheric chemistry in 2005 and 2014 to determine the correlation between northern and southern areas of the Valley. This evaluation determined that the atmospheric chemistry observed and modeled in the north was within the range of values observed and modeled in the southern SJV. This establishes that a ratio protective of the southern Valley will also be protective in the north.

The District determined from the additional analyses of both receptor and regional modeling that the most stringent ratio determined for the southern portion of the Valley would also be protective of the northern portion of the Valley. Due to the regional nature of these pollutants, actions taken in other counties must be assumed to have at least some influence on other counties; therefore to achieve attainment at the earliest practical date it is appropriate to require all counties to establish a consistent interpollutant ratio for the entire District.

Strengths

The interpollutant ratio analysis uses established and heavily reviewed modeling and outputs as foundation data. Analysis of model performance has already been completed for the models and for the emissions inventories used for this analysis. The modeling was performed in accordance with protocols developed by the District and ARB and in accordance with modeling guidelines established by EPA. The combination of modeling approaches provides an analysis for the current year and provides projection to 2014. Weight of evidence comparison of various modeling approaches establishes the reliability of the foundation modeling, with all modeling approaches showing strong agreement in predicted results. Additional analysis performed to develop the interpollutant ratio uses both regional and receptor evaluations which were the primary models used for the 2008 PM 2.5 Plan.

DEVELOPMENT OF THE INTERPOLLUTANT RATIO

Limitations

Both industrial direct emissions and secondary formed particulate may be both PM_{2.5} and PM₁₀. The majority of secondary particulates formed from precursor gases are in the PM_{2.5} range as are most combustion emissions from industrial stacks, however both secondary and stack emissions do contain particles larger than PM_{2.5}. Regional modeling is more reliable for the smaller fraction due to travel distances and deposition rates. Large particles have much higher deposition and are much more difficult to replicate with a regional model. This leads to a strong technical preference for evaluating both emission types in terms of PM_{2.5} because the integration of receptor analysis and regional modeling for coarse particle size range up to PM₁₀ has a much greater associated uncertainty.

Analyses contained in Receptor modeling

Factors Considered

This modeling approach uses speciated linear modeling based on chemical mass balance evaluation of contributing sources with San Joaquin Valley specific identification of contributing source profiles, adjustments from regional modeling for the nonlinearity of nitrate formation, adjustments for area of influence impacts of contributing sources developed from back trajectory analysis of high concentration particulate episodes and projections of future emission inventories as developed for the 2008 PM2.5 Plan.

Analyses in receptor modeling that use input from regional modeling

The receptor modeling analysis uses a modified projection of nitrate particulate formation from nitrogen oxides based upon results of regional modeling. The atmospheric chemistry associated with nitrate particulate formation has been determined to be nonlinear; while the default procedures for speciated rollback modeling assume a linear relationship. This adjustment has been demonstrated as effective in producing reliable atmospheric projections for the prior PM10 Plans.

Extension by additional analysis

Additional evaluations were added to results of the receptor modeling performed for the 2008 PM2.5 Plan. Calculations determine the observed micrograms per ton of emission for each contributing source category that can be resolved by chemical mass balance modeling methods. These ten categories allow differentiation of industrial direct emissions of organic and elemental carbon from other sources that emit elemental and organic carbon. The interpollutant calculation is developed as an addition to the receptor analysis by calculating the ratio of emissions per ton of directly emitted industrial PM2.5 to the per ton ratio of secondary particulate formed from NO_x and SO_x emissions. Summary tables and issue and documentation discussion was added to the analysis.

Strengths

Receptor modeling provides the ability to separately project the effect of different key sources contributing to carbon and organic carbon. This is critical for establishing the atmospheric relationship between industrial emissions and the observed concentrations due to industrial emissions. Regional modeling methods at this time do not support differentiation of vegetative and motor vehicle carbon contribution from the emissions from industrial sources. The area of influence of contributing sources was also considered as a factor with the methods developed by the District to incorporate the gridded footprint of contributing sources into the receptor analysis. While regional

DEVELOPMENT OF THE INTERPOLLUTANT RATIO

models use gridded emissions, current regional modeling methods do not reveal the resulting area of influence of contributing sources.

Limitations

Receptor modeling uses linear projections for future years and cannot account for equilibrium limitations that would occur if a key reaction became limited by reduced availability of a critical precursor due to emission reductions. The regional model was used to investigate this concern and did not project any unexpected changes due to precursor limitations.

Analyses contained in Regional modeling

Factors Considered

The analysis file includes the daily modeling output representing modeled values for the base year 2005 and predicted values for 2014 for each of the eleven Valley sites that have monitoring data for evaluation of the models performance in predicting observed conditions. These sites are located in seven of the eight Valley counties. Madera County does not have monitoring site data for this comparison.

Modeling data for all quarters of the year was provided. Due to the higher values that occur due to stagnation events in the fourth quarter, both industrial carbon concentrations and secondary particulates forming from gases are highest in the fourth quarter. Evaluating the interpollutant ratio for other quarters would be less reliable and of less significance to assisting in the reduction of high particulate concentrations. Modeling for lower values has higher uncertainty. Modeling atmospheric ratios when the air quality standard is being met are axiomatically not of value to determining offset requirements intended to assist in achieving compliance with the air quality standard. However, for consistency of analysis between sites, days when the standard was being met during the fourth quarter were not excluded from the interpollutant ratio analysis. Bakersfield fourth quarter modeled data included only eight days that were at or below the standard. Fresno and Visalia sites averaged twelve days; northern sites 24 days and the County of Kings 38 days.

Modeling output provided data for both 2005 and 2014. While there is substantial emissions change projected for this period, the regional modeling evaluation does not project much change in the atmospheric ratios of directly emitted pollutants and secondary pollutants from precursor gases. This indicates that the equilibrium processes are not expected to encounter dramatic change due to limitation of reactions by scarcity of one of the reactants. This further justifies using the receptor evaluation determining the interpollutant ratio for 2009 through the year 2014 without further adjustment. If observed air quality data demonstrates a radical shift in chemistry or components during the next few years, such a change could indicate that a limiting reaction has been reached that was not projected by the model and such radical changes might require reassessment of the conclusion that the ratio should remain unchanged through 2014.

Extension by additional analysis

Regional modeling results prepared for the 2008 PM2.5 Plan were analyzed to extract fourth quarter data for all sites. The atmospheric chemistry for all counties was analyzed for consistency and variation. This analysis provided a determination that the secondary formation chemistry and component sources contributing to concentrations observed in the north fell within the range of values similarly determined for the southern four counties. Based upon examination of the components and chemistry, the northern counties would be expected to have an interpollutant ratio value less than the

DEVELOPMENT OF THE INTERPOLLUTANT RATIO

ratio determined for Kern County but greater than the one for Tulare County. This establishes that the interpollutant ratio determined by receptor analysis of the southern four counties provides a value that is also sufficiently protective for the north.

Strengths

Regional models provide equilibrium based evaluations of particulate formed from precursor gases and provide a regional assessment that covers the entire Valley. The projection of particulate formed in future years is more reliable than linear methods used for receptor modeling projections.

Limitations

The regional model does not provide an ability to focus on industrial organic carbon emissions separate from other carbon sources such as motor vehicles, residential wood smoke, cooking and vegetative burning. Regional modeling does not provide an assessment method for determination of sources contributing at each site or the area of influence of contributing emissions. Receptor analysis provides a more focused tool for this aspect of the evaluation.

Results and Documentation

SJVAPCD Interpollutant Ratio Results

SOx for PM ratio: 1.000 ton of SOx per ton of PM

NOx for PM ratio: 2.629 tons of NOx per ton of PM

These ratios do not include adjustments for other regulatory requirements specified in provisions of District Rule 2201.

The results of the modeling analysis developed an atmospheric interpollutant ratio for NOx to PM of 2.629 tons of NOx per ton of PM. This result was the most stringent ratio from the assessment industrial carbon emissions to secondary particulates at Kern County; with Fresno, Tulare and Kings counties having a lower ratio. The assessment of chemistry from the regional model required comparison of total carbon to secondary particulates and is therefore not directly useful to establish a ratio. However, the regional model does provide an ability to compare the general atmospheric similarity and compare changes in chemistry due to Plan reductions. Evaluation revealed that the atmospheric chemistry of San Joaquin, Stanislaus and Merced counties falls within the range of urban characteristics evaluated for the southern four counties; therefore the ratio established should be sufficiently protective of the northern four counties. Additionally, comparison of future year chemistry showed minimal change in pollutant ratio due to the projected changes in the emission inventory from implementation of the Plan. The SOx ratio as modeled indicates a value of less than one to one due to the increase in mass for conversion of SOx to a particulate by combination with other atmospheric compounds; however, the District has set guidelines that require at least one ton of an alternative pollutant for each required ton of reduction in accordance with District Rule 2201 Section 4.13.3. Therefore the SOx interpollutant ratio is established as 1.000 ton of SOx per ton of PM. These ratios do not include adjustments for other regulatory considerations, such as other provisions of District Rule 2201.

A guide to the key technical topics and the reference material relevant to that topic is found on the next page. References from the 2008 PM2.5 Plan may be obtained by requesting a copy of that document and its appendices or by downloading the document from http://www.valleyair.org/Air_Quality_Plans/AQ_Final_Adopted_PM25_2008.htm. References in Italics are spreadsheets included in the interpollutant analysis file "09 Interpollutant Ratio Final 032909.xls" which includes 36 worksheets of receptor modeling information from the 2008 PM2.5 Plan, 11 modified and additional spreadsheets for this analysis and two spreadsheets of regional model daily output. This file is generally formatted for printing with the exception of the two spreadsheets containing the regional model output "*Model-Daily Annual*" and "*Model-Daily Q4*" which are over 300 pages of raw unformatted model output files. The remainder of the file is formatted to print at approximately 100 pages. This file will be made available on request but is not currently posted for download.

DEVELOPMENT OF THE INTERPOLLUTANT RATIO

Interpollutant Ratio Issues & Documentation

TOPIC	Reference
1 Reason for using PM2.5 for establishing the substitution relationship between direct emitted carbon PM and secondary nitrate and sulfate PM: consistency of relationship between secondary particulates and industrial direct carbon combustion emissions.	2008 PM2.5 Plan, Sections 3.3.2 through 3.4.2
2 Reason for using 4th Quarter analysis: Highest PM2.5 for all sites.	<i>DV Qtrs</i>
3 Reason for using analysis of southern SJV sites to apply to regional interpollutant ratio: Northern site chemistry ratios are within the range of southern SJV ratios. Peak ratio will be protective for all SJV counties.	<i>Q4 Model Pivot, Model-site chem, Model-Daily Q4</i>
4 Reason for using combined results of receptor and regional model: Receptor model provides breakdown of different carbon sources to isolate connection between industrial emissions and secondary PM. Regional model provides atmospheric information concerning the northern SJV not available from receptor analysis.	2008 PM2.5 Plan, Appendix F 2008 PM2.5 Plan, Appendix G
5 Most significant contributions of receptor evaluation: Separation of industrial emissions from other source types. Area of influence evaluation for contributing sources.	2008 PM2.5 Plan, Appendix F
6 Most significant contributions of regional model: Scientific equilibrium methods for atmospheric chemistry projections for 2014. Receptor technique is limited to linear methods.	2008 PM2.5 Plan, Appendix G
7 Common area of influence adjustments used for all receptor evaluations: Geologic & Construction, Tire and Brake Wear, Vegetative Burning - contribution extends from more than just the urban area (L2) Mobile exhaust (primary), Organic Carbon (Industrial) primary, Unassigned - contribution extends from more than larger area, subregional (L3) Secondary particulates from carbon sources are dominated by the local area with some contribution from the surrounding area (average of L1 and L2) Marine emissions not found present in CMB modeling for this analysis.	Modeling evaluation by J. W. Sweet February 2009 Reflected in <i>IPR County 2000-2009</i> worksheets
8 Variations to reflect secondary area of influence specific to location: Fresno: Evaluation shows extremely strong urban signature (L1) for secondary sources Kern: Evaluation shows a strong urban signature mixed with emissions from the surrounding industrial areas (average L1 and L2) for both carbon and secondary sources Kings and Tulare: Prior evaluation has show a shared metropolitan contribution area (L2)	Modeling evaluation by J. W. Sweet February 2009 Reflected in <i>IPR County 2000-2009</i> worksheets
9 Reasons for using 2009 Interpollutant Ratio Projection: 2009 Interpollutant ratio is consistent with current emissions inventories Regional modeling does not show a significant change in chemical relationships through 2014.	2008 PM2.5 Plan <i>Q4 Model Pivot</i>
10 Reason for using SOx Interpollutant Ratio at 1.000: A minimum offset ratio is established as 1.000 to 1.000 consistent with prior District policy and procedure for interpollutant offsets.	District Rule 2201 Section 4.13.3

APPENDIX K
ATC S-91-3-12 Conditions Changed

S-91-3-14

Conditions Added:

- Condition 1 - {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule]
- Condition 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]

Note: Condition added since applicant requested COC.

- Condition 15 - Operation shall be equipped with the following indicators: combustion temperature, combustion air system pressure, primary and secondary fan air flow, ammonia injection flow, fuel use rate and limestone/lime cake use rate. The permittee shall operate and maintain instrumentation to continuously monitor and record levels of combustion temperature, consumption of fuel, ammonia, and limestone/lime cake in boiler. [District Rule 2201]

Note: Condition added to include lime cake combustion for SO_x control (PSD condition 13 on S-91-3-12 remains as condition 14 on S-91-3-14)

- Condition 26 - "Biomass" means any organic material not derived from fossil fuels, such as agricultural crop residue, orchard prunings and removal, stone fruit pits, nut shells, cotton gin trash, cotton stalks, vineyard prunings, cull logs, eucalyptus logs, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste. Biomass does not include material containing sewage sludge or industrial, hazardous, radioactive or municipal solid waste. [District Rules 2201 and Rule 4102]

Note: Condition added to define "biomass" term listed in condition 25

- Condition 27 - 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]

Note: Condition added to define woodwaste term listed in condition 26

- Condition 66 - Authority to Construct (ATC) S-91-3-12 shall be implemented prior to or concurrently with this ATC [District Rule 2201]

Note: Condition added as ATC S-91-3-12 was proposed and used as a base document for draft ATC S-91-3-14

Conditions Modified from S-91-3-12:

- Condition 5 - Operation shall include enclosed gravimetric belt weigh feeder discharging to fuel feed chutes and enclosed limestone/lime cake volumetric feeder with air lock system. [District Rule 2201]

Note: Condition modified to include lime cake combustion for SO_x control (ATC condition 6).

- Condition 26 - Limestone/lime cake shall be introduced into combustor at a rate sufficient to maintain a minimum Ca/S molar ratio of 3. [District Rule 2201]

Note: Condition modified to include lime cake combustion for SO_x control (ATC condition 29).

Condition 28 - Emissions rates from boiler exhaust shall not exceed the following: PM10: 190.0 lb/day, VOC: 149.9 lb/day, NOx (as NO2): 1406.4 lb/day nor 463,084 lbs/yr, SOx (as SO2): 699.4 lb/day nor ~~209,046~~ 118,113 lb/yr, and CO: 1207.2 lb/day nor 371,312 lb/yr. [District Rule 2201]

Note: Condition modified to reflect new, lower, SO_x limit (ATC condition 31).

Condition 33 - NOx emissions shall not exceed ~~0.20 lb/MMBtu~~ 115 ppmv at any time, except during startup and shutdown (as defined in Rule 4352), based on a 24 hour averaging period. [District Rule 4352, 5.1]

Note: Condition modified to reflect new Rule 4352 limit (ATC condition 38).

Condition 52 - Operator shall notify the District no later than ~~one~~ eight hours after the detection of a breakdown of the CEM. 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, ~~40.0~~]

Note: Condition modified to reflect the more stringent 1-hour reporting period allowed by Rule 1100 (ATC condition 57).

Conditions Removed from S-91-3-12:

Condition 25 - A minimum of 0.035 lbm limestone/lbm of fuel shall be introduced into the combustor. [District Rule 2201]

Note: Condition removed as the firing of a mixture of biomass will not require 0.035 lbm limestone/lbm of fuel and this condition is redundant to condition 29 listed on ATC S-91-3-14, which requires limestone/lime cake to be introduced at a rate sufficient to maintain a minimum Ca/S molar ratio of 3.