Data Base Summary
NSR Permit or NOI

Activity Type	Size	PSD	[1]NSPS	[1]NESHAP	[1]20 NMAC	[1]Monit.	[1]Rcrd.	[1]Rpt.
Regular-New	A	**MIN**	**X**		**X**	**X**	**X**	**X**

PERMIT WRITER:	Lawrence Alires
DATE:	March 27, 2007
PERMIT NO.	NSR 3434
IDEA ID No.	25625 - PRN20060001
AIRS ID No.	350570010
SIC CODE:	4911: Electric services
FACILITY TYPE:	ENRG-Power Plant
COMPANY:	Western Water and Power Production LLC
FACILITY:	Estancia Basin Biomass Power Generation Plant
APPLICATION DATE:	August 21, 2006
RECEIVE DATE:	August 29, 2006
RULED INCOMPLETE:	Not Applicable
RULED COMPLETE:	September 27, 2006
APP. SENT TO FIELD OFFICE:	Application available in Santa Fe office 12/20/2006
PSD APP. SENT TO EPA:	Not Applicable
PUBLIC NOTICE:	September 30, 2006
SECOND PUBLIC NOTICE:	November 8, 2006
COMMENTS DUE:	December 8, 2006
ANALYSIS REVIEW BEGINS:	December 20, 2006
ANALYSIS REVIEW ENDS:	January 19, 2007
PUBLIC HEARING:	March 13, 2007
PERMIT DUE:	March 26, 2007
PERMIT ISSUED:	<NO DATA FOUND>
PSD PERMIT TO U.S. EPA:	Not Applicable
FACILITY LOCATION:	This facility is located approximately 7.5 miles southwest of Estancia in Torrance County, New Mexico
UTM ZONE:	13
UTMH:	406400
UTMV:	3777500
ELEVATION:	6140 ft
COUNTY:	Torrance
CONTACT NAME:	Jack Maddox **Phone:** 505-332-3279 **Fax:** 505-293-2173 **Email:** maddoxenger@aol.com

CONTACT ADDRESS: 809 Suzanne Lane SE
Albuquerque, New Mexico 87123

CONSULTANT NAME: Class One Technical Services Inc
Ralph Williams
Phone: 505-830-9680
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Email: rwilliams@classonetech.com

CONSULTANT ADDRESS: 3500 Comanche Rd NE
Suite G
Albuquerque, NM 87107

Total Pollutant Emissions from Entire Facility (for information only, not an enforceable condition):

Pollutant	**Emissions** (tons per year)	**Emission Type**	**Calculation Method**
Sulfur Dioxide	40.3	Allowable	Manufacturers Specifications
Carbon Monoxide	221.0	Allowable	Manufacturers Specifications
Nitrogen Dioxide	231.0	Allowable	Manufacturers Specifications
Volatile Organic Compounds (VOC)	48.3	Allowable	Manufacturers Specifications
Particulate Matter (total suspended)	58.9	Allowable	Manufacturers Specifications Dust Control System
Particulate Matter (10 microns or less)	39.7	Allowable	Manufacturers Specifications Dust Control System
Particulate Matter (2.5 microns or less)	34.4	Allowable	Manufacturers Specifications Dust Control System

Total HAPS and NM TAPS that exceed one ton per year (for information only, not an enforceable condition):

Pollutant	**Emissions** (tons per year)	**Emission Type**
Formaldehyde	3.6	Potential
Acrolein	3.26	Potential
Styrene	1.6	Potential
Manganese	1.3	Potential
Total HAP	9.7	Potential
Ammonia (TAP)	2.8 lb/hr	Potential

Wood Dust (TAP)	1.5 lb/hr	Potential

AIR POLLUTION CONTROL DEVICES:

Subject Item ID	Subject Item Type	Comments
Unit 1 and 2 Truck Dump Hopper	Fabric Filter Baghouse	This system includes a truck unloading station allowing the trucks to be backed into three-sided enclosure surrounding the truck dump hopper. The enclosure will be ventilated with fans that will exhaust air through fabric filters (baghouses) to remove wood dust. The open end of the dump station will have flexible curtains to limit the amount of ventilation air needed to insure dust produced in the unloading operation is collected by the system and does not escape from the open end of the enclosure. The baghouse system will be operated during periods of material delivery. The baghouse fans will either be run continuously during plant operation or will be equipped to automatically turn on whenever a truck enters the unloading station. The integrity of the baghouse and the differential pressure gauge shall be monitored and recorded on a daily basis.
Unit Number 13 (Fluidized Bed Combustion Boiler)	Selective Non-Catalytic Reduction ("SNCR")	Used to control NOx emissions from the boiler. Ammonia is injected into the boiler gas stream and reacts with nitrogen oxide to form nitrogen, water and ammonia. Literature reviews confirm at least 50% control of NOx emissions is expected when using this technology. SNCR features and requirements include: flue gas temperature around 1750 Fahrenheit (above this temperature the NH3 reacts to form NOx and below 1750 no reaction occurs and NH3 is emitted to atmosphere), requires good mixing which FBC design does and works best with steady boiler loads which should occur since the facility is considered to be a base load operation.
Unit Number 13 (Baghouse)	Electrostatic precipitator or fabric filter	Used to control boiler particulate matter emissions resulting from products of incomplete combustion and ash contained in the wood. A fabric filter (baghouse) captures fine particles passing through a chamber. Particles collect on bags hanging on wire cages as stack gas passes through the chamber. Baghouses have a proven track record in capturing fine particles. Differential pressure and visible emissions are used to monitor baghouse performance. An Electrostatic precipitator is a particle control device that uses electrical forces to move the particles out of the flowing gas stream and onto collector plates. Differential pressure and visible emissions are also used to monitor ESP performance.
Unit Number 13 (Fluidized Bed Combustion Boiler)	(Wet or Dry)	Limestone injection will be used to scrub sulfur resulting from the combustion of the wood waste. According to the fuel analysis included in the application, sulfur content of the wood is expected to be approximately 0.03 percent. The company will use the limestone injection control system, but did not take credit for this control in the calculations.
Fugitives from material handling (Units 1-11) and Haul Roads (Unit 29)	Water Spray	Fugitive Dust Plan Attached to Data Base Summary

EQUIPMENT SPECIFICATIONS (Active):

Unit No.	Unit Type	Manufacturer	Model No.	Serial No.	Yr of Construction	Yr of Manufacturer	Operating Rate Max/Site	Operating Capacity Max/Site	Subject Item Status	Subject Item Description
01 and 02 Combined	Fugitives	not applicable	not applicable	not applicable	Not Required	Not Required	54.9 tph	54.9 tph	Active	Trailer Dump/ Feed Hopper
04	Fugitives	not applicable	not applicable	not applicable	Not Required	Not Required	54.9 tph	54.9 tph	Active	Disc Screen/Hammer Hog
06	Fugitives	not applicable	not applicable	not applicable	Not Required	Not Required	54.9 tph	54.9 tph	Active	Fuel Stockpile Stacker Conveyor Transfer
07	Fugitives	not applicable	not applicable	not applicable	Not Required	Not Required	54.9 tph	54.9 tph	Active	Conveyor Transfer
8,9,10,11	Fugitives	not applicable	not applicable	not applicable	Not Required	Not Required	54.9 tph	54.9 tph	Active	Four (4) Metering Bins
13	Fluidized Bed Combustion Boiler	TBD	TBD	TBD	TBD	TBD	483 MM BTU/hr	483 MM BTU/hr	Active	Fluidized Bed Combustion Boiler
14,15,17,19	Bottoms Receiver	not applicable	not applicable	not applicable	Not Required	Not Required	Not Required	Not Required	Active	Bottom Ash Collection (4)
21	Fly Ash Hopper	not applicable	not applicable	not applicable	Not Required	Not Required	Not Required	Not Required	Active	Fly Ash Hopper
22	Fly Ash Hopper	not applicable	not applicable	not applicable	Not Required	Not Required	Not Required	Not Required	Active	Fly Ash Hopper
26	Cooling Tower	TBD	TBD	TBD	NO Information supplied	NO Information supplied	NO Information supplied	30,000 gal/min	Active	Cooling Tower
29	Haul Roads	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	not applicable	Active	Haul Roads
33	Ammonia Tank						9,000 gallons	9,000 gallons	Active	Ammonia Tank

EQUIPMENT THAT IS EITHER EXEMPT OR NOT AN EMISSIONS POINT:

Unit No.	Unit Type	Subject Item Status	Subject Item Description
12	Fuel feedstock transfer conveyor	Totally enclosed Not an emissions point	Fuel feedstock transfer conveyor
16	Heat exchanger	Not an emissions point	Heat exchanger to combustion Boiler
18	Heat exchanger	Not an emissions point	Heat exchanger to combustion Boiler
20	Air Preheater	Not an emissions point	Air Preheater
23	Particulate control mechanism	Not an emissions point	Fabric Filter Baghouse
24	NOx control mechanism	Not an emissions point	Selective Non catalytic Reduction
25	Exhaust Fan to Stack	Not an emissions point	Exhaust Fan to Stack
27	Heat exchanger to boil water	Not an emissions point	Combustion Air Boiler
28	Exhaust Stack	Emissions from the exhaust stack are accounted for at Unit 13 FBCB	Exhaust Stack
30	Fire Pump	Exempt	Fire Pump
31	Limestone Tanks	Exempt	Limestone Tanks
32	Optional Tub Grinder	Exempt	Tub Grinder
34	Steam Condensate Tank	Exempt	Steam Condensate Tank
35	Demineralizer (water purification)	Exempt	Demineralizer
36	Diesel Tank	Low vapor prssure	Diesel Tank

EMISSIONS:

Pollutant **Permitted** (Allowable) Emissions per piece of equipment or Subject Item as represented by applicant.

TEMPO SI No. Unit No.	NO2 (pph)	NO2 (tpy)	CO (pph)	CO (tpy)	VOC (pph)	VOC (tpy)*	PM2.5 (pph)	PM2.5 (tpy)	PM10 (pph)	PM10 (tpy)	TSP (pph)	TSP (tpy)	SO2 (pph)	SO2 (tpy)			
Unit 01 and 02							0.015	0.066	**0.05**	**0.2**	**0.1**	**0.6**					
Unit 04							0.002	0.008	**0.006**	**0.02**	**0.01**	**0.05**					
Unit 06							0.06	0.26	**0.2**	**0.9**	**0.55**	**2.4**					
Unit 07							0.03	0.13	**0.1**	**0.4**	**0.27**	**1.2**					
Units 8,9,10,11							**0.015**	**0.066**	**0.2**	**0.87**	**0.55**	**2.4**					
Unit 13	**52.7**	**230.9**	**50.5**	**221.0**	**11.0**	**48.3**	**7.7**	**33.7**	**7.7**	**33.7**	**8.8**	**38.9**	**9.2**	**40.3**			
Unit 14, 15, 17, 19							**0.002**	**0.008**	**0.01**	**0.05**	**0.03**	**0.15**					
Unit 21 and 22							**0.008**	**0.033**	**0.05**	**0.22**	**0.16**	**0.68**					
Unit 26							**0.0**	**0.0**	**0.12**	**0.5**	**0.4**	**1.7**					
Unit 29							0.06	0.21	**0.8**	**2.8**	**3.1**	**10.8**					
Unit 32							0.002	0.008	**0.006**	**0.03**	**0.01**	**0.05**					
TOTAL		**230.9**		**221.0**		**48.3**		34.4		**39.7**		**59.1**		**40.3**			

Dust Control Plan
for the
Estancia Basin Biomass Project
20.2.72NMAC Permit Application/Draft Permit 3434

The following is a summary of proposed dust control procedures that will be used at the Estancia Basin Biomass Power Generation Facility. These dust control procedures were incorporated into the particulate matter emission calculations for this facility.

1. **Fluidized Bed Combustor Emissions (Emission Unit 13)**: Particulate matter emissions from combusting wood or other allowed biomass fuels in the fluidized bed combustor will be controlled by a fabric filter baghouse or electrostatic precipitator. The fluidized bed combustion exhaust gases will pass through the baghouse or precipitator and the baghouse or precipitator will be in operation at all times biomass is being combusted in the boiler. The baghouse is designed to achieve a minimum of 99.2% control of the dust loading to the baghouse (after bottom ash drop out in boiler/economizer), which is equivalent to approximately 99.4% control of the total potential particulate matter emissions produced by the fluidized bed combustor. An electrostatic precipitator will achieve similar control measures. A COMS (continuous opacity monitoring system) will be installed in the baghouse exhaust stack. The information provide by the Continuous Opacity Monitor (COMS) will be used to show compliance with stack opacity limits and will also indicate proper operation of the baghouse or precipitator. The integrity of the baghouse and the differential pressure gauge shall be monitored and recorded on a daily basis. If Unit 13 particulates are controlled with an electrostatic precipitator, the voltage and amps for each of the transformer rectifier cells shall be monitored and recorded on a daily basis.

2. **Truck Unloading (emissions Units 1,2)**: Fugitive particulate matter emissions (wood dust) produced by unloading the biomass delivery trucks will be controlled through use of a ventilated truck unloading station that will achieve a minimum of 95% control of the potential dust emissions. The preliminary design for this system includes a truck unloading station allowing the trucks to be backed into three-sided enclosure surrounding the truck dump hopper. The enclosure will be ventilated with fans that will exhaust air through fabric filters (baghouses) to remove wood dust. The open end of the dump station will have flexible curtains to limit the amount of ventilation air needed to insure dust produced in the unloading operation is collected by the system and does not escape from the open end of the enclosure. The baghouse system will be operated during periods of material delivery. The baghouse fans will either be run continuously during plant operation or will be equipped to automatically turn on whenever a truck enters the unloading station. The integrity of the baghouse and the differential pressure gauge shall be monitored and recorded on a daily basis.

3. **Haul Road Dust (emission unit 29)**: Haul Road dust emissions caused by delivery trucks entering and leaving the facility will be controlled by surfacing the entry road with "base course" material and watering the road as needed to control dust. Water will be applied by a watering truck, will be sufficient to control dust and records will be kept of water truck use (time of application) and amount of water applied on a daily basis. Water will not be applied when natural conditions (such as rain or snow cover) preclude need for additional dust control or when the facility is not operating. The combination of base course and watering is designed to achieve an 80% reduction of potential road dust particulate matter emissions.

4. **Biomass Material Transfer Points (emission units 8, 9, 10, 11 and 7)**: These material transfer points represent transfer of material to the hammer hog/disc screen, transfer to the fuel stockpile and transfer from the stockpile to the metering bins that feed material into the fluidized bed combustor. Potential dust emissions at each of these transfer points will be controlled by water sprays. Water sprays will be designed to turn on automatically whenever the conveyors are operating. The water sprays will be designed to achieve 80% control of potential dust emissions. In addition to the water spray, transfer point 7 will be enclosed adding an additional level of dust control resulting in 90% control at this transfer point. The water spray systems and the integrity of enclosures will be inspected daily to insure proper functioning and a daily record of the inspections will be kept. All other biomass material transfers will be enclosed and will not be emission sources.

5. **Disc Screen/Hammer Hog:** Potential emissions from the disc screen/hammer hog will be controlled with water spray. The water spray will be designed to turn on automatically whenever the hammer hog is operating. The water spray will be designed to achieve 80% control of potential dust emissions. The water spray system will be inspected daily to insure proper functioning and a daily record of the inspections will be kept.

6. **Cooling Tower Drift (emission unit 26)**: The forced draft cooling tower is a potential source of particulate matter emissions resulting from dissolved solids carried in the liquid "drift" produced by the tower. These potential emissions are limited by use of low drift cooling tower design. The use of passive "drift eliminator" technology in the cooling tower design limits the amount of liquid droplets leaving the tower and therefore limits the amount of dissolved solids carried in the drift. The manufacturer's specification for the cooling tower is that drift loss will not exceed 0.0005% of the cooling tower circulating water rate. The cooling tower will be inspected monthly for mechanical integrity of drift eliminators and monthly records of the inspections will be kept.

7. **Bottom Ash Transfer (emission units 14, 15, 17 and 19):** Some of the ash remaining from the biomass combustion will collect in hoppers located at the bottom of the boiler, economizer and the air pre-heater. This ash will be emptied from the hoppers into disposal bins through enclosed gravity transfer chutes. The ash collected in the disposal bins will be taken off-site for disposal, or if the market exists, for use as an additive for other materials. The control efficiency of the enclosed transfer system will provide 90% control of the potential dust emissions. The integrity of the enclosed transfer will be inspected on a monthly basis and monthly records kept of the inspection.

8. **Fly Ash Transfer(emission units 21,22):** Ash from the biomass combustion that does not drop out in the bottom of the boiler, economizer or air pre-heater, but that is removed by the baghouse or precipitator (see No. 1 above) is called flyash and is collected in hoppers at the bottom of the baghouse or precipitator. The flyash collection hoppers are emptied through enclosed gravity transfer into disposal bins. Any air displaced during this process is vented through a passive fabric filter. The combination of enclosed transfer and venting of displaced air through a fabric filter will achieve a minimum of 95% control of the potential particulate matter dust emissions. The integrity of the enclosed transfer and the passive fabric filter will be inspected on a monthly basis and monthly records kept of the inspection. The flyash collected will be taken off-site for disposal, or if the market exists, for use as an additive for other materials