

**LANE REGIONAL AIR PROTECTION AGENCY
STANDARD AIR CONTAMINANT DISCHARGE PERMIT****REVIEW REPORT**

University of Oregon
1295 Franklin Boulevard
Eugene, Oregon

REASONS FOR PERMIT ACTION

1. This permit action is for both the renewal of an existing permit and modification to that permit. The request for modification was submitted concurrent with the renewal application. The permittee is the University of Oregon ("the facility") who operates its facility under Air Contaminant Discharge Permit (ACDP) 208557.
2. *Permit Renewal* LRAPA Title 37 requires the facility to renew ACDP 208557 every five years. In February, 2010, the facility submitted its renewal application. The permit renewal/expiration date was April 6, 2010, the existing permit continues to be valid until LRAPA takes final action on the renewal application.
3. *Permit Modification* The permittee is requesting authority to construct and operate the following additional units at their facility.
 - 1) a new 78 MMBtu/hr boiler
 - 2) an 8.6 MW combined cycle cogeneration plant consisting of a 78 MMBtu/hr combustion turbine, a 45 MMBtu/hr duct burner, and a heat recovery steam generator

FACILITY DESCRIPTION

4. The facility has a permit to operate boilers generating steam to serve the heating and cooling needs of the campus and educational facilities at 1295 Franklin Boulevard in Eugene, Oregon.
5. The principle source of air pollutant emissions are from the operation of three (3) boilers. There is a 79 MMBtu/hr boiler and a 140 MMBtu/hr boiler, which are both fired on natural gas and use fuel oil as backup. There is also a recently permitted 54 MMBtu/hr "backup" boiler, which is fired exclusively on natural gas. These three units are located north of Franklin Boulevard near the main campus. Until recently the local utility, Eugene Water and Electric Board (EWEB) was available to supplement and support the facility's steam needs. The backup boiler described above was installed because EWEB can no longer be a backup source of steam for the facility.
6. When fully operational, the proposed addition of a 78 MMBtu/hr boiler (EU-2) would replace the existing 140 MMBtu/hr boiler (EU-4). With the installation of proposed new units and with EWEB no longer providing steam, the super heater section in existing 79 MMBtu/hr boiler (EU-1) will no longer be necessary. The facility proposes to de-rate this boiler to 72 MMBtu/hr and make related steam and exhaust flow changes related to modifying the superheating section to allow for lower pressure steam capability. The backup boiler (EU-5) is also expected to remain operational under a renewed permit.

EMISSIONS UNIT IDENTIFICATION

7. The facility's emission units (EU) are:

Existing:

EU-1 Boiler 1, Nebraska, 79 MMBtu/hr natural gas, oil, and biodiesel fuels (1994)

- EU-4 Boiler 4, Erie City, 140 MMBtu/hr, natural gas and oil fuel (1964)
- EU-5 Backup Boiler, Indeck Power, 54 MMBtu/hr, natural gas and oil (2009)
- EU-6 Printing Services
- EU-7 Unpaved Parking Lots
- EU-8 Aggregate Insignificant Units: Agate Hall two boilers-2.5 MMBtu/hr each, Casanova Center two boilers at 8.4 MMBtu/hr and at 4.2 MMBtu/hr, Practice Facility two make up air heaters each rated at 3.0 MMBtu/hr. and Romania Center one boiler rated at 2.5 MMBtu/hr.

Proposed:

- EU-2 Boiler 2, Babcock & Wilcox, 78 MMBtu/hr natural gas-fired and backup oil (2011)
- EU-3 8.6 MW Gas Turbine, Solar or Siemens 78 MMBtu/hr and a duct burner fired, 45 MMBtu/hr, heat recovery steam generator, combined cycle cogeneration plant, natural gas (2011)

PERMIT, COMPLIANCE AND ENFORCEMENT HISTORY

8. During this last five-year permit term, the following changes were approved and made to the permit:

Date	Permit revision or notification	Brief explanation
12/10/2009	Addendum 2: Modification to Permit 208557 Notice of Approval Application No. 54518 - 54 MMBtu/hr back-up boiler	Application for a simple technical modification to install and operate a temporary natural gas/distillate oil-fired (40,000-pph steam) until new plant modifications are completed over the next two years. This temporary boiler or what is commonly referred to as a "package boiler" was to address the Eugene Water and Electric Board's notification to the facility that it would no longer provide back-up steam to the facility should one of its boilers go off line.
5/8/2009	Addendum 1: Administrative Amendment to Permit 208557 Rulemaking adjustment for permit type and unassigned emissions.	LRAPA amended Permit 208577 to establish expiration date, of July 1, 2010, for unassigned emissions. Change to newer permit type from synthetic minor ACDP to a "Standard" ACDP permit. This change was for recent changes to the permit type and fees in Title 37.

9. Regarding enforcement history, on December 9, 2009, the facility informed LRAPA they had operated a new 54 MMBtu/hr boiler back-up (package boiler) during a failure of an existing boiler (EU-1). An application for the back-up/package boiler had been received by LRAPA on December 8, 2009. A permit had not been issued for the new unit before its operation. On December 10, 2009, LRAPA issued Notice of Non-Compliance (NON) #3162 to the facility for operating a boiler without a permit. This alleged violation was resolved with the issuance of an addendum to their permit for the new boiler and payment of a \$2150 civil penalty.

FACILITY EMISSIONS

10. The facility is electing to restrict its emissions to maintain its status as a non-Title V facility. The following is a summary of the baseline emission rates (BER), Plant Site Emissions Limit (PSEL), and review for significant emission rates (SER).

Baseline Emission Rate (BER)

11. With the exception of particulate matter less than 2.5 microns (PM_{2.5}), the baseline emissions rates associated with this facility were established in previous permit actions. A 1978 baseline year was used and emissions from the operation of four (4) boilers fired on 66,308 tons hogged fuel and 200,000 gallons #6 fuel oil @1.75% sulfur by weight, generating 702.9 MM lbs steam and 30 MM lbs steam, respectively.
12. For PM_{2.5}, the baseline emissions rates associated with this facility are 2.8 tons/yr using a 12-month rolling period in the last 10 years (between 2000 and 2010). The selected 12-month baseline is calendar year 2006 and emissions are from the operation of two (2) boilers fired on 371 million cubic feet natural gas and 7,409 gallons fuel oil. Other minor activities, such as paved road dust, contributed small amounts to the 3 tons/yr baseline (see Detail Sheet Attachment for calculations).

The baseline emission rates (BER) for this facility are:

Pollutant	Baseline Emission Rate (tons/year)
Particulate Matter (PM)	218
PM less than 10 microns (PM ₁₀)	189
PM less than 2.5 microns (PM _{2.5})	3
Sulfur Dioxide (SO ₂)	34
Nitrogen Oxides (NO _x)	116
Carbon Monoxide (CO)	226
Volatile Organic Compounds (VOC)	49

13. *Special note to this permit action:* The 12-months rolling period in the last 10-years (2000-2010) to set the PM_{2.5} baseline is expected to be adopted in LRAPA's final rulemaking for PM_{2.5} and greenhouse gas (GHG) prevention of significant deterioration (PSD). Should the final rulemaking result in a different timeframe (other than 2000-2010), the applicant can propose an adjusted baseline that satisfies the adopted rule. Similarly, if the final rulemaking has a timeframe outside the 10-year window, LRAPA will open the permit to adjust the PM_{2.5} baseline to comply with the adopted rule.

Plant Site Emission Limit (PSEL)

14. The following table summarizes the facility's PSEL:

Pollutant	Baseline Emission Rate (tons/yr)	Netting ^a Basis Pre-7/1/2010 (tons/yr)	Plant Site Emission Limits (PSEL)		
			Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	Increase ^b Over Netting Basis (tons/yr)
PM	218	218	26	51	-167
PM ₁₀	189	189	14	21	-163
PM _{2.5}	3	3	NA	12	9
CO	226	226	99	99	-127
NO _x	116	116	93	49	-67
VOC	49	49	39	39	-10
SO ₂	34	34	41	41	7

- a The netting basis has not been adjusted for rule-required reductions to unassigned emissions because the application to modify the permit was submitted and complete before July 2010.
- b The negative values in the increase column represent the sum of the proposed PSEL increase minus the available netting basis.

Significant Emission Rate Review (SER)

15. The following table compares the proposed net emissions increase to the significant emission rates (SER) in LRAPA Title 12, Table 2.

Pollutant	Increase Over Netting Basis (tons/yr)	SER (tons/yr)	Greater than SER
PM	-167	25	No
PM ₁₀	-163	15	No
PM _{2.5}	9	10	No
CO	-127	100	No
NO _x	-67	40	No
VOC	-10	40	No
SO ₂	7	40	No

16. As required by LRAPA 42-0045(3), the facility's netting baseline must now be reduced for unassigned emissions. This is the netting basis available for future permit application submittals by the facility.

Pollutant	Pre-7/1/2010 Netting Basis (tons/yr)	PSEL or Potential to Emit (tons/yr)	Unassigned Emission Reductions	Post-7/1/2010 Netting Basis (tons/yr)
PM	218	51	167	51
PM ₁₀	189	21	163	21
PM _{2.5}	3	12	0	3
CO	226	99	127	99
NO _x	116	49	67	49
VOC	49	39	10	39
SO ₂	34	41	0	34

*Unassigned emissions are established with this renewal and shall expire July 1, 2010 in accordance with LRAPA 42-0045. Upon expiration the unassigned emissions are reduced to no more than the SER for each pollutant in LRAPA Title 12, Table 2.

HAZARDOUS AIR POLLUTANTS

17. A facility with a potential to emit a single hazardous air pollutant (HAP) at 10 tons per year or more or any combination HAP at 25 tons/yr or more is considered a major Title V source. HAP emissions from this facility are based on fuel limits placed on the permit and AP-42 emissions factors. The estimate of total HAPS emissions are 2 tons/yr, which does not trigger Title V. (For detail on HAP estimates see the Emission Detail Sheet Attachment)

MAJOR FACILITY REVIEW

18. The facility is not subject to the Title V - Operating Permit Program because maximum annual emissions listed in the PSEL are below the 100 tons/yr and HAP emissions also do not trigger Title V (see previous section).
19. Prevention of Significant Deterioration (PSD) and New Source Review (NSR): This facility is on the listed category of "federal major sources" that would trigger PSD and NSR if there is a maximum emission rate of 100 tons/yr on a PSEL pollutant specific basis. As discussed in the previous paragraph, the PSELs do not exceed 100 tons/yr on a pollutant specific basis. Hence, PSD and NSR are not applicable to the emissions from this facility.

EMISSION LIMITATIONS AND STANDARDS

20. Typically achievable control technology (TACT) for existing, new and modified sources does not apply to existing and proposed emission units because the boilers and combustion turbine are regulated sources in LRAPA Title 46 and 40 CFR 60, Standards of Performance for New Stationary Sources.
21. The permit includes general opacity and grain loading limits on the facility. There is a general grain loading limit for facility in addition to a specific grain loading (0.1 gr/dscf) limit for the new boiler (EU-2) and cogeneration plant (EU-3).
22. Greenhouse gas reporting under the Oregon DEQ rule applies. It is estimated that 21,904 MT of CO₂e was emitted in 2009*. The facility's potential to emit greenhouse gases is 79803 MT CO₂e currently and 80296 with proposed changes. * Based on LRAPA calculations.

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

23. *Subpart Dc - Boilers:* Three boilers (EU-1, EU-2, and EU5) are subject to 40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial- Institutional Steam Generating. Boiler 4 is not subject to this rule because of its age (1964). Oil used in the boilers has a sulfur content of 0.5% or less and complies with the sulfur standard listed in Subpart Dc. Other requirements the facility must meet are recordkeeping, and reporting [40 CFR 60.48c].
24. *Subpart KKKK - Combustion Turbine:* The new combustion turbine and duct burner must meet the requirements in 40 CFR 60 Subpart KKKK - Standards of Performance for Stationary Combustion Turbines. The pollutants regulated by Subpart KKKK are nitrogen oxides (NOx) and sulfur dioxide (SO₂).
25. The Subpart KKKK NOx standard is 25 part per million (ppm) NOx at 15% oxygen (O₂) when firing 50% or more natural gas and 74 ppm NOx @15% O₂ at 50% or more fuel oil [§60.4320, Table 1 to Subpart KKKK]. The NOx standard applies to the turbine and the duct burner [§60.4400(b)(2)]. The permittee has elected to demonstrate compliance with the periodic performance testing option. Other applicable requirements include notification, recordkeeping and reporting.
26. The permittee has elected to comply with the Subpart KKKK SO₂ standard by "valid" purchase and "delivery contracts" that demonstrate the use of 1) fuel oil with a maximum sulfur content of 0.05 percent, by weight, (500 ppmw) and 2) natural gas with a maximum total sulfur content of 20 grains of sulfur per 100 standard cubic feet (20 gr/100 scf) [§60.4365(a)].

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS)

27. Currently, there are no NESHAPS that apply to the facility. However, EPA is expected to promulgate 40 CFR 63 Subpart DDDDD that would apply to the facility's small and large boilers. If and when that rule is promulgated any applicable sections will have to be to be incorporated by a permit modification application and permit addendum.

SPECIAL CONDITIONS

28. A fuel throughput limit is included in the permit to ensure usage and emissions are tracked for the purpose of predicting emission outputs for various emissions unit operating combinations and to alert the facility of the impact on the margin of PSEL compliance.

PUBLIC NOTICE

29. This permit was on public notice from November 26, 2010 to December 30, 2010. Comments were submitted in writing during the comment period.

PUBLIC COMMENT

30. Comments received and associated responses have in some cases resulted in changes to the draft permit and review report. The final permit and review report incorporate these changes. A summary of changes is provided with this document. LRAPA reviewed and considered each comment received. Review and permit decision considered comments to the extent of available science and law.

Emission Factor Attachment Corrected

Emissions Device or Activity	Criteria Pollutant	Emission Factor (EF)	EF Units
Boiler # 1 (Natural Gas)	PM/PM ₁₀ /PM _{2.5} (AP-42 Table 1.4-2)	7.6	lbs/MMcf Natural Gas
	SO ₂ (DEQ AQ-EF05)	1.7	
	NO _x (Nov. 2001 Source Test)	101.3	
	CO (AP-42, Table 1.4-1)	84.0	
	VOC (AP-42, Table 1.4-1)	5.5	
Boiler # 1 (#2 Fuel Oil)	PM/PM ₁₀ (Web FIRE10200502)	3.3/2.3	lbs/1000 gallons of oil Combusted
	PM _{2.5} (Web FIRE10200502)	1.55	
	SO ₂ After proposed modifications (AP-42, Table 1.3-1)	7.1	
	Before proposed modifications (Nov. 2001 Source Test)	21.4	
	NO _x (Nov. 2001 Source Test)	20.6	
	CO (AP-42, Table 1.3-1)	5.0	
	VOC (DEQ AQ-EF04)	0.2	
Boiler # 2 (Natural Gas)	PM/PM ₁₀ /PM _{2.5} (Vendor Specification)	5.5	lbs/MMcf Natural Gas
	SO ₂ (DEQ AQ-EF05)	1.7	
	NO _x (Vendor Specification)	12.4	
	CO (Vendor Specification)	39.1	
	VOC (Vendor Specification)	4.0	
Boiler # 2 (#2 Fuel Oil)	PM/PM ₁₀ /PM _{2.5} (PM Emissions are based on Vendor Specifications, PM ₁₀ is assumed to be 69.7% of PM; PM _{2.5} is assumed to be 46.9% of PM)	4.0/2.79/1.88	lbs/1000 gallons of oil Combusted

Emissions Device or Activity	Criteria Pollutant	Emission Factor (EF)	EF Units
	SO ₂ (Vendor Specification)	6.7	
	NO _x (Vendor Specification)	16.7	
	CO (Vendor Specification)	12.0	
	VOC (Vendor Specification)	0.6	
Boiler # 4 (Natural Gas)	PM/PM ₁₀ /PM _{2.5} (AP-42 Table 1.4-2)	7.6	lbs/MMcf Natural Gas
	SO ₂ (DEQ AQ-EF05)	2.6	
	NO _x (Nov. 2001 Source Test)	164.4	
	CO (AP-42, Table 1.4-1)	84.0	
	VOC (AP-42, Table 1.4-1)	5.5	
Boiler # 4 (#2 Fuel Oil)	PM/PM ₁₀ (Web FIRE10200502)	3.3/2.3	lbs/1000 gallons of oil Combusted
	PM _{2.5} (Web FIRE10200502)	1.55	
	SO ₂ (Nov. 2001 Source Test)	25.7	
	NO _x (Nov. 2001 Source Test)	19.8	
	CO (AP-42, Table 1.3-1)	5.0	
	VOC (DEQ AQ-EF04)	0.76	
Combustion Turbine (Natural Gas)	PM/PM ₁₀ /PM _{2.5} (Vendor Specification)	21.0	lbs/MMcf Natural Gas
	SO ₂ (DEQ AQ-EF05)	1.7	

Emissions Device or Activity	Criteria Pollutant	Emission Factor (EF)	EF Units
	NO _x (Vendor Specification)	60.0	
	CO (Vendor Specification)	61.0	
	VOC (Vendor Specification)	35.0	
Combustion Turbine (#2 Fuel Oil)	PM/PM ₁₀ /PM _{2.5} (PM Emissions are based on Vendor Specifications, PM ₁₀ is assumed to be 94.1% of PM; PM _{2.5} is assumed to be 92.2% of PM)	5.4/5.08/4.98	lbs/1000 gallons of oil Combusted
	SO ₂ (AP-42, Table 3.1-2a)	7.0	
	NO _x (Vendor Specification)	42.0	
	CO (Vendor Specification)	17.0	
	VOC (Vendor Specification)	4.9	
Duct Burner (Natural Gas)	PM/PM ₁₀ /PM _{2.5} (Vendor Specification)	10.0	lbs/MMcf Natural Gas
	SO ₂ (DEQ AQ-EF05)	1.7	
	NO _x (Vendor Specification)	85.0	
	CO (Vendor Specification)	73.0	
	VOC (Vendor Specification)	16.0	
<u>Facility Wide</u>	GHG	In accordance with ODEQ Division 215	NA

Pollutant: PM	Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term	Emission Factor	Unit	Long Term	Reference	Emissions	
												lbs/hr	tons/yr
Baseline		Boiler #1-Hog Fuel	25	10 ³ lbs steam	102,000	10 ³ lbs steam	0.91	lbs/mmf	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	22.7	46.3
Baseline		Boiler #2-Hog Fuel	35	10 ³ lbs steam	90,000	10 ³ lbs steam	0.83	lbs/mmf	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	28.2	37.6
Baseline		Boiler #3-Hog Fuel	35	10 ³ lbs steam	112,000	10 ³ lbs steam	0.39	lbs/mmf	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	13.6	21.7
Baseline		Boiler #4-Hog Fuel	99	10 ³ lbs steam	419,000	10 ³ lbs steam	0.26	lbs/mmf	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	26.2	55.5
Baseline		All Boilers-#6 Oil	1,2933	Kgal	200	Kgal	20.50	lbs/mmf	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	28.5	2.1
Baseline		Agate Boiler #1--PS300	0.95	Gal.	8.33	Kgal	8.30	lbs/mmf	lb/10 ³ gal	FIRE	FIRE	0.008	0.035
Baseline		Agate Boiler #2--PS300	0.95	Gal.	8.33	Kgal	8.30	lbs/mmf	lb/10 ³ gal	FIRE	FIRE	0.008	0.035
Baseline		Hog Fuel Pile	-	Unit (ton)	66308	Unit(ton)	0.50	lbs/ton	lb/ton	LRAPA Pmt.	LRAPA Pmt.	16.6	16.6
Baseline		Unpaved Areas	7	VMT	60176	VMT	1.26	lbs/VMT	lbs/VMT	AP-42	AP-42	8.7	37.9
Estimated Actual		Mod. Boiler #1--Nat. Gas	0.072	mmcf	276.9	mmcf	7.6	lbs/mmf	lbs/mmf	AP-42	AP-42	126.9	217.7
Estimated Actual		New Boiler #2--Nat. Gas	0.078	mmcf	300.1	mmcf	5.5	lbs/mmf	lbs/mmf	Vendor Spec.	Vendor Spec.	0.43	1.05
Estimated Actual		Comb. Turbine Generator--Nat. Gas	0.078	mmcf	663.9	mmcf	21.0	lbs/mmf	lbs/mmf	Engineering Est.	Engineering Est.	1.63	0.83
Estimated Actual		HRSG Duct Burner--Nat. Gas	0.045	mmcf	172.8	mmcf	10.0	lbs/mmf	lbs/mmf	Engineering Est.	Engineering Est.	0.45	0.87
Estimated Actual		Mod. Boiler #1--#2 OUIBD	0.520	Kgal	91.1	Kgal	3.3	lbs/Kgal	lb/Kgal	AP-42	AP-42	1.22	0.15
Estimated Actual		New Boiler #2--#2 OUIBD	0.563	Kgal	98.7	Kgal	4.0	lbs/Kgal	lb/Kgal	Vendor Spec.	Vendor Spec.	2.25	0.20
Estimated Actual		Comb. Turbine Generator--#2OUIBD	0.561	Kgal	123.0	Kgal	5.4	lbs/Kgal	lb/Kgal	Engineering Est.	Engineering Est.	3.03	0.33
Estimated Actual		Unpaved Areas	7	VMT	63149	VMT	1.26	lbs/VMT	lbs/VMT	AP-42	AP-42	9.1	39.8
Estimated Actual		Aggregate Insignificant										19.1	51.2
2010-2015 Pollutant Total												10.8	20.7

Pollutant: PM	Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term	Emission Factor	Unit	Long Term	Reference	Emissions	
												lbs/hr	tons/yr
Baseline		Boiler #1-Hog Fuel	25	10 ³ lbs steam	102,000	10 ³ lbs steam	0.91	lbs/mmf	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	22.7	46.3
Baseline		Boiler #2-Hog Fuel	35	10 ³ lbs steam	90,000	10 ³ lbs steam	0.83	lbs/mmf	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	28.2	37.6
Baseline		Boiler #3-Hog Fuel	35	10 ³ lbs steam	112,000	10 ³ lbs steam	0.39	lbs/mmf	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	13.6	21.7
Baseline		Boiler #4-Hog Fuel	99	10 ³ lbs steam	419,000	10 ³ lbs steam	0.26	lbs/mmf	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	26.2	55.5
Baseline		All Boilers-#6 Oil	1,2933	Kgal	200	Kgal	20.50	lbs/mmf	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	28.5	2.1
Baseline		Agate Boiler #1--PS300	0.95	Gal.	8.33	Kgal	8.33	lbs/mmf	lb/10 ³ gal	FIRE	FIRE	0.002	0.010
Baseline		Agate Boiler #2--PS300	0.95	Gal.	8.33	Kgal	8.33	lbs/mmf	lb/10 ³ gal	FIRE	FIRE	0.002	0.010
Baseline		Hog Fuel Pile	?	Unit (ton)	66308	Unit(ton)	0.50	lbs/ton	lb/ton	LRAPA Pmt.	LRAPA Pmt.	16.6	16.6
Baseline		Unpaved Areas	7	VMT	60176	VMT	0.30	lbs/VMT	lbs/VMT	AP-42	AP-42	2.1	9.0
Estimated Actual		Mod. Boiler #1--Nat. Gas	0.072	mmcf	276.9	mmcf	7.6	lbs/mmf	lbs/mmf	AP-42	AP-42	120.3	188.8
Estimated Actual		New Boiler #2--Nat. Gas	0.078	mmcf	300.1	mmcf	5.5	lbs/mmf	lbs/mmf	Vendor Spec.	Vendor Spec.	0.43	1.05
Estimated Actual		Comb. Turbine Generator--Nat. Gas	0.078	mmcf	663.9	mmcf	21.0	lbs/mmf	lbs/mmf	Engineering Est.	Engineering Est.	1.63	0.83
Estimated Actual		HRSG Duct Burner--Nat. Gas	0.045	mmcf	172.8	mmcf	10.0	lbs/mmf	lbs/mmf	Engineering Est.	Engineering Est.	0.45	0.87
Estimated Actual		Mod. Boiler #1--#2 OUIBD	0.520	Kgal	91.1	Kgal	2.30	lbs/Kgal	lb/Kgal	FIRE	FIRE	1.20	0.10
Estimated Actual		New Boiler #2--#2 OUIBD	0.563	Kgal	98.7	Kgal	2.79	lbs/Kgal	lb/Kgal	Engineering Est.	Engineering Est.	1.57	0.14
Estimated Actual		Comb. Turbine Generator--#2OUIBD	0.561	Kgal	123.0	Kgal	5.08	lbs/Kgal	lb/Kgal	Engineering Est.	Engineering Est.	2.85	0.31
Estimated Actual		Unpaved Areas	7	VMT	63149	VMT	0.30	lbs/VMT	lbs/VMT	AP-42	AP-42	2.2	9.5
Estimated Actual		Aggregate Insignificant										2.2	1.0
2010-2015 Pollutant Total												10.8	20.7

Pollutant: PM2.5	Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term	Emission Factor		Reference		Emissions	
								Long Term	Unit	Short Term	Long Term	lbs/hr	tons/yr
Estimated Actual	2006	Mod. Boiler #1-Nat. Gas	0.072	mmcf	276.9	mmcf	7.6	7.6	lbs/mmcf	FIRE	0.55	1.05	
Estimated Actual	2006	New Boiler #2-Nat. Gas	0.078	mmcf	300.1	mmcf	5.5	5.5	lbs/mmcf	Vendor Spec.	0.43	0.83	
Estimated Actual	2006	Comb. Turbine Generator-Nat. Gas	0.076	mmcf	653.9	mmcf	21.0	21.0	lbs/mmcf	Engineering Est.	1.63	6.97	
Estimated Actual	2006	HRS# Duct Burner-Nat. Gas	0.045	mmcf	172.8	mmcf	10.0	10.0	lbs/mmcf	Engineering Est.	0.45	0.87	
Estimated Actual	2006	Mod. Boiler #1-#2 Oil/BD	0.520	Kgal	91.1	Kgal	1.55	1.55	lb/Kgal	FIRE	0.81	0.07	
Estimated Actual	2006	New Boiler #2-#2 Oil/BD	0.593	Kgal	98.7	Kgal	1.88	1.88	lb/Kgal	Engineering Est.	1.06	0.09	
Estimated Actual	2006	Comb. Turbine Generator-#2Oil/BD	0.561	Kgal	123.0	Kgal	4.98	4.98	lb/Kgal	Engineering Est.	2.79	0.31	
Estimated Actual	2006	Unpaved Areas	3	VMT	25613	VMT	0.03	0.03	lbs/VMT	AP-42	0.2	0.9	
Estimated Actual	2006	Aggregate Insignificant										1.0	
Estimated Actual	2006	Aggregate Insignificant			63149	VMT	0.03	0.03	lbs/VMT	AP-42	0.2	0.9	
2010-2015 Pollutant Total												7.9	12.1
Pollutant: SO ₂	Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term	Emission Factor		Reference		Emissions	
								Long Term	Unit	Short Term	Long Term	lbs/hr	tons/yr
Baseline	Baseline	Boiler #1-Hog Fuel	25	10 ³ lbs steam	102,000	10 ³ lbs steam	0.014	0.014	lb/10 ³ steam	LRAPA Pmt.	0.4	0.7	
Baseline	Baseline	Boiler #2-Hog Fuel	35	10 ³ lbs steam	90,000	10 ³ lbs steam	0.014	0.014	lb/10 ³ steam	LRAPA Pmt.	0.5	0.6	
Baseline	Baseline	Boiler #3-Hog Fuel	35	10 ³ lbs steam	112,000	10 ³ lbs steam	0.014	0.014	lb/10 ³ steam	LRAPA Pmt.	0.5	0.8	
Baseline	Baseline	Boiler #4-Hog Fuel	99	10 ³ lbs steam	419,000	10 ³ lbs steam	0.014	0.014	lb/10 ³ steam	LRAPA Pmt.	1.4	2.9	
Baseline	Baseline	All Boilers-#6 Oil	1.2933	Kgal	200	Kgal	274.50	274.50	lb/10 ³ gal	LRAPA Pmt.	355.0	27.5	
Baseline	Baseline	Agate Boiler #1--PS300	0.95	Gal.	8.33	Kgal	202.50	202.50	lb/10 ³ gal	AP-42	0.19	0.8	
Baseline	Baseline	Agate Boiler #2--PS300	0.95	Gal.	8.33	Kgal	202.50	202.50	lb/10 ³ gal	AP-42	0.19	0.8	
2010-2015 Pollutant Total												368.1	34.2
Estimated Actual	Estimated Actual	Mod. Boiler #1-Nat. Gas	0.072	mmcf	276.9	mmcf	2.6	2.6	lbs/mmcf	DEQ Factors	0.19	0.24	
Estimated Actual	Estimated Actual	New Boiler #2-Nat. Gas	0.078	mmcf	300.1	mmcf	2.6	2.6	lbs/mmcf	DEQ Factors	0.20	0.26	
Estimated Actual	Estimated Actual	Comb. Turbine Generator-Nat. Gas	0.076	mmcf	653.9	mmcf	2.6	2.6	lbs/mmcf	DEQ Factors	0.20	0.56	
Estimated Actual	Estimated Actual	HRS# Duct Burner-Nat. Gas	0.045	mmcf	172.8	mmcf	2.6	2.6	lbs/mmcf	DEQ Factors	0.12	0.15	
Estimated Actual	Estimated Actual	Mod. Boiler #1-#2 Oil/BD	0.520	Kgal	91.1	Kgal	7.1	7.1	lb/Kgal	AP-42	3.69	0.32	
Estimated Actual	Estimated Actual	New Boiler #2-#2 Oil/BD	0.593	Kgal	98.7	Kgal	6.7	6.7	lb/Kgal	Vendor Spec.	3.77	0.33	
Estimated Actual	Estimated Actual	Comb. Turbine Generator-#2Oil/BD	0.561	Kgal	123.0	Kgal	7.0	7.0	lb/Kgal	Vendor Spec.	3.50	0.43	
Estimated Actual	Estimated Actual	Aggregate Insignificant										1.0	
2010-2015 Pollutant Total												12.1	3.3

Pollutant: CO	Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term	Emission Factor	Reference	Emissions
Estimated Actual	Baseline	Boiler #1-Hog Fuel	2.35	tons hogged fuel	9,623	tons hogged fuel	6.6	6.6	AP-42	15.5
Estimated Actual	Baseline	Boiler #2-Hog Fuel	3.30	tons hogged fuel	8491	tons hogged fuel	6.6	6.6	AP-42	21.8
Estimated Actual	Baseline	Boiler #3-Hog Fuel	3.30	tons hogged fuel	10566	tons hogged fuel	6.6	6.6	AP-42	21.8
Estimated Actual	Baseline	Boiler #4-Hog Fuel	9.34	tons hogged fuel	39228	tons hogged fuel	6.6	6.6	AP-42	61.6
Estimated Actual	Baseline	All Boilers-#6 Oil	1.2933	Kgal	200	Kgal	5.0	5.0	AP-42	6.5
Estimated Actual	Baseline	Agate Boiler #1--PS300	0.95	Gal.	333	Kgal	5.0	5.0	AP-42	0.005
Estimated Actual	Baseline	Agate Boiler #2--PS300	0.95	Gal.	333	Kgal	5.0	5.0	AP-42	0.005
Estimated Actual	Baseline	Mod. Boiler #1--Nat. Gas	0.072	mmcf	276.9	mmcf	84.0	84.0	AP-42	6.05
Estimated Actual	Baseline	New Boiler #2--Nat. Gas	0.078	mmcf	300.1	mmcf	39.1	39.1	Vendor Spec.	3.05
Estimated Actual	Baseline	Comb. Turbine Generator--Nat. Gas	0.078	mmcf	683.9	mmcf	61.0	61.0	Engineering Est.	4.74
Estimated Actual	Baseline	HRS&G Duct Burner--Nat. Gas	0.045	mmcf	172.8	mmcf	73.0	73.0	Engineering Est.	3.29
Estimated Actual	Baseline	Mod. Boiler #1--#2 Oil/BD	0.520	Kgal	91.1	Kgal	5.0	5.0	AP-42	2.60
Estimated Actual	Baseline	New Boiler #2--#2 Oil/BD	0.563	Kgal	98.7	Kgal	12.0	12.0	Vendor Spec.	6.76
Estimated Actual	Baseline	Comb. Turbine Generator--#2Oil/BD	0.561	Kgal	123.0	Kgal	17.0	17.0	Engineering Est.	9.54
Estimated Actual	Baseline	Aggregate Insignificant								1.0
2010-2015 Pollutant Total										36.0
2010-2015 Emissions										46.9
Pollutant: VOC	Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term	Emission Factor	Reference	Emissions
Baseline	Baseline	Boiler #1-Hog Fuel	25	10 ³ lbs steam	102,000	10 ³ lbs steam	0.13	0.13	LRAPA Pmt.	3.3
Baseline	Baseline	Boiler #2-Hog Fuel	35	10 ³ lbs steam	90000	10 ³ lbs steam	0.13	0.13	LRAPA Pmt.	4.6
Baseline	Baseline	Boiler #3-Hog Fuel	35	10 ³ lbs steam	112000	10 ³ lbs steam	0.13	0.13	LRAPA Pmt.	4.6
Baseline	Baseline	Boiler #4-Hog Fuel	99	10 ³ lbs steam	419000	10 ³ lbs steam	0.13	0.13	LRAPA Pmt.	12.9
Baseline	Baseline	All Boilers-#6 Oil	1.2933	Kgal	200	Kgal	0.76	0.76	LRAPA Pmt.	1.0
Baseline	Baseline	Agate Boiler #1--PS300	0.95	Gal.	8.33	Kgal	0.34	0.34	AP-42	0.0003
Baseline	Baseline	Agate Boiler #2--PS300	0.95	Gal.	8.33	Kgal	0.34	0.34	AP-42	0.0003
Baseline	Baseline	Printing Services	0.7	lb	4233	lb			Material Balance	0.7
Estimated Actual	Estimated Actual	Mod. Boiler #1--Nat. Gas	0.072	mmcf	276.9	mmcf	5.5	5.5	AP-42	0.40
Estimated Actual	Estimated Actual	New Boiler #2--Nat. Gas	0.078	mmcf	300.1	mmcf	4.0	4.0	Vendor Spec.	0.31
Estimated Actual	Estimated Actual	Comb. Turbine Generator--Nat. Gas	0.078	mmcf	683.9	mmcf	35.0	35.0	Engineering Est.	2.72
Estimated Actual	Estimated Actual	HRS&G Duct Burner--Nat. Gas	0.045	mmcf	172.8	mmcf	16.0	16.0	Engineering Est.	0.72
Estimated Actual	Estimated Actual	Mod. Boiler #1--#2 Oil/BD	0.520	Kgal	91.1	Kgal	0.2	0.2	DEQ Factors	0.10
Estimated Actual	Estimated Actual	New Boiler #2--#2 Oil/BD	0.563	Kgal	98.7	Kgal	0.6	0.6	Vendor Spec.	0.34
Estimated Actual	Estimated Actual	Comb. Turbine Generator--#2Oil/BD	0.561	Kgal	123.0	Kgal	4.9	4.9	Engineering Est.	2.75
Estimated Actual	Estimated Actual	Printing Services	4.6	gal	9600	gal			Material Balance	6.7
Estimated Actual	Estimated Actual	Aggregate Insignificant								1.0
2010-2015 Pollutant Total										14.1
2010-2015 Emissions										22.7

Pollutant: NO _x	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term	Unit	Emission Factor	Long Term	Unit	Short Term	Reference	Long Term	Emissions	tons/yr
Baseline	Boiler #1-Hog Fuel	25	10 ³ lbs steam	102,000	10 ³ lbs steam	0.31	lb/Klb steam	0.31	0.31	lb/Klb steam	LRAPA Pmt.	LRAPA Pmt.	7.8	15.8	
Baseline	Boiler #2-Hog Fuel	35	10 ³ lbs steam	90000	10 ³ lbs steam	0.31	lb/Klb steam	0.31	0.31	lb/Klb steam	LRAPA Pmt.	LRAPA Pmt.	10.9	14.0	
Baseline	Boiler #3-Hog Fuel	35	10 ³ lbs steam	112000	10 ³ lbs steam	0.31	lb/Klb steam	0.31	0.31	lb/Klb steam	LRAPA Pmt.	LRAPA Pmt.	10.9	17.4	
Baseline	Boiler #4-Hog Fuel	99	10 ³ lbs steam	419000	10 ³ lbs steam	0.31	lb/Klb steam	0.31	0.31	lb/Klb steam	LRAPA Pmt.	LRAPA Pmt.	30.7	64.9	
Baseline	All Boilers-#6 Oil	1.2933	Kgal	200	Kgal	42.00	lb/10 ³ gal	42.00	42.00	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	54.3	4.2	
Baseline	Agate Boiler #1-PS300	0.95	Gal.	8.33	Kgal	20.00	lb/10 ³ gal	20.00	20.00	lb/10 ³ gal	AP-42	AP-42	0.02	0.1	
Baseline	Agate Boiler #2-PS300	0.95	Gal.	8.33	Kgal	20.00	lb/10 ³ gal	20.00	20.00	lb/10 ³ gal	AP-42	AP-42	0.02	0.1	
Estimated Actual	Mod. Boiler #1-Nat. Gas	0.072	mmcf	276.9	mmcf	101.3	lbs/mmcf	101.3	101.3	lbs/mmcf	Nov. 2001 ST	Nov. 2001 ST	7.30	14.02	
Estimated Actual	New Boiler #2-Nat. Gas	0.078	mmcf	300.1	mmcf	12.4	lbs/mmcf	12.4	12.4	lbs/mmcf	Vendor Spec.	Vendor Spec.	0.97	1.86	
Estimated Actual	HRSG Duct Burner-Nat. Gas	0.078	mmcf	693.9	mmcf	60.0	lbs/mmcf	60.0	60.0	lbs/mmcf	Engineering Est.	Engineering Est.	4.67	19.92	
Estimated Actual	HRSG Duct Burner-Nat. Gas	0.045	mmcf	172.8	mmcf	85.0	lbs/mmcf	85.0	85.0	lbs/mmcf	Engineering Est.	Engineering Est.	3.83	7.34	
Estimated Actual	Mod. Boiler #1-#2 CUI/BD	0.520	Kgal	91.1	Kgal	20.6	lb/Kgal	20.6	20.6	lb/Kgal	Nov. 2001 ST	Nov. 2001 ST	10.71	0.94	
Estimated Actual	New Boiler #2-#2 CUI/BD	0.563	Kgal	96.7	Kgal	16.7	lb/Kgal	16.7	16.7	lb/Kgal	Vendor Spec.	Vendor Spec.	9.41	0.82	
Estimated Actual	Comb. Turbine Generator-#2CUI/BD	0.561	Kgal	123.0	Kgal	42.00	lb/Kgal	42.00	42.00	lb/Kgal	Engineering Est.	Engineering Est.	23.57	2.58	
Estimated Actual	Aggregate Insignificant													1.0	
2010-2015 Pollutant Total														60.5	48.5

PSL Summary	PM	PM ₁₀	PM _{2.5}	TONS/YR	SO _x	CO	VOC	NO _x
1. BASELINE PSEL	217.7	188.8	2.8	34.2	226.6	49.2	116.4	
2. CURRENT PSEL (2005-2010)	26.0	14.0	N.A.	41.0	99.0	38.0	93.0	
3. ESTIMATED ACTUAL EMISSIONS (2010-2015)	51.2	20.7	12.1	3.3	46.9	22.7	48.5	
4. NETTING DIFFERENCE (#1 minus #3)	-166.5	-168.0	9.3	-30.9	-178.7	-26.5	-67.9	
5. REQUESTED PSELS (2010-2015)*	51.0	21.0	9.0	39.0	99.0	39.0	49.0	
SIGNIFICANT EMISSION RATE (SER)	25	15	10	40	100	40	40	

* These requested PSELS are to replace the "As Is" PSELS when the CPS upgrades construction process is started. Values above represent changes from the original renewal application.
Baseline -- Refers to operating conditions in 1978 except for PM_{2.5} which is 2006.
PSEL -- Plant Site Emission Limits

	Fuel Consumption (2010-2015)		Fuel Oil	
	(mmcf) (Hourly) (Max. Rate)	(mmcf) (Annual)	(kgal) (Hourly) (Max. Rate)	(kgal) (Annual)
Boiler #1-Mid.	0.072	276.9	0.530	91.1
Boiler #2 (new)	0.078	300.1	0.563	96.7
CTG	0.078	693.9	0.561	123.0
Duct Burner	0.045	172.8	N/A	N/A

Pollutant: PM Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term		Emission Factor		Reference		Emissions	
						Unit	Long Term	Unit	Long Term	Short Term	Long Term	lbs/hr	tons/yr
Baseline	Boiler #1-Hog Fuel	25	10 ³ lbs steam	102,000	10 ³ lbs steam	0.91	0.91	lb/Klb steam	0.91	LRAPA Pmt.	LRAPA Pmt.	22.7	46.3
Baseline	Boiler #2-Hog Fuel	35	10 ³ lbs steam	90,000	10 ³ lbs steam	0.83	0.83	lb/Klb steam	0.83	LRAPA Pmt.	LRAPA Pmt.	29.2	37.6
Baseline	Boiler #3-Hog fuel	35	10 ³ lbs steam	112,000	10 ³ lbs steam	0.39	0.39	lb/Klb steam	0.39	LRAPA Pmt.	LRAPA Pmt.	13.6	21.7
Baseline	Boiler #4-Hog Fuel	99	10 ³ lbs steam	419,000	10 ³ lbs steam	0.26	0.26	lb/Klb steam	0.26	LRAPA Pmt.	LRAPA Pmt.	26.2	55.5
Baseline	All Boilers-#6 Oil	1,2933	Kgal	200	Kgal	20.50	20.50	lb/10 ³ gal	20.50	LRAPA Pmt.	LRAPA Pmt.	26.5	2.1
Baseline	Agate Boiler #1--PS300	0.95	Gal.	8.33	Kgal	8.30	8.30	lb/10 ³ gal	8.30	FIRE	FIRE	0.008	0.005
Baseline	Agate Boiler #2--PS300	0.95	Gal.	8.33	Kgal	8.30	8.30	lb/10 ³ gal	8.30	FIRE	FIRE	0.008	0.005
Baseline	Hog Fuel Pile	-	Unit (ton)	66308	Unit(ton)	0.50	0.50	lb/ton	0.50	LRAPA Pmt.	LRAPA Pmt.	16.6	16.6
Baseline	Unpaved Areas	7	VMT	60176	VMT	1.26	1.26	lbs/VMT	1.26	AP-42	AP-42	8.7	37.9
Baseline Pollutant Total												126.9	217.7
Estimated Actual	Boiler #1--Nat. Gas	0.076	mmcf	615	mmcf	7.6	7.6	lbs/mmcf	7.6	AP-42	AP-42	0.58	2.34
Estimated Actual	Boiler #4--Nat. Gas	0.108	mmcf	700	mmcf	7.6	7.6	lbs/mmcf	7.6	AP-42	AP-42	0.82	2.66
Estimated Actual	Boiler #1--#2 Oil	0.545	Kgal	114	Kgal	3.3	3.3	lb/Kgal	3.3	AP-42	AP-42	1.80	0.19
Estimated Actual	Boiler #4--#2 Oil	0.942	Kgal	200	Kgal	3.3	3.3	lb/Kgal	3.3	AP-42	AP-42	3.11	0.33
Estimated Actual	Unpaved Areas	7	VMT	63149	VMT	1.26	1.26	lbs/VMT	1.26	AP-42	AP-42	9.1	39.8
Estimated Actual	Aggregate Insignificant											15.4	46.3
Requested Pollutant Total												15.4	46.3

Pollutant: PM Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term		Emission Factor		Reference		Emissions	
						Unit	Long Term	Unit	Long Term	Short Term	Long Term	lbs/hr	tons/yr
Baseline	Boiler #1-Hog Fuel	25	10 ³ lbs steam	102,000	10 ³ lbs steam	0.91	0.91	lb/Klb steam	0.91	LRAPA Pmt.	LRAPA Pmt.	22.7	46.3
Baseline	Boiler #2-Hog Fuel	35	10 ³ lbs steam	90,000	10 ³ lbs steam	0.83	0.83	lb/Klb steam	0.83	LRAPA Pmt.	LRAPA Pmt.	29.2	37.6
Baseline	Boiler #3-Hog fuel	35	10 ³ lbs steam	112,000	10 ³ lbs steam	0.39	0.39	lb/Klb steam	0.39	LRAPA Pmt.	LRAPA Pmt.	13.6	21.7
Baseline	Boiler #4-Hog Fuel	99	10 ³ lbs steam	419,000	10 ³ lbs steam	0.26	0.26	lb/Klb steam	0.26	LRAPA Pmt.	LRAPA Pmt.	26.2	55.5
Baseline	All Boilers-#6 Oil	1,2933	Kgal	200	Kgal	20.50	20.50	lb/10 ³ gal	20.50	LRAPA Pmt.	LRAPA Pmt.	26.5	2.1
Baseline	Agate Boiler #1--PS300	0.95	Gal.	8.33	Kgal	2.38	2.38	lb/10 ³ gal	2.38	FIRE	FIRE	0.002	0.010
Baseline	Agate Boiler #2--PS300	0.95	Gal.	8.33	Kgal	2.38	2.38	lb/10 ³ gal	2.38	FIRE	FIRE	0.002	0.010
Baseline	Hog Fuel Pile	?	Unit (ton)	66308	Unit(ton)	0.50	0.50	lb/ton	0.50	LRAPA Pmt.	LRAPA Pmt.	16.6	16.6
Baseline	Unpaved Areas	7	VMT	60176	VMT	0.30	0.30	lbs/VMT	0.30	AP-42	AP-42	2.1	9.0
Baseline Pollutant Total												120.3	188.8
Estimated Actual	Boiler #1--Nat. Gas	0.076	mmcf	615	mmcf	7.6	7.6	lbs/mmcf	7.6	AP-42	AP-42	0.58	2.34
Estimated Actual	Boiler #4--Nat. Gas	0.108	mmcf	700	mmcf	7.6	7.6	lbs/mmcf	7.6	AP-42	AP-42	0.82	2.66
Estimated Actual	Boiler #1--#2 Oil	0.545	Kgal	114	Kgal	2.30	2.30	lb/Kgal	2.30	FIRE	FIRE	1.25	0.13
Estimated Actual	Boiler #4--#2 Oil	0.942	Kgal	200	Kgal	2.30	2.30	lb/Kgal	2.30	FIRE	FIRE	2.17	0.23
Estimated Actual	Unpaved Areas	7	VMT	63149	VMT	0.30	0.30	lbs/VMT	0.30	AP-42	AP-42	2.2	9.5
Estimated Actual	Aggregate Insignificant											7.0	14.8
Requested Pollutant Total												7.0	14.8

Pollutant: PM2.5	Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term	Unit	Emission Factor	Long Term	Unit	Reference		Emissions	
												Short Term	Long Term		
Estimated Actual	2006	Boiler #1--Nat Gas	0.076	mmcf	124	mmcf	7.6	lbs/mmcf	7.6	lbs/mmcf	lbs/mmcf	FIRE	FIRE	0.58	
	2006	Boiler #4--Nat Gas	0.108	mmcf	247	mmcf	7.6	lbs/mmcf	7.6	lbs/mmcf	lbs/mmcf	FIRE	FIRE	0.82	
	2006	Boiler #1--#2 Oil	0.545	Kgal	0	Kgal	1.55	lb/Kgal	1.55	lb/Kgal	lb/Kgal	FIRE	FIRE	0.84	
Estimated Actual	2006	Boiler #4--#2 Oil	0.942	Kgal	7,409	Kgal	1.55	lb/Kgal	1.55	lb/Kgal	lb/Kgal	FIRE	FIRE	1.46	
Estimated Actual	2006	Unpaved Areas	3	VMT	25613	VMT	0.03	lbs/VMT	0.03	lbs/VMT	lbs/VMT	AP-42	AP-42	0.1	
Estimated Actual	2006	Aggregate Insignificant												1.0	
Baseline Pollutant Total														3.8	2.8
Requested Pollutant Total														3.9	6.2

Pollutant: SO ₂	Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term	Unit	Emission Factor	Long Term	Unit	Reference		Emissions	
												Short Term	Long Term		
Baseline	Baseline	Boiler #1--Hog Fuel	25	10 ³ lbs steam	102,000	10 ³ lbs steam	0.014	lb/Klb steam	0.014	lb/Klb steam	lb/Klb steam	LRAPA Pmt	LRAPA Pmt	0.4	
	Baseline	Boiler #2--Hog Fuel	35	10 ³ lbs steam	90,000	10 ³ lbs steam	0.014	lb/Klb steam	0.014	lb/Klb steam	lb/Klb steam	LRAPA Pmt	LRAPA Pmt	0.5	
	Baseline	Boiler #3--Hog fuel	35	10 ³ lbs steam	112,000	10 ³ lbs steam	0.014	lb/Klb steam	0.014	lb/Klb steam	lb/Klb steam	LRAPA Pmt	LRAPA Pmt	0.8	
Baseline	Baseline	Boiler #4--Hog Fuel	99	10 ³ lbs steam	419,000	10 ³ lbs steam	0.014	lb/Klb steam	0.014	lb/Klb steam	lb/Klb steam	LRAPA Pmt	LRAPA Pmt	2.9	
Baseline	Baseline	All Boilers--#6 Oil	1,2933	Kgal	200	Kgal	274.50	lb/10 ³ gal	274.50	lb/10 ³ gal	lb/10 ³ gal	LRAPA Pmt	LRAPA Pmt	355.0	
Baseline	Baseline	Agate Boiler #1--PS300	0.95	Gal	8.33	Kgal	202.50	lb/10 ³ gal	202.50	lb/10 ³ gal	lb/10 ³ gal	AP-42	AP-42	0.19	
Baseline	Baseline	Agate Boiler #2--PS300	0.95	Gal	8.33	Kgal	202.50	lb/10 ³ gal	202.50	lb/10 ³ gal	lb/10 ³ gal	AP-42	AP-42	0.8	
Estimated Actual	Estimated Actual	Boiler #1--Nat Gas	0.076	mmcf	615	mmcf	2.6	lbs/mmcf	2.6	lbs/mmcf	lbs/mmcf	DEQ Factors	DEQ Factors	0.20	
Estimated Actual	Estimated Actual	Boiler #4--Nat Gas	0.108	mmcf	700	mmcf	2.6	lbs/mmcf	2.6	lbs/mmcf	lbs/mmcf	DEQ Factors	DEQ Factors	0.28	
Estimated Actual	Estimated Actual	Boiler #1--#2 Oil	0.545	Kgal	114	Kgal	21.4	lb/Kgal	21.4	lb/Kgal	lb/Kgal	Nov. 2001 ST	Nov. 2001 ST	11.66	
Estimated Actual	Estimated Actual	Boiler #4--#2 Oil	0.942	Kgal	200	Kgal	25.7	lb/Kgal	25.7	lb/Kgal	lb/Kgal	Nov. 2001 ST	Nov. 2001 ST	24.21	
Estimated Actual	Estimated Actual	Aggregate Insignificant												1.0	
Requested Pollutant Total														38.4	6.5

Pollutant: CO	Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term		Emission Factor		Reference		Emissions	
							Unit	Long Term	Unit	Long Term	Short Term	Long Term	lbs/hr	tons/yr
Baseline		Boiler #1-Hog Fuel	2.35	tons hogged fuel	9,623	tons hogged fuel	6.6	lb/ton hog fuel	6.6	lb/ton hog fuel	AP-42	AP-42	15.5	31.8
Baseline		Boiler #2-Hog Fuel	3.30	tons hogged fuel	8,491	tons hogged fuel	6.6	lb/ton hog fuel	6.6	lb/ton hog fuel	AP-42	AP-42	21.8	28.0
Baseline		Boiler #3-Hog fuel	3.30	tons hogged fuel	10,566	tons hogged fuel	6.6	lb/ton hog fuel	6.6	lb/ton hog fuel	AP-42	AP-42	27.3	34.9
Baseline		Boiler #4-Hog Fuel	9.34	tons hogged fuel	38,528	tons hogged fuel	6.6	lb/ton hog fuel	6.6	lb/ton hog fuel	AP-42	AP-42	61.6	130.4
Baseline		All Boilers-#6 Oil	1.2933	Kgal	200	Kgal	5.00	lb/10 ³ gal	5.00	lb/10 ³ gal	AP-42	AP-42	6.5	0.5
Baseline		Agate Boiler #1--PS300	0.95	Gal.	8.33	Kgal	5.00	lb/10 ³ gal	5.00	lb/10 ³ gal	AP-42	AP-42	0.005	0.02
Baseline		Agate Boiler #2--PS300	0.95	Gal.	8.33	Kgal	5.00	lb/10 ³ gal	5.00	lb/10 ³ gal	AP-42	AP-42	0.005	0.02
Estimated Actual		Boiler #1--Nat. Gas	0.076	mmcf	615	mmcf	84.0	lbs/mmcf	84.0	lbs/mmcf	AP-42	AP-42	6.38	25.8
Estimated Actual		Boiler #4--Nat. Gas	0.108	mmcf	700	mmcf	84.0	lbs/mmcf	84.0	lbs/mmcf	AP-42	AP-42	9.07	29.4
Estimated Actual		Boiler #1-#2 Oil	0.545	Kgal	114	Kgal	5.0	lb/Kgal	5.0	lb/Kgal	AP-42	AP-42	2.73	0.3
Estimated Actual		Boiler #4-#2 Oil	0.942	Kgal	200	Kgal	5.0	lb/Kgal	5.0	lb/Kgal	AP-42	AP-42	4.71	0.5
Estimated Actual		Aggregate Insignificant												1.0
Requested Pollutant Total													22.9	57.0

Pollutant: VOC	Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term		Emission Factor		Reference		Emissions	
							Unit	Long Term	Unit	Long Term	Short Term	Long Term	lbs/hr	tons/yr
Baseline		Boiler #1-Hog Fuel	25	10 ³ lbs steam	102,000	10 ³ lbs steam	0.13	lb/Klb steam	0.13	lb/Klb steam	LRAPA Pmt.	LRAPA Pmt.	3.3	6.6
Baseline		Boiler #2-Hog Fuel	35	10 ³ lbs steam	90,000	10 ³ lbs steam	0.13	lb/Klb steam	0.13	lb/Klb steam	LRAPA Pmt.	LRAPA Pmt.	4.6	5.9
Baseline		Boiler #3-Hog fuel	35	10 ³ lbs steam	112,000	10 ³ lbs steam	0.13	lb/Klb steam	0.13	lb/Klb steam	LRAPA Pmt.	LRAPA Pmt.	4.6	7.3
Baseline		Boiler #4-Hog Fuel	99	10 ³ lbs steam	419,000	10 ³ lbs steam	0.13	lb/Klb steam	0.13	lb/Klb steam	LRAPA Pmt.	LRAPA Pmt.	12.9	27.2
Baseline		All Boilers-#6 Oil	1.2933	Kgal	200	Kgal	0.76	lb/10 ³ gal	0.76	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	1.0	0.1
Baseline		Agate Boiler #1--PS300	0.95	Gal.	8.33	Kgal	0.34	lb/10 ³ gal	0.34	lb/10 ³ gal	AP-42	AP-42	0.0003	0.001
Baseline		Agate Boiler #2--PS300	0.95	Gal.	8.33	Kgal	0.34	lb/10 ³ gal	0.34	lb/10 ³ gal	AP-42	AP-42	0.0003	0.001
Baseline		Printing Services	0.7	lb	4233	lb					Material Balance		0.7	2.12
Estimated Actual		Boiler #1--Nat. Gas	0.076	mmcf	615	mmcf	5.5	lbs/mmcf	5.5	lbs/mmcf	AP-42	AP-42	0.42	1.7
Estimated Actual		Boiler #4--Nat. Gas	0.108	mmcf	700	mmcf	5.5	lbs/mmcf	5.5	lbs/mmcf	AP-42	AP-42	0.59	1.9
Estimated Actual		Boiler #1-#2 Oil	0.545	Kgal	114	Kgal	0.2	lb/Kgal	0.2	lb/Kgal	DEQ Factors	DEQ Factors	0.11	0.0
Estimated Actual		Boiler #4-#2 Oil	0.942	Kgal	200	Kgal	0.76	lb/Kgal	0.76	lb/Kgal	DEQ Factors	DEQ Factors	0.72	0.1
Estimated Actual		Printing Services	4.6	gal	9600	gal					Material Balance		6.7	7.00
Estimated Actual		Aggregate Insignificant												1.0
Requested Pollutant Total													8.6	11.7

Pollutant: NO _x Time	Source	Hourly Rate	Units	Annual Rate	Unit	Short Term	Emission Factor		Short Term	Long Term	Unit	Emissions lbs/yr
							Long Term	Unit				
Baseline	Boiler #1-Hog Fuel	25	10 ³ lbs steam	102,000	10 ³ lbs steam	0.31	lb/lb steam	LRAPA Pmt.	LRAPA Pmt.	LRAPA Pmt.	7.8	15.8
Baseline	Boiler #2-Hog Fuel	33	10 ³ lbs steam	30,000	10 ³ lbs steam	0.31	lb/lb steam	LRAPA Pmt.	LRAPA Pmt.	LRAPA Pmt.	10.9	14.0
Baseline	Boiler #3-Hog Fuel	33	10 ³ lbs steam	112,000	10 ³ lbs steam	0.31	lb/lb steam	LRAPA Pmt.	LRAPA Pmt.	LRAPA Pmt.	10.9	17.4
Baseline	Boiler #4-Hog Fuel	99	10 ³ lbs steam	419,000	10 ³ lbs steam	0.31	lb/lb steam	LRAPA Pmt.	LRAPA Pmt.	LRAPA Pmt.	30.7	64.9
Baseline	All Boilers-#6 Oil	1,2933	Kgal	200	Kgal	42.00	lb/10 ³ gal	LRAPA Pmt.	LRAPA Pmt.	LRAPA Pmt.	54.3	4.2
Baseline	Agate Boiler #1--PS300	0.95	Gal.	8.33	Kgal	20.00	lb/10 ³ gal	AP-42	AP-42	AP-42	0.02	0.1
Baseline	Agate Boiler #2--PS300	0.95	Gal.	8.33	Kgal	20.00	lb/10 ³ gal	AP-42	AP-42	AP-42	0.02	0.1
Estimated Actual	Boiler #1--Nat. Gas	0.076	mmcf	615	mmcf	101.3	lbs/mmcf	Nov. 2001 ST	Nov. 2001 ST	Nov. 2001 ST	7.70	31.1
Estimated Actual	Boiler #4--Nat. Gas	0.108	mmcf	700	mmcf	164.4	lbs/mmcf	Nov. 2001 ST	Nov. 2001 ST	Nov. 2001 ST	17.76	57.5
Estimated Actual	Boiler #1--#2 Oil	0.545	Kgal	114	Kgal	20.6	lb/Kgal	Nov. 2001 ST	Nov. 2001 ST	Nov. 2001 ST	11.23	1.2
Estimated Actual	Boiler #4--#2 Oil	0.942	Kgal	200	Kgal	19.8	lb/Kgal	Nov. 2001 ST	Nov. 2001 ST	Nov. 2001 ST	18.65	2.0
Estimated Actual	Aggregate Insignificant											1.0
Requested Pollutant Total											55.3	92.8

PSEL SUMMARY									
	PM	PM ₁₀	PM _{2.5}	SO _x	CO	VOC	NO _x	TONS/YR	
1. BASELINE PSEL	217.7	188.8	2.8	34.2	225.6	49.2	116.4		
2. CURRENT PSEL (2005-2010)	26.0	14.0	N.A.	41.0	99.0	38.0	93.0		
3. ESTIMATED ACTUAL EMISSIONS (2010-2015)	46.3	14.8	6.2	6.5	57.0	11.7	92.8		
4. NETTING DIFFERENCE (#1 minus #3)	-171.4	-174.0	3.4	-27.7	-168.6	-37.5	-23.4		
5. REQUESTED PSELS (2010-2015)*	46.0	15.0	9.0	39.0	99.0	38.0	93.0		
SIGNIFICANT EMISSION RATE (SER)	25	15	10	40	100	40	40		

Fuel Consumption				
	Natural Gas (mmcf) (Hourly)	Natural Gas (mmcf) (Annual)	#2 Oil (Kgal) (Hourly)	#2 Oil (Kgal) (Annual)
Boiler #1	0.076	615	0.545	114
Boiler #4	0.108	700	0.942	200

* Requested PSELS until CPS modifications and changes are started.
Baseline -- Refers to operating conditions in 1979 except for PM_{2.5} which is 2006.
PSEL -- Plant Site Emission Limits
Values in blue represent changes from the original renewal application

A. Calculation of Unpaved Road VMT

1. Baseline Case

Lot Name	Veh. Capacity	Percent Full	Number of days/year	Distance Travelled (Round Trip Miles)	VMT/yr
35	20	0.40	260	0.03	62
Bean Lot	550	0.95	365	0.0625	11920
Temp Lots	100	0.70	365	0.625	15969
Power Plant	50	1.00	280	0.125	1625
Access Rd	2	na	156	1	15600
Autzen	5000	1.00	7	0.3	10500
Autzen	5000	0.15	20	0.3	4500

TOTAL 60176

2. 2010-2015

Lot Name	Veh. Capacity	Percent Full	Number of days/year	Distance Travelled (Round Trip Miles)	VMT/yr
35	20	0.75	260	0.03	117
Access Rd - N of Tracks	1	na	60	1	6000
Temporary Lots	226	0.95	275	0.1	5904
Temporary Lots	226	0.25	90	0.1	508
Autzen	2164	1.00	8	0.3	5194
Autzen	1556	1.00	45	0.3	21006
Autzen	1556	1.00	40	0.3	18672
Autzen	750	1.00	20	0.3	4500
CPS Storage Area	12	na	260	0.4	1248

TOTAL 63149

Notes from Kay Coats

different temp lots from 2005 - won't be constructed until later 2010/2011
different temp lots from 2005 - won't be constructed until later 2010/2011
football
UC baseball
Eugene Emeralds baseball
other Athletic Department events/usage

2010 - further reduced Autzen parking area due to construction of ball field - however the ball field is resulting in much greater non-football season use. New temporary lots added - they are not currently in use, but will likely happen in 2010/2011 due to construction activities in current paved parking lots. duration of use is anticipated to be no more than 3-5 years.

B. Unpaved Road Dust Emission Factor Calculation--AP-42 13.2.2 11/06

	k (lb/VMT)	s(%)	S(mph)	M (%)	C	a	c	d	E (uncorrected)	E (Corrected)*
PM-30	6.0	4.0	15.0	0.2	0.00047	1.0	0.3	0.3	2.14	1.26
PM10	1.8	4.0	15.0	0.2	0.00047	1.0	0.2	0.5	0.51	0.30
PM2.5	0.2	4.0	15.0	0.2	0.00036	1.0	0.2	0.5	0.05	0.03

*Corrected for number of days with at least 0.254 mm of precipitation per year, p. P =150 based on Figure 13.2.2-1

University of Oregon Printing Services VOC Emissions

Product	Annual Amount Used (gal)	VOC (lbs/gal)	EMISSIONS lbs/yr	EMISSIONS tons/yr
A-240 Wash	550	6.64	3652	1.8260
Klaw (Heavy-duty cleaner)	1	2.37	2.37	0.0012
Concentrate 2451	6	0.84	5.04	0.0025
Type Wash	1	6.69	6.69	0.0033
MRC	6	3.54	21.24	0.0106
SG Storage Gum	6	0.7	4.2	0.0021
ink anti-skin	2	4.27	8.54	0.0043
OS green	2400	1.28	3072	1.5360
OS reflux blue	160	0.82	131.2	0.0656
OS special black	2400	1.15	2760	1.3800
OS red	2000	0.98	1960	0.9800
OS yellow	2000	1.12	2240	1.1200
Emerald junior	3	1.17	3.51	0.0018
Alkaless	15	3.52	52.8	0.0264
Dylek DS aerosol	0.5	7	3.5	0.0018
X-433 aerosol	0.5	0.9	0.45	0.0002
Fountain 2451	5	0.84	4.2	0.0021
Lube Trac Plus	1	3	3	0.0015
Omni Plate Cleaner	2	3.44	6.88	0.0034
ecoclean	40	3.4	136	0.0680
cyerlube	1	6.33	6.33	0.0032
Totals	9600		14080.0	7.0

Permit No. 208557

Attachment to Review Report

HAP	Natural Gas (lb/10 ⁶ scf)	Information Source	Distillate Oil (lb/kgal)	Information Source	Natural Gas (lb/10 ⁶ scf)	Information Source	Distillate Oil (lb/kgal)	Information Source	EMISSIONS					
									(Boilers/duct burner)	(Boilers)	(Combustion Turbine)	(Tons/yr) Nat Gas	(Tons/yr) Fuel Oil	(Tons/yr) TOTAL
Organics														
2-Methylnaphthalene ^d	2.40E-05	AP-42 ^b								2.00E-05	0.00E+00			2.00E-05
3-Methylchloranthrene ^d	1.80E-06	AP-42 ^b								1.50E-06	0.00E+00			1.50E-06
7,12-Dimethylbenzo(a)anthracene ^b	1.60E-05	AP-42 ^b								1.33E-05	0.00E+00			1.33E-05
Acetaldelyde					4.01E-02	AP-42 ^d				1.33E-02	0.00E+00			1.33E-02
Acrolein					6.42E-03	AP-42 ^d				2.13E-03	0.00E+00			2.13E-03
Acenaphthylene ^d	1.80E-06	AP-42 ^b								1.50E-06	3.00E-08			1.53E-06
Acenaphthene			2.53E-07	AP-42 ^c						0.00E+00	2.50E-06			2.50E-06
Anthracene ^d	2.46E-06	AP-42 ^b	1.22E-06	AP-42 ^c						2.05E-06	1.45E-07			2.19E-06
Benzo(a)anthracene ^d			4.01E-06	AP-42 ^c						2.00E+00	4.76E-07			4.76E-07
Benzenes	2.10E-03	AP-42 ^b	2.14E-04	AP-42 ^c	1.20E-02	AP-42 ^d	7.65E-03	AP-42 ^d	5.74E-03	0.00E+00	4.96E-04			6.24E-03
Benzo(g,h)perylene			2.26E-06	AP-42 ^c						0.00E+00	2.68E-07			2.68E-07
Benzo(a)pyrene ^d	1.20E-06	AP-42 ^b	1.48E-06	AP-42 ^c						1.00E-06	0.00E+00			1.00E-06
Benzo(b)fluoranthene ^d	1.80E-06	AP-42 ^b								1.50E-06	1.76E-07			1.68E-06
Benzo(k)fluoranthene ^d	1.80E-06	AP-42 ^b								1.50E-06	0.00E+00			1.50E-06
Chrysene ^d	1.80E-06	AP-42 ^b	2.38E-06	AP-42 ^c						1.50E-06	2.82E-07			1.78E-06
Dibenz(a,h)anthracene ^d	1.20E-06	AP-42 ^b	1.67E-06	AP-42 ^c						1.00E-06	1.98E-07			1.20E-06
Dichlorobenzene ^d	1.20E-06	AP-42 ^b								1.00E-06	0.00E+00			1.00E-06
Ethylbenzene			6.36E-05	AP-42 ^c	3.21E-02	AP-42 ^d				1.07E-02	7.54E-06			1.07E-02
Fluoranthene ^d	2.80E-06	AP-42 ^b	4.47E-06	AP-42 ^c						2.33E-06	5.30E-07			2.86E-06
Formaldehyde	7.50E-02	AP-42 ^b	4.84E-06	AP-42 ^c						0.00E+00	5.74E-07			5.74E-07
Hexane	1.89E+00	AP-42 ^b	4.80E-02	AP-42 ^c	7.12E-01	AP-42 ^d	3.89E-02	AP-42 ^d	1.50E+00	8.09E-03	3.07E-01			1.50E+00
Indeno(1,2,3-cd)pyrene	1.80E-06	AP-42 ^b	2.14E-06	AP-42 ^c						1.50E-06	2.54E-07			1.50E-06
Naphthalene	6.10E-04	AP-42 ^b	1.13E-03	AP-42 ^c	1.30E-03	AP-42 ^d	4.87E-03	AP-42 ^d	9.41E-04	4.33E-04	1.37E-03			1.37E-03
PAH					2.21E-03	AP-42 ^d	5.56E-03	AP-42 ^d	7.32E-04	3.42E-04	1.07E-03			1.07E-03
Phenanthrene ^d	1.70E-05	AP-42 ^b	1.05E-05	AP-42 ^c						1.42E-05	1.25E-06			1.54E-05
Pyrene ^d	5.00E-06	AP-42 ^b	4.25E-06	AP-42 ^c						4.17E-06	5.04E-07			4.67E-06
Toluene	3.40E-03	AP-42 ^b	6.20E-03	AP-42 ^c	1.30E-01	AP-42 ^d	1.30E-01	AP-42 ^d	4.61E-02	7.35E-04	4.68E-02			4.68E-02
Xylenes			1.09E-04	AP-42 ^c	6.42E-02	AP-42 ^d				2.13E-02	1.29E-05			2.13E-02
Metals														
Arsenic	2.00E-04	AP-42 ^b	5.56E-04	AP-42 ^c						1.53E-03	1.67E-04			3.27E-04
Beryllium	1.20E-05	AP-42 ^b	4.17E-04	AP-42 ^c						4.31E-05	1.00E-05			6.21E-05
Cadmium	1.10E-03	AP-42 ^b	4.17E-04	AP-42 ^c						6.67E-04	9.16E-04			1.01E-03
Chromium	1.40E-03	AP-42 ^b	4.17E-04	AP-42 ^c						1.53E-03	1.17E-03			1.31E-03
Cobalt	8.40E-05	AP-42 ^b								7.00E-05	0.00E+00			7.00E-05
Lead	2.71E-04	AP-42 ^b	1.23E-03	AP-42 ^c						2.26E-04	2.68E-04			4.94E-04
Manganese	3.80E-04	AP-42 ^b	8.34E-04	AP-42 ^c						1.10E-01	3.17E-04			6.85E-03
Mercury	2.80E-04	AP-42 ^b	4.17E-04	AP-42 ^c						1.67E-04	2.17E-04			5.97E-05
Nickel	2.10E-03	AP-42 ^b	4.17E-04	AP-42 ^c						6.39E-04	1.75E-03			1.84E-03
Selenium	2.40E-05	AP-42 ^b	5.56E-04	AP-42 ^c						3.48E-03	2.00E-05			3.00E-04
TOTAL										1.90	0.0181			1.92

NOTES:
a. This air contaminant is consider polycyclic organic matter (POM) and therefore is defined as a HAP under Section 112(b) of the Clean Air Act.
b. AP-42, 5th Edition--Supplement D, Section 1.4, "Natural Gas Combustion", dated 7/98.
c. AP-42, 5th Edition--Supplement E, Section 1.3 "Fuel Oil Combustion", dated 9/98.
d. AP-42--5th Edition--Supplement F, Section 3.1 "Stationary Gas Turbines", dated 4/2000.

Max. Annual Fuel Consumption -MMcf 1866.1
Max. Annual Fuel Consumption -Kgal 237.2
Max. Annual Fuel Consumption -MMcf 663.9
Max. Annual Fuel Consumption -Kgal 123.0
Average heating value of distillate oil is 139,000 BTU/gal
Average heating value of natural gas is 1003 BTU/cf

1666.1
237.2
663.9
123.0

Nat. Gas for Boiler #1 and #2
#2 oil for Boilers #1 and #2
Combustion Turbine
Combustion Turbine

Pounds-->
1.90
0.0181
1.92
3845

REVIEW REPORT

<p>1. COMMENT: Review Report #14 – Consistent with calculation methodology used for the other criteria pollutants, change the NO_x emissions in the "Increase" Column from "-116" to "-160" tons per year.</p>	<p>RESPONSE: The calculation methodology used in the "increase" column was in error and was rewritten. The column "increase" was titled "increase over netting basis". The new values for this column were calculated by subtracting the Netting basis from the proposed PSEL. The value in the column was previously calculated as the (proposed PSEL minus current PSEL) minus the netting basis. This calculation had no bearing on the evaluation of the changes to the permit. Additionally, the proposed PSEL for NO_x was changed to 49 tons per year in paragraph #14 per emission calculations in the emission detail sheets and the NO_x PSEL in the permit.</p>
<p>2. COMMENT: Review Report #15 – Change NO_x emissions from "-116" to "-160" in the first column.</p>	<p>RESPONSE: See previous response, the column was re-titled and the NO_x increase over the netting basis was changed to -67 ton per year.</p>
<p>3. COMMENT: Review Report #16 – Change the Pre-7/1/2010 Netting Basis for NO_x from "-116" TO "-160" Change the PSEL value for NO_x from "93" to "49" tons/yr. Change unassigned emissions for NO_x from 23 to 67. Change Allowable Future Netting Basis (tons/yr) from "23" to "40".</p>	<p>RESPONSE: See response to comment on paragraph #14. Several changes were made to the table in paragraph #16. The heading to the last two columns were changed. "Unassigned" was changed to "Unassigned Emissions Reductions" and "Allowable Future Netting Basis" was changed to "Post 7/1/2010 Netting Basis". The PM, PM₁₀, and PM_{2.5} Pre-7/1/2010 Netting basis was changed to 218, 189, and 3 respectively. The NO_x PSEL was changed to 49 from 93 tons per year per emission calculations in emission detail sheet. The Unassigned Emissions Reductions for PM, PM₁₀, NO_x, and SO₂ was changed to 167, 163, 67, and 0 respectively.</p>
<p>4. COMMENT: Review Report #22 – Consistent with the DEQ GHG permitting rules the MT CO_{2e} figure should be based on actual emissions rather than on a PTE basis. It is estimated that 21,885 MT CO_{2e} was emitted in 2009.</p>	<p>RESPONSE: The text of paragraph #22 now reads: Greenhouse gas reporting under the Oregon DEQ rule applies. It is estimated that 21,904 MT CO_{2e} was emitted in 2009. * The facility's potential to emit greenhouse gases is 79803 MT CO_{2e} currently and 80296 with proposed changes. *based on LRAPA calculations</p>
<p>EMISSION FACTOR ATTACHMENT</p>	
<p>5. COMMENT: For Boiler #2 (#2 Fuel Oil) For SO₂ change emission factor from 6.2 to 6.7 lbsSO₂/MMBtu emission factor.</p>	<p>RESPONSE: The emission factor used in calculation of the PSEL was 6.7 lbs SO₂/MMBtu from Boiler #2. The inclusion of 6.2 lbs SO₂/MMBtu as an emission factor was likely a transcription error. The final permit will use the 6.7 lbs</p>

LRAPA initiated some changes and corrections to the final permit. Fuel usage reporting was added to the annual report requirements and EU-3 was added to the list of units for which fuel usage and steam production is reported. Other changes included clarification of applicable regulations and emission units subject to reporting.