



STATEMENT OF BASIS
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BAQ Engineering Services Division

Company Name: South Carolina Electric & Gas Company – A.M. Williams Station	Permit Writer: Sheila Watts
Permit Number: TV-0420-0006	Date: October 11, 2016

DATE APPLICATION RECEIVED: October 1, 2013

FACILITY DESCRIPTION A.M. Williams Station is an electric utility steam generating plant operated by South Carolina Electric & Gas Company (SCE&G), a wholly-owned subsidiary of SCANA Corporation. The facility has a primarily coal-fired main boiler, two fuel oil-fired auxiliary boilers, and several small internal combustion turbines. Ancillary processes include coal, ash, gypsum, and limestone handling systems.

PROJECT DESCRIPTION SCE&G A.M. Williams Station is requesting a Title V operating permit renewal and a renewed Title IV (Acid Rain) permit.

COLLOCATION DETERMINATION The SCE&G-Bushy Park LNG facility operates under Title V permit number TV-0420-0048. Although SCE&G-Bushy Park LNG facility has a different SIC code than SCE&G - A.M. Williams facility, the SCE&G - A.M. Williams facility is major for HAPs and Title III collocation criteria considers only adjacency and common control. Therefore, the SCE&G-Bushy Park LNG facility has been deemed to be collocated with SCE&G - A.M. Williams. If the holding company for SCE&G and SCANA ever divests itself of one of these adjacent plants, the collocation status would be altered and the SCE&G-Bushy Park LNG facility would be able to operate under a state minor air permit. Since the two are collocated facilities, modeling demonstration for Standards 2 and 7 must include emissions from both facilities.

CHANGES SINCE LAST OP ISSUANCE The following changes, correspondence, or requests have taken place since the last Title V operating permit was issued (June 18, 2009):

August 17, 2009 – Bureau of Air Quality (BAQ) issued a limited exemption for a temporary coal storage pile based on the request received August 14, 2009.

April 28, 2010 – BAQ issued a limited exemption to test burn FuelSolv FMG2960® based on the request received April 16, 2010 and meeting on April 24, 2010.

March 8, 2011 – BAQ issued an exemption for a limited operational test of a stoker sizing process based on the request received February 3, 2011.

May 20, 2011 – BAQ issued an exemption letter for using fuel additives in the utility boiler (UB1) based on the request received May 13, 2011. The change can be incorporated as a 502(b)10, operational flexibility change.

January 10, 2012 – BAQ issued an extension to the limited operational test of the stoker sizing process based on the request dated December 15, 2011.

May 24, 2013 – BAQ issued construction permit 0420-0006-CJ for installation of a Chem-Mod coal fuel modification system.

October 1, 2013 – BAQ received Title V and Title IV renewal applications.

October 31, 2013 – BAQ received a Title V minor modification request to incorporate the Chem-Mod coal fuel modification system into the Title V operating permit. BAQ will incorporate the Chem-Mod coal fuel modification system as part of this Title V renewal.

October 14, 2014 – BAQ received an amended Title V modification request (original request dated February 15, 2010) to state that the flu gas desulfurization scrubber is operational and not considered a voluntary control device. The modification request will be incorporated into this Title V renewal.

April 27, 2015 – BAQ issued construction permit 0420-0006-CK for installation of one (1) portable Activated Carbon Injection (ACI) System.

September 30, 2015 – BAQ received a construction permit application requesting a limited use boiler reclassification for the auxiliary boilers and a revised fuel oil sulfur limit.



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October 13, 2015 - BAQ received a Title V minor modification request to incorporate the ACI system into the Title V operating permit. BAQ is not incorporating the ACI system into this Title V renewal at this time. Incorporation of the ACI system will be processed once the facility has determined if the ACI system is needed to demonstrate compliance with NESHAP 40 63, Subpart UUUUU.

January 25, 2016 - BAQ received a Title V minor modification request to incorporate synthetic minor construction permit 0420-0006-CL (average annual capacity factor limits of 10% for each auxiliary boiler and facility wide sulfur content limit of 0.0015% by weight for No. 2 fuel oil) into the Title V operating permit. BAQ will incorporate 0420-0006-CL into this Title V renewal.

For the Title V renewal, conditions listed as 01.4, 01.5, and 01.8 in the previously issued TV (June 18, 2009) have not been incorporated. Condition 01.4 and 01.5 were conditions to establish unit-specific pre- and post-startup particulate matter emission rate factors for the sulfur dioxide scrubber, new fiberglass reinforced plastic (FRP) main exhaust stack, and combustion of petroleum coke fuel. The facility has completed the testing per conditions 01.4 and 01.5 and test results do not indicate any exceedance of permit limits or triggering of S.C. Regulation 61-62.5, Standard No. 7 applicability. Condition 01.8 had a SO₂ limit of 2.3 pounds per million Btu input for UB1 as a more stringent limit than the 3.5 pounds per million Btu input from S.C. Regulation 61-62.5, Standard No. 1, due to impacts on the Class I area at Cape Romaine. Due to a recent regulatory revision, the SO₂ limit per S.C. Regulation 61-62.5, Standard No. 1, is 2.3 pounds per million Btu input; therefore condition 01.8 will not be incorporated in this renewal. This renewal will have a Standard No. 1 SO₂ limit of 2.3 pounds per million Btu input. Previous TV Condition 5.D.1 for UB1 had a maximum allowable sulfur content for the coal fuel of 1.32%. The Condition 5.D1 stated the limit shall remain in effect until the new wet limestone slurry flu gas desulfurization scrubber becomes operational for removing SO₂ emissions from UB1. The scrubber is operational and is removing SO₂ emissions from UB1, therefore the limit will be removed and will not be a part of this TV renewal. Previously the TV had CAM conditions for the two fly ash silos (SIL1 and SIL2). The two fly ash silos were considered pre-control major for PM/PM₁₀ and subject to Standard 4 PM limits with the use of fabric filter baghouses to comply. On August 26, 2015 the facility, via e-mail, made a request to remove the CAM conditions for the fly ash silos, stating the dust collectors listed as control devices for the fly ash silos are inherent to the process (installed and operated primarily for purposes other than compliance with air pollution regulations). The dust collectors for the fly ash silos are inherent to the process and therefore CAM conditions for the fly ash silos will not be incorporated into this TV renewal.

SOURCE TEST REQUIREMENTS Requirements for source testing are outlined in the Title V permit.

SPECIAL CONDITIONS, MONITORING, LIMITS Auxiliary boilers (AB1 and AB2) at the facility are subject to NESHAP 40 CFR 63, Subpart DDDDD – National Emission Standards for Hazardous Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. The facility requested federally enforceable average annual capacity factor limits of 10% for each of the auxiliary boilers in order to meet the NESHAP 40 CFR 63, Subpart DDDDD definition of a limited use boiler (see 40 CFR §63.7575). The facility also requested a federally enforceable sulfur content limit of 0.0015% by weight for No. 2 fuel oil burned in facility equipment (main boiler, auxiliary boilers, and combustion turbines). The requests were processed through issuance of a synthetic minor construction permit (0420-0006-CL). The average annual capacity factor limits of 10% for each auxiliary boiler and the facility wide sulfur content limit of 0.0015% by weight for No. 2 fuel oil are a part of this TV renewal.

EMISSIONS

Emissions in the facility's updated TV renewal application dated October 1, 2013 and revision dated August 21, 2015, along with the construction application dated September 2015 have been reviewed for accuracy. The facility wide



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emissions below include emissions from Construction Permit 0420-0006-CJ and take into account the synthetic minor limits imposed by issuance of construction permit 0420-0006-CL.

UNCONTROLLED POTENTIAL EMISSIONS					
(H designates a hazardous air pollutant, T designates a toxic air pollutant, and V designates a volatile organic compound)					
Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
01/UB1	PM (filterable)	26,400	115,632	10.0A lb/ton	AP-42, 5 th Edition, Vol. I, Chapter 1: External Combustion Sources, Section 1.1, Bituminous and Subbituminous Coal Combustion, Table 1.1-6, 9/1998 Max. Heat Input = 5,500 MMBtu/hr Fuel Heat Content = 12,500 Btu/lb Ash Content of Coal (A) = 12 %wt Hours of operation = 8760 hr/yr
01/UB1	PM ₁₀ (filterable)	6,072	26,595	2.3A lb/ton	
01/UB1	PM _{2.5} (filterable)	1,584	6,938	0.6A lb/ton	
01/UB1	PM (total condensables)	561.0	2,457.2	0.102 lb/MMBtu	AP-42, 5 th Edition, Table 1.1-5 (9/1998) Emission factor w/o FGD, derived using 0.1S-0.03 lb/MMBtu, where S = 1.32 (weight % sulfur in coal) Max. Heat Input = 5,500 MMBtu/hr Hours of operation = 8760 hr/yr All condensable PM is assumed to be less than 1.0 micron in diameter (PM=PM ₁₀ =PM _{2.5})
01/UB1	SO ₂	12,650	55,407	-----	Estimated using SC Reg. 61-62.5 Std. No. 1 SO ₂ allowable emission rate of 2.3 MMBtu/hr Max. Heat Input = 5,500 MMBtu/hr Hours of operation = 8760 hr/yr
01/UB1	NO _x	3,300	14,454	15 lb/ton	AP-42, 5 th Edition, Table 1.1-3 (9/1998) Max. Heat Input = 5,500 MMBtu/hr



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UNCONTROLLED POTENTIAL EMISSIONS

(H designates a hazardous air pollutant, T designates a toxic air pollutant, and V designates a volatile organic compound)

Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
					Fuel Heat Content = 12,500 Btu/lb Hours of operation = 8760 hr/yr
01/UB1	CO	196.4	860.4	0.005 lb/gal	AP-42, 5 th Edition, Vol. I, Chapter 1: External Combustion Sources, Section 1.3, Fuel Oil Combustion, Table 1.3-1, Updated 5/2010 Max. Heat Input = 5,500 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal Hours of operation = 8760 hr/yr
01/UB1	VOC	13.2	57.8	0.06 lb/ton	AP-42, 5 th Edition, Table 1.1-19 (9/1998) Max. Heat Input = 5,500 MMBtu/hr Fuel Heat Content = 12,500 Btu/lb Hours of operation = 8760 hr/yr
01/UB1	Acetaldehyde (H,T,V)	1.3E-01	5.5E-01	5.7E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Acetophenone (H,T,V)	3.3E-03	1.4E-02	1.5E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Acrolein (H,T,V)	6.4E-02	2.8E-01	2.9E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Antimony (H)	4.0E-03	1.7E-02	1.8E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-18, (9/1998)
01/UB1	Arsenic (H,T)	9.0E-02	4.0E-01	4.1E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-18, (9/1998)
01/UB1	Benzene (H,T,V)	2.9E-01	1.3	1.3E-03 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Benzo(a)pyrene (H,T,V)	8.4E-06	3.7E-05	3.8E-08 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Benzyl chloride (H,T,V)	1.5E-01	6.7E-01	7.0E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Beryllium (H,T)	1.7E-02	7.2E-02	3 lb/10 ¹² Btu	AP-42, 5 th Edition, Vol. I, Chapter 1: External Combustion Sources, Section 1.3, Fuel Oil Combustion, Table



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UNCONTROLLED POTENTIAL EMISSIONS

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Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
					1.3-10, Updated 5/2010 Max. Heat Input = 5,500 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal Hours of operation = 8760 hr/yr
01/UB1	Biphenyl (H,T,V)	3.7E-04	1.6E-03	1.7E-06 lb/ton	AP-42, 5 th Edition, Table 1.1-13, (9/1998)
01/UB1	Bis(2-ethylhexyl) Phthalate or DEHP (H,T,V)	1.6E-02	7.0E-02	7.3E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Bromoform (H,T,V)	8.6E-03	3.8E-02	3.9E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Cadmium (H,T)	1.7E-02	7.2E-02	3 lb/10 ¹² Btu	AP-42, 5 th Edition, Table 1.3-10, (Updated 5/2010)
01/UB1	Carbon disulfide (H,T)	2.9E-02	1.3E-01	1.3E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	2- Chloroacetophenone (H,T,V)	1.5E-03	6.7E-03	7.0E-06 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Chlorobenzene (H,T,V)	4.8E-03	2.1E-02	2.2E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Chloroform (H,T,V)	1.3E-02	5.7E-02	5.9E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Chromium (H)	5.7E-02	2.5E-01	2.6E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-18, (9/1998)
01/UB1	Cobalt (H)	2.2E-02	9.6E-02	1.0E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-18, (9/1998)
01/UB1	Cumene (H,T,V)	1.2E-03	5.1E-03	5.3E-06 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Cyanide (T)	5.5E-01	2.4	2.5E-03 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Dimethyl sulfate (H,T,V)	1.1E-02	4.6E-02	4.8E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	2,4-Dinitrotoluene (H,T,V)	6.2E-05	2.7E-04	2.8E-07 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Dioxin (H)	3.9E-07	1.7E-06	1.76E-09 lb/ton	AP-42, 5 th Edition, Table 1.1-12, (9/1998)
01/UB1	Ethyl benzene (H,T,V)	2.1E-02	9.1E-02	9.4E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Ethyl chloride (H,T,V)	9.2E-03	4.0E-02	4.2E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14,



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Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
					(9/1998)
01/UB1	Ethylene dibromide (H,T,V)	2.6E-04	1.2E-03	1.2E-06 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Ethylene dichloride (H,T,V)	8.8E-03	3.9E-02	4.0E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Formaldehyde (H,T,V)	2.4	10.5	6.1E-02 lb/1000 gal	AP-42, 5 th Edition, Table 1.3-9, (Updated 5/2010)
01/UB1	Furans (H,V)	3.9E-07	1.7E-06	1.76E-09 lb/ton	AP-42, 5 th Edition, Table 1.1-12, (9/1998)
01/UB1	Hexane (H,T,V)	1.5E-02	6.5E-02	6.7E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Hydrogen Chloride (H,T)	2.6E+02	1.2E+03	1.2 lb/ton	AP-42, 5 th Edition, Table 1.1-15, (9/1998)
01/UB1	Hydrogen Fluoride (H,T)	3.3E+01	1.4E+02	1.5E-01 lb/ton	AP-42, 5 th Edition, Table 1.1-15, (9/1998)
01/UB1	Isophorone (H,T,V)	1.3E-01	5.6E-01	5.8E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Lead (H)	9.2E-02	4.0E-01	4.2E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-18, (9/1998)
01/UB1	Manganese (H)	1.1E-01	4.7E-01	4.9E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-18, (9/1998)
01/UB1	Mercury (H,T)	1.8E-02	8.0E-02	8.3E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-18, (9/1998)
01/UB1	Methyl bromide (H,T)	3.5E-02	1.5E-01	1.6E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Methyl chloride (H,T,V)	1.2E-01	5.1E-01	5.3E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	MEK (T,V)	8.6E-02	3.8E-01	3.9E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Methyl hydrazine (H,T)	3.7E-02	1.6E-01	1.7E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Methyl methacrylate (H,T,V)	4.4E-03	1.9E-02	2.0E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Methyl tert butyl ether (H,T,V)	7.7E-03	3.4E-02	3.5E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Methylene chloride (H,T)	6.4E-02	2.8E-01	2.9E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Napthalene (H,T,V)	4.4E-02	1.9E-01	1.13E-03 lb/1000gal	AP-42, 5 th Edition, Table 1.3-9, (Updated 5/2010)
01/UB1	Nickel (H,T)	6.2E-02	2.7E-01	2.8E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-18, (9/1998)



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UNCONTROLLED POTENTIAL EMISSIONS

(H designates a hazardous air pollutant, T designates a toxic air pollutant, and V designates a volatile organic compound)

Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
01/UB1	Phenol (H,T,V)	3.5E-03	1.5E-02	1.6E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	POM (H,T,V)	1.3E-01	5.7E-01	3.3E-03 lb/1000 gal	AP-42, 5 th Edition, Table 1.3-8, (Updated 5/2010)
01/UB1	Propionaldehyde (H,T,V)	8.4E-02	3.7E-01	3.8E-04 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Radionuclides (H)	6.3E-04	2.8E-03	2.9E-06 lb/ton	Synthesis Report for Air Toxics, EPRI based on 52.75 p Ci/g PM and the PM emission factor from AP-42
01/UB1	Selenium (H)	2.9E-01	1.3	1.3E-03 lb/ton	AP-42, 5 th Edition, Table 1.1-18, (9/1998)
01/UB1	Sulfuric Acid Mist or H ₂ SO ₄ (T)	9.5E+01	4.1E+02	4.3E-01 lb/ton	AP-42, Table 1.1-3, (9/1998) to calculate SO _x , using 38S lb/ton as emission factor where S = 1.32 (weight % sulfur in coal = 1.32) 0.7% of fuel sulfur is emitted as SO ₃ (see footnote b) Assumed complete conversion of SO ₃ to H ₂ SO ₄ (SO ₃ molecular wt. = 98 and H ₂ SO ₄ molecular wt. = 80) 38 x 1.32 x 0.007 x (98/80) = 0.43 lb/ton emission factor
01/UB1	Sulfur Trioxide (T)	3.4E-01	1.47	2.9 lb/1000 gal	AP-42, Table 1.3-1, Updated 5/2010 Emission factor derived using 5.7S lb/1000 gal, where S = 0.0015 (weight % sulfur in fuel oil) Fuel Heat Content = 140,000 Btu/gal
01/UB1	2,3,7,8 TCDD (H,T,V)	3.1E-09	1.3E-08	1.4E-11 lb/ton	AP-42, 5 th Edition, Table 1.1-12, (9/1998)
01/UB1	Tetrachloroethylene (H,T)	9.5E-03	4.1E-02	4.3E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Toluene (H,T,V)	2.4E-01	1.1	6.2E-03 lb/1000 gal	AP-42, 5 th Edition, Table 1.3-9, (Updated 5/2010)
01/UB1	Vinyl Acetate (H,T,V)	1.7E-03	7.3E-03	7.6E-06 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)
01/UB1	Xylenes (H,T,V)	8.1E-03	3.6E-02	3.7E-05 lb/ton	AP-42, 5 th Edition, Table 1.1-14, (9/1998)



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(H designates a hazardous air pollutant, T designates a toxic air pollutant, and V designates a volatile organic compound)					
Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
02/AB1	PM (filterable)	2.59	1.14	0.002 lb/gal	AP-42, 5 th Edition, Table 1.3-6, (Updated 5/2010) Max. Heat Input= 181.6 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal Limited to 10% average annual capacity
02/AB1	PM ₁₀ (filterable)	1.30	0.57	0.001 lb/gal	
02/AB1	PM _{2.5} (filterable)	0.34	0.15	1.9 lb/10 ⁶ ft ₃	AP-42, 5 th Edition, Vol. I, Chapter 1: External Combustion Sources, Section 1.4, Natural Gas Combustion, Table 1.4-2, 7/1998 Max. Heat Input = 181.6 MMBtu/hr Btu content of natural gas = 1,020 Btu/ft ³ Limited to 10% average annual capacity
02/AB1	PM (total condensables)	1.69	0.74	0.0013 lb/gal	AP-42, 5 th Edition, Table 1.3-2, (Updated 5/2010) All condensable PM is assumed to be less than 1.0 micron in diameter (PM=PM ₁₀ =PM _{2.5}) Limited to 10% average annual capacity
02/AB1	SO ₂	0.28	0.12	2.13E-04 lb/gal	AP-42, 5 th Edition, Table 1.3-1, (Updated 5/2010) Emission factor derived using 142S lb/1000 gal, where S = 0.0015 (weight % sulfur in fuel oil) Limited to 10% average annual capacity
02/AB1	NO _x	49.9	21.8	280 lb/10 ⁶ ft ₃	AP-42, 5 th Edition, Table 1.4-1, 7/1998 Limited to 10% average annual capacity
02/AB1	CO	14.96	6.55	84 lb/10 ⁶ ft ₃	AP-42, 5 th Edition, Table 1.4-1, 7/1998 Limited to 10% average annual capacity
02/AB1	VOC	0.979	0.43	5.5 lb/10 ⁶ ft ₃	AP-42, 5 th Edition, Table 1.4-2,



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(H designates a hazardous air pollutant, T designates a toxic air pollutant, and V designates a volatile organic compound)

Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
					7/1998 Limited to 10% average annual capacity
02/AB1	Lead	1.63E-03	7.16E-04	9.0E-06 lb/MMBtu	AP-42, 5 th Edition, Table 1.3-10, (Updated 5/2010) Limited to 10% average annual capacity
03/AB2	PM (filterable)	2.59	1.14	0.002 lb/gal	AP-42, 5 th Edition, Table 1.3-6, (Updated 5/2010) Max. Heat Input= 181.6 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal Limited to 10% average annual capacity
03/AB2	PM ₁₀ (filterable)	1.30	0.57	0.001 lb/gal	
03/AB2	PM _{2.5} (filterable)	0.34	0.15	1.9 lb/10 ⁶ ft ₃	AP-42, 5 th Edition, Table 1.4-2, 7/1998 Limited to 10% average annual capacity
03/AB2	PM (total condensables)	1.69	0.74	0.0013 lb/gal	AP-42, 5 th Edition, Table 1.3-2, (Updated 5/2010) All condensable PM is assumed to be less than 1.0 micron in diameter (PM=PM ₁₀ =PM _{2.5})
03/AB2	SO ₂	0.28	0.12	2.13E-04 lb/gal	AP-42, 5 th Edition, Table 1.3-1, (Updated 5/2010) Emission factor derived using 142S lb/1000 gal, where S = 0.0015 (weight % sulfur in fuel oil) Limited to 10% average annual capacity
03/AB2	NO _x	49.9	21.8	280 lb/10 ⁶ ft ₃	AP-42, 5 th Edition, Table 1.4-1, 7/1998 Limited to 10% average annual capacity
03/AB2	CO	14.96	6.55	84 lb/10 ⁶ ft ₃	AP-42, 5 th Edition, Table 1.4-1, 7/1998 Limited to 10% average annual capacity
03/AB2	VOC	0.979	0.43	5.5 lb/10 ⁶ ft ₃	AP-42, 5 th Edition, Table 1.4-2, 7/1998 Limited to 10% average annual



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UNCONTROLLED POTENTIAL EMISSIONS

(H designates a hazardous air pollutant, T designates a toxic air pollutant, and V designates a volatile organic compound)

Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
					capacity
03/AB2	Lead	1.63E-03	7.16E-04	9.0E-06 lb/MMBtu	AP-42, 5 th Edition, Table 1.3-10, (Updated 5/2010) Limited to 10% average annual capacity
04/CT1	PM (filterable)	1.38	6.03	0.0043 lb/MMBtu	AP-42, 5 th Edition, Vol. I, Chapter 3: Stationary Internal Combustion Sources, Section 3.1, Stationary Gas Turbines, Table 3.1-2a, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal Hours of operation = 8760 hr/yr
04/CT1	PM ₁₀ (filterable)	1.38	6.03	0.0043 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-2a, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal
04/CT1	PM _{2.5} (filterable)	1.38	6.03	0.0043 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-2a, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal
04/CT1	PM (total condensables)	2.30	10.09	0.0072 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-2a, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal
04/CT1	SO ₂	1.23	5.39	3.4E-03 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-2a, 4/2000 Max. Heat Input = 361.8 MMBtu/hr
04/CT1	NO _x	281.6	1,233.4	0.88 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-1, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000



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UNCONTROLLED POTENTIAL EMISSIONS

(H designates a hazardous air pollutant, T designates a toxic air pollutant, and V designates a volatile organic compound)

Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
					Btu/gal
04/CT1	CO	29.67	129.9	0.082 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-1, 4/2000 Max. Heat Input = 361.8 MMBtu/hr Btu content of natural gas = 1,020 Btu/ft ³
04/CT1	VOC	0.76	3.33	2.10E-03 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-1, 4/2000 Max. Heat Input = 361.8 MMBtu/hr Btu content of natural gas = 1,020 Btu/ft ³
04/CT1	Lead (H)	4.48E-03	1.96E-02	1.40E-05 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-2a, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal
05/CT2	PM (filterable)	1.38	6.03	0.0043 lb/MMBtu	AP-42, 5 th Edition, Vol. I, Chapter 3: Stationary Internal Combustion Sources, Section 3.1, Stationary Gas Turbines, Table 3.1-2a, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal Hours of operation = 8760 hr/yr
05/CT2	PM ₁₀ (filterable)	1.38	6.03	0.0043 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-2a, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal
05/CT2	PM _{2.5} (filterable)	1.38	6.03	0.0043 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-2a, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal



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UNCONTROLLED POTENTIAL EMISSIONS

(H designates a hazardous air pollutant, T designates a toxic air pollutant, and V designates a volatile organic compound)

Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
05/CT2	PM (total condensables)	2.30	10.09	0.0072 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-2a, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal
05/CT2	SO ₂	1.23	5.39	3.4E-03 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-2a, 4/2000 Max. Heat Input = 361.8 MMBtu/hr
05/CT2	NO _x	281.6	1,233.4	0.88 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-1, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal
05/CT2	CO	29.67	129.9	0.082 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-1, 4/2000 Max. Heat Input = 361.8 MMBtu/hr Btu content of natural gas = 1,020 Btu/ft ³
05/CT2	VOC	0.76	3.33	2.10E-03 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-1, 4/2000 Max. Heat Input = 361.8 MMBtu/hr Btu content of natural gas = 1,020 Btu/ft ³
05/CT2	Lead (H)	4.48E-03	1.96E-02	1.40E-05 lb/MMBtu	AP-42, 5 th Edition, Table 3.1-2a, 4/2000 Max. Heat Input = 320 MMBtu/hr Fuel Heat Content = 140,000 Btu/gal



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UNCONTROLLED POTENTIAL EMISSIONS

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Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
Unit ID 09/ TH to BC5 (Emission Point ID CH1)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	1.03E-02 4.87E-03 7.37E-04	9.92E-03 4.69E-03 7.10E-04	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	Emission equations and values for particle size multiplier (k) were obtained from AP-42, 5 th Edition, Vol. I, Chapter 13: Miscellaneous Sources, Section 13.2.4, Aggregate Handling and Storage Piles, November 2006 Quantity of material transferred = 1000 ton/hr and 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6% 99% inherent control efficiency taken into account due to enclosed coal handling
Unit ID 09/ BC5 to SH to BC7 or BC8 (Emission Point ID CH2)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	1.03E-02 4.87E-03 7.37E-04	9.92E-03 4.69E-03 7.10E-04	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Quantity of material transferred = 1000 ton/hr and 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6% 99% inherent control efficiency taken into account due to enclosed coal handling
Unit ID 09/ BC7 to CP (Emission Point ID CH3)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	1.03 0.49 0.07	0.99 0.47 0.07	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Quantity of material transferred = 1000 ton/hr and 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6%



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UNCONTROLLED POTENTIAL EMISSIONS

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Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
Unit ID 09/ BC8 to ST (Emission Point ID CH4)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	1.03 0.49 0.07	0.99 0.47 0.07	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Quantity of material transferred = 1000 ton/hr and 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6%
Unit ID 09/ ST to SR to BC8 (Emission Point ID CH4)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.23 0.11 0.02	0.99 0.47 0.07	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Quantity of material transferred = 220 ton/hr and 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6%
Unit ID 09/ ST to CP (Emission Point ID CH5)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	1.03 0.49 0.07	0.99 0.47 0.07	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Quantity of material transferred = 1000 ton/hr and 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6%
Unit ID 09/ CP to ST (Emission Point ID CH5)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.23 0.11 0.02	0.99 0.47 0.07	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Quantity of material transferred = 220 ton/hr and 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6%
Unit ID 09/ BC8 or BC9 to CH to BC10 or BC11 (Emission Point ID CH7)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	2.26E-03 1.07E-03 1.62E-04	9.92E-03 4.69E-03 7.10E-04	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Quantity of material transferred = 220 ton/hr and 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6% 99% inherent control efficiency taken into account due to enclosed coal handling



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UNCONTROLLED POTENTIAL EMISSIONS

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Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
Unit ID 09/ CP to BC9 (Emission Point ID CH8)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.23 0.11 0.02	0.99 0.47 0.07	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Quantity of material transferred = 220 ton/hr and 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6%
Unit ID 09/ BC10 or BC11 to BH (Emission Point ID CH9)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	2.26E-03 1.07E-03 1.62E-04	9.92E-03 4.69E-03 7.10E-04	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Quantity of material transferred = 220 ton/hr and 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6% 99% inherent control efficiency taken into account due to enclosed coal handling
09/CP (Emission Point ID CH10)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.86 0.42 0.13	7.11 3.51 0.91	For bulldozer operations: k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.11 For wind erosion: k _{PM} = 1 k _{PM10} = 0.5 k _{PM2.5} = 0.075	Mojave Desert AQMD Emissions Inventory Guidance for Bulldozing, Scraping and Grading of Materials Methodology and AP-42, 5 th Edition, Vol. I, Chapter 13: Miscellaneous Sources, Section 13.2.5, Industrial Wind Erosion, November 2006 Bulldozer operations = 2 bulldozers operating 16 hr/day and 11,680 hr/yr Only tpy values take into account emissions from wind erosion



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UNCONTROLLED POTENTIAL EMISSIONS

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Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
10/SIL1	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.43 0.43 0.43	1.9 1.9 1.9	0.01 grains/dsc f for PM, PM ₁₀ , PM _{2.5}	Estimated emissions based on EPA Handbook: Control Technologies for Hazardous Air Pollutants dated June 1991 Silo is equipped with a dust collector considered inherent to the process Exhaust rate = 5,000 ft ³ /min Hours of operation = 8760 hr/yr
11/SIL2	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.43 0.43 0.43	1.9 1.9 1.9	0.01 grains/dsc f for PM, PM ₁₀ , PM _{2.5}	Estimated emissions based on EPA Handbook: Control Technologies for Hazardous Air Pollutants dated June 1991 Silo is equipped with a dust collector considered inherent to the process Exhaust rate = 5,000 ft ³ /min Hours of operation = 8760 hr/yr
13/GH1	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.057 0.027 0.004	0.25 0.12 0.02	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum throughput capacity = 200 ton/hr Mean wind speed = 8.6 mph Material moisture content = 15% Hours of operation = 8760 hr/yr
13/GH2	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.057 0.027 0.004	0.25 0.12 0.02	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum throughput capacity = 200 ton/hr Mean wind speed = 8.6 mph Material moisture content = 15% Hours of operation = 8760 hr/yr



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UNCONTROLLED POTENTIAL EMISSIONS

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Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
13/GH3	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	----- ----- -----	0.042 0.021 0.0032	k _{PM} = 1 k _{PM10} = 0.5 k _{PM2.5} = 0.075	AP-42, 5 th Edition, Section 13.2.5, 11/ 2006 Maximum throughput capacity = 200 ton/hr tpy values represent emissions from wind erosion
13/GH4	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.057 0.027 0.004	0.25 0.12 0.02	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum throughput capacity = 200 ton/hr Mean wind speed = 8.6 mph Material moisture content = 15% Hours of operation = 8760 hr/yr
13/GH5	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.057 0.027 0.004	0.25 0.12 0.02	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum throughput capacity = 200 ton/hr Mean wind speed = 8.6 mph Material moisture content = 15% Hours of operation = 8760 hr/yr
13/GH6	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	3.23 0.65 0.16	9.43 1.89 0.50	k _{PM} = 0.011 k _{PM10} = 0.0022 k _{PM2.5} = 0.00054	AP-42, 5 th Edition, Vol. I, Chapter 13: Miscellaneous Sources, Section 13.2.1, Paved Roads, January 2011 Vehicle Weight = 40 tons Max. vehicle miles traveled = 1.55 VMT/hr and 9,052 VMT/yr
14/LH1	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.048 0.023 0.003	0.21 0.10 0.015	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum hourly throughput = 100 ton/hr Mean wind speed = 8.6 mph Material moisture content = 10.4% Hours of operation = 8760 hr/yr



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UNCONTROLLED POTENTIAL EMISSIONS

(H designates a hazardous air pollutant, T designates a toxic air pollutant, and V designates a volatile organic compound)

Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
14/LH2	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	----- ----- -----	0.042 0.021 0.0032	k _{PM} = 1 k _{PM10} = 0.5 k _{PM2.5} = 0.075	AP-42, 5 th Edition, Section 13.2.5, 11/ 2006 Maximum throughput capacity = 200 ton/hr tpy values represent emissions from wind erosion
14/LH3	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.048 0.023 0.003	0.21 0.10 0.015	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum hourly throughput = 100 ton/hr Mean wind speed = 8.6 mph Material moisture content = 10.4% Hours of operation = 8760 hr/yr
14/LH4	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.095 0.045 0.007	0.42 0.20 0.030	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum hourly throughput = 200 ton/hr Mean wind speed = 8.6 mph Material moisture content = 10.4% Hours of operation = 8760 hr/yr
14/LSA	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.094 0.094 0.094	0.41 0.41 0.41	0.01 grains/dsc f for PM, PM ₁₀ , PM _{2.5}	Estimated emissions based on EPA Handbook: Control Technologies for Hazardous Air Pollutants dated June 1991 Lime silo is equipped with a bin vent filter considered inherent to the process Exhaust rate = 1,100 ft ³ /min Hours of operation = 8760 hr/yr
14/LH5	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	2.21 0.44 0.11	6.45 1.29 0.32	k _{PM} = 0.011 k _{PM10} = 0.0022 k _{PM2.5} = 0.00054	AP-42, 5 th Edition, Section 13.2.1, January 2011 Vehicle Weight = 40 tons Max. vehicle miles traveled = 1.06 VMT/hr and 6,190 VMT/yr



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Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
Unit ID 15/BM1, BM3, BM4, BM5, BM7 (Emission Point ID CH20)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	1.373 0.649 0.098	0.99 0.47 0.071	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum hourly throughput = 1,333.3 ton/hr and maximum annual throughput = 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6%
Unit ID 15/BM6, BM12, BM17 (Emission Point ID CH29)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.686 0.325 0.049	0.99 0.47 0.071	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum hourly throughput = 666.7 ton/hr and maximum annual throughput = 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6%
Unit ID 15/BM17 to BM19 (Emission Point ID CH30)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.686 0.325 0.049	0.99 0.47 0.071	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum hourly throughput = 666.7 ton/hr and maximum annual throughput = 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6%
Unit ID 15/BA20, BA21, BA22 (Emission Point ID CH31)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	1.373 0.649 0.098	0.99 0.47 0.071	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum hourly throughput = 1,333.3 ton/hr and maximum annual throughput = 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6%



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Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
Unit ID 15/BB23, BB24 (Emission Point ID CH32)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.686 0.325 0.049	0.99 0.47 0.071	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Maximum hourly throughput = 666.7 ton/hr and maximum annual throughput = 1,927,200 ton/yr Mean wind speed = 8.6 mph Material moisture content = 6%
16/CM	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.65 0.31 0.047	0.65 0.31 0.05	k _{PM} = 0.74 k _{PM10} = 0.35 k _{PM2.5} = 0.053	AP-42, 5 th Edition, Section 13.2.4, 11/2006 Quantity of coal transferred = 800 ton/hr and 1,603,080 ton/yr Mean wind speed = 8.6 mph Material moisture content = 3% Coal transfer will take place in an enclosed building, estimated 70% control efficiency (inherent to the process).
16/S8200	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	2.19E-03 1.41E-03 1.41E-03	5.85E-04 3.77E-04 3.77E-04	PM = 0.73 lb/ton PM ₁₀ = 0.47 lb/ton PM _{2.5} = 0.47 lb/ton	AP-42, 5 th Edition, Vol. I, Chapter 11: Mineral Products Industry, Section 11.12, Concrete Batching, Table 11.12-2, June 2006 (Cement unloading to elevated storage silo) S-Sorb® Silo Loading Process Rate = 30 ton/hr (short term capacity) and 1.83 ton/hr (annual rate) Silo is equipped with a dust collector (inherent to the process) that has a 99.99% control efficiency (based on manufacturer data). Assuming a 100 % capture efficiency



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UNCONTROLLED POTENTIAL EMISSIONS

(H designates a hazardous air pollutant, T designates a toxic air pollutant, and V designates a volatile organic compound)

Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Emission Factor	Method for Estimating Emissions
16/S3200	PM (filterable)	2.19E-03	1.41E-03	PM = 0.73 lb/ton	AP-42, 5 th Edition, Vol. I, Chapter 11: Mineral Products Industry, Section 11.12, Concrete Batching, Table 11.12-2, June 2006 (Cement unloading to elevated storage silo) S-Sorb® Day Bin Loading Process Rate = 30 ton/hr (short term capacity) and 4.4 ton/hr (annual rate) Silo is equipped with a dust collector (inherent to the process) that has a 99.99% control efficiency (based on manufacturer data). Assuming a 100 % capture efficiency
	PM ₁₀ (filterable)	1.41E-03	9.06E-04	PM ₁₀ = 0.47 lb/ton	
	PM _{2.5} (filterable)	1.41E-03	9.06E-04	PM _{2.5} = 0.47 lb/ton	

Notes: HAP, TAP, or VOC pollutants listed above for the utility boiler (01/UB1) that reference AP-42, 5th Edition, Table 1.1-12, Table 1.1-13, Table 1.1-14, or Table 1.1-15 (9/1998), maximum heat input equals 5,500 MMBtu/hr, fuel heat content = 12,500 Btu/lb, and hours of operation = 8760 hours/year. HAP, TAP, or VOC pollutants listed above for the utility boiler (01/UB1) that reference AP-42, 5th Edition, Table 1.3-1, Table 1.3-8 or Table 1.3-9 or Table 1.3-11, (9/1998), maximum heat input equals 5,500 MMBtu/hr, fuel heat content = 140,000 Btu/gal, and hours of operation = 8760 hours/year.

Pollutants listed above for the auxiliary boilers (02/AB1 and 03/AB2) that reference AP-42, 5th Edition, Table 1.3-1, Table 1.3-2, Table 1.3-6, or Table 1.3-10, maximum heat input equals 181.6 MMBtu/hr, fuel heat content = 140,000, and a 10% annual average capacity limit is taken into account for each auxiliary boiler. Pollutants listed above for auxiliary boilers (02/AB1 and 03/AB2) that reference AP-42, 5th Edition, Table 1.4-1 or Table 1.4-2, maximum heat input equals 181.6 MMBtu/hr, fuel heat content = 1,020 Btu/ft³, and a 10% annual average capacity limit is taken into account for each auxiliary boiler.

Pollutants listed above for the combustion turbines (04/CT11 and 05/CT2) that reference AP-42, 5th Edition, Table 3.1-1 and Table 3.1-2a take into account an hours of operation = 8760 hours/year.

A facility wide limit of 0.0015% sulfur content by weight for No. 2 fuel oil is taken into account. This sulfur content limit affects the worst case of SO₂ emissions from the auxiliary boilers, however the worst case of SO₂ emissions from the combustion turbines results when burning natural gas.

CONTROLLED/LIMITED POTENTIAL EMISSIONS

Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Method for Estimating Emissions
01/UB1	PM (filterable)	79.2	346.9	Control efficiency for the electrostatic precipitator (ESP) is 99.7% for PM and PM ₁₀ (based on
01/UB1	PM ₁₀ (filterable)	18.2	79.7	



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CONTROLLED/LIMITED POTENTIAL EMISSIONS				
Unit ID/ Equip ID	Pollutant	PTE (lb/hr)	PTE (TPY)	Method for Estimating Emissions
				vendor data), assuming 100% capture efficiency
01/UB1	PM _{2.5} (filterable)	12.7	55.5	Estimated 99.2% PM _{2.5} ESP control efficiency was obtained from EPA's WebFIRE database, assuming 100% capture efficiency
01/UB1	SO ₂	4,048	17,730	Control efficiency of FGD for SO ₂ is 68% based on manufacturer data, assuming 100% capture efficiency
01/UB1	NO _x	495	2,168	*Control efficiency of SCR is 85% based on manufacturer data, assuming 100% capture efficiency
01/UB1	H ₂ SO ₄	61.8	266.5	Control efficiency of FGD for H ₂ SO ₄ is 35% based on manufacturer data, assuming 100% capture efficiency
Unit ID 15/BM1, BM3, BM4, BM5, BM7 (<i>Emission Point ID CH20</i>)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.178 0.084 0.013	0.13 0.06 0.009	Dry fog dust suppression system; estimated control efficiency of 87%, assuming 100% capture efficiency
Unit ID 15/BM6, BM12, BM17 (<i>Emission Point ID CH29</i>)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.0069 0.0032 0.0005	0.010 0.0047 0.001	Sources enclosed and use of dry fog dust suppression system; estimated control efficiency of 99%, assuming 100% capture efficiency
Unit ID 15/BM17 to BM19 (<i>Emission Point ID CH30</i>)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.0069 0.0032 0.0005	0.010 0.0047 0.001	Sources enclosed and use of dry fog dust suppression system; estimated control efficiency of 99%, assuming 100% capture efficiency
Unit ID 15/BA20, BA21, BA22 (<i>Emission Point ID CH31</i>)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.178 0.084 0.013	0.13 0.06 0.009	Dry fog dust suppression system; estimated control efficiency of 87%, assuming 100% capture efficiency
Unit ID 15/BB23, BB24 (<i>Emission Point ID CH32</i>)	PM (filterable) PM ₁₀ (filterable) PM _{2.5} (filterable)	0.0069 0.0032 0.0005	0.010 0.0047 0.001	Sources enclosed and use of dry fog dust suppression system; estimated control efficiency of 99%, assuming 100% capture efficiency

*For informational purposes, the NO_x controlled/limited potential emissions rates reflect the operation of a selective catalytic reduction control (SCR) device which is currently considered a voluntary control device.

FACILITY WIDE EMISSIONS (does not include emissions from insignificant activities)		
Pollutant	Uncontrolled Emissions	Controlled/Limited Emissions
	TPY	TPY
PM (filterable)	115,687	397
PM ₁₀ (filterable)	26,626	109
PM _{2.5} (filterable)	6,958	75
PM (total condensables)	2,479	-----



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FACILITY WIDE EMISSIONS (does not include emissions from insignificant activities)		
Pollutant	Uncontrolled Emissions	Controlled/Limited Emissions
	TPY	TPY
SO ₂	55,418	17,741
NO _x	16,964	4,678*
CO	1,133	-----
VOC (non-speciated)	65.32	-----
Lead (Pb)	0.44	-----
Single Greatest HAP (hydrogen chloride)	1200	-----
Total HAPs	1360	-----

*For informational purposes, the NO_x controlled/limited emissions rates reflect the operation of a SCR control device which is currently considered a voluntary control device.

The table below contains a list of activities which are considered insignificant pursuant to South Carolina Regulation 61-62.70.5(c). Sources listed below are not exempt from any otherwise applicable state or federal requirements including, but not limited to, opacity standards, ambient air quality standards, and air toxic standards.

INSIGNIFICANT ACTIVITIES		
Equipment ID	Source Description	Installation Date/Modification Date
IA-CTW1	Cooling Tower	1973
IA-EG1	735 Hp Powerhouse Emergency Generator (450 kW)	1973
IA-EG2	45 Hp Combustion Turbine Emergency Diesel Generator	1973
IA-EG3	340 Hp Diesel-fired Emergency Fire Pump	1973
IA-FA3	Ash Transfer: Silo 1 to Open Truck, 40 tons/hr	1984
IA-FA4	Ash Transfer: Silo 2 to Open Truck, 40 tons/hr	1984
IA-FA5	Ash Transfer: Silo 1 to Tank Truck, 40 tons/hr	1984
IA-FA6	Ash Transfer: Silo 2 to Tank Truck, 40 tons/hr	1984
IA-HTR	Space Heater < 1.5 MMBtu/hr	1973
IA-SE1	635 Hp Combustion Turbine A Diesel Starting Engine	1973
IA-SE2	635 Hp Combustion Turbine B Diesel Starting Engine	1973
IA-ST4	746,382 gallon Distillate Fuel Oil Day Tank	1973
IA-ST5	715,000 gallon Scrubber Tank	2007
IA-ST6	10,000 gallon Vehicle Fuel Storage Tank	1986
IA-ST7	20,000 gallon Used Oil Storage Tank	1973
IA-ST8	26,000 gallon Lubrication Oil Storage Tank	1993
IA-ST9	3,350 gallon Turbine A Lube Oil Reservoir	1973
IA-ST10	3,350 gallon Turbine B Lube Oil Reservoir	1973
IA-ST11	7,000 gallon Main Turbine Lube Oil Reservoir	1973
IA-ST12	60,000 gallon Anhydrous Ammonia Storage Tank 1	2002



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INSIGNIFICANT ACTIVITIES		
Equipment ID	Source Description	Installation Date/ Modification Date
IA-ST13	60,000 gallon Anhydrous Ammonia Storage Tank 2	2002
IA-ST14	2,000 gallon Gasoline Tank	2004
IA-ST15	6,000 gallon Ammonia Storage Tank (Water Treatment)	1973
IA-ST16	250 gallon Diesel Fuel Tank (intake filter area)	1973
IA-ST17	8,500 gallon Sodium Hypochlorite Tank (intake filter area)	2002
IA-ST18	pH Control System Tank 1 (Out of Service)	1984
IA-ST19	pH Control System Tank 2 (Out of Service)	1984
IA-ST20	70 gallon Diesel Fuel Tank (supplies 202 Hp Emergency Generator)	2010
IA-EG4	202 Hp Emergency Generator	2010
IA-ST22	Lime Slurry Tank (FGR System)	2007
IA-ST23	152,002 gallon Raw Water Tank 1 (FGR System)	2007
IA-ST24	93,063 gallon Raw Water Tank 2 (FGR System)	2007
IA-ST25	Catchment Tank (FGR System)	2007
IA-ST26	Equalization Tank 1 (FGR System)	2007
IA-ST27	Equalization Tank 2 (FGR System)	2007
IA-ST28	Clarifier (FGR System)	2007
IA-ST29	35,657 gallon Gypsum Slurry Tank (FGR System)	2007
IA-ST30	1,015,000 Emergency Scrubber Liquor Tank (FGR System)	2007
IA-ST31	Dewatering Tank (Fly Ash System)	1984
IA-ST32	Surge Tank (Fly Ash System)	1984
IA-ST33	Condensate Storage Tank (Out of Service)	1973
IA-ST34	6,000 gallon Sulfuric Acid Tank (Water Treatment)	1973
IA-ST35	12,000 gallon Caustic Tank (Water Treatment)	1973
IA-ST36	Condensate Storage Tank (Utility Boiler No. 1)	1973
IA-ST37	Neutralization Tank (Utility Boiler No. 1)	1973
IA-ST38	4,000 gallon Poly Phosphate Tank (Intake Water Treatment)	Prior to 1997
IA-ST39	4,000 gallon Zinc Chloride Tank (Intake Water Treatment)	Prior to 1997
IA-3500	4,000 gallon MerSorb Tank	2013
IA-EG5	175 kW Cummins Emergency Diesel Generator	2011
IA-PLC	Portable Limestone Conveyor	2013

OPERATING PERMIT STATUS The facility currently operates under a Title V permit.

REGULATORY APPLICABILITY REVIEW

Regulation	Comments/Periodic Monitoring Requirements
Section II.E - Synthetic Minor	Not Applicable. The facility is requesting a TV operating permit renewal and has established synthetic minor limits (synthetic minor construction permit 0420-0006-CL).



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Regulation	Comments/Periodic Monitoring Requirements
	The synthetic minor limits for the auxiliary boilers are in place in order to meet the 40 CFR§63.7575 definition of a limited use boiler and to meet the exemption criteria of Standard No. 5.2. Also, a facility wide synthetic minor limit on the sulfur content by weight on No. 2 fuel oil is in place.
Standard No. 1	Applicable. The Utility Boiler (UB1) and the Auxiliary Boilers (AB1 and AB2) are subject to Standard 1; see "SC Regulation 61-62.5, Standard No. 1" Table below. Start of construction of UB1 occurred prior to the February 11, 1971 applicability date, hence UB1 has a 40% opacity limit.
Standard No. 3 (state only)	Applicable. The facility is permitted to combust small quantities of waste generated by the owner/operator in accordance with 61-62.5, Standard No. 3. The types of waste allowed are specified in this TV operating permit renewal.
Standard No. 4	Applicable. Coal/synfuel, ash, limestone, gypsum, and marine barge bulk material handling activities have limits related to this standard. Process weight is defined in SC Regulation 61-62.1 as "The total weight of all materials introduced into a source operation, including air and water where these materials become an integral part of the product, and solids used as fuels but excluding liquids and gases used solely as fuels." Because the turbines burn only natural gas and distillate fuel oil, the fuel cannot be considered as part of the process weight. For these turbines, there is no other material for consideration in determining process weight, thus there is no process weight. As such, there is no determination of process weight rate and no established PM allowable emission rate for the turbines. See "SC Regulation 61-62.5, Standard No. 4" Table below.
Standard No. 5	Not Applicable. The fixed-roof petroleum storage tanks at this facility are either smaller than the 40,000 gallon capacity threshold in Section II Part O of this regulation, or their contents have a true vapor pressure below the 1.52 psia threshold across the range of operating temperatures. No other processes covered by this regulation exist at this facility.
Standard No. 5.2	Not Applicable. All the current burners at the facility were installed prior to the June 25, 2004 applicability date. However, Standard No. 5.2 will be applicable to the auxiliary boilers and turbines (AB1, AB2, CT1, CT2) if a burner assembly is replaced with another burner assembly after June 25, 2004. The Utility Boiler (UB1) is currently exempt from Standard 5.2 based on Section I(b)(6) where it states that any source that has NO _x controls pursuant to the requirements of Regulation 61-62.96, where such controls are equivalent to, or more stringent than, the requirements of Standard 5.2 are exempt. When the facility is no longer subject to SC Regulation 61-62.96 Nitrogen Oxides (NO _x) and the Sulfur Dioxide (SO ₂) Budget Trading Program, UB1 will be subject to Standard 5.2 upon burner assembly replacement. The auxiliary boilers (AB1 and AB2) are exempt from Standard 5.2 based on Section I(b)(13). A less than 10 percent per year operational condition for each auxiliary boiler has been added to this TV operating permit renewal.
Standard No. 7	Applicable. The facility is defined as a major source per PSD regulations. The facility's PTE exceeds the 100 TPY PSD major thresholds for PM, PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , CO, and



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Regulation	Comments/Periodic Monitoring Requirements
	total PM condensables. The facility was constructed prior to the original PSD regulations of 1974. The facility has not yet undertaken PSD construction projects or activity that has triggered PSD-avoidance limits. In 1979, a construction permit was issued that allowed coal combustion in UB1. Due to the UB1 boiler being originally designed to accommodate combusting coal, the Department did not deem this a modification for PSD purposes.
61-62.6	Applicable. The facility's operating practices include enclosed transfer points, application of binder materials to open material storage piles, wet suppression, dry fog suppression, enclosed conveyors, stacking tube, vapor returns, water trucks, grounds keeping, and related activities that serve to protect against undesirable levels of fugitive dust.
40 CFR 60 and 61-62.60	Applicable. The facility has emission units that are subject to SC Regulation 61-62.60 and NSPS Subparts A, Y, IIII, and OOO. The facility has processes potentially subject to the provisions of S.C. Regulation 61-62.60 and New Source Performance Standards (NSPS), 40 CFR 60 Subpart A, General Provisions and Subpart DDDD – (Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units). For further details, see discussion below of NSPS 40 CFR 60 and SC Regulation 61-62.60 applicability.
40 CFR 61 and 61-62.61	Not Applicable. The facility is not subject to any subparts under this standard.
40 CFR 63 and 61-62.63	Applicable. The facility has existing units subject to Subpart UUUUU – NESHAP: Coal-And Oil-Fired Electric Utility Steam Generating Units. The facility has existing units subject to Subpart DDDDD - NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. The diesel engines are subject to Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants: Stationary Reciprocating Internal Combustion Engines. For further details, see discussion below of NESHAP 40 CFR 63 and SC Regulation 61-62.63 applicability analysis.
61-62.68	Applicable. The facility stores anhydrous ammonia in quantities above the specified threshold and are subject to requirements under this regulation. A Risk Management Plan (RMP) was submitted to EPA and the EPA deemed it complete on February 13, 2004. On March 3, 2009, the EPA deemed the the facility's RMP was current.
61-62.72	Applicable. The facility is an affected unit under the Acid Rain Program. A Title IV Acid Rain renewal permit application from the facility was submitted and received by the Department on October 1, 2013, updated version received December 9, 2013. The Title IV Acid Rain Permit will be renewed and included as an attachment to this Title V renewal permit.
61-62.96	Applicable. The facility participates in the NO _x and SO ₂ Budget Trading Program and has applicable requirements in their TV operating permit.
40 CFR 64	Applicable. The Utility Boiler (UB1) is subject to a PM limit per Standard 1 and for the purposes of this regulation PM ₁₀ is used as a surrogate for PM. An ESP is being utilized on UB1 to comply with PM/PM ₁₀ limits and therefore the boiler is subject to CAM for PM ₁₀ . The facility will continue to use COMS to demonstrate compliance with the PM limit and meet the requirements CAM.



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AMBIENT AIR STANDARDS REVIEW

Regulation	Comments/Periodic Monitoring Requirements
Standard No. 2	Applicable. This facility has demonstrated compliance through modeling; see modeling summary dated October 27, 2015.
Standard No. 7.c	This facility has demonstrated compliance with Ambient Air Increments through modeling; see modeling summary dated October 27, 2015.
Standard No. 8 (state only)	Not Applicable. TAPs from burning virgin fuel and spec oil are not subject to this regulation.

SC Regulation 61-62.5, Standard No. 1

Unit ID	Opacity	PM Allowable lb/10 ⁶ Btu (lb/hr)	SO ₂ Allowable lb/10 ⁶ Btu (lb/hr)	Uncontrolled Emissions (lb/hr)		Controlled Emissions (lb/hr)		Monitoring
				PM	SO ₂	PM	SO ₂	
01	40%	0.24 lb/10 ⁶ Btu and 1,320 lb/hr, @ 5,500 x 10 ⁶ Btu/hr	2.3 lb/10 ⁶ Btu and 12,650 lb/hr @ 5,500 x 10 ⁶ Btu/hr	26,400	12,650	79.2	4,048	Operation of COMs, PM source testing, and SO ₂ CEMs
02	40%	0.6 lb/10 ⁶ Btu and 109 lb/hr @ 181.6 x 10 ⁶ Btu/hr	2.3 lb/10 ⁶ Btu and 417.68 lb/hr @ 181.6 x 10 ⁶ Btu/hr	2.59	92.1	None	None	Perform visual inspections on a semiannual basis when combusting No. 2 fuel oil.
03	40%	0.6 lb/10 ⁶ Btu and 109 lb/hr @ 181.6 x 10 ⁶ Btu/hr	2.3 lb/10 ⁶ Btu and 417.68 lb/hr @ 181.6 x 10 ⁶ Btu/hr	2.59	92.1	None	None	Perform visual inspections on a semiannual basis when combusting No. 2 fuel oil

SC Regulation 61-62.5, Standard No. 4

Unit ID/ Equip. ID	Opacity (%)	PM Allowable (lb/hr)	Process Weight Rate (tons/hr)	Uncontrolled PM Emissions (lb/hr)	Controlled PM Emissions (lb/hr)	Monitoring
04/CT1	40	See note 1	See note 1	1.38	None	See note 2 Semiannual visual inspections when burning No. 2 fuel oil



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SC Regulation 61-62.5, Standard No. 4						
Unit ID/ Equip. ID	Opacity (%)	PM Allowable (lb/hr)	Process Weight Rate (tons/hr)	Uncontrolled PM Emissions (lb/hr)	Controlled PM Emissions (lb/hr)	Monitoring
05/CT2	40	See note 1	See note 1	1.38	None	See note 2 Semiannual visual inspections when burning No. 2 fuel oil
09/BC5 09/BC7 09/BC8 09/SH 09/SR 09/ST 09/TH	40, (each associated emission point)	90.06	2500	2.31	None	Perform visual inspections on a semiannual basis when equipment is in operation and semiannual reports submitted.
09/BC9 09/BC10 09/BC11 09/BD 09/BH 09/CH 09/CP	40, (each associated emission point)	74.74	800	1.09	None	Perform visual inspections on a semiannual basis when equipment is in operation and semiannual reports submitted.
10/SIL1	40	42.53	40	0.43	See note 3 0.43	Perform visual inspections on a semiannual basis when equipment is in operation and semiannual reports submitted.
11/SIL2	40	42.53	40	0.43	See note 3 0.43	Perform visual inspections on a semiannual basis when equipment is in operation and semiannual reports submitted.
13/GH1 13/GH2 13/GH3 13/GH4 13/GH5 13/GH6	20, (each associated emission point)	58.51	200	3.46	None	Perform visual inspections on a semiannual basis when equipment is in operation and semiannual reports submitted.



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SC Regulation 61-62.5, Standard No. 4						
Unit ID/ Equip. ID	Opacity (%)	PM Allowable (lb/hr)	Process Weight Rate (tons/hr)	Uncontrolled PM Emissions (lb/hr)	Controlled PM Emissions (lb/hr)	Monitoring
14/LH1 14/LH2 14/LH3 14/LH4 14/LSA 14/LH5	<i>20, (each associated emission point)</i>	58.51	200	2.50	None	Perform visual inspections on a semiannual basis when equipment is in operation and semiannual reports submitted.
15/BM1 15/BM3 15/BM4 15/BM5 15/BM6 15/BM8 15/BM17 15/BA20 15/BA22 15/BB23	<i>20, (each associated emission point)</i>	82.95	1500	4.80	0.38	Perform visual inspections on a semiannual basis when equipment is in operation and semiannual reports submitted.
16/CM	20	74.74	800	0.65	0.65	Perform visual inspections on a semiannual basis when equipment is in operation and semiannual reports submitted.
16/S8200	20	40.04	30	2.19E-03	2.19E-03	Perform visual inspections on a semiannual basis when equipment is in operation and semiannual reports submitted.
16/S3200	20	40.04	30	2.19E-03	2.19E-03	Perform visual inspections on a semiannual basis when equipment is in operation and semiannual reports submitted.

(1) There is no process weight rate associated with these sources.



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- (2) CT1 and CT2 can be fired on natural gas or No. 2 fuel oil. Burning No. 2 fuel oil results in higher PM emissions (represented in the table above), therefore semiannual visual inspections will be conducted when burning No. 2 fuel oil.
- (3) Uncontrolled emissions equal controlled emissions where controls are considered inherent to the process.

NSPS 40 CFR 60 and Regulation 61-62.60 Applicability Analysis:

To any of the equipment listed below where requirements of NSPS 40 CFR 60 Subparts are applicable, NSPS 40 CFR 60, Subpart A-General Provisions will apply as well.

NSPS 40 CFR 60 Subpart D - Standards of Performance for Fossil-Fuel-Fired Steam Generators

NSPS 40 CFR 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units

NSPS 40 CFR 60 Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units

NSPS 40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

The Utility Boiler (UB1) and Auxiliary Boilers (AB1 and AB2) commenced construction in 1969, prior to the applicability dates for Subparts D, Da, Db, and Dc. No activities have taken place with these units that would be deemed a modification for the Subparts. UB1, AB1, and AB2 are not subject to Subparts D, Da, Db, or Dc at this time.

NSPS 40 CFR 60, Subpart GG - Standards of Performance for Stationary Gas Turbines

Combustion turbines CT1 and CT2 commenced construction prior to October 3, 1977 and have not undergone modification or reconstruction and are therefore not subject to the requirements of Subpart GG.

NSPS 40 CFR 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984

All storage tanks at the facility are not subject to Subpart Kb since the tanks commenced construction prior to July 23, 1984, store liquids with true vapor pressures below Standard applicability, and/or have not been reconstructed or modified after July 23, 1984.

NSPS 40 CFR 60 Subpart Y - Standards of Performance for Coal Preparation Plants and Processing Plants

The facility has processes that meet the definition of this Subpart. The facility began installation of coal handling processes/operations in 1979 and the barge unloading process in 2007, after the applicability date (October 24, 1974). The overall process involves no thermal dryers or pneumatic coal cleaning equipment. Construction Permit #0420-006-CJ (issued May 24, 2013) involved modifications to the coal handling operations (addition of Chem-Mod process), therefore Subpart Y is applicable per §60.250(d). Applicable units, as part of Chem-Mod process, are not equipped with mechanical vents and are therefore not subject to the PM limits that are set forth by this standard, however, a 10% opacity limit is applicable, per §60.254(b)(1).

NSPS 40 CFR 60 Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants

The limestone handling and gypsum handling systems process material that is considered to be nonmetallic mineral per 40 CFR 60.671. These systems were installed after the August 31, 1983 applicability date and are subject to Subpart OOO.



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NSPS 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Combustion Engines

All the existing diesel generators, except for the 202 Hp and 175 kW emergency generators, located at this facility were installed prior to the applicability dates of this regulation and are therefore not subject to Subpart IIII. The 202 Hp emergency generator and the 175 kW emergency diesel generator listed as insignificant activities were installed after the applicability dates of this regulation and are therefore subject to Subpart IIII.

NSPS 40 CFR 60, Subpart KKKK - Standards of Performance for Stationary Combustion Turbines

Subpart KKKK is applicable to stationary combustion turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005. The turbines at the facility commenced construction prior to February 18, 2005 and have not undergone modification or reconstruction, therefore the turbines are not subject to Subpart KKKK.

NSPS 40 CFR 60 Subpart DDDD - Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration (CISWI) Units that Commenced Construction on or Before November 30, 1999

The facility has processes potentially subject to the provisions of Subpart DDDD. The facility plans to maintain documentation for Williams Station that the used oil burned in the boilers meets the legitimacy criteria in the regulation. Also, placeholder language has been added as a condition to this TV permit to cover the facility's requirements when a solid waste is or is not combusted.

NSPS 40 CFR Part 60 – Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units

The EPA Administrator has signed the notice on August 3, 2015 and the EPA is submitting it for publication in the Federal Register. The final rule is effective 60 days after publication in the Federal Register. The official version of the final rule for purposes of compliance will be in a forthcoming Federal Register publication. States with one or more affected EGUs are required to develop and implement plans that set emission standards for affected EGUs. The state plans must be submitted to EPA in 2016, though an extension to 2018 is available. The facility has affected EGUs and is subject to the rule, however a state plan will need to be developed and in place before the owner/operator of the facility will know what actions need to be taken to demonstrate compliance.

NESHAP 40 CFR 63 and Regulation 61-62.63 Applicability Analysis:

To any of the equipment listed below where requirements of NESHAP 40 CFR 63 Subparts are applicable, NESHAP 40 CFR 63, Subpart A-General Provisions will apply as well.

NESHAP 40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Subpart ZZZZ is applicable if the facility owns or operates a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand. The diesel generators are subject to the provisions of this Subpart.

NESHAP 40 CFR 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters



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Subpart DDDDD is applicable if the facility owns or operates an industrial, commercial, or institutional boiler or process heater as defined in §63.7575 that is located at, or is part of, a major source of HAP, except as specified in §63.7491. Per §63.7491(a), an electric utility steam generating unit covered by Subpart UUUUU is not subject to Subpart DDDDD. UB1 is subject to Subpart UUUUU and is therefore not subject to Subpart DDDDD. Per §63.7490(a)(2), AB1 and AB2 are affected sources as part of this Subpart and conditions are added to the permit to address this regulation. Each of the auxiliary boilers (AB1 and AB2) meet the definition of a limited use boiler, see §63.7575.

NESHAP 40 CFR 63, Subpart UUUUU - National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

Per §63.9981, the Subpart is applicable if the facility owns or operates a coal-fired EGU or an oil-fired EGU as defined in §63.10042 of the Subpart. UB1 meets the definition of a coal-fired EGU listed under §63.10042, however AB1 and AB2 do not meet the definition of an oil-fired EGU. Per §63.9982, UB1 is an existing affected source of this Subpart and according to §63.9984(b) must be in compliance with the Subpart. A generic condition will be added to the permit to address this regulation.

PUBLIC NOTICE

This Title V Permit will undergo a 30-day public notice period and a 45-day EPA sequential review period in accordance with SC Regulation 61-62.1, Section II(N). This permit was placed in the *Berkeley Independent* on February 24, 2016. The comment period was open from February 24, 2016 to March 24, 2016 and was placed on the BAQ website during that time period. Comments were received during the public notice period. The following items have been modified based on comments received, clarification, and correction of typographical errors.

- 1) Corrected a typographical error in the statement of basis to reflect 79.7 TPY for the PM10 filterable PTE for controlled/limited potential emissions of Unit ID 01.
- 2) Corrected a typographical error in the statement of basis to reflect a PM controlled emission rate (lb/hr) of 79.2 for Unit ID 01 in the SC Regulation 61-62.5, Standard No. 1 Table.
- 3) The draft permit and statement of basis have been updated to reflect that the start of construction of UB1 commenced in 1969, but wasn't commercially available until 1973. SC Regulation 61-62.5, Standard No. 1 applicability has also been clarified.
- 4) Placeholder language for potential applicability to the provisions of S.C. Regulation 61-62.60 and New Source Performance Standards (NSPS), 40 CFR 60 Subpart A, General Provisions and Subpart DDDD – (Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units) has been added as a TV condition.

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.