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March 15, 2010

083-87593

Mr. Ajaya Satyal
Florida Department of Environmental Protection
2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33901-3875

MAR 16 2010
BUREAU OF
AIR REGULATION

RE: **OKEELANTA CORPORATION SUGAR MILL AND REFINERY
FACILITY ID NO. 0990005
SPECIALTY SUGAR PROJECT - EXEMPTION NOTIFICATION**

Dear Mr. Satyal:

Okeelanta Corporation (Okeelanta) owns and operates a sugar mill and refinery located in Palm Beach County, Florida. The facility is currently operating under Title V Permit No. 0990005-012-AV. Okeelanta is planning to install equipment that will be used for production of a new specialty sugar product. The purpose of this letter is to notify the Florida Department of Environmental Protection (FDEP) that this project is exempt from the requirement to obtain an air construction permit per Rule 62-210.300(3)(a), Florida Administrative Code (F.A.C.). Okeelanta also requests verification from FDEP that the proposed project will be an insignificant source pursuant to Rule 62-213.430(6)(b), F.A.C.

Okeelanta is proposing to install a small natural gas-fired boiler to provide steam for the production of the new product. The project will also require the installation of a sugar receiving bin filter unit that will vent to the atmosphere. The equipment will be located in a warehouse separate from the existing refinery buildings used for production of sugar. Refined sugar will be transferred from the existing refinery or refined sugar silo to the proposed specialty sugar process to be located in the northeast corner of Warehouse No. 3, west of the refinery.

Refined sugar will be transferred into the receiving bin pneumatically from the refinery curing bins or the refined sugar silo. Refined sugar from the refinery and the distribution center will also be transferred to the new process in hoppers of 1-2 tons each. The hoppers will be emptied into a collecting hopper located inside the No. 3 warehouse. The collecting hopper will be equipped with a screw conveyor at the base which will feed sugar into the receiving bin.

The proposed boiler is a 300-horsepower (hp) Cleaver Brooks model CBLE 200 fire tube boiler with a heat input rating of 12.17 million British thermal units per hour (MMBtu/hr). The boiler will fire only natural gas and would consume a maximum of 105 million standard cubic feet (MMscf) per year if operated continuously. Vendor supplied specifications, dimensions, and emission rates are presented in Attachment A.

The receiving bin filter unit is an inherent process component for the production of the new specialty sugar product. The filter unit will use MAC Equipment dacron polyester bags to filter refined sugar product from the receiver bin exhaust. The manufacturer has guaranteed the filter media to be 99.99 percent efficient with an exhaust grain loading of no more than 0.010 grain per dry standard cubic foot. The design exhaust flow rate for the receiving bin is 3,000 cubic feet per minute (cfm). The filter unit is an inherent component of the process since it will be used to recover refined sugar product from the receiving bin exhaust and the receiving bin, exhaust filter, and boiler are required solely for the production of the specialty sugar. The vendor supplied emission guarantee for the receiving bin filter bags is presented in Attachment B.

Okeelanta has determined that the boiler will meet the exemption criteria contained in Rule 62-210.300(3)(a), F.A.C. This rule provides categorical and conditional air construction permit exemption criteria. Rule 62-210.300(3)(a)34, F.A.C., provides conditional air construction permit exemption criteria for fossil fuel steam generators with a heat input capacity less than 100 MMBtu/hr, based on certain conditions. The conditions in Rule 62-210.300(3)(a)34.e, F.A.C., limit the annual amount of fuel burned by each unit to 150 MMscf of natural gas. The conditions in Rule 62-210.300(3)(a)34.g, F.A.C., limit the total annual amount of fuel burned by all units at the facility claiming this exemption to 375 MMscf of natural gas. However, there are no other units at the Okeelanta facility claiming this exemption.



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Potential annual emissions for the proposed boiler and the receiving bin filter are presented in Tables 1 and 2. Emissions for the boiler were calculated using the emission rates provided by Cleaver Brooks for the natural gas-fired CB-LE "30 ppm" model. Particulate emissions from the receiving bin filter were calculated using the design air flow rate and manufacturer guaranteed emission rate. Total potential annual emissions for each criteria pollutant [carbon monoxide (CO), nitrogen oxides (NO_x), total particulate matter (PM), sulfur dioxide (SO₂), and volatile organic compounds (VOCs)] are calculated to be less than 5 tons per year (TPY) for the entire process.

Based on the calculated potential emissions for the filter unit and the natural gas boiler, Okeelanta has determined that the proposed units will meet the requirements of the Generic Emissions Unit or Activity Exemption provided in Rule 62-210.300(3)(b)1, F.A.C. This rule exempts equipment from any requirement to obtain an air construction permit if it is not subject to any unit-specific applicable requirement and would not have the potential to emit:

- 500 pounds per year (lb/yr) or more of lead
- 1,000 lb/yr or more of any hazardous air pollutant (HAP)
- 2,500 lb/yr or more of total HAPs
- 5.0 TPY or more of any other regulated pollutant

No unit-specific requirement applies to the proposed Cleaver Brooks model CBLE 200 natural gas-fired boiler. New Source Performance Standards (NSPS) for Small Industrial, Commercial, Institutional Steam Generating Units [Title 40, Part 60 of the Code of Federal Regulations (40 CFR 60), Subpart Dc] are applicable to boilers with a maximum design heat input capacity equal to or greater than 10 MMBtu/hr, but less than or equal to 100 MMBtu/hr and manufactured after June 9, 1989. Since the boiler will fire only natural gas, only a record keeping requirement would apply (i.e., fuel usage records) under this NSPS. The 40 CFR 60 Subpart Dc record keeping requirement is not a unit-specific requirement according to Rule 62-210.200(322)(a) F.A.C. No unit-specific requirements are applicable to the receiving bin filter unit.

Additionally, Okeelanta requests that the proposed natural gas boiler and receiving bin filter unit be included in the Title V permit as an insignificant source pursuant to Rule 62-213.430(6)(b), F.A.C., upon permit renewal. This rule allows for the designation of an emissions unit as insignificant if it meets the same criteria described above for Rule 62-210.300(3)(b)1, F.A.C.

We request that FDEP provide confirmation in writing that the proposed project is exempt from air permitting. Please call or email if you need any additional information.

Sincerely,

GOLDER ASSOCIATES INC.



David A. Buff, P.E., Q.E.P.
Principal Engineer



Jeremy D. Paul, E.I.
Staff Engineer

cc: William Tarr, Florida Crystals
Matthew Capone, Okeelanta
Jeff Koerner, P.E., FDEP

Attachments

DB/tlc

**TABLE 1
POTENTIAL EMISSIONS
CLEAVER BROOKS MODEL CB-LE BOILER**

Annual Operating Hours	8,760	
Heat Input Rate	12.17	MMBtu/hr
Heating Value	1,020	Btu/scf
Annual Heat Input	106,633	MMBtu/yr
Amount of Natural Gas Burned:	104.54	10 ⁶ scf/yr

Pollutant	Emission Factor (lb/MMBtu)^a	Potential Emission Rate (TPY)
CO	0.04	2.13
NO _x	0.035	1.87
PM	0.01	0.53
SO ₂	0.001	0.05
HC/VOC	0.016	0.85

^a Emission rates provided in Cleaver Brooks "Boiler Book".
Natural gas fired Model CB-LE Boiler data for "30 ppm" model.

Checked By: DB
Reviewed By: DB

**TABLE 2
POTENTIAL EMISSIONS
RECIEVER DUST COLLECTOR**

Annual Operating Hours	8,760	cfm grains/dscf
Air Flow Rate	3,000	
Emission Rate ^a	0.010	
Air to Cloth Ratio	4.1:1	
No. Of Bags in Filter	80	
Potential Emission Rate		
Pollutant	(lb/hr)	(TPY)
PM	0.26	1.13

^a Based on manufacturer guaranteed emission rate for MAC Equipment Dust Collector. Using dacron polyester bags.

Checked By: DB
Reviewed By: DB

ATTACHMENT A
NATURAL GAS BOILER SPECIFICATIONS

Table A3-9. Predicted Fuel-to-Steam Efficiencies - No. 2 Oil

BOILER HP	OPERATING PRESSURE = 10 psig				OPERATING PRESSURE = 125 psig			
	% OF LOAD				% OF LOAD			
	25%	50%	75%	100%	25%	50%	75%	100%
125	86.7	86.9	86.7	86.6	83.7	84.2	84.3	84.3
150	87.8	88.0	87.8	87.6	84.8	85.3	85.3	85.4
200	88.4	88.7	88.4	88.2	85.6	86.0	86.0	86.0
250	88.3	88.1	87.4	86.7	85.3	85.3	84.9	84.7
300	88.6	88.7	88.0	87.3	85.9	86.0	85.5	85.2
350	88.6	89.0	88.5	87.8	85.9	86.6	86.1	85.8
400	87.9	88.1	87.9	87.6	85.1	85.5	85.6	85.5
500	88.9	89.0	88.9	88.6	86.1	86.5	86.6	86.4
600	89.0	89.4	89.2	89.0	86.2	86.8	86.9	86.8
700	89.1	89.5	89.3	89.1	86.3	86.9	87.0	86.9
750, 800	89.2	89.5	89.3	89.0	86.4	86.9	87.0	86.8

Table A3-10. CB-LE Boilers - Natural Gas, Emission Levels

POLLUTANT		ESTIMATED LEVEL			
		60 ppm	30 ppm	25 ppm	20 ppm
CO	ppm ^A lb/MMBtu	200 0.15	50/150 ^B 0.04/0.11	50/150 ^B 0.04/0.11	200 0.15
NOx	ppm ^A lb/MMBtu	60 0.07	30 0.035	25 0.03	20 0.024
SOx	ppm ^A lb/MMBtu	1 0.001	1 0.001	1 0.001	1 0.001
HC/VOC ₅	ppm ^A lb/MMBtu	40 0.016	40 0.016	40 0.016	40 0.016
PM	ppm ^A lb/MMBtu	- 0.01	- 0.01	- 0.01	- 0.01

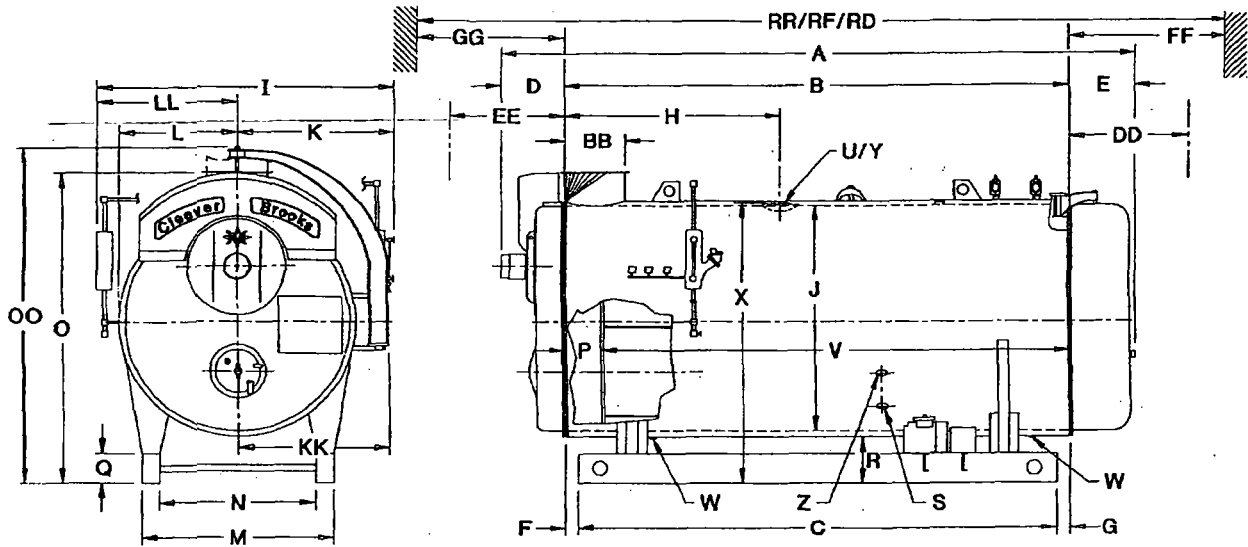
A. ppm levels are given on a dry volume basis and corrected to 3% oxygen (15% excess air).
 B. CO emission for 30 & 25 ppm system is 50 ppm (0.04 lb/MMBtu) when boiler is operating above 50% of rated capacity. CO emission is 150 ppm (0.11 lb/MMBtu) when boiler is operating below 50% of rated capacity.

Table A3-11. CB-LE Boilers - No. 2 Oil, Emission Levels

POLLUTANT		ESTIMATED LEVEL	
		60 ppm LE Option	30, 25, 20 ppm LE Option
CO	ppm ^A lb/MMBtu	90 0.07	90 0.07
NOx	ppm ^A lb/MMBtu	185 0.25	140 0.187
SOx	ppm ^A lb/MMBtu	278 0.52	278 0.52
HC/VOCs	ppm ^A lb/MMBtu	50 0.025	60 0.030
PM	ppm ^A lb/MMBtu	- 0.025	- 0.025

A. ppm levels are given on a dry volume basis and corrected to 3% oxygen (15% excess air).
 BASED ON THE FOLLOWING CONSTITUENT LEVELS:
 Fuel-bound Nitrogen content = 0.05% by weight.
 Sulfur content = 0.5% by weight.
 Ash content = 0.01% by weight.

Model CB (LE) Boiler Dimensions and Ratings



BOILER HP	DIM	250	300	350
LENGTHS				
Overall (60 ppm System)	A	191-1/2	220	252
Shell	B	144	171	201
Base Frame	C	143	170	200
Front Head Extension (60 ppm System)	D	23-1/2	25	28
Rear Head Extension	E	24	24	24
Front Ring Flange to Nozzle - 15 lb	H	72	85-1/2	100-1/2
Front Ring Flange to Nozzle - 150 lb	H	59-1/2	73	88
Ring Flange to Base	F&G	1/2	1/2	1/2
Over Tubesheets	V	129	156	186
Shell Extension	P	15	15	15

Figure 1B. Model CB (LE) Steam Boiler Dimensions, 78' (15-150psig Design Pressure) - Sheet 1 of 2

Model CB (LE) Boiler Dimensions and Ratings

BOILER HP	DIM	250	300	350
WIDTHS				
Overall	I	103	103	103
I.D. Boiler	J	78	78	78
Center to Water Column	K	54	54	54
Center to Outside Hinge	KK	51	51	51
Center to Lagging	L	42	42	42
Center to Auxiliary LWCO	LL	49	49	49
Base, Outside	M	64	64	64
Base, Inside	N	52	52	52
HEIGHTS				
Base to Steam Outlet	X	96	96	96
Overall	OO	115	115	115
Base to Vent Outlet	O	106	106	106
Height of Base	Q	10	10	10
Base to Bottom of Boiler	R	17	17	17
BOILER CONNECTIONS				
Feedwater, Right and Left	S	2	2	2-1/2
Chemical Feed	Z	1	1	1
Low Pressure (15 lb only) Steam Nozzle Drain, Front and Rear	U W	10 ^A 2	12 ^A 2	12 ^A 2
High Pressure (150 lb only) Surface Blowoff, Top C _L Steam Nozzle Blowdown, Front and Rear	T Y W	1 6 ^B 1-1/2	1 6 ^B 1-1/2	1 6 ^B 1-1/2
VENT STACK				
Diameter (fgd. connection)	BB	20	20	20
MINIMUM CLEARANCES				
Rear Door Swing	DD	43	43	43
Front Door Swing	EE	89	89	89
Tube Removal, Rear	FF	131	157	187
Tube Removal, Front	GG	116	142	172
MINIMUM BOILER ROOM LENGTH ALLOWING FOR DOOR SWING AND TUBE REMOVAL FROM:				
Rear of Boiler	RR	364	417	477
Front of Boiler	RF	303	356	416
Thru Window or Doorway	RD	275	302	332
WEIGHT IN LBS				
Normal Water Capacity		10670	13000	15465
Approx. Ship Wgt - 15 psig		21500	23600	26800
Approx. Ship Wgt - 150 psig		22800	25200	27800
Approx. Ship Wgt - 200 psig		24400	27200	29300

NOTES: All connections are threaded unless indicated.
A. ANSI 150 psig flange.
B. ANSI 300 psig flange.

Figure 1B. Model CB (LE) Steam Boiler Dimensions, 78' (15-150psig Design Pressure) - Sheet 2 of 2

ATTACHMENT B
RECEIVING BIN FILTER SPECIFICATIONS



**FILTER EMISSIONS STATEMENT
FOR
16 oz. Dacron Polyester Bags**

Customer: American Sugar Refining, Inc.
Reference: Quote 09Q-480 Rev D
Equipment: MAC 72AVR80, Style III-SPC
Application: Filter/Receiver / Extra Fine Granular Sugar / 3000 CFM / 46,000 PPH

MAC Equipment, Inc. warrants its filters to be free of mechanical defects for a period of one year from the date of shipment in accordance with the "Warranty and Limitation" statement included with the original proposal.

MAC Equipment, Inc. warrants the emissions of its new 16 oz. Dacron Polyester bags, when properly installed, applied and maintained, and when operated per the design parameters referenced in the original proposal and in accordance with the manufacturers operations manuals, to emit no more than 0.010 gr / dscf of air based on an inlet loading of 1,789 gr / dscf, this media will be 99.99% efficient on particles sizes 2 micron and larger.

We understand the particle distribution of this product as given to us by American Sugar Refining, Inc. to be:

<u>Mesh Size</u>	<u>Percentage</u>
20	3.3
30	21.5
40	35.9
50	25.5
70	12.3
100	.9
Thru 100	.6

The Buyer will be responsible for any emissions testing expense and MAC Equipment Inc. reserves the right to be present during any emission tests and shall be notified at least 2 weeks prior to the testing. Emissions testing must be conducted within 30 days of start-up, or 60 days from equipment shipment.

MAC Equipment, Inc.

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Misuse, abuse, operating outside the stated parameters, and / or water, oil, or hydrocarbons will void the emissions expectation. MAC Equipment, Inc. shall not be held responsible for any failures or excess emissions due to upset operating conditions.

Under no circumstances will MAC Equipment, Inc. be liable or responsible for incidental or consequential damages.

Equipment Data:

Type of Filter Media: 16 oz Dacron Polyester with stainless ground wire

Filter Bag Information:

Diameter: 6-inches

Length: 72-inches

Support: Internal bag cage

Filter media per bag: 9.1 Square Feet

No. of bags in filter/receiver: 80

Total filter area: 728 Square Feet

Air to cloth ratio: 4.1:1 at 3,000 SCFM

Ca n Velocity: 64 FPM

Type of filter bag cleaning: Reverse Pulse Jet

Michael D. Stephens
Stephens & Krizner Co., Inc.
MAC Equipment, Inc. Sales Representative
February 18, 2010

MAC Equipment, Inc.

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