Permit No. 0990005-033-AV

(Revision of Permit No. 0990005-024-AV
and Administrative Correction to Permit No. 0990005-032-AV)

Okeelanta Corporation (ARMS Facility ID No. 0990005)
New Hope Power Company (ARMS Facility ID No. 0990332)

1. GENERAL INFORMATION

Facility Description and Location

The facility consists of two adjacent plants. Okeelanta Corporation (ARMS ID No. 0990005) operates an existing sugar mill (SIC No. 2061) and sugar refinery (SIC No. 2062) including sugar packaging and transshipment activities. New Hope Power Company (ARMS ID No. 0990332) operates an existing cogeneration plant that provides process steam for the sugar mill and refinery operations as well as generating electricity for sale to the power grid (SIC 4911). The existing facility is located in Palm Beach County at 21250 U.S. Highway 27 South, South Bay, Florida. The adjacent plants are considered a single facility for purposes of the PSD and Title V regulatory programs. The primary sources of air pollution include: three 760 MMBtu per hour cogeneration boilers; transfer and storage of sugar; and a paint spray booth. The facility includes other miscellaneous unregulated emissions units and activities.

State Regulations

The facility is subject to the applicable environmental laws specified in Chapter 403 of the Florida Statutes (F.S.), which authorize the Department of Environmental Protection (Department) to establish rules and regulations regarding air quality as part of the Florida Administrative Code (F.A.C.). The facility is subject to applicable portions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297, F.A.C. The specific applicable regulations are summarized under the corresponding section for the emissions units.

Federal Regulations

The Environmental Protection Agency establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 identifies New Source Performance Standards (NSPS) for a variety of industrial activities. Part 61 specifies the National Emissions Standards for Hazardous Air Pollutant (NESHAP) based on specific pollutants. Part 63 identifies NESHAP based on the Maximum Achievable Control Technology (MACT) for given source categories. The Department adopts these federal regulations in Rule 62-204.800, F.A.C. The specific applicable regulations are summarized under the corresponding section for the emissions units.

Regulatory Categories

- The facility is a major source of hazardous air pollutants.
- The facility does not operate any units subject to the Title IV acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source of air pollution in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.
- The facility is subject to Chapter 62-17, F.A.C. for power plant site certification because it produces more than 75 megawatts (MW) of steam-generated electrical power. [Site Certification No. PA 04-46]
- Existing units are subject to the following NSPS in Part 60 of Title 40, the Code of Federal Regulations (CFR): Subpart A (General Provisions), Subpart Da (Electric Utility Steam Generating Units) and Subpart Db (Industrial-Commercial-Institutional Steam Generating Units).
- Units are subject to 40 CFR 63 Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. [Rule 62-213.440, F.A.C.]

Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of this permit.

Regulated Emissions Units

ARMS ID No. 0990005 – Okeelanta Corporation

EU No.	Emissions Unit Description	Process Area
014	(Deleted) - *(Boiler No. 16)*	Sugar Mill
018	Central Vacuum System	Transshipment Facility
019	Sugar packaging Lines 0-9, including 8A and 8B	Transshipment Facility
020	Sugar Grinder/Hopper	Transshipment Facility
021	Rotary Dryer, Central Dust Collection System No. 1 with Rotoclone No. 1	Sugar Refinery
022	*"B" System – Wet Roto-clone* (No.2)	Sugar Refinery
023	Cooler No. 1 with Rotoclone No. 3	Sugar Refinery
024	Cooler No. 2 with Rotoclone No.4	Sugar Refinery
025	Fluidized Bed Dryer/Cooler with Baghouse	Sugar Refinery
030	Sugar Silos Nos. 1, 2, and 3	Transshipment Facility
031	Railcar Sugar Unloading Receiver 1	Transshipment Facility
032	Railcar Sugar Unloading Receiver 2	Transshipment Facility
034	Bulk Load-Out Operation	Sugar Refinery
035	Transfer Bulk Load-Out Operation	Sugar Refinery
043	Sugar Refinery Alcohol Usage	Sugar Refinery
045	Powdered Sugar Dryer/Cooler, Packaging Line 8A and 8B	Transshipment Facility
046	Powdered Sugar Hopper	Transshipment Facility
047	Sugar packaging Lines 12, 13 and 14	Transshipment Facility
048	Paint Booth	Okeelanta Shop
049	Baghouse - (Inactive)	Transshipment Facility
054	*"A" System - Wet Roto-clone (No. 6)*	*Sugar Refinery*
055	*"C" System - Wet Roto-clone (No. 7)*	*Sugar Refinery*

{Permitting Note: Okeelanta Corporation's sugar mill boilers (EU-001 - EU-013) and (EU-014) have been permanently shutdown.}

ARMS ID No. 0990332 – New Hope Power Company

EU No.	Emissions Unit Description	Process Area
001	Cogeneration Boiler A	Cogeneration Plant
002	Cogeneration Boiler B	Cogeneration Plant
003	Cogeneration Boiler C	Cogeneration Plant
004	Cogeneration Plant - Materials Handling and Storage	Cogeneration Plant

Unregulated and/or Insignificant Emissions Units and/or Activities

ARMS ID No. 0990005 – Okeelanta Corporation

EU No.	Emissions Unit Description	Process Area
015	Deleted – *(Was Fuel Storage Tank*)	Sugar Mill
016	Deleted – *(Was Fuel Storage Tank)*	Sugar Mill
017	Deleted – *(Was Fuel Storage Tank)*	Sugar Mill
033	Sugar Refinery Miscellaneous Support Equipment	Sugar Refinery
036	Shop Operations	Sugar Mill
037	Sugar Mill Boiler House	Sugar Mill
038	Sugarcane Dumping Area	Sugar Mill
039	Sugarcane Processing Facility	Sugar Mill
040	Fuel Farm	Sugar Mill
041	Potable Water System	Sugar Mill
042	Sewer Plant	Sugar Mill
044	Okeelanta Facility - Miscellaneous Unregulated Activities	Okeelanta Facility
050	Transshipment Facility, Miscellaneous Support Equipment	Transshipment Facility

The following activities are considered insignificant pursuant to Rule 62-213.430(6), F.A.C.

018	*Hi-Vac Industrial Vacuum System*	• *Trans-shipment Facility*
026	*Printing Operation*	• *Trans-shipment Facility*

The following emission units have been determined by the Department to be <u>EXEMPT</u> from permitting.

057	*Specialty Sugar Product*	• *300 hp gas-fired package boiler (Refined Sugar Warehouse No. 3)*
058	*Sugar Bin with Dust Collector*	• *(Refined Sugar Warehouse # 3)*
052	*Bulk Transfer Station*	• *Wet Roto-clone No. 5*
051	*Refined Sugar Silo*	• *Baghouse*
029	*Packaging Line 10*	• *Baghouse (Located in Sugar Refinery)*

ARMS ID No. 0990332 – New Hope Power Company

EU No.	Emissions Unit Description	Process Area
005	Cogeneration Plant – Miscellaneous Support Equipment	Cogeneration Plant

Regulated Pollutants

Criteria Pollutants

Emissions units at this facility may emit one or more of the following criteria air pollutants: carbon monoxide (CO), nitrogen oxides (NO_X), sulfur dioxide (SO_2), particulate matter (PM); particulate matter with a mean particle diameter of 10 microns or less (PM_{10}), volatile organic compounds (VOC) and lead (Pb).

Other Regulated PSD Pollutants

In addition to the above criteria air pollutants, emissions units at this facility may emit one or more of the following PSD pollutants: fluorides (F); sulfuric acid mist (SAM); and mercury (Hg).

Hazardous Air Pollutants

Emissions units at this facility may emit one or more hazardous air pollutants (HAP) as defined in Rule 62-210.200, F.A.C.

Brief Project Description

The purpose of this project is to revise the Title V air operation permit (Permit No. 0990005-024-AV) for the sugar mill, refinery and transshipment facilities operated by the Okeelanta Corporation as well as the cogeneration plant operated by New Hope Power Company. The renewed permit incorporates the applicable requirements of the following recent air construction permits:

- Permit No. 0990332-016-AC (PSD-FL-196O), which revised the heat input rates for the cogeneration boilers;
- Permit No. Project No. 0990332-017-AC (PSD-FL-196P), which revised the electrical power generating capacity for the cogeneration boilers;
- Permit No. 0990005-015-AC, which modified the paint spray booth;
- Permit No. 0990005-016-AC, which is an air construction permit processed concurrently with the Title V permit to revise several miscellaneous underlying air construction permit conditions;
- Permit No. 0990005-018-AC, which restricts Boiler 16 to a 10% annual capacity factor;
- Permit Nos. 0990005-019-AC and 0990005-023-AC, which modified the transshipment facility; and
- Permit No. 0990005-021-AC, which modified the sugar mill refinery.
- Permit No. 0990005-022-AV, Administrative Correction to Transfer of Air Permit ID0990332 to be combined with project 017.
- Permit No. 0990005-023-AC, Add baghouse to Transhipment facility and modify process.
- Permit No. 0990005-024,-AV Administrative Correction to Permit 0990005-017-AV; correct expiration and renewal dates.
- Permit No. 0990005-025-AC, Baghouse permit exemption, Bulk Transfer Station & Refined Sugar Silo.
- Permit No. 0990005-026-AC, Exempt – Label Printing Operation.
- Permit No. 0990005-027-AC, Construction Permit to Modify EU-022 and add two (2) new Roto-clone Units (EU-054 and EU-055).
- Permit No. 0990005-028-AC, Exempt Jaw Crusher (7775606-001-AG), Fintec Model No. 1107.
- Permit No. 0990005-029-AC, Exempt Packaging line 10 baghouse.

- Permit No. 0990005-030-AC, Adm. Corr. to 0990005-029-AC EXEMPT letter.
- Permit No. 0990005-031-AC, Exempt temporary crusher, portable jaw crusher ID 7775606-001-AG, (furnished and operated by a 3rd party).
- Permit No. 0990005-032-AV, revises operating permit No. 0990005-024-AV to incorporate the changes made by Construction permit No.0990005-027-AC, updates Appendix UI, and removes Boiler No. 16 (EU-014) and three (3) NSPS storage tanks, (EU-015, EU-016 and EU-017).

Processing Schedule

05/15/12 Received application to revise Title V air operation permit No. 0990005-024-AV

History

05/23/05 Received CAM plan;

06/07/05 Received notification that the cogeneration boilers and Boiler 16 were subject to NESHAP Subpart DDDDD provisions in 40 CFR 63;

12/19/05 Received additional information including a revised CAM plan;

05/26/06 Received revised Title V application to incorporate the applicable conditions of recently issued Permit No. 0990005-018-AC, which restricts Boiler 16 to a 10% annual capacity factor;

10/19/06 Received additional information on Boiler 16;

10/20/06 Received additional information on applicability of acid rain provisions to cogeneration boilers;

01/11/07 Received revised Title V application to incorporate the applicable conditions of recently issued Permit No. 0990005-019-AC, which modified the transshipment facility;

02/13/07 Received additional information including the 65 MW steam turbine-electrical generator and ash handling;

05/01/07 Received additional information on ESP parameters making application complete;

05/03/07 Issued initial draft permit package, which was never publicly noticed; and

03/12/10 Received supplemental application, which updated fuel and ash management plans, updated the CAM Plan, updated the Compliance Plan and requested several minor air construction permit revisions.

06/17/11 Issued permit EXEMPTION No. 0990005-28 AC for Temporary Portable Crusher.

06/28/11 Received request on 06/28/11and issued Permit No. 0990005-030-AC to exempt packaging line 10 baghouse.

12/15/11 Issued permit EXEMPTION No. 0990005-031-AC for Temporary Portable Jaw Crusher (Furnished and operated by a 3rd party).

05/15/12 Received application to revise Operating Permit No. 0990005-024-AV to incorporate changes made by Construction Permit No. 0990005-027-AC, also delete Boiler No. 16 (EU-014) and three NSPS storage tanks (EU-015, EU-016 and EU-017), and add two (2) new Roto-clones (EU-054 and EU-055).

2. CAM APPLICABILITY

A compliance assurance monitoring (CAM) plan specifies methods for monitoring critical control equipment parameters to provide assurance that the emissions standards of the permit are being continually met. In general, a CAM Plan is required for each emissions unit that: has a specific and enforceable emissions standard for a given pollutant; employs an add-on control device to achieve the specific standard; and, if not for the control device, would emit a major amount of the given pollutant. A CAM plan is not required for an emissions unit: that demonstrates compliance with a continuous emissions monitoring system (CEMS); for which the control

device is considered an integral part of the process and returns product or an intermediate product to the process for reuse; or is subject only to an opacity standard for regulating particulate matter.

Table 3A summarizes the CAM applicability for each active regulated emissions unit with an air pollution control device. Many of the emissions units are small sources of particulate matter, which capture and collect sugar at the sugar refinery or the sugar transshipment plants. For most cases, the emissions units are only regulated by an opacity standard for which a CAM plan is not required. Several of these units are considered integral parts of the process and return sugar for reuse in the process. In summary, a CAM plan is required for the three cogeneration boilers that control particulate matter with an electrostatic precipitator (ESP). See Table 3A on following page.

Cogeneration Boilers

New Hope Power Company's Okeelanta Cogeneration Plant (Facility ID No. 0990332) operates Cogeneration Boilers A (EU 001), B (EU 002) and C (EU 003). Each cogeneration boiler has the following add-on control equipment: multi-cyclone dust collectors followed by an ESP to reduce PM/PM_{10} emissions; a selective non-catalytic reduction (SNCR) system to reduce NO_X emissions; and an activated carbon injection (ACI) system to reduce potential mercury emissions. Each of these pollutants could be subject to a CAM plan because there is an enforceable emissions standard and an add-on control device. However, uncontrolled mercury emissions will not be emitted in a major amount prior to control and compliance with the NO_X emissions standard must be continuously demonstrated by CEMS data. Therefore, a CAM plan is only required for PM/PM_{10} emissions.

Based on the information available for the ESP, the following parameters and ranges will be established as the CAM excursion levels.

- The permittee must continuously monitor and record opacity data using the existing continuous opacity monitoring system (COMS).
- An excursion is any 1-hour average of 15% opacity or more. An alarm shall alert the operator. An excursion requires documentation, investigation, and corrective action.
- Corrective actions may include: adjusting the power to each ESP field; resetting the rapper frequency; adjusting the fuel feed rate and over-fire air system; firing supplemental natural gas or distillate oil; etc.

The CAM plan is included in Appendix CM of Section 4 of the Title V air operation permit.

3. COGENERATION PLANT

Process Description

Cogeneration Boilers A (EU-001), B (EU-002) and C (EU-003) are each spreader stoker boilers manufactured by Zurn and designed to produce approximately 506,100 pounds per hour of steam at 1500 psig and 975° F. The primary fuel is biomass (760 MMBtu per hour), which includes bagasse from the adjacent sugar mill and clean wood material delivered to the plant by area subcontractors. Auxiliary fuels include natural gas (605 MMBtu per hour) and distillate oil (490 MMBtu per hour). Pollution control equipment includes low-NO_X burners for gas firing, a selective non-catalytic reduction system to reduce nitrogen oxides emissions, mechanical dust collectors and an electrostatic precipitator to reduce particulate matter emissions, and an activated carbon injection system to reduce potential mercury emissions. Good operating practices and the efficient combustion of clean, low-sulfur fuels minimizes emissions of CO, SAM, SO_2, and VOC. Exhaust gases exit a stack that is 10 feet in diameter and at least 199 feet tall with a volumetric flow rate of approximately 319,000 acfm at 352° F.

The cogeneration plant also includes:

- Material handling and storage operations (EU-004) such as unloading operations, stockpiles, transfer operations, conveyors, screens, crushers, hoppers, silos and storage tanks. This unit is subject to the conditions regarding the control of particulate matter from silos as well as fugitive dust from the storage and handling of biomass.

Table 3A. Summary of CAM Applicability, Active Regulated Emissions Units with Add-on Control Equipment

EU No.	Description	Control	Pollutant	Standard	Major?	Integral?	CEMS?	CAM?
ARMS ID No. 0990005 - Okeelanta Corporation Sugar Mill and Refinery								
014	*Deleted - (Mill/Refinery Boiler No. 16)*	-	-	-	-	-	-	
018	Central Vacuum System	Baghouse	PM	5% opacity (only)	---	---	---	No
019	Sugar Packaging Lines 0-9, including 8A and 8B	Baghouse	PM	5% opacity (only)	---	---	---	No
020	Sugar Grinder/Hopper	Baghouse	PM	5% opacity (only)	---	---	---	No
021	Rotary Dryer, Central Dust Collector 1	Rotoclone 1	PM	5% opacity (only)	---	---	---	No
022	*Roto-clone (B System)*	*Rotoclone 2*	PM	5% opacity (only)	---	---	---	No
023	Cooler 1	Rotoclone 3	PM	5% opacity (only)	---	---	---	No
024	Cooler 2	Rotoclone 4	PM	5% opacity (only)	---	---	---	No
025	Fluidized Bed Dryer/Cooler	Baghouse	PM	5% opacity (only)	---	---	---	No
030	Sugar Silos 1, 2, And 3	Baghouse	PM	5% opacity (only)	---	---	---	No
031	Railcar Sugar Unloading Receiver 1	Baghouse	PM	5% opacity (only)	---	---	---	No
032	Railcar Sugar Unloading Receiver 2	Baghouse	PM	5% opacity (only)	---	---	---	No
045	Powdered sugar dryer/cooler, Packaging Line 8A and 8B	Baghouse	PM	5% opacity (only)	---	---	---	No
046	Powdered Sugar Hopper	Baghouse	PM	5% opacity (only)	---	---	---	No
047	Sugar packaging Lines 12 and 13	Baghouse	PM	5% opacity (only)	---	---	---	No
048	Paint Booth for Okeelanta Shop	Paint filter	PM	20% opacity (only)	---	---	---	No
		None	VOC	---	---	---	---	No
049	Sugar packaging Line 14	Baghouse	PM	5% opacity (only)	---	---	---	No
054	*Roto-clone (A System)*	*Rotoclone 6*	PM	5% opacity (only)	---	---	---	No
055	*Roto-clone (C System)*	*Rotoclone 7*	PM	5% opacity (only)	---	---	---	No
ARMS ID No. 0990332 - New Hope Power Company Cogeneration Plant								
001 002 003	Cogeneration Boiler A Cogeneration Boiler B Cogeneration Boiler C	ESP	PM	0.03 lb/MMBtu	Yes	No	No	**Yes**
		SNCR	NOx	0.15 lb/MMBtu	Yes	No	Yes	No
		ACI	Hg	5.4×10^{-06}	No	---	---	No
004	Materials Handling/Storage	None	PM	---	---	---	---	No
	Fly Ash Silo	Baghouse	PM	5% opacity (only)	---	---	---	No
	Activated Carbon Silo	Baghouse	PM	5% opacity (only)	---	---	---	No

Notes:

a. ACI means activated carbon injection. ESP means electrostatic precipitator. FGR means flue gas recirculation. SNCR means selective non-catalytic reduction.

b. In the above table, the review proceeds from left to right and stops once CAM is determined to be “not applicable”.

c. CAM is not required for units that are subject only to an opacity standard.

- Miscellaneous unregulated activities (EU-005) such as boiler drum blow-down tank, diesel fire pump engine and tank, propane tank, hydrogen sulfide degasifier, distillate oil tank, oil/water separators, sodium hydroxide tank, wastewater neutralization tank, cold cleaning devices (parts washers), and sulfuric acid storage and distribution systems. This unit consists of both unregulated and insignificant activities.
- Miscellaneous support equipment (EU-006), such as a nominal 75 MW steam turbine-electrical generator, a nominal 65 MW steam turbine-electrical generator, condensers, two cooling towers, a switchyard, etc. This unit is subject only to generally applicable requirements and consists of both unregulated and insignificant activities.

Specific State Regulations

Rule 62-212.400 (PSD), F.A.C.: The cogeneration boilers were constructed in accordance with Permit No. PSD-FL-196 to satisfy the PSD preconstruction review requirements. Each cogeneration boiler is subject to the following BACT determinations for CO, F, NO_X, Pb, PM/PM_{10}, SAM, SO_2 and VOC.

Pollutant	BACT Standards for Each Cogeneration Boiler		
	Averaging Period	**lb/MMBtu**	**lb/hr**
Carbon Monoxide (CO) *Based on "good combustion practices".*	30-day rolling CEMS avg.	0.50	380.0
	12-month rolling CEMS avg.	0.35	
Nitrogen Oxides (NO_X) *Based on SNCR.*	30-day rolling CEMS avg.	0.15	114.0
Sulfur Dioxide (SO_2) *Based on "low sulfur fuels". The SO_2 standards are also surrogate standards for sulfuric acid mist (SAM) emissions.*	24-hour rolling CEMS avg.	0.20	152.0
	30-day rolling CEMS avg.	0.10	
	12-month rolling CEMS avg.	0.06	
Opacity *Based on mechanical dust collectors and ESP.*	6-minute block COMS average and EPA Method 9	≤ 20% opacity, except for one 6-minute block per hour ≤ 27% opacity	
Particulate Matter (PM) *Based on mechanical dust collectors and ESP.*	3-run test avg.	0.026	19.8
Volatile Organic Compounds (VOC) *Based on "good combustion practices".*	3-run test avg.	0.05	38.0
Lead (Pb) and Fluorides (F) *Based on "clean fuels".*	BACT is the use of fuels containing low levels of these compounds (bagasse, wood, distillate oil, and natural gas) and prospective removal with the fly ash by the mechanical dust collectors and electrostatic precipitators. The particulate matter standard shall also serve as a surrogate standard for lead.		

Material handling and storage operations (EU- 004) were constructed in accordance with Permit No. PSD-FL-196 to satisfy the PSD preconstruction review requirements for PM/PM_{10}. For the fly ash storage silo and activated carbon silo, BACT was determined to be control by a baghouse designed, operated and maintained to achieve an outlet dust loading of no greater than 0.01 grains per actual cubic feet of exhaust. New and replacement bags must meet this equipment specification based on vendor design information. Opacity from these devices shall not exceed 5 percent. Fugitive dust must be controlled by enclosing, confining, watering, or adding windbreaks as necessary.

On 10/27/03, the Department issued Permit No. 0990332-016-AC (PSD-FL-196O), which revised the heat input rates for the cogeneration boilers. On 06/06/05, the Department issued Permit No. Project No. 0990332-017-AC (PSD-FL-196P), which revised the electrical power generation for the cogeneration boilers. In addition, obsolete references to coal storage and handling activities were removed. These latest permit modifications will be

incorporated into the renewed Title V permit.

Rule 62-296.320(4)(c), F.A.C.: This regulation establishes requirements to control fugitive dust emissions, which will be minimized by taking the reasonable precautions described above for the material handling and storage operations (EU 004).

Rule 62-296.405(2), F.A.C.: The rule applies to fossil fuel-fired steam generators with more than 250 MMBtu per hour of heat input. The cogeneration boilers are considered "new units" under this rule, which establishes the NSPS Subpart Da standards for opacity and emissions of PM, SO_2 and NO_X. The BACT standards of Permit No. PSD-FL-196 are more stringent.

Rule 62-296.410, F.A.C.: The rule applies to carbonaceous fuel burning equipment, which is defined in Rule 62-210.200 (Definitions), F.A.C. as, "A firebox, furnace or combustion device which burns carbonaceous and fossil fuels for the primary purpose of producing steam or to heat other liquids or gases. The term includes bagasse burners, bark burners, and waste wood burners, but does not include teepee or conical wood burners or incinerators." The rule establishes opacity and PM standards for affected units. The BACT standards of Permit No. PSD-FL-196 are more stringent.

Rule 62-296.570, F.A.C.: The rule subjects major VOC- and NOx-emitting facilities to Reasonably Available Control (RACT) requirements. The BACT standards of Permit No. PSD-FL-196 are more stringent.

NSPS Provisions in 40 CFR 60

Subpart A: The cogeneration boilers are subject to the applicable general provisions in Subpart A for all units subject to an NSPS.

Subpart Da: The cogeneration boilers are subject to the applicable provisions of Subpart Da for Electric Utility Steam Generating Units for which Construction is Commenced after September 18, 1978. The federal provisions regulate opacity and emissions of PM, SO_2 and NO_X. Subpart Da was revised to include new requirements for PM, SO_2, NO_X and mercury for units constructed, reconstructed or modified after February 28, 2005. Permit No. 0990332-016-AC was a PSD modification that increased the heat input rates to these units, which increased the maximum hourly mass emissions rates. However, this permit was issued on October 27, 2003, which is prior to the applicability date for the new requirements. Therefore, the existing units remain subject to the requirements for units constructed prior to February 28, 2005. The boiler remains subject to the NSPS Subpart Da standards for NO_X, PM and SO_2.

Subpart Ea: Provided certain conditions are met, the cogeneration boilers are not subject to the provisions of NSPS Subpart Ea for Municipal Waste Combustors for which Construction is Commenced after December 20, 1989 and on or Before September 20, 1994. Specifically, 40 CFR 60.50a (d) states, "Any cofired combustor, as defined under § 60.51a, located at a plant that meets the capacity specifications in paragraph (a) of this section is not subject to this subpart if the owner or operator of the cofired combustor: (1) notifies the Administrator of an exemption claim; (2) provides a copy of the federally enforceable permit (specified in the definition of cofired combustor in this section); and (3) keeps a record on a calendar quarter basis of the weight of municipal solid waste combusted at the cofired combustor and the weight of all other fuels combusted at the cofired combustor." A cofired combustor means, "… a unit combusting municipal solid waste with non-municipal solid waste fuel (e.g., coal, industrial process waste) and subject to a federally enforceable permit limiting the unit to combusting a fuel feed stream, 30 percent or less of the weight of which is comprised, in aggregate, of municipal solid waste as measured on a calendar quarter basis." The permittee has met the above notification requirements. The Title V permit restricts municipal solid waste to less than 30 percent by weight as measured on a calendar quarter basis and includes appropriate recordkeeping requirements.

NESHAP Provisions in 40 CFR 63

The three (3) Cogeneration Boilers are subject to National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 63 Subpart A – General Provisions.

- Units are subject to the following NSPS in Part 60 of Title 40, the Code of Federal Regulations (CFR): Subpart A (General Provisions), Subpart Da (Electric Utility Steam Generating Units) and Subpart Db

(Industrial-Commercial-Institutional Steam Generating Units).

- Units are subject to 40 CFR 63 Subpart DDDDD—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. [Rule 62-213.440, F.A.C.]

Title IV Acid Rain Provisions

The cogeneration plant is currently classified as a "Qualifying Cogeneration Facility" under 40 CFR Part 72 and is exempt from the Acid Rain provisions. However, to maintain the exemption as a qualifying cogeneration facility, total electrical generation may not exceed 219,000 MWe-hours per year based on a 3-year average. It is possible that the cogeneration boilers will later become subject to the Title IV Acid Rain provisions. The Title V permit includes recordkeeping and reporting requirement to monitor the total electrical generation.

CAM Plan

As previously mentioned, a CAM plan is required for particulate matter emissions from the cogeneration boilers. See Appendix CM in Section 4 of the Title V permit.

4. SUGAR REFINERY

Process Description

The sugar refinery consists of several miscellaneous emissions units that handle, process, store, and transfer a variety of sugar products. These units and activities can generate emissions of particulate matter, mostly sugar. In 2008, Permit No. 0990005-021-AC authorized the expansion of the mill boiling house by installing new process equipment to produce specialty sugars products. The permit authorized: 1) an increase in the capacity of total refined sugar production; 2) an increase in the capacity of refined sugar production from the Fluidized Bed Dryer/Cooler baghouse system, the Bulk Load-out Station, and the Transfer Bulk Load-out Station; 3) a modification of Central Dust Collection System Nos. 1 and 2; an overall reduction in particulate matter emissions; and 5) alternative methods of operation for the Fluidized Bed Dryer/Cooler and the Rotary Dryer/Cooler systems.

The primary sugar drying system is a Fluidized Bed Dryer/Cooler (EU-025) with a design equipment capacity of approximately 1350 tons per day. Steam is used for the necessary heat and no fuels are fired in the dryer. The exhaust is controlled by a high efficiency baghouse manufactured by BETH GmbH, 23556 LÜB-beck (Type BETHPULS 6.60 x 7.5.10). The baghouse exhausts through a stack 93 feet above grade.

A Rotary Dryer (EU-021) is used for specialty sugars and when the fluidized bed dryer is off line for repairs. Steam is used for the necessary heat and no fuels are fired in the dryer. Dust emissions from the rotary dryer are controlled with the use of a skimmer followed by wet Rotoclone No. 1, which exhausts 89 feet above grade. Wet Rotoclone No. 1 *controls dust from the rotary dryer*. Sugar from the rotary dryer is directed to two coolers (EU-023 and EU-024), each with a design capacity of 1350 tons per day. The exhaust from Cooler No. 1 is controlled by Rotoclone No. 3 vented 80 feet above grade. The exhaust from Cooler No. 2 is controlled by Rotoclone No. 4 vented 80 feet above grade. The 3-stage high-production mode (rotary dryer followed by two coolers operating in series) is needed when producing approximately 1000 tons per day of refined white sugar and 600 tons per day of specialty sugars. When operating the rotary system in the low-production mode (< 1000 tons white sugar per day or < 600 tons specialty sugar per day), Cooler No. 1 (EU-023) functions as the dryer followed in series by Cooler No. 2 (EU-024) and the rotary dryer remains shutdown. The Rotary System may operate simultaneously with the Fluidized Bed Dryer/Cooler.

Dust collection System "A", Roto-clone No. 6 (EU-054) controls fourteen (14) drop points at the Fluidized Bed System and fourteen (14) drop points at the Rotary Dryer System. The drop points include the following:

- Belt Conveyors 11(B) andGG(x2)
- Screw Conveyors Q1, 25, 25A, 28, 19, 46, Q2 and S1.
- Bulk Curing Bins 1, 2, 3 or 7
- Bucket Elevators 10, 16, B, and GG#5

- Sweco Shaker Screen
- Rotex Screen 9346 (to GG#8)

Dust Collection System "B", Roto-clone No. 2 (EU-022) which exhausts 86 feet above grade, is used to control dust emissions from several miscellaneous sources. Total drop points controlled, are twenty (20) at the Fluidized Bed System and four (4) at the Rotary Dryer System. The drop points include the following:

- Belt Conveyor 19, 11 (T) and GG8(x2)
- Screw Conveyors 12(x3), 14, 20, 45 and S2
- Packing Room Bins (5 pound and 100 pound)
- Bulk Curing Bins 4, 5 or 6
- Bucket Elevators 43 and 15
- Production Scale, Silo Scale, HN-1 and Rotex.

Dust Collection "C", Roto-clone No. 7 (EU-055) controls twelve (12) drop points in the Fluidized Bed System, and one (1) drop point in the Rotary Dryer System. The drop points include the following:

- Belt Conveyors A(x2) and B(x2)
- Screw Conveyors 20A, 26, 27, 29, 30, 42 and N
- Reject Chute

The Bulk Load-Out Operation (EU-034) with a design equipment capacity of 600 tons per day is used to load sugar into either trucks or railcars. The operation includes a silo and a three-sided building. Emissions of fugitive particulate matter are controlled by use of the enclosure.

The Transfer Bulk Load-Out Station (EU-035) with a design equipment capacity of 1200 tons per day is used to supply sugar to the Transshipment Facility. The operation includes four enclosed conveyors in series feeding refined sugar from the storage silo or bulk curing bins to an enclosed load-out building. Emissions of fugitive particulate matter are controlled by use of the enclosure and high-pressure air curtains.

The expansion project extended by 40 feet the south end of the sugar refinery building (now 40 feet by 120 feet), which houses the following associated process equipment: The following equipment will be housed in the expansion: two melters, two syrup tanks, two grain receiver tanks, two vacuum pans, two magma/cut tanks, two batch centrifuges, two molasses tanks, two screw conveyors, one magma mingler, one run-off tank, a motor control center room, and various pumps and piping systems. The other portion of the existing sugar refinery building houses the following associated process equipment: a 1700 cubic feet vacuum pan, a vacuum pan condenser, two centrifugals, syrup and molasses feed tanks, final liquor syrup storage tanks, one 5000 gallon condensate collection tank, one 1000 gallon centrifugal wash water tank, two 1200 cubic feet seeder cutover tanks, a motor control center room, the motor control center and centrifugal controller room, a refined sugar conveying system, one 2000 cubic feet receiver and various pumps.

Two types of alcohol, isopropyl alcohol and organic ethanol, are used in the sugar refinery to aid in the crystallization process in the vacuum pans (EU-043). Isopropyl alcohol is used in the production of standard refined sugar and is the primary source of VOC emissions. Organic ethanol is used in the production of organic sugar.

For the sugar refinery, dust-generating activities that are completely enclosed and vented within the building are not classified as air pollution sources. The sugar refinery is regulated in accordance with air construction Permit No. 0990005-021-AC.

Controls

The Fluidized Bed Dryer (EU-025) controls particulate emissions with a baghouse control system meeting the following specifications: a design exhaust flow rate of 70,620 acfm; a filtering area of 9041 ft^2; and an air-to-cloth ration of 7.81 $acfm/ft^2$. The design PM/PM_{10} control efficiency is 99.8 percent.

Rotoclones meeting the following specifications are used to control particulate emissions from the two Central Dust Collection Systems (EU 021 and 022), the two Coolers (EU 023 and 024), drop points System "A" and System "C".

EU No.	Description	Control Type	Design Flow Rates acfm	Water Injection Rate (gpm, min.)	Control Efficiency	
					PM	PM_{10}
021	Rotary Dryer, Central Dust Collection System No. 1	Rotoclone No. 1	15,000	2	99.9%	99%
022	*Roto-clone – "B" System*	*Rotoclone No. 2*	14,770	2	99.9%	99%
023	Cooler No. 1	Rotoclone No. 3	15,000	2	99.9%	99%
024	Cooler No. 2	Rotoclone No. 4	15,000	2	99.9%	99%
054	*Rotoclone – "A" System*	*Rotoclone No. 6*	*15,078*	*2*	*99.9%*	*99%*
055	*Rotoclone – "C" System "*	*Rotoclone No.7*	*12,895*	*2*	*99.9%*	*99%*

Capacities

The hours of operation for the sugar refinery are not restricted (8760 hours/year). Equipment at the sugar refinery shall be limited to the following maximum capacities:

- Total refined sugar production (Fluidized Bed Dryer (EU-025), Rotary Dryer (EU-021) and Cooler No. 1 (EU-023) shall not exceed 490,000 tons during any consecutive 52-week period.
- *Roto-clone No. 2 (EU-022), is based upon throughput of System "B" at 150,000 lb/hr. and loading to control unit (EU-022) at 133.26 lb/hr.*
- The Rotary Dryer (EU-021) and Cooler No. 1 (EU-023) shall not process more than 130,000 tons during any consecutive 52-week period.
- The Bulk Load-Out Operation (EU-034) shall not process more than 139,000 tons of refined sugar during any consecutive 52-week period.
- The Transfer Bulk Load-Out Station (EU-035) shall not process more than 351,000 tons of refined sugar during any consecutive 52-week period.
- Sugar refinery alcohol usage (EU-043) from the sugar refinery shall not exceed 78,040 pounds during any consecutive 52-week period.
- *Roto-clone No. 6 (EU-054), is based upon refined sugar throughput of System "A" at 150,000 lb/hr. and loading to control unit (EU-054) at 156.78 lb/hr.*
- *Roto-clone No. 7, (EU-055), is based upon refined sugar throughput of System "C" at 150,000 lb/hr. and loading to control unit (EU-055) at 117.58 lb/hr.*

Emissions Standard;

As determined by EPA Method 9, visible emissions from the control device exhausts of the following emissions units shall not exceed 5 percent opacity: Rotary Dryer, Central Dust Collection No. 1 (EU-021); Central Dust Collection System No. 2 ("B" System) (EU-022); Cooler No. 1 (EU-023); Cooler No. 2 (EU-024); Roto-clone No. 6 (EU-054); Roto-clone No. 7 (EU-055), Fluidized Bed Dryer (EU-25), "A" System Roto-clone No. 6 (EU-054) and "C" System Roto-clone No. 7 (EU-055). Visible emissions from the Bulk Load-Out Operation (EU-034) and the Transfer Bulk Load-Out Station (EU-035) shall not exceed 20 percent opacity. During each federal fiscal year (October 1st to September 30th), each Roto-clone and baghouse exhaust point shall be tested to demonstrate

compliance with the specified opacity standard.

5. TRANS-SHIPMENT FACILITY

Process Description

Sugar received at the transshipment facility is either directly packaged or temporarily stored before packaging. Extra-fine granulated sugar from the refinery is delivered to the transshipment facility at one of three locations. At the east truck receiving dock, trucks are pneumatically unloaded into a main sugar receiver, which pneumatically transfers sugar into surge bins above the packaging lines. At the north side of the facility, trucks are unloaded at a bulk receiving station by locking a boot mechanism against the truck's hopper and sugar is transferred from trucks by screw conveyors to a bucket elevator feeding one of three storage silos (EU-030). At the north railcar receiving station just west of the sugar silos, railcars will be pneumatically unloaded into two sugar receivers (EU-031 and EU-032) for transfer by screw conveyor to a bucket elevator feeding one of three storage silos. Each sugar receiver is controlled by a baghouse. The west receiver will also transfer sugar directly to a surge bin for packaging line "0", which will be used to fill totes north of packaging line "1" in the existing packaging room.

Each of the three storage silos (EU-030) is 12 feet in diameter, 68 feet tall, and has a volume of approximately 4600 cubic feet. Each silo is controlled by a baghouse. Sugar is transferred from each silo by screw conveyor into surge bins located above packaging lines.

Sugar is packaged in one of 13 packaging lines, which are controlled by baghouse systems (Lines 0-8A and 8B-9 (EU-019), Lines 12, 13, and 14 (EU-047). Packaging Lines 8A and 8B vent to the baghouses associated with EU-019 and EU-045. Packaging Line 11 vents to the main sugar receiver. (Baghouse (EU-049) is Currently inactive). Sugar is metered from surge bins above the packaging lines for processing into a variety of packages and containers for wholesale and retail distribution.

A small portion of extra-fine granulated sugar is conveyed to the sugar grinder (EU-020) and mixed with starch to produce powdered sugar. The sugar grinder is used to reduce the sugar solids to a desired particle size. The grinder has a design capacity of approximately 4 tons per hour. The powdered sugar dryer/cooler (EU-045) and the powdered sugar hopper (EU-046) are also used in this process. In addition, brown sugar may be produced by mixing light or dark molasses with the extra fine granulated sugar. All units are controlled by baghouse systems.

A central vacuum system (EU-018) is used periodically for housekeeping purposes. The system includes various pick-up points throughout the transshipment facility and is equipped with a cyclonic separator followed by a baghouse. The system has no restrictions on the number or types of pick-up points.

Controls

Each of the following emissions units are controlled by a baghouse that is designed, operated, and maintained to achieve the particulate matter baghouse design specification (grains/scf) identified in the following table.

ID	Emission Unit Description	Baghouse Specification [a] grains/scf	Exhaust Rate scfm	Stack/Vent Height Feet	Maximum Emissions [b]	
					lb/hour	tons/year
018	Central vacuum system No. 1	0.01	280	8	0.024	0.11
019	Sugar packaging Lines 0-9, including 8A and 8B	0.01	9869	27	0.85	3.71
020	Sugar grinder	0.0005	2961	39	0.013	0.06
030	Sugar silo No. 1 (Point #S1101)	0.02	500	65	0.086	0.38
	Sugar silo No. 2 (Point #S1102)	0.02	500	65	0.086	0.38

ID	Emission Unit Description	Baghouse Specification [a] grains/scf	Exhaust Rate scfm	Stack/Vent Height Feet	Maximum Emissions [b]	
					lb/hour	tons/year
	Sugar silo No. 3 (Point #S1103)	0.02	500	65	0.086	0.38
031	Railcar unloading receiver No. 1	0.02	615	5	0.11	0.46
032	Railcar unloading receiver No. 2	0.02	615	5	0.11	0.46
045	Powdered sugar dryer/cooler, packaging Lines 8A and 8B	0.01	8640	48	0.74	3.24
046	Powdered sugar hopper	0.01	1728	42	0.15	0.68
047	Sugar packaging Lines 12 ,13 and 14	0.01	3629	48	0.49	2.16
049	Baghouse – (currently inactive)	0.02	2212	9	0.38	1.66
					Total	13.68

a. New and replacement bags shall meet these specifications based on vendor information. No particulate matter emissions tests are required.

b. These rates represent the maximum expected emissions based on the baghouse design specification, the maximum exhaust flow rates, and 8760 hours of operation per year. These rates are not enforceable emissions standards.

Capacity

The maximum sugar packaging rate is 1300 tons per day. The hours of operation of are not limited (8760 hours per year).

Emissions Standards

As determined by EPA Method 9 observations, visible emissions from each baghouse exhaust point shall not exceed 5 percent opacity. During each federal fiscal year (October 1st to September 30th), each baghouse exhaust point shall be tested to demonstrate compliance with the specified opacity standard.

6. PAINT SPRAY BOOTH IN THE OKEELANTA SHOP

Description and Controls

The paint spray booth (EU-048) is the drive-through model of the Crossflo truck spray booth manufactured by AFC, Inc. (Model Number TSD6036). Paint is applied to agricultural equipment, trailers, and other vehicles. Paint will be applied by one of two methods: compressed air spray gun or an airless paint sprayer. The compressed air spray gun will use house air within a pressure range of 60 to 80 pounds per square inch (psi). The airless paint sprayer will operate at a pressure of approximately 3,200 psi. The paint booth has a design exhaust flow rate of 45,500 acfm. There are two exhaust stacks for the paint spray booth. Each stack is 25.7 feet tall and 4-foot diameter. The permittee shall operate and maintain functional glass fiber paint arrestor pads to remove paint overspray from the exhaust.

The paint booth has the potential to emit 9.40 tons per year of volatile organic compound (VOC), 0.47 tons per year of hazardous air pollutants (HAPs), and 0.35 tons per year of particulate matter (PM/PM_{10}). It is primarily regulated by minor source air construction Permit No. 0990005-015-AC.

Capacity

The hours of operation are not limited (8760 hours/year). The maximum throughput rate of paint and thinner shall not exceed 4950 gallons in any consecutive 12 months.

Emissions Standards

VOC emissions from the paint spray booth shall not exceed 9.40 tons in any consecutive 12 months. The

permittee may adjust the amounts and types of coatings used as necessary to comply with this standard. Coatings and thinners used in the spray booth are not restricted to specific products or manufacturers. The permittee may substitute coatings and thinners and adjust the amounts of coatings and thinners used, as needed. All equipment, pipes, hoses, containers, lids, fittings, etc., shall be operated and maintained in such a manner as to minimize leaks, fugitive emissions, and spills of materials containing VOC. Compliance shall be demonstrated by maintaining material and usage records.

Pursuant to Rule 62-296.320, F.A.C., visible emissions from the paint spray booth shall not exceed 20 percent opacity.

7. COMPLIANCE PLAN

In accordance with the supplemental application received on March 12, 2010, the applicant identified the following items for which compliance was not yet determined and proposed the associated compliance plan.

Railcar Receiver No. 2 (EU-032)

Permit No. 0990005-023-AC

Deviation: Condition 13 in Subsection 3A requires annual compliance tests for opacity on the associated baghouse vent. The last test was conducted on September 8, 2006 because of lack of operation.

Underlying Cause: It has not been necessary to operate this emissions unit.

Plan: In accordance with the requirements of Rule 62-210.300(5), F.A.C., the permittee shall provide a 60-day advance notification of its intent to restart this unit. The permittee shall conduct the required compliance test within 30 days of restarting the unit.

Rotary Dryer with Rotoclone No. 1 (EU-021)

Permit No. 0990005-021-AC

Deviation: Condition III. 10 of this permit requires initial and subsequent annual compliance tests for opacity. Initial opacity tests were not conducted on the rotary dryer with Rotoclone No. 1 because it was not in operation for the initial tests on equipment at the Transshipment Facility. In addition, this unit has not operated during the current federal fiscal year or the previous two federal fiscal years.

Underlying Cause: The unit has had limited operation.

Plan: In accordance with the requirements of Rule 62-210.300(5), F.A.C., the permittee shall provide a 60-day advance notification of its intent to restart this unit. The permittee shall conduct the required compliance test within 30 days of restarting the unit.

8. CONCLUSION

Based on reasonable assurances of compliance provided by the applicant and the Responsible Official's certification of compliance, the Department intends to issue a Title V Air Operation Permit under the provisions of Chapter 403, F.S. and Chapters 62-4, 62-210, 62-213, F.A.C. The permit authorizes operation of the facility shown on the application and approved drawings, plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.