TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

United States Sugar Corporation
111 Ponce De Leon Avenue
Clewiston, Florida 33440

U.S. Sugar Clewiston Facility
Facility ID No. 0510003

PROJECT

Project No. 0510003-056-AC
Application for Minor Source Air Construction Permit
Boiler No. 7 Waterwalls Replacement

COUNTY

Hendry, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Engineering and Permitting Section
South District Office
2295 Victoria Avenue
Fort Myers, FL 33901

May 29, 2013

1. GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, 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.

Facility Description and Location

United States Sugar Corporation is an existing Sugar Cane Mill and Refinery, which is categorized under Standard Industrial Classification Code No. 2061. The facility is located in Hendry County at W.C. Owens Avenue and S.R. 832 in Clewiston, Florida. The UTM coordinates of the existing facility are Zone 17, 506.1 km East, and 2956.9 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to state and federal Ambient Air Quality Standards (AAQS).

Facility Regulatory Categories

- The facility is a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Project Description

The project is for replacement of the sides and rear tube and tile waterwalls in Boiler No. 7 (EU014) with modern membrane style waterwalls.

Processing Schedule

May 8, 2013 Received the application for a minor source air pollution construction permit.

May 8, 2013 Application complete.

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the state and federal AAQS or areas otherwise designated as unclassifiable, the Department regulates major stationary sources of air pollution in accordance with Florida's PSD preconstruction review program as defined in Rule 62-212.400, F.A.C. Under preconstruction review, the

Department first must determine if a project is subject to the PSD requirements ("PSD applicability review") and, if so, must conduct a PSD preconstruction review. A PSD applicability review is required for projects at new and existing major stationary sources. In addition, proposed projects at existing minor sources are subject to a PSD applicability review to determine whether potential emissions *from the proposed project itself* will exceed the PSD major stationary source thresholds. A facility is considered a major stationary source with respect to PSD if it emits or has the potential to emit:

- 250 tons per year or more of any regulated air pollutant; or
- 100 tons per year or more of any regulated air pollutant and the facility belongs to one of the following 28 PSD-major facility categories: fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), Kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants and charcoal production plants.

Once it is determined that a project is subject to PSD preconstruction review, the project emissions are compared to the "significant emission rates" defined in Rule 62-210.200, F.A.C. for the following 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); lead (Pb); fluorides (Fl); sulfuric acid mist (SAM); hydrogen sulfide (H_2S); total reduced sulfur (TRS), including H_2S; reduced sulfur compounds, including H_2S; municipal waste combustor organics measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans; municipal waste combustor metals measured as particulate matter; municipal waste combustor acid gases measured as SO_2 and hydrogen chloride (HCl); municipal solid waste landfills emissions measured as non-methane organic compounds (NMOC); and mercury (Hg). In addition, significant emissions rate also means any emissions rate or any net emissions increase associated with a major stationary source or major modification which would construct within 10 kilometers of a Class I area and have an impact on such area equal to or greater than 1 $\mu g/m^3$, 24-hour average.

If the potential emission exceeds the defined significant emissions rate of a PSD pollutant, the project is considered "significant" for the pollutant and the applicant must employ the Best Available Control Technology (BACT) to minimize the emissions and evaluate the air quality impacts. Although a facility or project may be *major* with respect to PSD for only one regulated pollutant, it may be required to install BACT controls for several "significant" regulated pollutants.

PSD Applicability for Project

This project is for the replacement of the sides and rear tube and tile design waterwalls in Boiler No. 7 with modern membrane style waterwalls.

As provided in the application, the following table summarizes potential emissions and PSD applicability for the project.

Table A. Potential Emissions (Tons/Year) and PSD Applicability

Pollutant	Projected Actual Emissions (TPY)	Baseline Actual Emissions (TPY)	Net Increase	Significant Emissions Rate (TPY)	Subject To PSD?
CO	506.08	470.67	35.41	100	No
NO_X	360.20	336.43	23.77	40	No

Pollutant	Projected Actual Emissions (TPY)	Baseline Actual Emissions (TPY)	Net Increase	Significant Emissions Rate (TPY)	Subject To PSD?
PM	25.63	23.96	1.67	25	No
PM_{10}	53.79	49.71	4.08	15	No
$PM_{2.5}$	46.60	42.98	3.63	10	No
SO_2	69.05	65.70	3.35	40	No
VOC	30.92	28.75	2.17	40	No
SAM	12.15	11.29	0.86	7	No

As shown in the above table, total project emissions will not exceed the PSD significant emissions rates; therefore, the project is not subject to PSD preconstruction review.

3. APPLICATION REVIEW

Discussion of Emissions

Federal NSPS Provisions

The project was reviewed for "modification" with respect to 40 CFR 60 Subpart Db. 40 CFR 60 Subpart Db is applicable to Boiler No. 7 (EU014) for SO_2, PM, opacity and NO_X emissions standards. This emissions unit is permitted to burn bagasse, wood chips and distillate oil with no more than 0.05% sulfur by weight (equivalent to 0.05 lb/mmBtu).

Per 60.42b(k)(2), units that burn very low sulfur oil are exempt for the SO_2 emission limit. Per Db, very low sulfur oil contains no more than 0.5% weight sulfur [0.5 lb/mmBtu without SO_2 emission control for units constructed, reconstructed or modified before February 28, 2005 and no more than 0.3% weight sulfur (0.32 lb/mmBtu without SO_2 emission control for units constructed, reconstructed or modified after February 28, 2005].

This unit is subject to the opacity (for burning wood) and PM standards in 60.43b(f) and 60.43b(h)(1), respectively. PM emissions standard was also determined by BACT for bagassee. The BACT PM limit (0.03 lb/mmBtu) is the same as Db for wood burning.

60.44b(c) requires a NO_X standard of 0.2 lb/mmBtu when burning distillate oil. However, the facility is subject to a federally enforceable requirement (limit on annual oil firing usage) that limits operation to an annual capacity factor of 10% of less for oil and therefore the Subpart Db NO_X standard does not apply.

The application did not request a increase in currently permitted lb/hr limits. The permitted lb/hr emissions limits are equivalent to the Db lb/mmBtu limits which are also in the facility's current Title V permit. There are no more stringent limits than those current permitted imposed for "modification" by the Db regulations. It is rationale to conclude that this project will not result in a NSPS modification and subject the emission unit to new emission limits.

Federal NESHAP Provisions

Boiler No. 7 is subject to 40 CFR 63 Subpart DDDDD. The compliance date for this subpart January 31, 2016 for existing boilers. 40 CFR 60 Subpart DDDDD will be incorporated into the facility's Title V operating permit at the next opening for cause.

4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. Susan Machinski is the project engineer responsible for reviewing the application and drafting the

permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's South District Office at 2295 Victoria Avenue, Suite 364, Fort Myers, Florida 33902.