
STATEMENT OF BASIS

Title V Air Operation Permit Renewal
Permit No. 0510003-065-AV

APPLICANT

The applicant for this project is the United States Sugar Corporation (USSC). The applicant's responsible official and mailing address are: Mr. James Nesbitt, Power Plant Manager, USSC, U.S. Sugar Clewiston Facility, 1731 South W.C. Owen Avenue, Clewiston, Florida 33935.

FACILITY DESCRIPTION

The applicant operates the existing U.S. Sugar Clewiston Facility, which is in Hendry County at 111 Ponce de Leon Avenue in Clewiston, Florida.

The U.S. Sugar Clewiston Facility consists of a sugar mill and refinery, with various auxiliary operations, as described below.

Sugar Mill and Boiling House

Raw sugarcane is received at the Clewiston mill via rail. Railcars are hydraulically tilted and dump sugarcane onto a conveyance system. Raw canes are sent through a series of mills where they are crushed, and their juices extracted. The juices are sent for further processing, and the residual cellulosic material, known as bagasse, is transported by a system of open conveyors (EU 027) throughout the mill. Bagasse is transported to Boiler Nos. 7, 8, and 9 (EU 014, EU 028, and EU 044, respectively), which combust the bagasse to generate steam and electricity for the Mill. Excess bagasse is sent to the outdoor bagasse storage area for temporary storage and returned to the boilers as needed.

Juice extracted from the mills is treated with lime (EU 031) and boiled in the Boiling House. This causes a precipitate to form, which is filtered out by a series of clarifiers. The clarified liquid stream is then boiled using evaporators with heat supplied by the boilers, resulting in a dense syrup. The formation of sugar within this syrup begins under vacuum in vacuum pans (EU 018), which pull water from the juice to form a mixture of sugar crystals and syrup, known as massecuite. Crystallization is further facilitated by slowly cooling and stirring the massecuite before separating the crystals from the remaining syrup in a centrifuge. Isopropyl alcohol is added in the crystallization process, as needed (EU 021).

Sugar Refinery

Following the mill, unrefined sugar is either sent directly to the refinery or directed by belt conveyors to the sugar warehouses, where it is dried by the steam heated VHP Sugar Dryer (EU 015) prior to temporary storage. A railcar wash station adjacent to the warehouses includes a natural gas-fired 300-gallon hot water heater (EU 045).

Following the mill, or upon return from the warehouses, sugar is decolorized with carbon. Spent carbon from the refinery is collected and regenerated in the Granular Carbon Regeneration Furnace (EU 017), which is fueled by natural gas and controlled by an afterburner and wet venturi/tray scrubber. The decolorized sugar is then further dried by either the White Sugar Dryer No. 1 with baghouse (EU 016) or White Sugar Dryer No. 2 with wet scrubber (EU 029) and stored in conditioning silos (EU 019) for 24 hours in conditioned, dehumidified air. Conditioned sugar is passed through graded screens in the screening tower, separating the sugar by granule size. Sugar of varying granule sizes are stored in separate bins (EU 020), which can be loaded in bulk loadout railroad cars or trucks (EU 043) or routed to the packaging area (EU 022), where sugar is packed in bags for consumer and industrial users.

Facility

Various auxiliary operations at the facility are required to support the sugar production process. Operations included in the Clewiston Mill's air permit include various material handling for support functions with the potential for air emissions, such as silos for storing lime, limestone, and salt. Lime is received by railcar and stored in silos for use in the water treatment plant (EU 010). The water treatment plant also uses a hydrogen disulfide degasification system (EU 036). Limestone and salt are received by truck and stored in silos (EU 030).

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and EU 033, respectively) for use with the by-product, molasses, in the animal feed production process. In addition, various emergency engines are utilized throughout the facility (EU 037-EU 042, EU 046 and EU 047). This facility also includes miscellaneous unregulated/insignificant emissions units and/or activities.

REGULATED EMISSIONS UNIT IDENTIFICATION NUMBERS AND DESCRIPTIONS

| EU No. | Brief Description |
|--|--|
| <i>Sugar Mill</i> | |
| 014 | Boiler 7 |
| 028 | Boiler 8 |
| 044 | Boiler 9 |
| 027 | Biomass Handling and Storage |
| <i>Sugar Refinery</i> | |
| 015 | VHP Sugar Dryer |
| 016 | White Sugar Dryer No. 1 |
| 017 | Granular Carbon Regeneration Furnace |
| 018 | Vacuum Pickup Systems |
| 019 | Conditioning Silos |
| 020 | Screening/Distribution and Sugar/Starch Bins |
| 021 | Alcohol Usage |
| 022 | Sugar Packaging Line |
| 029 | White Sugar Dryer No. 2 |
| 031 | Limestone Storage Silo and Truck/Rail Handling System at the Sugar Refinery |
| 043 | Bulk Loadout Operations |
| 045 | Warehouse Hot Water Heater |
| <i>Miscellaneous Ancillary Equipment</i> | |
| 010 | Lime Silo with Baghouse at the Water Treatment Plant |
| 030 | Limestone Storage Silo with Baghouse at the Molasses Plant |
| 033 | Salt Silo with Baghouse at the Molasses Plant |
| 036 | Two Hydrogen Sulfide (H ₂ S) Degasification Systems |
| 037 | Emergency Reciprocating Internal Combustion Engine (RICE) (WWTP East Pump Station) |
| 038 | Emergency RICE (Fire Pump Building) |
| 039 | Emergency RICE (WTP 2 nd Floor Pump Room) |
| 040 | Emergency RICE (Gate D Generator) |
| 042 | Emergency RICE (Computer/IT Backup) |
| 041 | Emergency RICE (WTP Plant Generator) |
| 046 | 275 HP Emergency Diesel-Fired Generator |
| 047 | Six Propane-Fired Generators |

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APPLICABLE REGULATIONS

Based on the Title V air operation permit renewal application received on September 23, 2024, this facility is a major source of hazardous air pollutants (HAP). The existing facility is a prevention of significant deterioration (PSD) major source of air pollutants in accordance with Rule 62-212.400, F.A.C. A summary of applicable regulations is shown in the following table:

| Regulation | EU No(s). |
|---|---|
| <i>Federal Rule Citations</i> | |
| 40 CFR 60, Subpart A, NSPS General Provisions | 014, 028, 044, 046, 047 |
| 40 CFR 60, Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units | 014, 028, 044 |
| 40 CFR 60, Subpart III, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines | 046 |
| 40 CFR 60, Subpart JJJJ, Standards of Performance for Stationary Spark Ignition Internal Combustion Engines | 047 |
| 40 CFR 63, Subpart A, NESHAP General Provisions | 014, 028, 037-042, 044, 045 |
| 40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines | 037-042 |
| 40 CFR 63, Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters. | 014, 028, 044, 045 |
| <i>State Rule Citations</i> | |
| Chapter 62-4, F.A.C.: Permits | All |
| Rule 62-204.800, F.A.C.; Federal Regulations Adopted by Reference | 014, 028, 037-040, 044, 046, 047 |
| Rule 62-212.400(PSD), F.A.C., Determinations of the Best Available Control Technology (BACT) | 014, 015, 016, 017, 018 - 022, 027, 028, 029, 036, 043, 044 |
| Rule 62-296.410, F.A.C., Carbonaceous Fuel Burning Equipment | 014, 028, 044 |

PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V permit for the above referenced facility.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

- Application for a Title V air operation permit renewal received September 23, 2024.
- Draft Title V air operation permit renewal issued November 26, 2024.
- Public Notice of Intent to Issue Air Permit published on December 25, 2024.
- Proof of publication (affidavit) of Public Notice of Intent to Issue Air Permit received on December 31, 2024.
- Proposed Title V air operation permit renewal issued January 30, 2025.
- Final Title V air operation permit renewal issued Month day, 2024.

PRIMARY REGULATORY REQUIREMENTS

Standard Industrial Classification (SIC) Code: 2061 & 2062 - Raw Cane Sugar & Cane Sugar Refining.

North American Industry Classification System (NAICS): 311314 - Cane Sugar Manufacturing.

HAP: The facility is identified as a major source of hazardous air pollutants (HAP).

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

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PSD: The facility is a Prevention of Significant Deterioration (PSD)-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The facility operates units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

CAM: Compliance Assurance Monitoring (CAM) applies to emissions units 014, 017, 028, 029 and 044 for the controlled emissions of particulate matter (PM). CAM also applies to emissions units 018 to maintain compliance with an opacity standard of 5 percent.

The remaining emission units at the facility are not subject to CAM for one or more of the following reasons: they do not trigger the potential pre-air pollution control device major source emission thresholds; they demonstrate continuous compliance with a continuous emission monitoring system (CEMS); they are not equipped with air pollution control device(s); they are equipped with device(s) which are considered to be inherent to the process/operation; or, they satisfy CAM by meeting a post-1990 federal monitoring requirement for the same or similar air pollutants.

GHG: The facility is identified as a major source of greenhouse gas (GHG) pollutants.

PROJECT REVIEW

Changes were made in this Title V air operation permit renewal. The major changes made in this project are overviewed here. Some changes were made in the format of this renewed Title V air operation permit.

Permit

- Subsection II. Facility-wide Conditions. A new reporting summary condition was added. The condition summarizes all reports required under the Title V air operation permit. See Specific Condition FW9.
- Subsection III.A. Boiler 7 (EU 014).
 - The state's excess emissions rule (Rule 62-210.700, F.A.C.) recently sunsetted. A revised condition was added to reflect the sunset context. See Specific Condition A.18.
- Subsection III.B. Boiler 8 (EU 028).
 - The state's excess emissions rule (Rule 62-210.700, F.A.C.) recently sunsetted. A revised condition was added to reflect the sunset context. See Specific Condition B.11.
- Subsection III.I. Rental Refinery Package Boiler (EU 035).
 - USSC is no longer bringing a rental boiler on-site during periods when the other mill boilers are shutdown (or in the process of shutting down), it is therefore removed from the permit. See Subsection I. in Permit No. 0510003-062-AV.
- Subsection III.K. Warehouse Hot Water Heater (EU 045).
 - The initial energy assessment is removed because the one-time energy assessment under the NESHAP Subpart DDDDD is not applicable to EU045. See Specific Condition K.5. in Permit No. 0510003-062-AV.
- Subsection III.N. 275 HP Emergency Diesel-Fired Generator (EU 046).
 - USSC has replaced the generator with a 275 HP John Deere Model No. 6068HF485. See Subsection N.
- Subsection III.O. Six New Propane-Fired Generators (EU 047).
 - USSC has added three (3) additional propane-fired SI ICE at the Clewiston Mill. The new SI ICE did not require air construction permitting because the stationary RICE qualifies for the conditional exemption under Rule 62-210.300(3)(a)35, F.A.C. See Subsection O.

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Appendices & Attachments

- Appendix I, List of Insignificant Emissions Units and/or Activities. Removed the mobile equipment listing. EPA does not intend for the Title V program to cover direct emissions from mobile sources such as forklifts, skid steers, and front-end loaders. Instead, these were included in the trivia list and do not need to be included in the Title V permit. Added an insignificant emissions unit and/or activity {see the activity numbered as 3.}.
- Appendix U, List of Unregulated Emissions Units and/or Activities. Reformatted this appendix's content.
- Federal Regulation Appendices. Version dates were added in the header section of the document.
 - For example, Appendix NSPS 40 CFR 60, Subpart A - General Provisions (Version Dated 11/17/2023).
 - The appendices for the federal regulations were updated, replacing previous outdated ones.

CONCLUSION

This project renews Title V Air Operation Permit No. 0510003-062-AV, which was effective on July 7, 2020. This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4, 62-210, and 62-213, F.A.C.