

## STATEMENT OF BASIS

Title V Air Operation Permit Renewal  
Permit No. 0250476-018-AV

### APPLICANT

The applicant for this project is Miami-Dade Water and Sewer Department. The applicant's responsible official and mailing address are: Ms. Billie McCarley, Deputy Director of Operations, Central District Wastewater Treatment Plant, 3071 Southwest 38<sup>th</sup> Avenue, Miami, Florida 33146.

### FACILITY DESCRIPTION

The applicant operates the existing Central District Wastewater Treatment Plant (WWTP) located in Miami-Dade County at 3869 Rickenbacker Causeway, Miami, Florida 33149. Miami-Dade Water and Sewer Department (WASD), Central District WWTP, is a publicly owned cogeneration facility consisting of wastewater treatment activities. The facility consists of two parallel wastewater treatment trains, Plant Nos. 1 and 2 with an annual average daily flow rate of 60.5 million gallons per day (mgd) and 83 mgd, respectively. The facility is permitted to treat 143 mgd annual average daily flow and consists of aerated grit chambers, oxygenation tanks, sludge concentration tanks, secondary clarifiers, and chlorine contact basins.

Electricity for in-plant operations is produced by four nominal 1.2 megawatt (MW) digester gas fired cogeneration (Cogen) engines. Backup emergency power is provided by three nominal 2.5 MW non-emergency diesel engine-driven electric standby generators and two nominal 2.865 MW non-emergency diesel engine electric standby generators. The facility also includes a 37 brake horse-power (HP) diesel engine to provide compressed air to start the emergency generators in the event all electrical power is lost at the facility, and 11 digester gas flares. The WWTP has an agreement with the local utility that the facility provide peak shaving or non-emergency demand response, in exchange for financial incentives to the facility.

This facility also includes miscellaneous unregulated/insignificant emissions units and/or activities.

### REGULATED EMISSIONS UNIT IDENTIFICATION NUMBERS AND DESCRIPTIONS

EU No.	Brief Description
<i>Regulated Emissions Units</i>	
013	Non-Emergency Diesel Engine No. 1 (3,600 HP)
014	Non-Emergency Diesel Engine No. 2 (3,600 HP)
015	Non-Emergency Diesel Engine No. 3 (3,600 HP)
019	Non-Emergency Diesel Engine No. 4 (4,000 HP)
020	Non-Emergency Diesel Engine No. 5 (4,000 HP)
021	Non-Emergency Cogen Engine No. 3 (1,760 HP)
022	Non-Emergency Cogen Engine No. 4 (1,760 HP)
023	Non-Emergency Diesel Engine (37 HP)
024	Non-Emergency Cogen Engine No. 1 (1,760 HP)
025	Non-Emergency Cogen Engine No. 2 (1,760 HP)
027	Gasoline Dispensing Facility
<i>Unregulated Emissions Units and Activities</i>	
008	WWTP - Liquid Processes
017	WWTP – Solids Handling Processes
018	WWTP – Digester Gas Flares

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### APPLICABLE REGULATIONS

Based on the Title V air operation permit renewal application received on September 26, 2024, this facility is not 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 Nos.
<i>Federal Rule Citations</i>	
40 CFR 60, Subpart A, NSPS General Provisions.	021, 022, 024, 025
40 CFR 60, Subpart JJJJ, Standards of Performance for Stationary SI ICE.	021, 022, 024, 025
40 CFR 63, Subpart A, NESHAP General Provisions.	013-015, 019-025, 027
40 CFR 63, Subpart ZZZZ, NESHAP for Stationary RICE.	013-015, 019-025
40 CFR 63, Subpart CCCCCC, NESHAP for Source Category: Gasoline Dispensing Facilities. {Note: Not adopted by the State of Florida.}	027
<i>State Rule Citations</i>	
Chapter 62-213, F.A.C., Operation Permits for Major Source of Air Pollution.	013-015, 019-025, 027
Rule 62-204.800, F.A.C., Federal Regulations Adopted by Reference.	013-015, 019-025
Rule 62-212.400, F.A.C., PSD.	013-015, 019, 020
Rule 62-296.500, F.A.C., Reasonably Available Control Technology (RACT) – Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO <sub>x</sub> ) Emitting Facilities.	013-015, 019, 020
Rule 62-296.570, F.A.C., RACT – Requirements for Major VOC and NO <sub>x</sub> Emitting Facilities.	013-015, 019, 020

### PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V air operation permit for the above-mentioned facility.

### PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Renewal received **September 26, 2024**

Draft Permit Renewal package issued **November 6, 2024**

Proposed Permit Renewal package issued **January 30, 2025**

### PRIMARY REGULATORY REQUIREMENTS

Standard Industrial Classification (SIC) Code: 4941 – Water Supply; and 4952 – Sewerage Systems.

North American Industry Classification System (NAICS): 221310. – Water Supply and Irrigation Systems; and 221320. – Sewage Treatment Facilities

HAP: The facility is not identified as a major source of 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.).

PSD: The facility is a 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) does not apply to any of the units at the facility.

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GHG: The facility is not identified as a major source of greenhouse gas (GHG) pollutants.

### PROJECT REVIEW

Changes to the permit made as part of this revision are shown in ~~strike-through~~ format for deletions and in double underline format for additions. For ease of identification, all changes have also been highlighted in yellow within the permit document.

The renewal permit includes the following changes.

1. Changes throughout the Title V air operation permit are based on the Department's updated formats for a Title V air operation permit.
2. Updated the permit to reflect the changes to Rules 62-210.700, F.A.C., Excess Emissions.

### Section I. Facility Information

#### Subsection A. Facility Description

3. Updated the facility description.

#### Subsection B. Summary of Emissions Units

1. The non-emergency engines (EU 013 – EU 015, EU 019 – EU 025) were renamed to reflect the fuels fired and type of engine for clarity.

#### Subsection C. Applicable Regulations

2. Updated the table to reflect the emission unit's applicable rules and regulations.

### Section II. Facility-Wide Conditions

3. Added a reporting table to Specific Condition **F.9** (Semi-Annual Reports) to identify reports and submittal dates.

### Section III. Emission Units and Specific Conditions

#### Subsection A. Non-Emergency Diesel Engine Nos. 1 - 5 (EU 013 – EU 015, EU 019 & EU 020)

4. Renamed these emissions units from “2.5 MW Diesel Electric Generator EMD #1 - 5. The engines are operated with Diesel Oxidation Catalyst pollution control” to “Non-Emergency Diesel Engine Nos. 1 – 3 (3,600 HP)” and “Non-Emergency Diesel Engine Nos. 4 and 5 (4,000 HP)” for clarity and consistency.
5. Updated the applicable requirements of 40 CFR 63, Subpart ZZZZ, NESHAP for Stationary RICE.
6. Revised previous Specific Condition **A.1** (Authorized Fuel) by renaming it to Methods of Operation, include the applicable sulfur limit of 0.05% in Permit No. 0250476-004-AC, and combined this condition with Specific Condition **A.2** (Fuel Consumption). The condition was revised as follows:

**A.1. Authorized Methods of Operation - Fuel.** Each These engines shall use only fire diesel fuel that meets the following requirements of 40 CFR 80.510(b) for nonroad diesel fuel:

a. **ULSD Standards.** Sulfur content: 15ppm maximum for NR diesel fuel

(1) **Maximum sulfur content:**

(a) **15 parts per million (ppm).**

(b) **0.05% S.**

(2) **Cetane index or aromatic content, as follows: Diesel fuel must meet one of the following standards:**

(a) **(1) A m Minimum cetane index of 40; or,**

(b) **(2) A m Maximum aromatic content of 35 volume percent.**

b. **Fuel Limit.** The maximum consumption of No. 2 fuel oil allowed to be burned in Engine Nos. 1 – 5 combined, shall not exceed 725,000 gallons in any consecutive 12-month period. {Permitting Note: At 100% engine load, each model 20-645E4B engine has a fuel consumption of approximately 196.4

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gallons per hour (gph), and each model 20-645F4B engine has a fuel consumption of approximately 197.1 gph, based on a heat input of 27.1 million British thermal units per hour (MMBtu/hour) and 27.2 MMBtu/hour, respectively, and a 36-degree API diesel fuel higher heating value of 19,640 Btu/lb. and density of 7.034 lb/gal.]

[40 CFR 63.6604(a); 40 CFR 80.510(b)(1)(i), (b)(2); Rule 62-204.800(11)(b)82, & 62-210.200(PTE), F.A.C.; 40 CFR 63.6604(b) & 1090.305; and Permit No. 0250476-004-AC]

**A.2. Fuel Consumption.** The maximum consumption of No. 2 fuel oil allowed to be burned in Units No. 013, 014, 015, 019, and 020 combined shall not exceed 725,000 gallons in any consecutive 12-month period.

*[Permitting note: At 100% engine load, each model 20-645E4B engine has a fuel consumption of approximately 196.4 gallons per hour, and each model 20-645F4B engine has a fuel consumption of approximately 197.1 gallons per hour, based on a heat input of 27.1 MMBtu/hr and 27.2 MMBtu/hr, respectively, and a 36-degree API diesel fuel higher heating value of 19,640 Btu/lb. and density of 7.034 lb./gal.]*

[Rule 62-210.200(PTE), F.A.C., Permit No. 0250476-004-AC]

7. Removed previous Specific Condition **A.5** (Engine Operation during startup/shutdown/malfunction) since Rule 62-210.700, F.A.C., Excess Emissions, no longer applies to the engines.
8. Revised previous Specific Condition **A.20** (Test Methods) by removing the table and putting the applicable requirements in individual conditions for each pollutant.

### Subsection B. Non-Emergency Cogen Engine Nos. 1 - 4 (EU 021, EU 022, EU 024, & EU 025)

9. Renamed these emissions units from “1.2 MW Digester Gas Electric Co-generator (#’s 1 - 4)” to “Non-Emergency Cogen Engine Nos. 1 – 4 (1,760 HP)” for clarity and consistency.
10. Updated the applicable requirements of 40 CFR 60, Subpart JJJJ, Standards of Performance for Stationary SI ICE.
11. Revised Specific Condition **B.1** (RICE) to meet the Title V format standards since this condition was only an authorization to install and operate in a previously issued air construction permit and not a regulated condition. The condition was revised as follows:

**B.1. Reciprocating Internal Combustion Engines Design Capacity.** The permittee is authorized to operate four, 1.2 megawatt Cooper Superior Model 16GTLD engine-driven co-generator units fueled with digester gas. These emission units are listed individually but regulated collectively. Each engine/generator set has a maximum engine power rate and electrical generator rate as follows:

<u>Unit Nos.</u>	<u>Engine Power</u> <u>Brake HP</u>	<u>Electrical Generator Rate</u> <u>(MW)</u>	<u>Fuel Type</u>
<u>1 - 4</u>	<u>1,760</u>	<u>1.2</u>	<u>Digester Gas</u>

[Rules 62-4.160(2), 62-204.800, & 62-210.200(PTE), F.A.C.; and Permit No. 0250476-013-AC]

12. Revised previous Specific Condition **B.15** (Table 2 to Subpart JJJJ of Part 60—Requirements for Performance Tests) by removing the table and putting the applicable requirements in individual conditions for each pollutant.
13. Removed previous Specific Condition **B.19** (Monitoring, Reporting and Recordkeeping Requirements) since the 5-year reporting period is complete.

### Subsection C. Non-Emergency Diesel Engine (37.7 HP) (EU 023)

14. Renamed the emissions unit from “Diesel engine driven starting air compressor” to “Non-Emergency Diesel Engine (37.7 HP)” for clarity and consistency.
15. Updated the applicable requirements of 40 CFR 63, Subpart ZZZZ, NESHAP for Stationary RICE.

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### Subsection D. Gasoline Dispensing Facility (EU 027)

16. Updated the applicable requirements of 40 CFR 63, Subpart CCCCCC, NESHAP for Source Category: Gasoline Dispensing Facilities and clarified that this Federal regulation was not adopted by the state of Florida; therefore, the EPA is the Administrator.

### **CONCLUSION**

This project renews Title V air operation Permit No0250476-015-AV, which was effective on May 11, 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.