Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

PERMITTEE

Miami-Dade Water and Sewer Department
P. O. Box 330316
Miami, Florida 33233-0316

Air Permit No. 0250314-018-AC
Permit Expires: August 1, 2017
Minor Air Construction Permit

Authorized Representative:
Mr. Rafael Terrero, Assistant Director, Water System Operations

Alexander Orr, Jr. Water Treatment Plant
Replacement of Pump Engine 5

PROJECT

This is the final air construction permit, which authorizes the replacement of Pump Engine 5. The proposed work will be conducted at the existing Alexander Orr, Jr. Water Treatment Plant, which is a Water Supply facility categorized under Standard Industrial Classification No. 4941. The existing facility is located in Miami-Dade County at 6800 SW 87th Avenue in unincorporated Miami-Dade County, Florida. The UTM coordinates are Zone 17, 565.9 km East, and 2843.3 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit. As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida
(Electronic Signature)

Syed Arif
2012.08.10
08:44:55 -04'00'

for Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. Rafael Terrero, WASD (terrero@miamidade.gov)
Mr. Richard O'Rourke, WASD (ROROU01@miamidade.gov)
Mr. Lennon Anderson, SED (lennon.anderson@dep.state.fl.us)
Ms. Mallika Muthiah, PERA (muthim@miamidade.gov)
Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
Ms. Barbara Friday, DEP OPC: (barbara.friday@dep.state.fl.us)
Ms. Lynn Scearce, DEP OPC: (lynn.scearce@dep.state.fl.us)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.
(Electronic Signature)

Barbara Friday
2012.08.10 10:11:24 -04'00'

FACILITY DESCRIPTION

The existing facility consists of the following emissions units.

Facility ID No. 0250314	
ID No.	**Emission Unit Description**
007	Rotary Lime Recalcining Kiln, designed to produce 150 TPD of calcium Oxide fire by natural gas
009	Standby Diesel Engine Generator # 1, EMD Model 20-645F4B
010	Standby Diesel Engine Generator # 2, EMD Model 20-645F4B
011	Standby Diesel Engine Generator # 3, EMD Model 20-645F4B
012	Standby Diesel Engine Generator # 4, EMD Model 20-645F4B
018	New Pump Engine # 3, Natural Gas Fuelled Caterpillar G3512 LE-130
019	New Pump Engine # 4, Natural Gas Fuelled Caterpillar G3512 LE-130
021	Emergency Generator for Lime Kiln, rated at 250 kW
022	Railcar Lime Unloading Rack
023	Pump Room Emergency Diesel Engine Generator, CAT Model 3508TA-130, 900kW
024	Standby Diesel Engine Generator # 5, EMD Model 20-645F4B

PROPOSED PROJECT

This project authorizes the installation of a replacement pump engine for the existing Pump Engine #5. The replacement was originally permitted in 1999 by air Construction Permit No. 0250314-003-AC. The pump was ordered in March 1999 and manufactured in November 2000, but never installed due to due to contractual difficulties. This engine is subject to the requirements of 40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE).

This project will add the following emissions unit.

Facility ID No. 0250314	
ID No.	**Emission Unit Description**
020	New Pump Engine # 5, 2090 BHP, Natural Gas Fired Engine

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA).
- 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 in accordance with Rule 62-212.400(PSD), F.A.C.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance in the Division of Air Resource Management of the Department of Environmental Protection (Department). The Office of Permitting and Compliance mailing address is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400. All documents related to applications for permits to operate an emissions unit shall be submitted to the Southeast District Air Program at: 400 North Congress Avenue, Suite 200, West Palm Beach, Florida 33401.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Southeast District Air Program at: 400 North Congress Avenue, Suite 200, West Palm Beach, Florida 33401. Copies of all such documents shall also be sent to Miami-Dade County Permitting, Environmental and Regulatory Affairs (PERA) at: 7801 NW 1st Court, Suite 400, Miami, Florida 33136

3. Appendices: The following Appendices are attached as a part of this permit: Appendix A (Citation Formats and Glossary of Common Terms); Appendix B (General Conditions); Appendix C (Common Conditions); and Appendix D (Common Testing Requirements).

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Construction and Expiration. The expiration date shown on the first page of this permit provides time to complete the physical construction activities authorized by this permit, complete any necessary compliance testing, and obtain an operation permit. Notwithstanding this expiration date, all specific emissions limitations and operating requirements established by this permit shall remain in effect until the facility or emissions unit is permanently shut down. For good cause, the permittee may request that that a permit be extended. Pursuant to Rule 62-4.080(3), F.A.C., such a request shall be submitted to the Permitting Authority in writing before the permit expires. [Rules 62-4.070(4), 62-4.080 & 62-210.300(1), F.A.C.]

8. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050, 62-4.220 and Chapter 62-213, F.A.C.]

A. EU -020 NEW PUMP ENGINE # 5, 2090 BHP, NATURAL GAS FIRED ENGINE

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
020	New Pump Engine # 5, 2225 BHP, Natural Gas Fired Engine

This emissions unit is a Caterpillar Model G3608LE TA-130 engine with a Flowserve Model 600LNEC1150 high service pump. The engine is subject to the requirements of 40 CFR 63, Subpart ZZZZ and is classified as an existing, non-emergency SI 4SLB engine, by the subpart.

The following table provides important details for these emissions units:

E.U. ID No.	Engine Brake HP	Date of Construction	Model Year	Primary Fuel	Type of Engine	Displacement liters/cylinder (l/c)	Serial #	Date of last mod. or reconst.
-0020	2225	11/07/2000	2000	Natural Gas	Non-Emergency	21.13	N/A	N/A

EQUIPMENT

1. Pump Engine #5: The permittee is authorized to install a Caterpillar Model G3608LE TA-130 engine with a Flowserve Model 600LNEC1150 high service pump. [Application No. 0250314-018-AC]

PERFORMANCE RESTRICTIONS

2. Authorized Fuel: The emissions unit shall be fired with natural gas, only. [Application No. 0250314-018-AC and Rule 62-210.200(PTE), F.A.C.]

3. Hours of Operation:

   a. *Normal Operation*. The stationary RICE may operate continuously (8,760 hours a year) if needed. [40 CFR 63.6640(f)(1)]
   b. *Engine Startup*. During periods of startup the owner or operator must minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. [40 CFR 63.6625(h)]

EMISSIONS STANDARDS

4. Emissions Standards: Carbon Monoxide (CO) - If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d of 40 CFR 63, Subpart ZZZZ and the operating limitations in Table 1b and Table 2b:

   a. Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O_2; or
   b. Reduce CO emissions by 93 percent or more. [Application No. 0250314-018-AC and 40 CFR 63.6603(a)]

TESTING REQUIREMENTS

5. Initial Compliance Testing. The owner or operator has demonstrated initial compliance with CO emissions when:

(1) The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and,
(2) The owner or operator has installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in 40 CFR 63.6625(b); and,
(3) The owner or operator has recorded the approved operating parameters (if any) during the initial performance test.

[40 CFR 63.6630 Table 5]

6. Initial Compliance Testing - Establishing Operating Limitations. During the initial performance test, the owner or operator must establish each operating limitation in Tables 1b and 2b of 40 CFR 63, Subpart ZZZZ that applies. [40 CFR 63.6630(b)]

7. Initial Compliance Tests: If you own or operate existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section. You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 of 40 CFR 63, Subpart ZZZZ that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2). The compliance date for this engine is October 19, 2013. [40 CFR 63.6612(a)]

8. Initial Compliance Testing - Notification of Compliance Status. The owner or operator must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in 40 CFR 63.6645. [40 CFR 63.6630(c)]

9. Subsequent Compliance Tests: If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of 40 CFR 63, Subpart ZZZZ. For each existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year that are not limited use stationary RICE, complying with the requirement to limit or reduce CO or formaldehyde emissions, you must conduct subsequent performance tests every 8,760 hrs. or 3 years, whichever comes first. [40 CFR 63.6615]

10. Measurements to Determine O_2 and CO.

    a. *Measurements to Determine O_2*. The owner or operator must measure the O_2 at the inlet and outlet of the control device using a portable CO and O_2 analyzer according to the ASTM D6522–00 (2005) (incorporated by reference, see 40 CFR 63.14) requirements. Measurements to determine O_2 must be made at the same time as the measurements for CO concentration. Methods 3A and 10 may also be used as options to ASTM–D6522–00 (2005).
    b. *Measurements to Determine CO*. The owner or operator must measure the CO at the inlet and the outlet of the control device using a portable CO and O_2 analyzer according to the ASTM D6522–00 (2005) (incorporated by reference, see 40 CFR 63.14) or Method 10 of 40 CFR appendix A requirements. The CO concentration must be at 15 percent O_2, dry basis. Methods 3A and 10 may also be used as options to ASTM–D6522–00 (2005). Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03 may also be used.

    [40 CFR 63.6620 Table 4]

11. Compliance Testing: Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 of 40 CFR 63, Subpart ZZZZ. [40 CFR 63.6603]

12. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(7)(a)9, F.A.C.]

MONITORING REQUIREMENTS

13. CEMS. If the owner or operator elects to install a CEMS as specified in Table 5 of 40 CFR 63, Subpart ZZZZ, they must install, operate, and maintain a CEMS to monitor CO and either oxygen or carbon dioxide (CO_2) at both the inlet and the outlet of the control device according to the requirements in 40 CFR 63.6625(a)(1) through (4). [40 CFR 63.6625(a)]

COMPLIANCE REQUIREMENTS

14. Continuous Compliance. Each unit shall be in compliance with the emission limitations and operating standards in this section at all times. [40 CFR 63.6605(a)]

15. Operation and Maintenance of Equipment. At all times the owner or operator must operate and maintain, any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the compliance authority which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

RECORDS AND REPORTS

16. Notification, Performance and Compliance Records:

    a. The owner or operator must keep a copy of each notification and report that the owner or operator submitted to comply with this section, including all documentation supporting any Initial Notification or Notification of Compliance Status that the owner or operator submitted.
    b. The owner or operator must keep the records required in 40 CFR 63.6625(e) of this section to show continuous compliance with each emission limitation or operating requirement.
    c. The owner or operator must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response. [40 CFR 63.6655]

17. Malfunction Records.

    a. The owner or operator must keep records of the occurrence and duration of each malfunction of operation (i.e. process equipment) or the air pollution control and monitoring equipment.
    b. The owner or operator must keep records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b) of this section including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.6655]

18. Maintenance Records.
    a. The owner or operator must keep records of all required maintenance performed on the air pollution control and monitoring equipment.

b. The owner or operator must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the stationary RICE and after-treatment control device (if any) are operated and maintained according to its own maintenance plan. [40 CFR 63.6655]

19. Performance Records. The owner or operator must keep records of performance tests and performance evaluations as required. [40 CFR 63.6655]

20. Record Retention.

    a. The owner or operator must keep records in a suitable and readily available form for expeditious reviews.
    b. The owner or operator must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record.
    [40 CFR 63.6660 and 40 CFR 63.10(b)(1)]

21. Notification Requirements. The owner or operator must submit all of the notifications in 40CFR 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified. [40 CFR 63.6645(a)]

22. Notification of Intent to Conduct a Performance Test. If the owner or operator is required to conduct a performance test, they must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in 40 CFR 63.7(b)(1). [40 CFR 63.6645(g)]

23. Notification of Compliance Status. If the owner or operator is required to conduct a performance test as specified in Tables 4 and 5 to this subpart, they must submit a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii).

    a. For each compliance demonstration required in Table 5 of 40 CFR 63, Subpart ZZZZ that does not include a performance test, the owner or operator must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.
    b. For each compliance demonstration required in Table 5 of 40 CFR 63, Subpart ZZZZ that includes a performance test conducted according to the requirements in Table 3 of 40 CFR 63, Subpart ZZZZ, the owner or operator must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to 40 CFR 63.10(d)(2). [40 CFR 63.6645(h)]

24. Compliance Report. The owner or operator must submit a Compliance Report. The Report must contain:

    a. If there are no deviations from any emission limitations or operating limitations that apply to the owner or operator, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in 40 CFR 63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or
    b. If the owner or operator had a deviation from any emission limitation or operating limitation during the reporting period, the information in 40 CFR 63.6650(d) should be included. If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in 40 CFR 63.8(c)(7), the information in 40 CFR 63.6650(e); or
    c. If the owner or operator had a malfunction during the reporting period, the information in 40 CFR 63.6650(c)(4) should be included. The owner or operator must submit the report semiannually according to the requirements in 40 CFR 63.6650(b).
    [40 CFR 63.6650 (except 63.6650(g)) Table 7]