TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406

Pump Stations S-8 & G-404
Facility ID No.: 0110351
Broward/Palm Beach County

PROJECT

Project No. 0110351-006-AC
Application for Minor Source Air Construction Permit
Construction Permit for G-404 Emergency Generator

COUNTY

Broward/Palm Beach County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Southeast District Office
3301 Gun Club Road; MSC 7210-1
West Palm Beach, Florida 33406

Date

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 Chapters 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 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

Pump Stations S-8 & G-404 are two existing stormwater pump stations permitted as one Title V Source, which is categorized under Standard Industrial Classification Code No. 9511. The existing Pump Stations S-8 and G-404 are located on the boarder of Palm Beach and Broward Counties at the junction of canals L-5, L-4, and L-23, 15 miles west of Hwy. 27. The UTM coordinates of the existing facility are Zone Zone 17, 522.3 km East, and 2912.2 km North. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to Ambient Air Quality Standards (AAQS).

Facility Regulatory Categories

- 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.
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is not 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

Installation of a 5 kW Emergency Generator driven by an 11.1 hp diesel engine. The proposed work will be conducted at the existing G-404 Pump Station co-located with the S-8 Pump Station, The new engine will have fewer emissions than the pre-existing engines, and share the existing 250,000 gallon diesel fuel limitation for the G-404 pump station; therefore, there will be no increase in overall emissions.

Processing Schedule

March 6, 2014	Received the application for a minor source air pollution construction permit.
May 20, 2014	Received request for a 45 day extension to the permit application review period so that the facility can complete and submit a concurrent Air Construction Permit Application to be processed with the Renewal Application.

July 8, 2014 Received Concurrent Air Constuction/Operation Permit application.

2. PSD APPLICABILITY

General PSD Applicability

For areas currently in attainment with the 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:

- 5 tons per year or more of lead;
- 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}); particulate matter with a mean particle diameter of 2.5 microns or less ($PM_{2.5}$); volatile organic compounds (VOC); lead (Pb); fluorides (F); 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 equals or 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 facility is classified as a Major or Title V Source of air pollution because emissions of at least one regulated air pollutant, such as particulate matter carbon monoxide (CO), nitrogen oxides (NOx), (PM/PM10), sulfur dioxide (SO2), or volatile organic compounds (VOC) exceeds 100 tons per year (TPY). This facility is not within an industry included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. The facility is currently operating under Title V Air Operation Permit 0250476-010-AV, which expires on April 20, 2015.

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

Table A. Summary of the Applicant's PSD Applicability Analysis

Pollutant	Annual Emissions, Tons/Year				Subject to PSD?
	Baseline Actual	Projected Actual	Increase	Significant Emissions Rate	
CO	257.67	257.67	0	100	No
NO_X	771.15	771.15	0	40	No
PM	*23.047	*23.047	0	25	No
PM_{10}	*23.047	*23.047	0	15	No
$PM_{2.5}$	*23.047	*23.047	0	10	No
SO_2	20.639	20.639	0	40	No
VOC	25.928	25.928	0	40	No
HAPS	1.759	1.759	0	N/A	N/A

*Only Total PM is shown,

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. DEPARTMENT REVIEW

Brief Discussion of Emissions

Pump Station S-8, Emissions Unit 001, was constructed prior to PSD regulations. PSD regulations do not apply to the S-8 Units. Station G-404 was permitted with a fuel limitation of 250,000 gallons of diesel fuel. This resulted in a net increase of 34 tons per year of NOx emissions, below the 40 tons per year Significant Emissions Rate that would have subjected the facility to PSD. The facility will continue to limit fuel consumption to 250,000 gallons per year. The new engine will emit less NOx per gallon of fuel consumed, resulting in overall reduction in emissions when the new engine is operating. Because the new engine is for emergency use only, it is expected that decrease in emissions will be insignificant compared to what the G-404 pump engines will emit.

State Requirements

The G-404 Pump Station has an existing state required 250,000 gallon per year diesel fuel limitation. This limitation was requested by the facility to escape PSD review.

Federal NSPS Provisions

Because the engine was manufactured after January 1, 2014, it will be subject to the requirements of 40 CFR 60 Subpart IIII. The facility will be required to maintain the engine per manufacturer's recommendations and keep records of the maintenance.

Federal NESHAP Provisions

There are no specific NESHAP requirements. Engine complies with 40 CFR 63 Subpart ZZZZ, by complying with 4 0CFR 60 Subpart IIII.

Other Draft Permit Requirements

The new engine will be required to have a non-resettable hour meter, and the facility will have to monitor and track its diesel fuel use to ensure it does not exceed 250,000 gallons per 12-month period. .

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. No air quality modeling analysis is required because the project does not result in a significant increase in emissions. Scott D. Trainor 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 Southeast District Office, 3301 Gun Club Road; MSC 7210-1, West Palm Beach, Florida 33406, phone (561) 681-6600, or by email at sed.air@dep.state.fl.us.