STATEMENT OF BASIS FOR U.S. ENVIRONMENTAL PROTECTION AGENCY

SOUTH FLORIDA
WATER MANAGEMENT DISTRICT

Project: Pump Station S-362
Facility ID No.: 0990621

Palm Beach County, Florida

Title V Air Operation Permit
PROPOSED Permit No. 0990621-003-AV

Introduction

For the facility described below, the initial construction permit No. 0990621-001-AC, issued on March 4, 2004, establishes a federally enforceable fuel cap of 1.15 million gallons per year for all the stationary emission sources at Pump Station S-362. The fuel cap allowed the source to avoid PSD Major Source classification with respect to NOx emissions. Air Construction Permit No. 0990621-002-AC, issued on August 15, 2005, increased the distillate oil fuel cap from 1.15 million gallons per year to 1.34 million gallons per year. The new fuel cap is based on recalculated emission estimates using updated engine information and emission factors. Since the nitrogen oxides emissions associated with the combustion of the proposed amount of fuel are lower than originally estimated, this source will remain classified as a synthetic PSD minor source of air pollution. The Air Operation Permit application seeks to incorporate the provisions of construction permit No. 0990621-002-AC into an initial Title V Air Operation Permit.

This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-213. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Facility Description

The Title V Source, identified as Pump Station S-362 (SIC Code 4959), has been assigned AIRS ID No. 0990621. It is located one mile west of Flying Cow Road, south of Canal C-51, Palm Beach County, Florida. UTM Coordinates: Zone 17; 540.903 km E; 2918.521 km N; Latitude 26° 23’ 17” North and Longitude: 80° 35’ 24” West.

The Title V Source includes Pump station S-362 includes three (3) 1303 horsepower (hp) Fairbanks-Morse diesel engine/pump combinations, two (2) 839 hp Fairbanks-Morse diesel engine/pump combinations, two (2) 685 hp Cummins emergency generators and one (1) 535 hp Cummins emergency generator. All eight engines can operate on either distillate fuel (0.5% S by wt) or low sulfur fuel oil (0.05% S by wt). In addition, Pump Station S-362 contains several insignificant and/or exempt emission units including four (4) 20,000-gallon fuel oil storage tanks, seven (7) day-tanks and miscellaneous surface coating activities. It is classified as a synthetic-minor source under the Prevention of Significant Deterioration (PSD) program and a natural minor source under the Hazardous Air Pollutant program. Potential emissions of criteria pollutants from the source are limited below the 250 ton per year major source threshold of the PSD program by a federally enforceable construction permit (0990621-002-AC).

Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

Emissions Unit Description

This facility consists of the following emissions unit:

ID NOS. AND BRIEF DESCRIPTIONS

EU ID No.	Status	Brief Description
001	Regulated	Stationary Internal Combustion Engines – Three (3) 1303 hp diesel engine/pump combinations, two (2) 839 hp diesel engine/pump combinations, two (2) 685 hp diesel emergency generators, and one (1) 535 hp diesel emergency generator.
002	Regulated	Volatile Organic Liquid Storage Tanks – Three (4) 20,000-gallon above-ground fuel oil storage tanks
003	Unregulated	Volatile Organic Liquid Storage Tanks – Seven (7) aboveground storage tanks less than 40 cubic meters in capacity.

** (R)egulated and (U)nregulated - An unregulated emissions unit is an emissions unit which emits no "emissions-limited pollutant" and which is subject to no unit-specific work practice standard, though it may be subject to regulations applied on a facility-wide basis (e.g., unconfined emissions, odor, general opacity) or to regulations that require only that it be able to prove exemption from unit-specific emissions or work practice standards. Such emissions units and/or activities are neither "regulated emissions units" nor "exempt emissions units".*

Summary

The engines at this station are used to power three flood control pumps. The pump station is part of the Everglades Construction Project authorized by the Everglades Forever Act, Section 373.4592, Florida Statutes. Allowable emissions are based on a federally enforceable 1.34 million gallon per year limitation on fuel oil usage. The fuel use restriction indirectly caps emissions of nitrogen oxides at levels below the PSD Major Source threshold of 250 tons per year. Other pollutants associated with the fuel combustion, including sulfur dioxide, carbon monoxide, particulate matter (TSP and PM10), and volatile organic compounds, are also indirectly capped at levels of less than 50% of the PSD Major Source thresholds. Synthetically-limited potential emissions are as follows:

Table 1 - Summary of Potential-to-Emit (PTE) Pump Station S-362.

Pollutant	Proposed Potential Emissions (TPY)	PSD Major Source Threshold (TPY)	PSD Major Source?	Subject to PSD?
Nitrogen Oxide	248.07	250	No	No
Carbon Monoxide	24.18	250	No	No
Particulate Matter	8.84	250	No	No
PM 10	0.78	250	No	No
Volatile Organic Compounds	6.13	250	No	No
Sulfur Dioxide (0.5% S by weight)	48.40	250	No	No
Sulfur Dioxide (0.05% S by weight)	4.84	250	No	No
Benzene	7.16E-02	NA	No	No
Toluene	2.6E-02	NA	No	No
Xylene	1.78E-02	NA	No	No
Formaldehyde	7.27E-03	NA	No	No
Acetaldehyde	2.32E-03	NA	No	No

Acrolein	7.3E-04	NA	No	No
PAH	2.0E-02	NA	No	No
Total HAPs	1.50E-01	NA	No	No

Potential emissions are based on combined fuel consumption limit of 1.34 million gallons per year for three(3) 1303 horsepower (hp) Fairbanks-Morse diesel engine/pump combinations, and two (2) 839 hp Fairbanks-Morse diesel engine/pump combinations, two(2) 685 Cummins diesel emergency generators ,and one (1) 535 Cummins emergency generator, as requested by applicant. Nitrogen Oxides, Carbon Monoxide and Volatile Organic Compounds emissions are based on manufacturer's certifications of 9 grams/hp-hr, 3 grams/hp-hr, and 1.5 grams/hp-hr, respectively. All other emission rates are based on AP-42 emission factors.

As shown, Pump Station S-362 is not subject to PSD preconstruction review requirements because the fuel consumption limits requested by the applicant limit all potential emissions below the PSD major facility threshold. This facility will be classified considered a synthetic minor source under the preconstruction review program. Based on the proposed potential emissions of nitrogen oxides, this facility will be classified as a major source of air pollution under the Title V Operating Permit Program.

Nitrogen oxide emissions from the engine/pump combinations are based on manufacturer certified emission factors of 9 grams/hp-hr. The South Florida Water Management District has conducted stack emission testing at several facilities to verify the manufacturer's emission factors for the pump engines. The measured nitrogen oxide emission factor for Fairbank-Morse engines is 6.4 grams/hp-hr. Due to the temporary and infrequent use of the emergency generators, no emission testing was conducted for the three generator units. Because the estimated potential emissions of nitrogen oxides are very close to the PSD threshold, PBCHD is establishing a rolling 365–day total averaging period whenever a rolling 12-month total exceeds 1,073,414 gallons. This enhanced monitoring threshold is based on the estimated maximum fuel consumption for a 30-day period under continuous operation of the three pumps engines at full load as well as the three emergency generators. Monthly monitoring may be resumed after 30 consecutive days of daily monitoring demonstrate fuel consumption below the 1,073,414–gallon threshold.

Based on the proposed potential emissions of nitrogen oxides, this facility will be classified as a major source of air pollution under the Title V Operating Permit Program.

Because the proposed potential emissions of each individual HAP would be less than 10 tons per year and the combination of all HAP would be less than 25 tons per year, this facility is classified as a natural minor source under the Title III Hazardous Air Pollutant Program.

The Florida Department of Environmental Protection (FDEP) has permitting jurisdiction under Chapter 403.087, F.S. However, in accordance with Section 403.182, F.S., the FDEP recognizes the Health Department as the approved local air pollution control program in Palm Beach County. As such, the FDEP and the Health Department have entered into a Specific Operating Agreement that delegates to the Health Department the authority to issue or deny permits for this type of air pollution source located in Palm Beach County.

The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.