TECHNICAL EVALUATION

AND

PRELIMINARY DETERMINATION

South Florida Water Management District
Pump Station G-310

Air Permit File Number 0990549-008-AC

Palm Beach County, Florida

Palm Beach County Health Department
Division of Environmental Public Health
Air Pollution Control Section

1.0 APPLICATION INFORMATION

1.1 Applicant

South Florida Water Management District
3301 Gun Club Road, Dept. 5400
West Palm Beach, FL 33406

Authorized Representative:
Joel Arrieta, Director, Field Operations, Operations and Maintenance Resources

1.2 Application Review

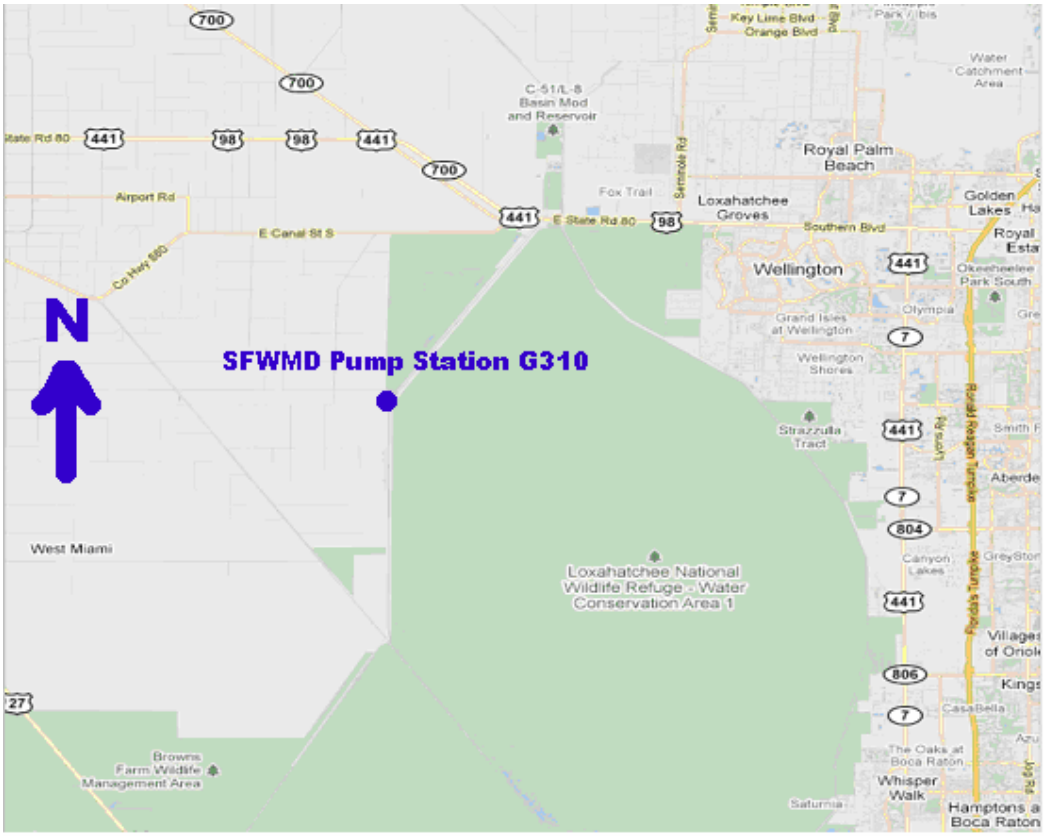
07-25-11: Department Received Requested additional information.
05-13-11: Department requested additional information.
03-31-11: Health Department received application for concurrent construction permit and Title V permit renewal.

2.0 FACILITY INFORMATION

2.1 Location

SFWMD Pump Station G-310
UTM: UTM Coordinates: Zone 17; 551.13 km East and 2941.96 km North
Latitude: 26° 35' 50" North / Longitude: 80° 26' 47" West.

Address: located approximately 1300 feet north and 400 feet east of the southwest corner of Section 34, Township 44 South, Range 39 East in Palm Beach County, FL



2.2 Standard Industrial Classification Code (SIC #9511)

Major Group Number	95	Administration Of Environmental Quality And Housing Programs
Industry Group Number	*951*	Administration Of Environmental Quality Programs
Industry Number	*9511*	Air, Water, And Solid Waste Management

2.3 Regulatory Classification

Title III: The facility is not a major source of hazardous air pollutants (HAPs)
Title IV: The facility will not operate units subject to the acid rain provisions of the Clean Air Act.
Title V: The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
PSD: The permittee requests a limit on fuel consumption to establish synthetic PSD minor status in accordance with Rule 62-212.400 F.A.C.
RACT: The diesel engines in this facility are not subject to the Major Source NOx RACT requirements in accordance with guidance issued by the Florida Department of Environmental Protection.
NSPS: The facility is not subject to any requirements of 40 CFR 60.
NESHAP: The facility is subject to the requirements of 40 CFR 61, Subpart M, Asbestos.
ZZZZ: The facility is subject to 40 CFR Part 63 Subpart ZZZZ *"National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines."*

3.0 PROJECT DESCRIPTION

The South Florida Water Management District (SFWMD) operates the flood control pump station located at the extreme southwest corner of the Storm Water Treatment Area No.1 West (STA-1W), approximately 1300 feet north and 400 feet east of the southwest corner of Section 34, Township 44 South, and Range 39 East in Palm Beach County, Florida.

This pump station includes two Fairbanks-Morse 1535-bhp (brake horsepower) water pumps, two Fairbanks-Morse 751-bhp water pumps, two Cummins 900-bhp emergency power generators, four 12,500-gallon AST and four small (day) fuel storage tanks. 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 for. Also included in this permit are miscellaneous unregulated/insignificant emissions units and/or activities.

The facility is designated as a major Title V source under Rule 62-210.200, F.A.C. because the potential emissions of nitrogen oxides are greater than 100 tons per year. This permit (0990549-008-AC) limits the sulfur content of the distillate fuel to 0.0015% sulfur by weight for all Reciprocating Internal Combustion Engines (RICE) under 40 CFR Part 63 Subpart ZZZZ.

40 CFR Part 63 Subpart ZZZZ for RICE requires CO emission limit of 23 ppm or reduction of CO by 70%. The **compliance deadline is no later than May 3, 2013**. In response to the requirements for 40 CFR Part 63 Subpart ZZZZ, the South Florida Water Management District had installed two DCL Oxidation catalysts (for preliminary testing and evaluation of the performance of the DCL oxidation catalysts) during the first week of August 2010, one on the 6-cyl 751-bhp Fairbanks Morse Engine and the other on the 10-cyl 1535-bhp Fairbanks Morse Engine. The results of the preliminary tests did provide assurance that the 70% reduction of CO emissions would be met by the federal deadline of May 3, 2013. Further testing is scheduled during the rainy season which starts in June on the 6-cyl 751-bhp Fairbanks Morse Engine. The construction project 0990549-008-AC is to install the add-on oxidation catalyst control devices on the other 10-cyl 1535-bhp and 6-cyl 751-bhp Fairbanks Morse Engine.
The applicant also proposes to modify the current construction permit to increase the annual fuel consumption from 926,000 to 1,101,406 gallons per year, and for the removal of the sulfur fuel sampling requirements required in **Appendix D** of the Title V Air Permit 0990549-006-AV.

4.0 POTENTIAL EMISSIONS:

The applicant proposes to modify the current construction permit to increase the annual fuel consumption from 926,000 to 1,101,406 gallons per year. Since the potential emissions of nitrogen oxides (NOx) corresponding to the new fuel consumption limit **NOx will be 246.72 tons per year**, pump station G-310 will retain its synthetic-minor source

status
under the Prevention of Significant Deterioration (PSD) program. Other pollutants associated with the fuel combustion, including sulfur dioxide, carbon monoxide, particulate matter (TSP and PM10), and volatile organic compounds, will also be indirectly capped at levels of less than 50% of the PSD Major Source thresholds. In Table 1, the historical annual fuel consumption was well below the 50% PSD Major Source Threshold even during the 2004 multiple-hurricane season.

Table 1 – Historical Annual Fuel Consumption

Year	Permitted Annual Fuel Consumption (Gallons)	Actual Annual Fuel Consumption (Gallons)	Percent Actual Fuel Consumption (Cap at 50% PSD Major Threshold)	Remarks
2004	**750,000**	**238,770**	**31.8%**	**Multiple Hurricanes**
2005	750,000	62,960	8.2%	
2006	926,000	76,870	8.3%	
2007	926,000	61,898	6.7%	
2008	926,000	142,080	15.3%	
2009	926,000	106,718	11.5%	
2010	926,000	90,422	9.8%	

Synthetically limited pollutant emissions are presented below:

Table 2 - Summary of Potential-to-Emit (PTE) Pump Station G-310, as proposed

Pollutant	Emission Factors LB/MMBTU AP-42 Table 3.4-1 thru 4	Proposed Potential Emissions (TPY)	PSD Major Source?	Subject to PSD?
Nitrogen Oxide	3.20E+00	**246.73**	**No**	**No**
Carbon Monoxide	8.50E-01	65.53	No	No
Particulate Matter	1.00E-01	7.71	No	No
PM 10	5.73E-02	4.42	No	No
Volatile Organic Compounds (91% of VOC = TNMOC)	8.19E-02	6.31	No	No
Sulfur Dioxide (0.0015% S by wt)	1.52E-03	0.117	No	No
Benzene	7.76E-04	0.060	No	No
Toluene	2.81E-04	0.022	No	No
Xylene	1.93E-04	0.015	No	No
Formaldehyde	7.89E-05	0.006	No	No
Acetaldehyde	2.52E-05	0.002	No	No
Acrolein	7.88E-06	.00585	No	No
PAH	2.12E-04	.016	No	No
Total HAPs	1.57E-03	0.12	No	No

The South Florida Water Management District also requested to remove the sulfur fuel sampling requirements since the facility had been operating only ultra-low sulfur fuel (0.0015% Sulfur by weight) since September of 2009 and has been verified by compliance inspections of their fuel delivery slips. The construction project's permit reflects South Florida Water Management Districts 's (SFWMD) requirement under 40 CFR Part 63 Subpart ZZZZ that they are only allowed to burn ultra-low sulfur fuel (0.0015 % S by weight) in their routine operations.

4.0 RULE APPLICABILITY

The proposed project is subject to preconstruction review under the applicable provisions of Chapter 403, Florida Statutes, and Chapters 62-209 through 62-297 of the Florida Administrative Code (F.A.C.). This facility is located in Palm Beach County, an area designated as "maintenance" for the pollutant ozone and attainment for all other criteria pollutants in accordance with Rule 62-275.410 and 62-275.400 respectively. The proposed project is exempt from review under Rule 62-212.400 F.A.C., Prevention of Significant Deterioration (PSD), because this source will be considered a synthetic minor emitting facility for the purpose of PSD regulations (potential to emit less than 250 tons per year of pollutant). The facility shall comply with all applicable provisions of the Florida Administrative Code and, specifically, the following chapters and rules:

- F.A.C. Chapter 62-4 - Permitting Requirements.
- F.A.C. Chapter 62-204 - Ambient Air Quality Requirements, PSD Increments, and Federal Regulations Adopted by Reference
- F.A.C. Chapter 62-210 - Required Permits, Public Notice, Reports, Stack Height Policy, Circumvention, Excess Emissions, and Forms
- F.A.C. Chapter 62-212 - General Preconstruction Review Requirements, PSD Requirements
- F.A.C. Chapter 62-213 - Operation Permits for Major Sources of Air Pollution
- F.A.C. Rule 62-296 - General Pollutant Emission Limiting Standards.
- F.A.C. Rule 62-297 - Test Methods
- F.A.C. Chapter 62-256 - Open Burning and Frost Protection Fires
- F.A.C. Rule 62-257 - Asbestos Program

And the following National Emission Standards for Hazardous Air Pollutants

- 40 CFR 61, Subpart M. - Asbestos
- 40 CFR 63, Subpart ZZZZ. - *"National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines."*

As of June 1, 2010 with references to **40 CFR 63.6604 and 40 CFR 80.510(b)**, EPA required all non-road engines which included non-emergency and emergency engines to use only ultra-low sulfur (0.0015% Sulfur by weight). The South Florida Water Management has complied since September 2009 with using ultra-low sulfur well before the EPA final phase-in usage requirement.

CONCLUSION

Based on all the information provided by the applicant, the Health Department has reasonable assurance that the proposed project, as described in this evaluation, and subject to the conditions in Project No. 0990549-008-AC, will not cause or significantly contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 62-209 through 62-297 of the Florida Administrative Code.