Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

January 21, 2005

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Jorge S. Rodriguez, P.E.
Miami-Dade Water and Sewer Department
P.O. Box 330316
Miami, FL 33233

Re: **Request for Additional Information**
Application No. 0250314-009-AC
Alexander Orr, Jr. Water Treatment Plant
Addition of Two New Standby Generators and Replacement of the Engine for Pump 5

Dear Mr. Rodriguez:

On December 27, 2004, the Department's Southeast District Office in West Palm Beach received your application and sufficient fee for an air construction permit to add two new standby generators and replace the engine for Pump 5 at the existing Alexander Orr, Jr. Water Treatment Plant. Due to the PSD preconstruction review implications, the application was transferred to the Department's Bureau of Air Regulation in Tallahassee for processing. The application is incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the items below require new calculations. please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

The facility is an existing PSD-major facility in accordance with Rule 62-212.400, F.A.C. The project was submitted as a minor source air construction permit. Appropriately, the application includes a PSD netting analysis to show that net emissions increases after completion of the project do not exceed the PSD significant emission rates; otherwise the project would be subject to PSD preconstruction review. However, the project includes several emissions units that have been authorized for construction under other permits, but are not yet installed. In addition, the PSD netting analysis includes existing emissions units that are not affected by the proposed project (i.e., lime kiln, lime silos, etc.). The Department's primary request is for a revised PSD netting analysis that accurately reflects the net emissions increases from the units that are impacted by the proposed project. For this reason, I have included a summary of the permitting histories, descriptions of the proposed actions, and the current status of the previous permitting projects. In addition to providing the requested additional information, please correct any errors and comment as necessary on this descriptive text.

1. Based on the application, the only proposed new equipment that has not been previously permitted is the addition of two new standby diesel Generators 5 and 6. The proposed engines are identical to existing Generators 1 – 4, which were modified by Permit No. PSD-FL-249 in 1999. Without restriction, emissions increases from the two new units would trigger PSD preconstruction review. However, the application requests the following restrictions: reducing the NOx emissions standard for existing Generators 1 – 4 from 4.12 to 3.5 lb/MMBtu; establishing a NOx emissions standard for new Generators 5 and 6 at 3.5 lb/MMBtu; and lowering the maximum diesel fuel consumption cap for the bank generators (existing and proposed) from 1,425,000 to 950,000 gallons during any consecutive 12 months. The purpose of the requested limits is to keep net emissions increases from the project below the PSD significant emissions rates. For this industry, net emissions increases are defined as the difference between the future potential emissions after completion of the project and the past actual emissions before the project. The Department has the following questions related to the emissions presented for the new and existing generators.

   a. Rule 62-210.200(203), F.A.C. defines *potential emissions* as "... the maximum capacity of an emissions unit or facility to emit a pollutant under its physical and operational design." Enforceable limits on emissions and operational capacity may also be used to determine potential emissions. Provide an estimate of the potential emissions for each new and existing generator. Identify references for all emissions factors and enforceable

operational restrictions used to determine emissions (i.e., AP-42 Table 3.4-1, requested permit limit, requested fuel consumption limit, etc.).

b. Rule 62-210.200(11), F.A.C. defines *actual emissions* in the following manner: "In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during a two year period which precedes the particular date and which is representative of the normal operation of the emissions unit. The Department may allow the use of a different time period upon a determination that it is more representative of the normal operation of the emissions unit. Actual emissions shall be calculated using the emissions unit's actual operating hours, production rates and types of materials processed, stored, or combusted during the selected time period."

The application based actual emissions from existing Generators 1 – 4 on: emissions tests conducted in 1997 and 1998; and actual fuel consumption from April of 1998 through March of 2000. However, Permit No. PSD-FL-249 was issued in 1999 to modify these units and lower the NOx emission rate. When were the engine modifications complete and the units tested to demonstrate compliance? Please provide the monthly fuel consumption rates for each unit after this date through 2004. Please provide the actual tested emissions rates for each engine after completing the modifications through 2004. Provide an estimate of the actual emissions for each unit based on the actual fuel consumption data for the last two years of operation (2003 and 2004). If you choose data from two other years of operation, please provide information to support this data as more representative of normal operation. Identify references for all emissions and operational factors used to determine emissions (i.e., AP-42 Table 3.4-1, 2003/2004 fuel consumption rates, fuel heating value based on vendor data, etc.).

2. In March of 1999, Permit No. 0250314-003-AC was issued to authorize the following: replacement of Pump/Engine 1 with a 900 kW emergency diesel generator for the pump room; removal of Pump/Engine 2 (which was inoperable and out of service since the early 1990's); and replacement of Pump/Engines 3, 4, and 5 with new pump/engine sets. In October of 2002, Permit No. 0250314-005-AC was issued to "re-permit" this project for updated equipment specifications. In each case, a detailed PSD netting analysis showed that the projects did not trigger PSD preconstruction review. In December of 2003, the authorization to construct was extended through August 7, 2005 (Project No. 0250314-007-AC).

   To date, the following activities have been completed with regard to this project: Pump/Engines 1, 2, 3, and 4 have been dismantled and removed; the new 900 kW generator is on site, but not yet operable; and replacement Pump/Engines 3 and 4 are on site, but not yet operable. It is expected that each of the new units on site will be completed and placed in service within the next 9 months. Existing Pump/Engine 5 is still in operation and cannot be dismantled until new Pump/Engines 3 and 4 are in operation to ensure the pumping capacity demands of the water distribution system can be met. Delays have occurred due to contractor difficulties.

   a. It is estimated that existing Pump/Engine 5 would be dismantled by 2007 and the replacement unit completed sometime in 2009. Identify the proposed schedule for completing construction and commencing operation of the 900 kW emergency generator and new Pump/Engines 3 and 4. Provide an estimate of the potential emissions for each new pump/engine set. Identify references for all emissions factors and enforceable operational restrictions used to determine emissions (i.e., AP-42 Table 3.4-1, requested permit limit, requested fuel consumption limit, requested limit on hours of operation, etc.).

   b. It is estimated that existing Pump/Engine 5 will be permanently shutdown by 2007. Identify the dates that Pump/Engines 1, 3, and 4 were permanently shut down. Submit fuel consumption data for the last two years of actual operation prior to each shut down. If you choose data from two other years of operation, please provide information to support this data as more representative of normal operation. Provide an estimate of the actual emissions for each pump/engine set prior to shutdown based on the actual fuel consumption data. Identify references for all emissions and operational factors used to determine emissions (i.e., AP-42 Table 3.4-1, 2003/2004 fuel consumption rates, fuel heating value based on vendor data, etc.).

3. Based on the application, the following emissions units will be affected by this project within the five year contemporaneous period for the PSD netting analysis: existing Pump/Engines 1, 3, 4, and 5 (EUs 001, 003, 004, and 005); existing Generators 1 – 4 (EUs 009 – 012); new Pump/Engines 3, 4, and 5 (EUs 018, 019, and 020); new 900 kW emergency generator for the pump room; new Generators 5 and 6 (EUs 024 and 025). Provide a revised PSD netting analysis that includes emissions increases and decreases for each of these units. The shutdown of existing Pump/Engines 1, 3, 4, and 5 will be considered to result in "emissions decreases" from the project based on the past actual emissions of these units. The startup of new Pump/Engines 3 - 5, the new 900 kW emergency generator, and

new Generators 5 and 6 will be considered to result in "emissions increases" from the project based on the potential emissions of these units. Note that existing Pump/Engine 2 was permanently shutdown in the early 1990's and is outside of the 5-year contemporaneous period defined for PSD netting. Actual emissions from Pump/Engine 2 can no longer be used in any PSD netting analysis.

4. Original Pump/Engines 1 - 6 were originally constructed in the 1950's. If replacement of Pump/Engine 6 is likely within the next 5 years, Miami-Dade WASD should consider including the replacement as part of this project and PSD netting analysis. Otherwise, depending on the timing and other issues, it may be necessary to revisit the PSD netting analysis for this project to ensure that the replacement project was not phased to avoid appropriate PSD preconstruction review.

5. The Department is considering the current project to be part of the previous project to replace pump/engine sets due to timing concerns and the similar nature of the requests. As a result, a draft permit would likely supersede previous Permit Nos. 0250314-005-AC and 0250314-007-AC. In addition to authorizing the new construction of Generators 5 and 6, this action would extend the authority to complete construction of Pump/Engines 3 – 5 and the new 900 kW emergency generator. Please comment.

The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. For any material changes to the application, please include a new certification statement by the authorized representative or responsible official. You are reminded that Rule 62-4.055(1), F.A.C. requires applicants to respond to requests for information within 90 days or provide a written request for an additional period of time to submit the information.

I understand that many of these issues may need an additional explanation. After you've had a chance to review this request, please call me at your earliest convenience so that we can resolve any questions or concerns before you submit the requested additional information. If you have any questions regarding this matter, please call me at 850/921-9536.

Sincerely,

Jeffery J. Koerner

Jeffery F. Koerner, P.E.
BAR - Air Permitting South

cc: Mr. Richard O'Rourke, P.E., Miami-Dade WASD
Mr. Laxmana Tallam, P.E., SED Office
Ms. Mallika Muthiah, P.E., Miami-Dade DERM
Mr. Gregg Worley, EPA Region 4
Mr. John Bunyak, NPS

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Mr. Jorge S. Rodriquez, P.E.
Miami-Dade Water and Sewer Department
Post Office Box 330316
Miami, Florida 33233

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Miami-Dade Water & Sewer Department

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