



# Department of Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

June 17, 1998

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Robert C. Ready, P.E.  
Assistant Director of Treatment Facility  
Miami-Dade Water & Sewer Department  
4200 Salzedo Street  
Coral Gables, FL 33146-0316

Re: Request for Additional Information Regarding Air Construction/Operation Permit Application  
DEP File No. 0250314-002-AC (PSD-FL-249)  
Alexander Orr, Jr. Water Treatment Plant

Dear Mr. Ready:

The Department has received your application for an air construction/operation permit for four diesel engine-driven generator sets, four diesel pump engines and one dual fuel pump engine at the Alexander Orr, Jr. Water Treatment Plant. The application was received on May 19, 1998, the date the complete fee was received. In order to continue processing your application, the Department will need the additional information below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. Please verify that the chart for the procedures for startup and shutdown in Attachment 8 is correct for this facility. We note that six units are listed in the chart, while there are four generator sets. Please indicate the times (duration) and frequency (i.e. twice per day, five days per week) of maintenance of the four diesel engine-driven generator sets, or any other time the engines are running but do not produce power.
2. Please provide fuel usage information, including the heat input rate (mmBtu/hr) for each diesel generator. Also, explain why fuel limitations are not proposed. Please provide emission rate calculations for NO<sub>x</sub> in units of lb/mmBtu and compare with emission limits of NO<sub>x</sub> RACT, Rule 62-296.570(4), F.A.C.
3. Please verify that the g/bhp-hr factor used for the chosen control technology at 100% load is 9.08 for NO<sub>x</sub> for the generator sources. Does the 9.08 g/bhp-hr factor include a safety factor? If so, please explain what this safety factor is. In Attachment 3, the spreadsheet of Emissions from 20F4B Standby Generators shows that the NO<sub>x</sub> emission factor at various speeds is from test data. How many tests are used to determine the emission factor? What are the manufacturer's emission factors? Provide the factors as well as emission rates for NO<sub>x</sub> for the SCR control technology option.

In Attachment 3 calculations are provided for the 20F4B standby generators for NOx that include a safety factor. What is the safety factor and why is it used? Past actual data from ARMS show:

Emissions Unit	Test Date	NOx, lb/hr
Generator Set #1	9/18/96	62.46
Generator Set #2	9/18/96	62.84
Generator Set #3	9/18/96	61.53
Generator Set #4	9/19/96	59.95

If these generator sets can attain these emission rates, provide justification for increasing potential emissions with a safety factor.

4. In section 2.3 there are four generator sets, while in section 3.1 the data is for three 20F4B generator sets. Please indicate if this data is for all four 20F4B generator sets, and if not, please provide the data for the fourth generator set. Table 3-1 provides a comparison of proposed annual emissions with PSD significant emission rates for the EMD Model 20F4B standby generators. Please provide the supporting calculations for each proposed annual emission.
5. Please provide the calculation or origin of the efficiency for NOx reduction of 28%. Is this factor applicable at all loads?
6. Have you considered other options towards reducing NOx, such as alternative fuels, dual fuel firing, or engine retrofit kits? If so, please provide a summary, or explain why none of these considerations were chosen.
7. Please indicate if the facility will be able to comply with the requirements of Rule 62-297.310(6), F.A.C., regarding safe, permanent sampling platforms. Please note that annual testing will be required, so permanent test sampling facilities will be required.
8. Please provide past actual annual emissions of CO, NOx, SO2, PM/PM10 and VOC for all of the diesel engine driven pumps, including the calculations. Also, please calculate future potential emissions and show the calculations. Please provide other supporting information to demonstrate that future potential emissions will not exceed past actual emissions. In Attachment 3, the measured emissions plus the safety factor for NOx is higher than most of the data found in ARMS.

Emissions Unit	Test Date	NOx, lb/hr
Diesel Engine Driven Pump #1	9/25/97	9.31
Diesel Engine Driven Pump #3	9/25/97	7.85
Diesel Engine Driven Pump #4	10/2/97	12.71

What is the safety factor and why is it used when the diesel engine driven pumps can attain lower emission rates?

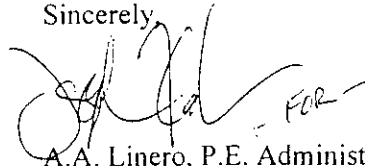
9. How has pump engine 2 been removed from service? Have the controls and fuel source been disconnected?
10. We request the following information regarding the portable diesel engine generators that were on site during our site visit of May 4th, 1998. Please provide the engine bhp, electric generating capacity and fuel usage at full load, date of arrival on site, duration of expected use, operating hours to date on site and expected total operating hours, and an emissions estimate similar to the permanent units, and any other supporting information.

11. Please provide a detailed map showing the location of all of the fence-line receptors used in the air quality impact analysis. These receptor locations should be shown in UTM coordinates since the UTM coordinate system is used in the modeling. In addition send us diskettes containing all of the air quality impact analysis modeling output files.

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. As a result your response should be certified by a professional engineer registered in the State of Florida. A copy of your response should be sent to Isidore Goldman, DEP Southeast District and Patrick Wong, Dade County DERM.

If you should have any questions, please call Susan DeVore-Fillmore (engineer) or Cleve Holladay (meteorologist) [project engineer] at 850/921-9537 or 850/921-9530, respectively.

Sincerely,

A handwritten signature in black ink, appearing to read 'A.A. Linero', with a small 'FOR' written to the right of the signature.

A.A. Linero, P.E. Administrator  
New Source Review Section

AAL/sdf

cc: Mr. Brian Beals, EPA  
Mr. John Bunyak, NPS  
Mr. David E. Lindberg, P.E., CH2M HILL  
Mr. Isidore Goldman, SED  
Mr. Patrick Wong, DERM

P 265 659 374

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**Receipt for Certified Mail**

No Insurance Coverage Provided.  
Do not use for International Mail (See reverse)

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Street & Number	Miami Dade
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Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	6-17-98
0250314-002-AC PSD-FI-249	

PS Form 3800, April 1995

is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
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also when to receive the following services (for an extra fee):

- Addressee's Address
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Consult postmaster for fee.

3. Article Addressed to:  
Robert C Ready  
Miami Dade Water + Sewer  
4200 Salzedo St.  
Conal Gables, FL  
33146-0316

4a. Article Number  
P 265 659 374

4b. Service Type  
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 Express Mail       Insured  
 Return Receipt for Merchandise       COD

7. Date of Delivery  
6/19/98

5. Received By: (Print Name)  
L. BANFIELD

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)  
X L. Banfield

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