



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

December 16, 2010

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BUREAU OF  
AIR REGULATION

A. A. Linero, P.E.  
Bureau of Air Regulation  
Florida Department of Environmental Protection  
Bob Martinez Building  
2600 Blair Stone Road, MS#5505  
Tallahassee, Florida 32399-2400

Dear Mr. Linero:

Thank you for sending the Prevention of Significant Determination (PSD) permit and application for a proposed project at the Solid Waste Authority of Palm Beach County (SWAPBC) in West Palm Beach, Florida. The project, referred to as the Palm Beach Renewable Energy Facility No.2 (PBREF2), is located adjacent to the existing North County Resource Recovery Facility (NCRRF) at the Palm Beach Renewable Energy Park. SWAPBC is planning to expand its solid waste processing capacity by constructing a new waste-to-energy (WTE) facility consisting of three 1,000-ton-per-day mass-burn municipal waste combustor (MWC) units and ancillary equipment. The Florida Department of Environmental Protection (DEP) has determined that the project is subject to PSD review for Carbon Monoxide (CO), Nitrogen Oxides (NO<sub>x</sub>), Sulfur Dioxide (SO<sub>2</sub>), Municipal Waste Combustion Acid Gases (MWC-AG), Volatile Organic Compounds (VOC), Particulate Matter (PM/PM<sub>10</sub>), lead (Pb), MWC organics as dioxins and furans, and Sulfuric Acid Mist (SAM).

The Region 4 office of the U. S. Environmental Protection Agency (EPA) has reviewed the application, draft permit, air quality modeling report (dated October 2010), and Florida DEP Technical Evaluation & Preliminary Determination (dated November 2010), and has the following comments:

**Air Quality Modeling Report for 1-hour NO<sub>2</sub> and SO<sub>2</sub> NAAQS**

1. Emergency Diesel Generator and Fire Water Pump – The 250 kW diesel generator and two diesel emergency fire water pumps were not included in the impact modeling assessment. This appears to be appropriate if the following operational conditions are included in the permit:

- The equipment is only operated in an emergency when other onsite units are not operating. Emergency operation is for controlled shutdown of the facility and not as a backup power supply for continued facility operation.
- Testing and maintenance operation of the generator and pumps is limited to 100 hours per year with each test or maintenance operation limited to 30 minutes or less.

- Under emergency conditions these units will be operated no longer than necessary to ensure controlled shutdown or emergency control. The units will not be used to continue normal operation of the facility.
2. Startup and Shutdown Events – Operations during startup and shutdown were not evaluated separately in the modeling report. The report indicated startup and shutdown are of short duration and are well-planned events. This appears to be appropriate if emission control equipment remains operational and emissions remain within permit limits during these events. These conditions should be reflected in the permit.
  3. Worst-case Load Analysis – The following comments are associated with the worst-case load analysis used in the modeling.
    - The worst-case load analysis appears to have assumed that each of the three MWC units will be operated simultaneously under the same load scenario. Confirmation is needed that this is a realistic assumption.
    - The operating load scenarios indicated in Table 3-1 should be explained and described.
    - The basis for the use of the Tier 2 default factor of 0.75 was indicated to be a review of the historical ambient NO<sub>2</sub>/NO<sub>x</sub> ratios from nearby monitoring. The analysis of the nearby monitoring data should be provided.
  4. Full Multisource Impact Analysis for NO<sub>2</sub> – The following comments are associated with the Full Multisource Impact Analysis for NO<sub>2</sub> section of the report.
    - The 98<sup>th</sup> percentile daily concentrations averaged over the five year modeling period were determined using the BREEZE post-processor. An analysis showing proper operation of the postprocessor should be performed.
    - The full 1-hour NO<sub>2</sub> NAAQS compliance analysis should be performed within the circular significant impact area of 2.7 km. The identification of receptors with project-only impacts equal to or greater than the Significant Impact Levels (SIL) is of value but does not allow determination of the national ambient air quality standard (NAAQS) compliance conditions regarding the modified facility.
    - The inventory of other nearby NO<sub>2</sub> sources was indicated to have been updated to contain appropriate maximum 1-hour NO<sub>2</sub> emission rates. Any emission unit at a facility without an appropriate maximum 1-hour allowable emission rate should be identified.
    - The initial inventory of nearby NO<sub>2</sub> sources and the 20D screening analysis inventory (Attachments A-1 and A-2) were not available for review and evaluation to confirm proper application of the 20D procedure. These attachments should be submitted with the revised report or response to comments.
    - The removal of emergency generating units from sources in the nearby inventory does not appear appropriate unless the permit for these sources contains the limitation provided in Comment 1 above.
    - The additional screening of the remaining nearby sources after the 20D procedure is not appropriate. The remaining sources (including all of their associated emission units) should be used in the cumulative NAAQS compliance modeling.

5. Attachment B – This attachment contains descriptions of the post-processing procedures that appear acceptable to obtain the project concentrations for comparison to the SIL, cumulative concentrations that are equal to or exceed the NAAQS, and project contributions to the identified possible NAAQS violations. As indicated above, the proper operation of the BREZE post-processor and the procedures described should be confirmed.

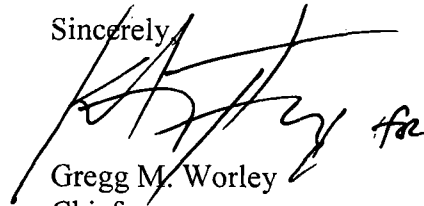
**Florida DEP Technical Evaluation & Preliminary Determination (11/2010)**

1. New PM<sub>2.5</sub> NAAQS and PSD Increment – The NAAQS, PSD Increments, SIL, and Significant Monitoring Concentrations have been promulgated. This document should reflect these promulgated PM<sub>2.5</sub> standards and include the required ambient impact assessments (*i.e.*, whenever PM<sub>10</sub> is addressed in the text and tables). The promulgated SIL should be provided to compare with those used by the applicant.
2. New SO<sub>2</sub> and NO<sub>2</sub> NAAQS – New NAAQS exist for these two pollutants. Although Florida DEP has not adopted the standards, the proposed interim SIL should be compared to those proposed by the applicant.
3. Multisource 1-Hour NO<sub>2</sub> Analysis – Based on the applicant's October 2010 1-hour NO<sub>2</sub> and SO<sub>2</sub> modeling analysis report, all facilities greater than 500 TPY within 52.7 km of PBREF-2 were not included in the cumulative NAAQS compliance modeling. However, inclusion of these facilities in the modeling was indicated in the Technical Evaluation & Preliminary Determination. These facilities should be included in the modeling or the Technical Evaluation & Preliminary Determination should be amended.

Because the air quality report is the basis for the Technical Evaluation and Preliminary Determination, responses to the above comments on the air quality report should be reflected in this document also.

If you have any questions about these comments or require additional information, please contact Lori Shepherd at (404) 562-8435, or by email at [shepherd.lorinda@epa.gov](mailto:shepherd.lorinda@epa.gov).

Sincerely,



Gregg M. Worley  
Chief  
Air Permits Section

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