



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

April 8, 2011

Electronic Mail – Received Receipt Requested

Ms. Kerri Stewart
City of Jacksonville
Public Works Department
117 West Duval Street, St. James Building, 4th Floor
Jacksonville, FL 32202

Re: **Request for Additional Information**
Project No. 0310358-012-AC (PSD-FL-374C)
Trail Ridge Landfill
Proposed New Engines and Requested Increase of CO Emissions Standards for Existing Engines

Dear Ms. Stewart:

On March 17, 2011, the Department received an application to install four new Caterpillar Model No. G3520C engine generator sets. The application indicates that the project is subject to preconstruction review for emissions of carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter less than 10 microns (PM₁₀) and particulate matter less than 2.5 microns (PM_{2.5}) in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. The application proposes a CO emissions standard of 3.3 grams per brake horsepower per hour (g/bhp-hour) as Best Available Control Technology (BACT). The application also requests that the CO BACT standard for the existing lean-burn Caterpillar Model No. G3520C engines be increased from 2.75 g/bhp-hour to 3.3 g/bhp-hour. In addition, the applicant requested a concurrent revision of the Title V air operation permit. The application is incomplete. In order to continue processing your application, please provide the additional information requested below. Should your response to any of the requested items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. As noted in the application, the engines are subject to NSPS Subpart JJJJ. The application recognizes that engines manufactured after July 1, 2007 must achieve emissions rates of NO_x to 3.0 g/bhp-hour, CO to 5.0 g/bhp-hour and VOC to 1.0 g/bhp-hour. In addition, engines manufactured after July 1, 2010 must achieve emissions rates of NO_x to 2.0 g/bhp-hour, CO to 5.0 g/bhp-hour and VOC to 1.0 g/bhp-hour. What is the manufacturer date of the proposed engines?
2. The following comments are based on the EPA guidance for modeling and comparing nitrogen dioxide (NO₂) impacts to the new 1-hour national ambient air quality standard (NAAQS). This guidance is located on the EPA Technology Transfer Network Support Center for Regulatory Atmospheric Modeling (TTN-SCRAM) website at the following address: <http://www.epa.gov/scram001/>. The NO₂ modeling guidance includes the following documents:

REQUEST FOR ADDITIONAL INFORMATION

- Tyler Fox's (Office of Air Quality Planning and Standards (OAQPS)) clarification memorandum dated March 1, 2011, "*Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO₂ National Ambient Air Quality Standard.*"
- Tyler Fox's (OAQPS) clarification memorandum dated June 28, 2010, "*Applicability of Appendix W Modeling Guidance for the 1-hour NO₂ National Ambient Air Quality Standard.*"
- Stephen Page's (OAQPS) memorandum, dated June 29, 2010, "*Guidance Concerning the Implementation of the 1-hour NO₂ NAAQS for the Prevention of Significant Deterioration Program*" and embedded in this memorandum is Anna Marie Wood's (OAQPS) memorandum, dated June 28, 2010, "*General Guidance for Implementing the 1-hour NO₂ National Ambient Air Quality Standard in Prevention of Significant Deterioration Permits, Including an Interim 1-hour NO₂ Significant Impact Level.*"

The following questions relate to the air quality analysis and these guidance memoranda.

- a. On pages 22 and 23 (Table 6.1) of the application, it is stated that no significant impact level has been given for the 1-hour NO₂ standard. However, on page 12 of Anna Marie Wood's memorandum (dated June 28, 2010), EPA recommends an interim significant impact level of 4 parts per billion (7.6 ug/m³). For purposes of creating a significant impact level for the 1-hour NO₂ standard, either the EPA recommended value or a value developed by the applicant may be used. Please provide a detailed justification for the use of either value. In addition, provide a radius of significant impact for the 1-hour NO₂ standard.
- b. The North Carolina screening technique known as the "20D approach" was used to evaluate which facilities may be eliminated from consideration in the cumulative modeling analysis. Please provide detailed information about which NO₂ sources were chosen for inclusion in the multi-source modeling. If two or more facilities are in close proximity to each other, the emissions should be added together. If the combined emissions are greater than the 20D value, the facilities should be included in the modeling inventory. In addition to using maximum 1-hour emission rates for Trail Ridge sources, maximum 1-hour emission rates should also be used for non-Trail Ridge sources included in the NO₂ cumulative inventory. Please revise as necessary.
- c. The modeling output and input files for NO₂ are incomplete and erroneous. Emission rates for the Jacksonville Electric Authority (JEA) and Gerdau Ameristeel Jacksonville Mill Division (GAMJD) sources used in the input files for the years 2001-2003 are different from those for the years 2004-2005. For instance, the emission rate for the source JEA 3 is 464.43 grams per second (g/s) in 2001 and 2786.58 g/s in 2005. These differences result in predicted maximum concentrations ranging from 61 ug/m³ in 2001 to 593 ug/m³ in 2005. In addition, the NO₂ emission rate for the open flare contained in the NO₂ input files is 0.56 g/s which does not match the value of 0.74 g/s given in Table 7.7. Additionally, a subfolder named "NO₂ results-12222010" in the folder called AERMOD 3 (NO₂ results) on the submitted modeling DVD contains no files. The NO₂ modeling results in Table 7.10 do not match what has been provided on the modeling results DVD. Please provide all modeling results for NO₂ including post-files and spreadsheets containing 8th highest results, etc.
- d. Please re-run any modeling necessary to incorporate changes due to comments 6a to 6c. If the Tier 1 and Tier 2 results are greater than the 1-hour standard, reduction of emissions may need to be proposed or Tier 3 modeling may need to be performed. However, the use of any Appendix W Tier 3 methods (Ozone Limiting Method (OLM) and Plume Volume Molar Ratio Method (PVMRM)) represents use of non-regulatory default options that may require case-by-case approval from the Regional EPA office either by e-mail or by letter.

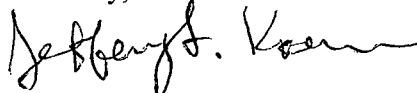
REQUEST FOR ADDITIONAL INFORMATION

3. Modeled results of PM_{2.5} on the modeling DVD do not match the value given in Table 7.10. Also in Table 7.7 flare emissions were given as 0.32 g/s. However, no flare emissions were input in the submitted PM_{2.5} modeling. As was done for NO₂, please provide detailed information about which PM_{2.5} sources were chosen for inclusion in the multi-source modeling. Then verify the PM_{2.5} emission rates, update the modeling for PM_{2.5} and submit the results. Guidance for determining PM_{2.5} impacts for comparison with the ambient air quality standards is given in Stephen Page's (OAQPS) memorandum, dated March 23, 2010, "*Modeling Procedures for Demonstrating Compliance with PM_{2.5} NAAQS*". This guidance is also located on the EPA TTN-SCRAM website at the following address: <http://www.epa.gov/scram001/>.

The above information is requested pursuant to the following F.A.C. regulations: Rule 62-4.050 (Procedures to Obtain Permits and Other Authorizations; Applications); 62-4.055 (Permit Processing); 62-4.070 (Standards for Issuing or Denying Permits; Issuance; Denial); 62-4.120 (Construction Permits); 62-204.800 (Federal Regulations Adopted by Reference); 62-212.300 (Permits Required); 62-210.370 (Emissions Computations and Reporting); 62-210.900 (Forms and Instructions); 62-212.300 (General Preconstruction Review); and 62-212.400 (Prevention of Significant Deterioration). All applications for a Department permit must be certified by a professional engineer registered in the State of Florida pursuant to Rule 62-4.050(3), F.A.C. 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.

We will resume processing your application after receipt of the requested information. You are reminded that Rule 62-4.055(1), F.A.C. requires applicants to respond to requests for information within 90 days or to provide a written request for an additional period of time to submit the information. If you have any questions regarding this matter, please contact the project engineer, Christy DeVore, at 850/717-9085 or the meteorologist, Cleve Holladay, at 850/717-9089.

Sincerely,



For

Christy DeVore, Professional Engineer II
New Source Review Section

This letter was sent to the following persons by electronic mail with received receipt requested.

Ms. Kerri Stewart, City of Jacksonville (kstewart@coj.net)
Mr. Scott Salisbury, Trail Ridge Energy, LLC (scott.salisbury@landfillenergy.com)
Mr. Robert Harvey, P.E., Derenzo and Associates, Inc. (rharvey@derenzo.com)
Mr. Chris Kirts, Northeast District (christopher.kirts@dep.state.fl.us)
Mr. Richard Robinson, Duval County Environmental Resources Management (robinson@coj.net)
Ms. Kathleen Forney, EPA Region 4 (forney.kathleen@epa.gov)
Ms. Heather Abrams, EPA Region 4 (abrams.heather@epa.gov)
Ms. Vickie Gibson, DEP BAR Reading File (victoria.gibson@dep.state.fl.us)

JFK/scd/ch

Walker, Elizabeth (AIR)

From: Walker, Elizabeth (AIR)
Sent: Friday, April 08, 2011 4:20 PM
To: 'kstewart@coj.net'
Cc: 'scott.salisbury@landfillenergy.com'; 'rharvey@derenzo.com'; Kirts, Christopher; 'Robinson, Richard'; 'Forney.Kathleen@epamail.epa.gov'; 'Abrams.Heather@epamail.epa.gov'; Gibson, Victoria; Koerner, Jeff; DeVore, Christy
Subject: RAI - Trail Ridge Landfill (0310358-012-AC/PSD-FL-374C)
Attachments: RAI_0310358-012-AC.pdf

Dear Sir/Madam:

The Florida Department of Environmental Protection Bureau of Air Regulation is issuing electronic documents for permits, notices and other correspondence in lieu of hard copies through the United States Postal System, to provide greater service to the applicant and the engineering community. The attached document may require immediate action within a specified time frame.

Please open and review the document as soon as possible and send a "reply" message verifying receipt of the attached document. This may be done by selecting "Reply" on the menu bar of your e-mail software, *noting that you can view the documents*, and then selecting "Send". We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document.

Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

Elizabeth Walker
Bureau of Air Regulation
Division of Air Resource Management (DARM)
(850)717-9093

The attached document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: <<http://www.adobe.com/products/acrobat/readstep.html>> .

Walker, Elizabeth (AIR)

From: Microsoft Exchange
To: 'rharvey@derenzo.com'
Sent: Friday, April 08, 2011 4:20 PM
Subject: Relayed: RAI - Trail Ridge Landfill (0310358-012-AC/PSD-FL-374C)

Delivery to these recipients or distribution lists is complete, but delivery notification was not sent by the destination:

'rharvey@derenzo.com'

Subject: RAI - Trail Ridge Landfill (0310358-012-AC/PSD-FL-374C)

Sent by Microsoft Exchange Server 2007

Walker, Elizabeth (AIR)

From: Microsoft Exchange
To: 'kstewart@coj.net'; 'Robinson, Richard'
Sent: Friday, April 08, 2011 4:20 PM
Subject: Relayed: RAI - Trail Ridge Landfill (0310358-012-AC/PSD-FL-374C)

Delivery to these recipients or distribution lists is complete, but delivery notification was not sent by the destination:

'kstewart@coj.net'

'Robinson, Richard'

Subject: RAI - Trail Ridge Landfill (0310358-012-AC/PSD-FL-374C)

Sent by Microsoft Exchange Server 2007

Walker, Elizabeth (AIR)

From: Robinson, Richard [ROBINSON@coj.net]
Sent: Monday, April 11, 2011 7:48 AM
To: Walker, Elizabeth (AIR)
Subject: RE: RAI - Trail Ridge Landfill (0310358-012-AC/PSD-FL-374C)

Hi Elizabeth,

I was able to view the subject document attached to the e-mail below.

Thanks,

Richard

Richard L. Robinson, P.E.

Environmental Engineering Manager
Environmental Quality Division
City of Jacksonville, Florida
407 North Laura Street, Third Floor
Jacksonville, FL 32202
Phone: (904) 255-7201
Fax: (904) 588-0518
E-Mail: robinson@coj.net

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Please consider the environment before printing this email.

From: Walker, Elizabeth (AIR) [<mailto:Elizabeth.Walker@dep.state.fl.us>]
Sent: Friday, April 08, 2011 4:20 PM
To: Stewart, Kimberly
Cc: scott.salisbury@landfillenergy.com; rharvey@derenzo.com; Kirts, Christopher; Robinson, Richard; Forney.Kathleen@epamail.epa.gov; Abrams.Heather@epamail.epa.gov; Gibson, Victoria; Koerner, Jeff; DeVore, Christy
Subject: RAI - Trail Ridge Landfill (0310358-012-AC/PSD-FL-374C)

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Please advise this office of any changes to your e-mail address or that of the Engineer-of-Record.

Thank you,

Elizabeth Walker
Bureau of Air Regulation
Division of Air Resource Management (DARM)
(850)717-9093

The attached document is in Adobe Portable Document Format (pdf). Adobe Acrobat Reader can be downloaded for free at the following internet site: <http://www.adobe.com/products/acrobat/readstep.html> .

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