



Florida Department of Environmental Protection

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

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

July 16, 2010

Electronic Mail – Received Receipt Requested

Mr. Steve Bouley, Vice President
Pratt & Whitney
P.O. Box 109600, MS 717-03
West Palm Beach, FL 33410-9600

Re: Request for Additional Information

DEP File No. 0990021-017-AC (PSD-FL-410)

United Technologies Corp/Pratt & Whitney – Increase in Operating Hours for the GG4-9A Turbine Engines

Dear Mr. Bouley:

On June 17, 2010, the Department received your response to our Request for Additional Information (RAI) letter dated March 9, 2010, concerning your application allowing Pratt & Whitney to increase operating hours for the two GG4-9A turbine engines which supports jet engine testing at the RAM Test Facility in Palm Beach County.

The application is still incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to the items below require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. Please follow the guidance for modeling and comparing nitrogen dioxide impacts (NO₂) to the new 1-hour national ambient air quality standard (NAAQS) located on the United States Environmental Protection (EPA) Technology Transfer Network Support Center for Regulatory Atmospheric Modeling (TTN-SCRAM) website at the following address: <http://www.epa.gov/scram001/>. NO₂ modeling guidance found on this website includes the following documents:

Tyler Fox's (Office of Air Quality Planning and Standards (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."

2. In your response, the 1-hour nitrogen oxides (NO_x) emission rate for each turbine engine was indicated to be the "the 1-hour average NO_x emission rate." In table 2-1 of the application, the value of 149.9 pounds

per hour (lb/hr) per turbine is given as the maximum hourly NO_x emission. Please verify that the maximum NO_x emission rate was used. Also, the engine operating configurations (e.g., engine loads, number of engines operating simultaneously, etc.) should be considered in the modeling, and the configuration producing the maximum impact should be identified.

3. 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 require case-by-case approval by the Regional EPA office either by e-mail or by letter.
4. The basis for and applicability of the selected ozone measurements for this application should be provided. This should include the quality and characteristics of these measurements (e.g., percent valid measurements) for use in the OLM Tier 3 procedure.
5. The procedure of adding the modeled project only concentration to monitored representative background NO₂ concentrations to determine compliance with the 1-hour NAAQS is not an appropriate procedure that ensures NAAQS compliance. The total facility NO₂ emissions units at their allowable maximum 1-hour NO₂ emission rates should be modeled along with applicable nearby facilities' NO₂ emissions at their allowable 1-hour emission rates. The background NO₂ monitored concentration should be added to the resultant cumulative modeled ambient impacts prior to comparison with the 1-hour NO₂ NAAQS (see Tyler Fox's June 28, 2010 memorandum).
6. The use of the 98th percentile measured NO₂ concentration for background should be explained (e.g., 98th percentile of the daily maximum 1-hour NO₂ measurement or all of the 1-hourly measurements).
7. The use of the hourly NO₂ measurement at the day/time of the project's predicted impact should be explained. If the use of hourly NO₂ measurements is appropriate, it appears that the hourly background monitored concentrations should be added to each hourly modeled ambient concentration in each day before the maximum 1-hour daily concentration is selected for use in the compliance assessment.
8. The results provided from the various modeling analyses are indicated to be the maximum concentration for each of the five years and not the maximum five years average of the maximum daily values. Please explain this further. Does this mean that all hours during the year were used and not the maximum daily 1-hour values?
9. Table 1 indicates the modeled estimated project only maximum NO₂ concentrations are not affected by the form/value of the ozone concentration used in the OLM procedure. Please explain.
10. In the last RAI, we commented that on November 16, 2009, EPA also proposed to revise the SO₂ primary standard to an hourly standard to a value between 50 and 100 parts per billion (ppb). EPA published a final rule in the Federal Register on June 22, 2010 setting the one hour standard to 75 ppb, with the final rule being effective on August 23, 2010 for all permits not issued final by that date (60 days after issuance in the Federal Register). Because of public notice requirements, your permit will not likely be issued final by that date. Please provide an SO₂ 1-hour analysis.
11. The response received to Item No. 3 of the Department's March 9, 2010, RAI letter is inadequate. The Department requested a Best Available Control Technology (BACT) visible emissions (VE) standard for the project. The response refers to the general VE standards, which is not a BACT standard. Please provide BACT VE standard data for similar emissions units that have been established at facilities that are permitted to operate combustion turbines.

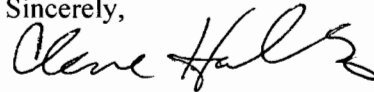
The Department will resume processing your application after receipt of the requested information. Rule 62-4.050(3) of the Florida Administrative Code (F.A.C.) requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. For any material changes

Mr. Steve Bouley
July 16, 2010
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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 to provide a written request for an additional period of time to submit the information.

If you have any questions, I can be contacted at 850/921-8986. You may discuss the engineering requirements with Mr. Syed Arif at 850/921-9580.

Sincerely,



Cleve Holladay, Meteorologist
New Source Review Section

This letter was sent by electronic mail with received receipt requested to the following people:

Steve Bouley, Pratt & Whitney: steven.bouley@pwr.utc.com

Dean Gee, Pratt & Whitney: dean.gee@pw.utc.com

Kathleen Forney, EPA Region 4: forney.kathleen@epa.gov

Laxmana Tallam, Palm Beach County Health Department: laxmana_tallam@dohstate.fl.us

Lennon Anderson, DEP-SED: lennon.anderson@dep.state.fl.us

Brian Storey, P.E., Golder Associates, Inc.: bstorey@golder.com

Dee Morse, NPS: dee_morse@nps.gov

Vickie Gibson, DEP-BAR: victoria.gibson@dep.state.fl.us (for read file)

Livingston, Sylvia

From: Livingston, Sylvia
Sent: Friday, July 16, 2010 2:03 PM
To: 'steven.bouley@pwr.utc.com'
Cc: 'dean.gee@pw.utc.com'; 'forney.kathleen@epa.gov'; 'abrams.heather@epa.gov';
'laxmana_tallam@doh.state.fl.us'; 'lennon.anderson@dep.state.fl.us'; 'bstorey@golder.com';
'dee_morse@nps.gov'; 'victoria.gibson@dep.state.fl.us'; 'cleve.holladay@dep.state.fl.us';
'elizabeth.walker@dep.state.fl.us'
Subject: Request for Additional Information: United Technologies Corp/Pratt & Whitney 0990021-017-AC/ PSD-FL-410
Attachments: RAI 0990021-017-AC_071610.pdf

Dear Sir/Madam:

Please send a "reply" message verifying receipt of the attached document(s); 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(s).

The document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible.

The 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>> .

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

Thank you,

Sylvia Livingston
Division of Air Resource Management (DARM)
Department of Environmental Protection
850/921-9506
sylvia.livingston@dep.state.fl.us

Tracking:

Livingston, Sylvia

From: Livingston, Sylvia
Sent: Wednesday, August 04, 2010 3:04 PM
To: 'steven.bouley@pwr.utc.com'
Subject: FW: Request for Additional Information: United Technologies Corp/Pratt & Whitney 0990021-017-AC/ PSD-FL-410
Attachments: RAI 0990021-017-AC_071610.pdf

Dear Steven Bouley:

We have not received confirmation that you were able to access the documents attached to this July 16th e-mail. Please confirm receipt by opening the attachment and sending a reply to me.

The Division of Air Resource Management is sending electronic versions of these documents rather than sending them Return Receipt Requested via the US Postal service. Your "receipt confirmation" reply serves the same purpose as tracking the receipt of the signed "Return Receipt" card from the US Postal Service. Please let me know if you have any questions.

Sylvia Livingston
Division of Air Resource Management (DARM)
Department of Environmental Protection
850/488-0114
sylvia.livingston@dep.state.fl.us

From: Livingston, Sylvia
Sent: Friday, July 16, 2010 2:03 PM
To: 'steven.bouley@pwr.utc.com'
Cc: 'dean.gee@pw.utc.com'; 'forney.kathleen@epa.gov'; 'abrams.heather@epa.gov'; 'laxmana_tallam@doh.state.fl.us'; 'lennon.anderson@dep.state.fl.us'; 'bstorey@golder.com'; 'dee_morse@nps.gov'; 'victoria.gibson@dep.state.fl.us'; 'cleve.holladay@dep.state.fl.us'; 'elizabeth.walker@dep.state.fl.us'
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Thank you,

Livingston, Sylvia

From: Bouley, Steven A PWR [Steven.Bouley@pwr.utc.com]
Sent: Wednesday, August 04, 2010 4:41 PM
To: Livingston, Sylvia
Cc: Gee, Shau D PWR; Horchar, Edward A PWR
Subject: RE: Request for Additional Information: United Technologies Corp/Pratt & Whitney 0990021-017-AC/ PSD-FL-410

Dear Sylvia,

I have received and accessed the document. My apologies for the delayed response.

Thanks,

Steve

Steven A. Bouley
Vice President, Launch Vehicle & Hypersonic Systems
Pratt & Whitney Rocketdyne
P.O.Box 109600
West Palm beach, FL 33410-9600

Office: (561) 796-2327
Office Fax: (561) 796-9221
Cell: (818) 519-7526

From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Wednesday, August 04, 2010 3:04 PM
To: Bouley, Steven A PWR
Subject: FW: Request for Additional Information: United Technologies Corp/Pratt & Whitney 0990021-017-AC/ PSD-FL-410

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Sylvia Livingston
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From: Livingston, Sylvia

Sent: Friday, July 16, 2010 2:03 PM

To: 'steven.bouley@pwr.utc.com'

Cc: 'dean.gee@pw.utc.com'; 'forney.kathleen@epa.gov'; 'abrams.heather@epa.gov'; 'laxmana_tallam@doh.state.fl.us'; 'lennon.anderson@dep.state.fl.us'; 'bstorey@golder.com'; 'dee_morse@nps.gov'; 'victoria.gibson@dep.state.fl.us'; 'cleve.holladay@dep.state.fl.us'; 'elizabeth.walker@dep.state.fl.us'

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