



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

October 20, 2009

RECEIVED

OCT 22 2009

BUREAU OF AIR REGULATION

Mr. Syed Arif, Project Engineer
Bureau of Air Regulation
Florida Department of Environmental Protection
Bob Martinez Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Arif:

Thank you for sending the Prevention of Significant Determination (PSD) application for a proposed project at Pratt & Whitney Rocketdyne in Palm Beach County, FL. The project consists of increasing the annual operating hours above the current permitted limits for two JP8 fueled turbine/compressors. The Florida Department of Environmental Protection (FDEP) has determined that the project is subject to PSD review for carbon monoxide, nitrogen oxides, and sulfur dioxide.

The Region 4 office of the U. S. Environmental Protection Agency (EPA) has reviewed the permit application and two requests for additional information issued by FDEP on October 8 and 9, 2009, and have the following additional comment:

Section 1.0 states that "The RAM Test Facility consists of two gas turbines fueled by JP-8 jet fuel, two air compressors, assorted air transfer ducting and valves, water-cooled heat exchangers, and a forced draft cooling tower." However, no indication is given that any components other than the turbines were evaluated with respect to potential emissions. Each potential source of emissions should be fully evaluated. If the additional test facility components will not potentially contribute to emissions, a statement should be added for clarification.

If you have any questions about these comments or require additional information, please contact Lori Shepherd at (404) 562-8435.

Sincerely,

A handwritten signature in black ink that reads "Gregg M. Worley".

Gregg M. Worley
Chief
Air Permits Section

Pratt & Whitney Rocketdyne
P.O. Box 109600
West Palm Beach, FL 33410-9600



Pratt & Whitney
A United Technologies Company

CERTIFIED MAIL

December 15, 2009

Florida Department of Environmental Protection
Attention: Mr. Syed Arif, P.E.
New Source Review Section
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED

DEC 22 2009

BUREAU OF AIR REGULATION

RE: Pratt & Whitney Rocketdyne
Facility ID No. 0990021
Project: 0990021-017-AV (PSD-FL-410)
Request for Extended Deadline for RAI for PSD Permit Application

Dear Mr. Arif:

Pratt & Whitney Rocketdyne respectfully requests a time extension to respond to your request for additional information, dated October 8, 2009, for our PSD permit application. We are requesting an additional 90 days, which would make the new deadline April 8, 2010.

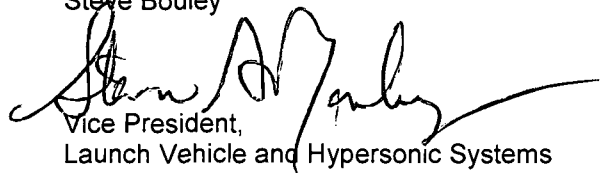
Additional time is requested to incorporate any changes in our permit due to the recent decision that Sikorsky aircraft operations must be accounted for in our permit. We are currently working our Title V renewal application. The Sikorsky operations were formerly under a FESOP and must now be included in our Title V permit. Also, we have experienced some delay due to the illness of one of our key consultants on our air permit activities.

Your consideration of this request and all your support on this project is greatly appreciated.

If you should have any questions or comments please contact Dean Gee at (561) 796-2108.

Sincerely,

Steve Bouley



Vice President,
Launch Vehicle and Hypersonic Systems

cc:
Laxmana Tallam, Palm Beach County Health Dept.
File 9.2.6.1.4



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

October 26, 2009

Electronic Mail - Received Receipt Requested
Steven.Bouley@pwr.utc.com

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

Re: DEP File No. 0990021-017-AC (PSD-FL-410)
United Technologies Corp/Pratt & Whitney – Increase in operating hours for the GG4-9A turbine engines
Request for Additional Information

Dear Mr. Bouley:

Enclosed are comments submitted by the Environmental Protection Agency (EPA), Region 4, in regards to the completeness issues for this project. Please submit the information as requested by EPA to the Department's Bureau of Air Regulation. We are still awaiting comments from U.S. Fish and Wildlife Service, which will be forwarded to you if we receive them.

The Department will resume processing this 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. A new certification statement by the authorized representative or responsible official must accompany any material changes to the application. Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days.

If you have any questions regarding this matter, please call me at 850/921-9528 or Ms. Lori Shepherd of EPA at 404/562-8435.

Sincerely,

Syed Arif, P.E.
New Source Review Section

Enclosure

cc: Steve Bouley, Pratt & Whitney: steven.bouley@pwr.utc.com
Dean Gee, Pratt & Whitney: dean.gee@pw.utc.com
Lori Shepherd, EPA Region 4: shepherd.lorinda@epa.gov
Laxmana Tallam, Palm Beach County Health Department: laxmana_tallam@dohstate.fl.us
Lee Hoefert, DEP-SED: lee.hoefert@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)

Walker, Elizabeth (AIR)

From: Walker, Elizabeth (AIR)
Sent: Monday, October 26, 2009 2:27 PM
To: 'steven.bouley@pwr.utc.com'
Cc: 'dean.gee@pw.utc.com'; 'shepherd.lorinda@epa.gov'; Laxmana_Tallam@doh.state.fl.us; Hoefert, Lee; 'bstorey@golder.com'; 'dee_morse@nps.gov'; Gibson, Victoria; Arif, Syed
Subject: Supplemental RAI (EPA Comments): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)
Attachments: RAI-0990021-017-AC.pdf

Dear Sir/Madam:

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. The attached document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible and 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" to send the receipt verification. We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

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>> .

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)921-9505

Walker, Elizabeth (AIR)

From: Exchange Administrator
Sent: Monday, October 26, 2009 2:28 PM
To: Walker, Elizabeth (AIR)
Subject: Delivery Status Notification (Relay)
Attachments: ATT293856.txt; Supplemental RAI (EPA Comments): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

This is an automatically generated Delivery Status Notification.

Your message has been successfully relayed to the following recipients, but the requested delivery status notifications may not be generated by the destination.

dee_morse@nps.gov

Walker, Elizabeth (AIR)

From: Mail Delivery System [MAILER-DAEMON@mx1.golder.com]
Sent: Monday, October 26, 2009 2:27 PM
To: Walker, Elizabeth (AIR)
Subject: Successful Mail Delivery Report
Attachments: Delivery report; Message Headers

This is the mail system at host mx1.golder.com.

Your message was successfully delivered to the destination(s) listed below. If the message was delivered to mailbox you will receive no further notifications. Otherwise you may still receive notifications of mail delivery errors from other systems.

The mail system

<bstorey@golder.com>: delivery via 127.0.0.1[127.0.0.1]:10025: 250 OK, sent
4AE5EA0F_16645_322027_1 1F5751CF0D89

Walker, Elizabeth (AIR)

From: Exchange Administrator
Sent: Monday, October 26, 2009 2:28 PM
To: Walker, Elizabeth (AIR)
Subject: Delivery Status Notification (Relay)
Attachments: ATT293860.txt; Supplemental RAI (EPA Comments): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

This is an automatically generated Delivery Status Notification.

Your message has been successfully relayed to the following recipients, but the requested delivery status notifications may not be generated by the destination.

steven.bouley@pwr.utc.com

Walker, Elizabeth (AIR)

From: Exchange Administrator
Sent: Monday, October 26, 2009 2:28 PM
To: Walker, Elizabeth (AIR)
Subject: Delivery Status Notification (Relay)
Attachments: ATT293863.txt; Supplemental RAI (EPA Comments): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

This is an automatically generated Delivery Status Notification.

Your message has been successfully relayed to the following recipients, but the requested delivery status notifications may not be generated by the destination.

dean.gee@pw.utc.com

Walker, Elizabeth (AIR)

From: Mail Delivery System [MAILER-DAEMON@mseive01.rtp.epa.gov]
Sent: Monday, October 26, 2009 2:28 PM
To: Walker, Elizabeth (AIR)
Subject: Successful Mail Delivery Report
Attachments: Delivery report; Message Headers

This is the mail system at host mseive01.rtp.epa.gov.

Your message was successfully delivered to the destination(s) listed below. If the message was delivered to mailbox you will receive no further notifications. Otherwise you may still receive notifications of mail delivery errors from other systems.

The mail system

<shepherd.lorinda@epa.gov>: delivery via 127.0.0.1[127.0.0.1]:10025: 250 OK,
sent 4AE5EA32_17094_35453_6 A525A44528

BEST AVAILABLE COPY



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

October 20, 2009

RECEIVED

BUREAU OF AIR PERMITS SECTION

Mr. Syed Arif, Project Engineer
Bureau of Air Regulation
Florida Department of Environmental Protection
Bob Martinez Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Arif:

Thank you for sending the Prevention of Significant Determination (PSD) application for a proposed project at Pratt & Whitney Rocketdyne in Palm Beach County, FL. The project consists of increasing the annual operating hours above the current permitted limits for two JP8 fueled turbine/compressors. The Florida Department of Environmental Protection (FDEP) has determined that the project is subject to PSD review for carbon monoxide, nitrogen oxides, and sulfur dioxide.

The Region 4 office of the U. S. Environmental Protection Agency (EPA) has reviewed the permit application and two requests for additional information issued by FDEP on October 8 and 9, 2009, and have the following additional comment:

Section 1.0 states that "The RAM Test Facility consists of two gas turbines fueled by JP-8 jet fuel, two air compressors, assorted air transfer ducting and valves, water-cooled heat exchangers, and a forced draft cooling tower." However, no indication is given that any components other than the turbines were evaluated with respect to potential emissions. Each potential source of emissions should be fully evaluated. If the additional test facility components will not potentially contribute to emissions, a statement should be added for clarification.

If you have any questions about these comments or require additional information, please contact Lori Shepherd at (404) 562-8435.

Sincerely,

A handwritten signature in black ink that reads "Gregg M. Worley".

Gregg M. Worley
Chief
Air Permits Section

Walker, Elizabeth (AIR)

From: Bouley, Steven A PWR [Steven.Bouley@pwr.utc.com]
Sent: Tuesday, October 27, 2009 9:32 PM
To: Walker, Elizabeth (AIR)
Cc: Reis, Richard R PWR; Gee, Shau D PWR
Subject: RE: Supplemental RAI (EPA Comments): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

Ms. Walker,

Document received and viewed. Sorry for the delayed response.

Thanks,

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
Fax (561) 796-9221
Mobile (818) 519-7526

From: Walker, Elizabeth (AIR) [mailto:Elizabeth.Walker@dep.state.fl.us]
Sent: Tuesday, October 27, 2009 9:44 AM
To: Bouley, Steven A PWR
Subject: FW: Supplemental RAI (EPA Comments): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

Good Morning Mr. Bouley,

We have not received confirmation that you were able to open the PDF attachment. Please confirm by responding to this e-mail noting that you are able to view the attached file. If you have had any problems opening or viewing the attachment, please let us know as soon as possible.

If you have any questions, please don't hesitate to contact me.

Thank you,

Elizabeth Walker

Bureau of Air Regulation
Division of Air Resource Management (DARM)
(850)921-9505

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.

From: Walker, Elizabeth (AIR)
Sent: Monday, October 26, 2009 2:27 PM
To: 'steven.bouley@pwr.utc.com'
Cc: 'dean.gee@pw.utc.com'; 'shepherd.lorinda@epa.gov'; 'Laxmana_Tallam@doh.state.fl.us'; Hoefert, Lee; 'bstorey@golder.com'; 'dee_morse@nps.gov'; Gibson, Victoria; Arif, Syed

Subject: Supplemental RAI (EPA Comments): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/PSD-FL-410)

Dear Sir/Madam:

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. The attached document(s) may require immediate action within a specified time frame. Please open and review the document(s) as soon as possible and 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" to send the receipt verification. We must receive verification of receipt and your reply will preclude subsequent e-mail transmissions to verify receipt of the document(s).

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>> .

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)921-9505

Walker, Elizabeth (AIR)

From: Bouley, Steven A PWR [Steven.Bouley@pwr.utc.com]
To: Walker, Elizabeth (AIR)
Sent: Tuesday, October 27, 2009 6:34 AM
Subject: Read: Supplemental RAI (EPA Comments): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

Your message

To: Steven.Bouley@pwr.utc.com
Subject:

was read on 10/27/2009 6:34 AM.



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

October 8, 2009

Electronic Mail - Received Receipt Requested
Steven.Bouley@pwr.utc.com

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

Re: DEP File No. 0990021-017-AC (PSD-FL-410)
United Technologies Corp/Pratt & Whitney – Increase in operating hours for the GG4-9A
turbine engines
Request for Additional Information

Dear Mr. Bouley:

The Department has received the application on September 10, 2009, to allow Pratt & Whitney increase operating hours for the two GG4-9A turbine engines which supports jet engine testing at the RAM Test Facility in Palm Beach County.

Pursuant to Rules 62-296.340, 62-4.055 and 62-4.070 F.A.C., Permit Processing, the Department requests submittal of additional information prior to processing the application. 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. Section 1.0 - Introduction: The application indicates that the GG4-9A turbine engines are located adjacent to test stands A-8 and A-9, which are part of the eight sea level test stands used in the development testing of commercial and military jet engines. Please explain the differences between a test stand and a test cell. Also, explain how each operates. Additionally, explain the differences between sea level testing and altitude testing, and indicate if altitude testing is also done at A-8 and A-9 test stands. [Rule 62-4.070, F.A.C. Reasonable Assurance]
2. Section 1.0 - Introduction: The application indicates that the GG4-9A turbine engines were manufactured in 1966. Please submit documentation to the Department that shows the manufactured date of the two turbine engines. [Rule 62-4.070, F.A.C. Reasonable Assurance]
3. Section 2.2 – RAM Test Facility: The application indicates that various engine load conditions are required as part of the normal test stand operations with the estimated hours of operation for each load. The load conditions vary between idle and 31 pounds per square inch absolute (psia) pressure reading. The fuel usage rate also varies between idle conditions and other load conditions. Please indicate the procedures for showing compliance with the varied load conditions, fuel usage rate and associated hours of operation under each load condition. Additionally, the total hours of operation at the test stands will be limited to 3000 hours per year (hrs/yr). Is the 3000 hrs/yr for the two stands combined or for each test stand? What is the

estimate of the actual annual hours of operation for the two turbine engines? [Rule 62-4.070, F.A.C. Reasonable Assurance]

4. Section 2.3 – Proposed Source Emissions and Stack Parameters: The application indicates that nitrogen oxides (NO_x) and carbon monoxide (CO) emission factors were developed as a result of the July 31, 2008 stack test data. Please provide the stack test report for review. Was similar testing done to ascertain the emission factors for particulate matter (PM), sulfur dioxide (SO₂) and volatile organic compounds (VOC) for these particular turbine engines? If so, please provide the results. [Rule 62-4.070, F.A.C. Reasonable Assurance]
5. Table 2-1 – Estimated Hourly Emissions: The table indicates that the NO_x emissions are 149.9 pounds per hour (lb/hr) at 31 psia load condition. Please indicate the parts per million volume dry at 15% oxygen (ppmvd @ 15% O₂) value of NO_x emissions at that load condition. Additionally, provide time-weighted average test profile, which shall include the time-weighted average emission factors in lb pollutant per 1000 lb fuel for the turbine engines. [Rule 62-4.070, F.A.C. Reasonable Assurance]
6. Table 2-4 – Annual Emissions Summary: Annual emissions in tons per year listed for all the pollutants in Table 2-4 does not match with the annual emissions listed in Table 2-2. Please explain the discrepancy and include any new calculations to support the emission numbers in Table 2-4. [Rule 62-4.070, F.A.C. Reasonable Assurance]
7. Section 3.5 – Source Applicability: The application does not discuss the applicability of the project to 40 Code of Federal Regulations (CFR) 63, Subpart P P P P P – Engine Test Cells/Stand. Please explain.
8. Section 4.2 – Overview of Proposed BACT: Best Available Control Technology or BACT is defined in Rule 62-210.200, Florida Administrative Code (F.A.C.) as “an emission limitation, including a visible emissions standard, based on the”. The applicant did not propose a BACT visible emissions standard for the two turbine engines. Please redo the BACT analysis to include a visible emissions standard for the two engines. [Rule 62-212.400(4)(c), F.A.C. Prevention of Significant Deterioration (PSD)]
9. Section 4.4.1 – BACT Analysis for CO: The application indicates that combustion control is not technically feasible for the turbine engines since most of the CO emissions are due to idling and low load conditions. Please explain if any work practices can be developed to keep idling to a minimum. What will be the frequencies of each test and what is the maximum idle time expected between the tests? Please explain the problems encountered if the turbines are shut down and restarted for each test instead of idling. What is the exhaust temperature of the turbine engine under idle mode? [Rule 62-4.070, F.A.C. Reasonable Assurance]
10. Section 4.4.2 – BACT Analysis for NO_x: The application states that the potentially available NO_x control technologies are Water or Steam injection, Selective Catalytic Reduction (SCR), SCONO_xTM process and Selective Non-Catalytic Reduction (SNCR). Some of the other methods of control that were not considered in the application are Low-NO_x combustors, Reburn and Vermiculite – Magnesium Oxide sorbent bed technologies as detailed in the referenced EPA Report No. 453/R-94-068 of the application. Please redo the NO_x BACT analysis to include the

additional methods of control and include the cost effectiveness estimates in dollars per ton of NOx removed. [Rule 62-4.070, F.A.C. Reasonable Assurance]

11. Section 4.4.3 – BACT Analysis for SO₂: The application states that additional fuel treatment is not necessary as the sulfur content of the JP-8 fuel is already very low at 0.11 weight percent sulfur. The Department presently in the BACT determinations, is requiring applicants to use ultra low sulfur diesel fuel oil with a sulfur content of 0.0015 weight percent. Please explain the additional fuel treatment possible with JP-8 fuel in lowering the sulfur content of the fuel. Include cost effectiveness estimates in dollars per ton of SO₂ removed. [Rule 62-4.070, F.A.C. Reasonable Assurance]
12. Appendix A – Application for Air Permit: The allowable emissions pages for all the pollutants in the pollutant detail information were not filled out. Please complete those application pages.

Any additional comments from EPA will be forwarded to you after we receive them.

The Department will resume processing this 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. A new certification statement by the authorized representative or responsible official must accompany any material changes to the application. Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days.

We will be happy to meet and discuss the details with you and your staff. If you have any questions, I can be contacted at 850/921-9528. You may discuss the modeling requirements with Mr. Cleve Holladay at 850/921-8986.

Sincerely,



Syed Arif, P.E.
New Source Review Section

/sa

cc: 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
Lee Hoefert, DEP-SED: lee.hoefert@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: Storey, Brian [Brian_Storey@golder.com]
Sent: Thursday, October 08, 2009 4:36 PM
To: Livingston, Sylvia; steven.bouley@pwr.utc.com
Cc: dean.gee@pw.utc.com; forney.kathleen@epa.gov; laxmana_tallam@doh.state.fl.us; Hoefert, Lee; dee_morse@nps.gov; Gibson, Victoria; Arif, Syed; Walker, Elizabeth (AIR)
Subject: RE: Request for Additional Information: United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

I have received the email and its attachment.

Thank you,

Brian A. Storey, P.E. | Staff Engineer | Golder Associates Inc.
6026 NW 1st Place, Gainesville, Florida, USA 32607
T: +1 (352) 336-5600 | F: +1 (352) 336-6603 | C: +1 (352) 284-1910 | E: Brian_Storey@golder.com |
www.golder.com

This email transmission is confidential and may contain proprietary information for the exclusive use of the intended recipient. Any use, distribution or copying of this transmission, other than by the intended recipient, is strictly prohibited. If you are not the intended recipient, please notify the sender and delete all copies. Electronic media is susceptible to unauthorized modification, deterioration, and inaccessibility. Accordingly, the electronic media version of any work product may not be relied upon.

Please consider the environment before printing this email

From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Thursday, October 08, 2009 4:34 PM
To: steven.bouley@pwr.utc.com
Cc: dean.gee@pw.utc.com; forney.kathleen@epa.gov; laxmana_tallam@doh.state.fl.us; Hoefert, Lee; Storey, Brian; dee_morse@nps.gov; Gibson, Victoria; Arif, Syed; Walker, Elizabeth (AIR)
Subject: Request for Additional Information: United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

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,

Livingston, Sylvia

From: Gee, Shau D PWR [Shau.Gee@pwr.utc.com]
Sent: Friday, October 09, 2009 10:54 AM
To: Livingston, Sylvia
Subject: reply

received and able to view document.

thanks,

Dean

From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Thursday, October 08, 2009 4:34 PM
To: Bouley, Steven A PWR
Cc: dean.gee@pw.utc.com; forney.kathleen@epa.gov; laxmana_tallam@doh.state.fl.us; Hoefert, Lee; bstorey@golder.com; dee_morse@nps.gov; Gibson, Victoria; Arif, Syed; Walker, Elizabeth (AIR)
Subject: Request for Additional Information: United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

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
Bureau of Air Regulation
Division of Air Resource Management (DARM)
850/921-9506
sylvia.livingston@dep.state.fl.us

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.

Livingston, Sylvia

From: Laxmana Tallam@doh.state.fl.us
Sent: Friday, October 09, 2009 8:11 AM
To: Livingston, Sylvia
Subject: RE: Request for Additional Information: United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

Sylvia:

Email received and I can view the attachment.

Laxmana

From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Thursday, October 08, 2009 4:34 PM
To: steven.bouley@pwr.utc.com
Cc: dean.gee@pw.utc.com; forney.kathleen@epa.gov; Tallam, Laxmana; Hoefert, Lee; bstorey@golder.com; dee_morse@nps.gov; Gibson, Victoria; Arif, Syed; Walker, Elizabeth (AIR)
Subject: Request for Additional Information: United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

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
Bureau of Air Regulation
Division of Air Resource Management (DARM)
850/921-9506
sylvia.livingston@dep.state.fl.us

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.

Livingston, Sylvia

From: Livingston, Sylvia
Sent: Thursday, October 08, 2009 4:34 PM
To: 'steven.bouley@pwr.utc.com'
Cc: 'dean.gee@pw.utc.com'; 'forney.kathleen@epa.gov'; 'laxmana_tallam@doh.state.fl.us'; Hoefert, Lee; 'bstorey@golder.com'; 'dee_morse@nps.gov'; Gibson, Victoria; Arif, Syed; Walker, Elizabeth (AIR)
Subject: Request for Additional Information: United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)
Attachments: RAI 0990021-017-AC.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
Bureau of Air Regulation
Division of Air Resource Management (DARM)
850/921-9506
sylvia.livingston@dep.state.fl.us

Livingston, Sylvia

From: Bouley, Steven A PWR [Steven.Bouley@pwr.utc.com]
Sent: Tuesday, October 13, 2009 2:13 PM
To: Livingston, Sylvia
Cc: Reis, Richard R PWR
Subject: RE: Request for Additional Information: United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

Document received and viewable.

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
Fax (561) 796-9221
Mobile (818) 519-7526

From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Thursday, October 08, 2009 4:34 PM
To: Bouley, Steven A PWR
Cc: dean.gee@pw.utc.com; forney.kathleen@epa.gov; laxmana_tallam@doh.state.fl.us; Hoefert, Lee; bstorey@golder.com; dee_morse@nps.gov; Gibson, Victoria; Arif, Syed; Walker, Elizabeth (AIR)
Subject: Request for Additional Information: United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

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
Bureau of Air Regulation



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

October 9, 2009

Electronic Mail - Received Receipt Requested
Steven.Bouley@pwr.utc.com

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

Re: DEP File No. 0990021-017-AC (PSD-FL-410)
United Technologies Corporation/Pratt & Whitney – Increase operating hours for the GG4-9A turbine engines
Supplemental Request for Additional Information - Item 13

Dear Mr. Bouley:

The Department received an application on September 10, 2009, to allow Pratt & Whitney to increase operating hours for the two GG4-9A turbine engines which support jet engine testing at the RAM Test Facility in Palm Beach County. The Department mailed a Request for Additional Information on October 8, 2009 with twelve items. This letter supplements that letter with an additional item No. 13.

Pursuant to Rules 62-296.340, 62-4.055 and 62-4.070 F.A.C., Permit Processing, the Department requests submittal of additional information prior to processing the application. 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.

13. Section 6.0 – Air Quality Impact Analysis: In Table 6.6 the maximum predicted nitrogen dioxide (NO₂) concentration of 0.66 ug/m³ is based on a nitrogen oxide (NO_x) emission rate of 229.1 lb/hr for both units. However, the NO_x emission rate given in Table 2-1 is 299.1 lb/hr for both units. Please explain the difference between the values.

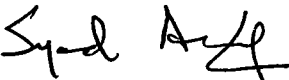
Any additional comments from EPA and the federal land manager will be forwarded to you after we receive them.

The Department will resume processing this 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. A new certification statement by the authorized representative or responsible official must accompany any material changes to the application. Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days.

Mr. Steve Bouley
Page 2 of 2
October 9, 2009

You may discuss the modeling requirements with me at 850/921-8986.

Sincerely,

for 
Cleve Holladay, Air Quality Modeler
New Source Review Section

/ch

cc: Steve Bouley, Pratt & Whitney: steven.bouley@pwr.utc.com
Dean Gee, Pratt & Whitney: dean.gee@pwr.utc.com
Kathleen Forney, EPA Region 4: forney.kathleen@epa.gov
Laxmana Tallam, Palm Beach County Health Department: laxmana_tallam@dohstate.fl.us
Lee Hoefert, DEP-SED: lee.hoefert@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, October 09, 2009 4:17 PM
To: 'steven.bouley@pwr.utc.com'
Cc: 'dean.gee@pw.utc.com'; 'forney.kathleen@epa.gov'; 'laxmana_tallam@doh.state.fl.us'; Hoefert, Lee; 'bstorey@golder.com'; 'dee_morse@nps.gov'; Gibson, Victoria; Arif, Syed; Holladay, Cleve; Walker, Elizabeth (AIR)
Subject: Supplemental Request for Additional Information (Item 13): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)
Attachments: RAI_0990021-017-AC.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
Bureau of Air Regulation
Division of Air Resource Management (DARM)
850/921-9506
sylvia.livingston@dep.state.fl.us

Livingston, Sylvia

From: Bouley, Steven A PWR [Steven.Bouley@pwr.utc.com]
Sent: Tuesday, October 13, 2009 7:02 PM
To: Livingston, Sylvia
Subject: RE: Supplemental Request for Additional Information (Item 13): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

I believe this a duplicate request to yesterday's receipt, but I have now received both

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
Fax (561) 796-9221
Mobile (818) 519-7526

From: Livingston, Sylvia [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Friday, October 09, 2009 4:17 PM
To: Bouley, Steven A PWR
Cc: dean.gee@pw.utc.com; forney.kathleen@epa.gov; laxmana_tallam@doh.state.fl.us; Hoefert, Lee; bstorey@golder.com; dee_morse@nps.gov; Gibson, Victoria; Arif, Syed; Holladay, Cleve; Walker, Elizabeth (AIR)
Subject: Supplemental Request for Additional Information (Item 13): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

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
Bureau of Air Regulation
Division of Air Resource Management (DARM)
850/921-9506

sylvia.livingston@dep.state.fl.us

The Department of Environmental Protection values your feedback as a customer. DEP Secretary Michael W. Sole is committed to continuously assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received. Simply click on [this link to the DEP Customer Survey](#). Thank you in advance for completing the survey.

Livingston, Sylvania

From: Storey, Brian [Brian_Storey@golder.com]
Sent: Friday, October 09, 2009 4:25 PM
To: Livingston, Sylvania; steven.bouley@pwr.utc.com
Cc: dean.gee@pw.utc.com; forney.kathleen@epa.gov; laxmana_tallam@doh.state.fl.us; Hoefert, Lee; dee_morse@nps.gov; Gibson, Victoria; Arif, Syed; Holladay, Cleve; Walker, Elizabeth (AIR)
Subject: RE: Supplemental Request for Additional Information (Item 13): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

I have received this email and attachment.

Brian A. Storey, P.E. | Staff Engineer | Golder Associates Inc.
6026 NW 1st Place, Gainesville, Florida, USA 32607
T: +1 (352) 336-5600 | F: +1 (352) 336-6603 | C: +1 (352) 284-1910 | E: Brian_Storey@golder.com |
www.golder.com

This e-mail transmission is confidential and may contain proprietary information for the exclusive use of the intended recipient. Any use, distribution or copying of this transmission other than by the intended recipient is strictly prohibited. If you are not the intended recipient, please notify the sender and delete all copies. Electronic media is subject to unauthorized modification, deletion and/or incompatibility. Accordingly, the electronic media version of any work product may not be relied upon.

Please consider the environment before printing this email.

From: Livingston, Sylvania [mailto:Sylvia.Livingston@dep.state.fl.us]
Sent: Friday, October 09, 2009 4:17 PM
To: steven.bouley@pwr.utc.com
Cc: dean.gee@pw.utc.com; forney.kathleen@epa.gov; laxmana_tallam@doh.state.fl.us; Hoefert, Lee; Storey, Brian; dee_morse@nps.gov; Gibson, Victoria; Arif, Syed; Holladay, Cleve; Walker, Elizabeth (AIR)
Subject: Supplemental Request for Additional Information (Item 13): United Technologies Corporation - Pratt & Whitney (0990021-017-AC/ PSD-FL-410)

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.