

Department of Environmental Protection

Jeb Bush
Governor

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

Colleen M. Castille
Secretary

October 11, 2006

CERTIFIED MAIL – Return Receipt Requested

Mr. James M. Chansler, P.E., D.P.A., R.O.
V.P., Operations and Maintenance
JEA
21 West Church Street
Jacksonville, Florida 32202

Re: Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)
Affected AC Permits Nos.: 0310485-006-AC/PSD-FL-310(A) and 0310485-007-AC/PSD-FL-310(B)
Affected Siting Permit No.: PA 00-43
JEA: Brandy Branch Generating Station
Emission Units -002 and -003

Dear Mr. Chansler:

The subject of this permit (letter) is to authorize an increase in the heat input rate to the heat recovery steam generator's (HRSG's) supplementary-fired (natural gas) duct burner from 170 to 200 MMBtu/hr for each combined-cycle combustion turbine-electrical generator, EU-002 and EU-003. No physical change is required to achieve this heat input rate increase. The change reflects the installed capacity of the HRSGs's duct burners. In addition, each HRSG's duct burner will have a restriction on the hours of operation of 4,500 hours per consecutive 12-months to avoid PSD new source review; and, due to the restrictions on the hours of operation for the duct burners, the additional recordkeeping requirements shall be imposed and added to specific condition B.43. in the Title V Permit. Besides changing the heat input from 170 to 200 MMBtu/hr, the "Permitting note" is being removed because the heat input value is a permit limitation; also, the rule adoption reference will be updated. The Department approves the request. Additions are double-underlined and deletions are single strike-through. The permit is revised as follows:

FROM:

4. ARMS Emissions Units 002 and 003. Direct Power Generation, each consisting of a nominal 170-megawatt combustion turbine-electrical generator, shall comply with all applicable provisions of 40CFR60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted by reference in Rule 62-204.800(7)(b), F.A.C. The Subpart GG requirement to correct test data to ISO conditions applies. However, such correction is not used for compliance determinations with the BACT standard(s). Additionally, each Emissions Unit consists of a supplementally-fired heat recovery steam generator equipped with a natural gas fired 170 MMBTU/hr duct burner (HHV) and combined with one 200 MW steam electrical generator. The duct burners shall comply with all applicable provisions of 40CFR60, Subpart Dc, Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units, adopted by reference in Rule 62-204.800(7), F.A.C.

[0310485-006-AC/PSD-FL-310(A)]

9. Heat Recovery Steam Generators equipped with Duct Burners: The maximum heat input rate of each natural gas fired duct burner shall not exceed 170 MMBtu/hr (HHV).

{Permitting note: The heat input limitations have been placed in the permit to identify the capacity of each emissions unit for purposes of confirming that emissions testing is conducted within 90-100 percent of the emission unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead, the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested.}

[Applicant Request; Rule 62-210.200(Definitions-Potential Emissions), F.A.C.; and, 0310485-006-AC/PSD-FL-310(A)]

"More Protection, Less Process"

Printed on recycled paper.

Mr. James M. Chansler
JEA: Brandy Branch Generating Station
0310485-017-AC/PSD-FL-310(F)
Page 2 of 4

TO:

4. ARMS Emissions Units 002 and 003. Direct Power Generation, each consisting of a nominal 170-megawatt combustion turbine-electrical generator, shall comply with all applicable provisions of 40 CFR 60, Subpart GG, Standards of Performance for Stationary Gas Turbines, adopted by reference in Rule 62-204.800(78)(b), F.A.C. The Subpart GG requirement to correct test data to ISO conditions applies. However, such correction is not used for compliance determinations with the BACT standard(s). Additionally, each Emissions Unit consists of a supplementally-fired heat recovery steam generator equipped with a natural gas fired ~~170200~~ MMBTU/hr duct burner (HHV) and combined with one 200 MW steam electrical generator. The duct burners shall comply with all applicable provisions of 40 CFR 60, Subpart Dc, Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units, adopted by reference in Rule 62-204.800(7), F.A.C.

[0310485-006-AC/PSD-FL-310(A); and, 0310485-017-AC/PSD-FL-310(F)]

9. Heat Recovery Steam Generators equipped with Duct Burners: The maximum heat input rate of each natural gas fired duct burner shall not exceed ~~170200~~ MMBtu/hr (HHV).

~~{Permitting note: The heat input limitations have been placed in the permit to identify the capacity of each emissions unit for purposes of confirming that emissions testing is conducted within 90-100 percent of the emission unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead, the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested.}~~

[Rule 62-210.200(Definitions-Potential Emissions), F.A.C.; and, 0310485-006-AC/PSD-FL-310(A); and, 0310485-017-AC/PSD-FL-310(F)]

FROM:

14.B. Hours of Operation. All units (combined and simple cycle) are authorized to operate 8760 hours per year while firing natural gas (2.0 grains sulfur/100 scf). The combined cycle units are authorized to operate up to a combined maximum of 576 actual plus "equivalent hours" per consecutive 12-month period while firing 0.05% sulfur content, by weight, fuel oil OR a combined maximum of 1478 actual plus "equivalent hours" while firing 0.0065% sulfur content, by weight, fuel oil per consecutive 12-month period, whichever occurs first. The simple cycle unit is authorized to operate up to a maximum of 750 actual plus "equivalent hours" per consecutive 12-month period, while firing either 0.05% or 0.0065% sulfur content, by weight, fuel oil, whichever occurs first. Tracking of "equivalent hours" shall conform with and be recorded as defined within this permit. Additionally, the following requirements shall apply:

- (1) In the event that any of the 3 emission units (simple or combined cycle) fires No. 2 distillate fuel oil (0.05% sulfur content, by weight) during a calendar day, that unit shall be limited to 16 hours of daily operation on any fuel. Additionally, the other 2 units shall not be fired on any of the allowable fuels for that calendar day.
- (2) In the event that the simple cycle unit fires lower sulfur oil (0.0065% sulfur content, by weight) during any calendar day, but for 8 hours or less, the combined cycle units may fire any combination of lower sulfur oil (0.0065% sulfur content, by weight) or natural gas (2 grains/100 scf) during that calendar day.
- (3) In the event that the simple cycle unit fires lower sulfur fuel oil (0.0065% sulfur content, by weight) for more than 8 hours during a calendar day, it shall be allowed 24 hours of daily operation while the combined cycle units shall not be fired on any fuel for the calendar day.

[Rule 62-210.200(Definitions-Potential Emissions), F.A.C.; and, 0310485-007-AC/PSD-FL-310B]

TO:

14.B. Hours of Operation. All units ~~(combined and simple cycle)~~ Except for the HRSG duct burners, the emission units are authorized to operate 8760 hours per year while firing natural gas (2.0 grains sulfur/100 scf). The combined cycle units are authorized to operate up to a combined maximum of 576 actual plus "equivalent hours" per consecutive 12-month period while firing 0.05% sulfur content, by weight, fuel oil OR a combined maximum of 1478 actual plus "equivalent hours" while firing 0.0065% sulfur content, by weight, fuel oil per consecutive 12-month period, whichever occurs first. The simple cycle unit is authorized to operate up to a maximum of 750 actual plus "equivalent hours" per consecutive 12-month

Mr. James M. Chansler
JEA: Brandy Branch Generating Station
0310485-017-AC/PSD-FL-310(F)
Page 3 of 4

period, while firing either 0.05% or 0.0065% sulfur content, by weight, fuel oil, whichever occurs first. Tracking of "equivalent hours" shall conform with and be recorded as defined within this permit. Additionally, the following requirements shall apply:

(1) thru (3): No change was made.

(4) HRSG Duct Burners. Each HRSG duct burner operation shall not exceed 4500 hours per consecutive 12-months.

[Rules 62-210.200(Definitions-Potential Emissions) and 62-212.400(12), F.A.C.; and, 0310485-007-AC/PSD-FL-310(B); and, 0310485-017-AC/PSD-FL-310(F)]

"New". Special Recordkeeping Requirements. The owner or operator shall obtain, make, and keep the following records: Hours of operation for each HRSG duct burner shall be kept for each consecutive 12-month period while firing natural gas.

[0310485-017-AC/PSD-FL-310(F)]

This permit (letter) is issued pursuant to Chapter 403, Florida Statutes (F.S.). Any party to this order has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

Sincerely,



Joseph Kahn, P.E., Director
Division of Air Resource Management

JK/jfk/bm

Final Determination

JEA

Brandy Branch Generating Station

Air Construction Permit No. 0310485-017-AC/PSD-FL-310(F)

An "INTENT TO ISSUE AN AIR CONSTRUCTION PERMIT" to the JEA's Brandy Branch Generating Station located approximately 1 mile N.E. of Baldwin City, Duval County, was clerked on September 1, 2006. The "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR CONSTRUCTION PERMIT" was published in The Florida Times-Union on September 11, 2006. The Draft Permit was available for public inspection at the City of Jacksonville's Environmental Resource Management Department-Environmental Quality Division in Jacksonville and the permitting authority's office in Tallahassee. Proof of publication of the "PUBLIC NOTICE OF INTENT TO ISSUE AN AIR CONSTRUCTION PERMIT" was received on September 18, 2006.

During the Public Notice period, only the applicant provided comments. In the Technical Evaluation and Preliminary Determination, the applicant noted that the facility is identified as not belonging to one of the 28 PSD facility categories. The applicant points out that the facility is a fossil fuel-fired steam electric plant of more than 250 MMBtu per hour heat input, which is one of the 28 PSD facility categories. The Department acknowledges the applicant's comment, but no changes to the draft permit was necessary.

The final action of the Department is to issue the Final Permit as drafted.

Mr. James M. Chansler
JEA: Brandy Branch Generating Station
0310485-017-AC/PSD-FL-310(F)
Page 4 of 4

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Permit (including the Final Determination) was sent by certified mail before the close of business on 10/12/06 to the person(s) listed or as otherwise noted:

Mr. James M. Chansler, P.E., D.P.A., V.P., Operations and Maintenance, Responsible Official and Designated Representative, JEA

The undersigned duly designated deputy agency clerk hereby certifies that a copy of this Final Permit was sent electronically (Received Receipt requested) before the close of business on 10/12/06 to the person(s) listed or as otherwise noted:

Mr. Bert Gianazza, P.E., JEA, Application Contact
Mr. Mike Halpin, P.E., DEP-SCO
Mr. Richard Robinson, P.E., ERMD-EQD
USEPA, Region 4

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Mary H. Starny 10/12/06
(Clerk) (Date)

U.S. Postal Service
CERTIFIED MAIL RECEIPT
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Mr. James M. Chansler
V.P. Operations and Maintenance
JEA
St. Johns River Power Park
21 West Church Street
Jacksonville, Florida 32202

Florida Department of
Environmental Protection

Memorandum

TO: Joseph Kahn
THRU: Trina Vielhauer
THRU: Jeff Koerner
FROM: Bruce Mitchell
DATE: October 6, 2006
SUBJECT: JEA
Brandy Branch Generating Station
Final Air Construction Permit (letter)
0310485-017-AC/PSD-FL-310(F)

Attached is a Final Air Construction Permit, No. 0310485-017-AC/PSD-FL-310(F). The subject of the Air Construction Permit is to authorize an increase in the heat input rate to the Heat Recovery Steam Generator's (HRSG's) supplementary-fired (natural gas) duct burner from 170 to 200 MMBtu/hr for each combined-cycle combustion turbine-electrical generator, EU-002 and EU-003. No physical change is required to achieve this heat input rate increase. The change reflects the installed capacity of the HRSGs's duct burners. Also, each HRSG's duct burner will have a restriction on the hours of operation of 4,500 hours per consecutive 12-months to keep the pollutant emissions to less than significant and to avoid PSD new source review.

One comment was received during the Public Notice period and it regarded the TE&PD. The point was that the TE&PD identified the facility as not belonging to the PSD list of 28 major facility categories, specifically Fossil Fuel-Fired Steam Electric Plants Of More Than 250 million British Thermal Units Per Hour Heat Input, and it should have been (it became classified as one when the single cycle operation was converted to combined cycle operation). The Department acknowledges the comment and no changes are necessary. Therefore, it is recommended that the Final Permit be issued as drafted and noticed.

Attachments

JK/jfk/bm

Harvey, Mary

From: System Administrator
To: Halpin, Mike
Sent: Friday, October 13, 2006 5:03 AM
Subject: Delivered:JEA - Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)

Your message

To: GianNB@jea.com; robinson@coj.net; worley.gregg@epa.gov; Halpin, Mike
Cc: Mitchell, Bruce; Adams, Patty; Gibson, Victoria
Subject: JEA - Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)
Sent: 10/12/2006 3:57 PM

was delivered to the following recipient(s):

Halpin, Mike on 10/12/2006 8:07 PM

Harvey, Mary

From: Halpin, Mike
To: Harvey, Mary
Sent: Thursday, October 12, 2006 8:19 PM
Subject: Read: JEA - Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)

Your message

To: GianNB@jea.com; robinson@coj.net; worley.gregg@epa.gov; Halpin, Mike
Cc: Mitchell, Bruce; Adams, Patty; Gibson, Victoria
Subject: JEA - Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)
Sent: 10/12/2006 3:57 PM

was read on 10/12/2006 8:19 PM.

Harvey, Mary

From: Gianazza, N. Bert [GianNB@jea.com]
Sent: Friday, October 13, 2006 7:35 AM
To: Harvey, Mary
Subject: RE: JEA - Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)

Received. Thank you.

From: Harvey, Mary [mailto:Mary.Harvey@dep.state.fl.us]
Sent: Thursday, October 12, 2006 3:57 PM
To: Gianazza, N. Bert; robinson@coj.net; worley.gregg@epa.gov; Halpin, Mike
Cc: Mitchell, Bruce; Adams, Patty; Gibson, Victoria
Subject: JEA - Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)

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 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,

10/13/2006

Harvey, Mary

From: EPA Postmaster automated message [postmaster@epamail.epa.gov]
Sent: Thursday, October 12, 2006 8:06 PM
To: Harvey, Mary
Subject: Delivery Notification: Message successfully forwarded

Attachments: ATT11430.txt; ATT11431.txt



ATT11430.txt (792 B) ATT11431.txt (2 KB)

This report relates to a message you sent with the following header fields:

Message-id: <19B6D66EAAA71D479AE9408FB93EDDDD1C1D16@tlhexsmb1.floridadep.net>
Date: Thu, 12 Oct 2006 15:57:07 -0400
From: "Harvey, Mary" <Mary.Harvey@dep.state.fl.us>
To: GianNB@jea.com, robinson@coj.net, worley.gregg@epamail.epa.gov,
"Halpin, Mike" <Mike.Halpin@dep.state.fl.us>
Subject: JEA - Final Air Construction (AC) Permit Project Nos.:
0310485-017-AC/PSD-FL-310(F)

Your message has been successfully relayed to the recipients

Recipient address: worley.gregg@mseive.epa.gov
Original address: worley.gregg@epa.gov
Reason: Message successfully relayed to a system that does not support receipts
Diagnostic code: dns;mseive02.rtp.epa.gov (TCP|134.67.208.33|4010|134.67.221.150|25)
(mseive02.rtp.epa.gov ESMTTP Postfix) smtp;250 Ok
Remote system: dns;mseive02.rtp.epa.gov (TCP|134.67.208.33|4010|134.67.221.150|25)
(mseive02.rtp.epa.gov ESMTTP Postfix)

on a remote system that does not support the generation of successful delivery receipts. This does NOT mean that your message has actually been placed in the recipients' mailboxes; merely that it has passed through a part of the message transport infrastructure. In the event of a nondelivery you should expect to receive a nondelivery notification; in the event of successful delivery, however, you are unlikely to receive a positive confirmation of delivery.

Adams, Patty

From: Halpin, Mike
Sent: Friday, October 13, 2006 10:59 AM
To: Harvey, Mary
Cc: Adams, Patty
Subject: RE: JEA - Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)

Got it! Thanks, Mike

From: Harvey, Mary
Sent: Friday, October 13, 2006 10:48 AM
To: Halpin, Mike
Cc: Adams, Patty
Subject: FW: JEA - Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)

Mike I have checked and it is all here as far as I can tell. Hope you get it this time.

Thanks,
Mary

Subject: JEA - Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)

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 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,

Harvey, Mary

From: Exchange Administrator
Sent: Thursday, October 12, 2006 8:06 PM
To: Harvey, Mary
Subject: Delivery Status Notification (Relay)

Attachments: ATT14141.txt; JEA - Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)



ATT14141.txt (465 B) JEA - Final Air Construction (...)

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

robinson@coj.net

Harvey, Mary

From: Exchange Administrator
Sent: Thursday, October 12, 2006 8:06 PM
To: Harvey, Mary
Subject: Delivery Status Notification (Relay)

Attachments: ATT14083.txt; JEA - Final Air Construction (AC) Permit Project Nos.: 0310485-017-AC/PSD-FL-310(F)



ATT14083.txt (463 B) JEA - Final Air Construction (...)

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GianNB@jea.com

21 West Church Street
Jacksonville, Florida 32202-3139

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AUG 02 2006

August 1, 2006

BUREAU OF AIR REGULATION



Trina L. Vielhauer, Chief
Bureau of Air Regulation
Division of Air Resource Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

ELECTRIC

WATER

Subject: JEA Brandy Branch Generating Station Construction/Title V Permit
Revision Application – Revised table.

SEWER

Dear Ms. Vielhauer:

Per my conversation with Bruce Mitchell of your staff, this letter and enclosed application forms are to provide sulfuric acid mist information as a supplement to our recent request for a revision to Construction Permit No. PSD-FL-310 and Air Operation Permit No. 0310485-13-AV for the JEA Brandy Branch generating station (BBGS). The requested permit revision is for an increase in the permitted Unit 2 and Unit 3 duct burner heat input rate from 170 mmBtu/hr (higher heating value – HHV) to 200 mmBtu/hr (HHV).

The potential emissions of the subject duct burners with the current permitted limit of 170 mmBtu/hr heat input rate and the proposed permitted limit of 200 mmBtu/hr heat input rate are shown in Table 1 below as amended with the SAM information. As seen from this table, there is a minimal increase in potential emissions associated with the increase in the duct burner heat input. This table demonstrates that the potential emissions increase associated with the proposed permit change does not exceed the PSD major modification significant emission rate (SER) threshold levels. Further, JEA is proposing that the increase in the duct burner heat input limits be accompanied by a limit on the annual operating hours of the duct burners of 4,500 hours per year. This will effectively result in potential duct burner emissions less than what they were before the requested permit change. This is also shown in Table 1.

Ms. Vielhauer
 August 1, 2006
 Page Two

Table 1 – Estimated Potential to Emit (PTE)

Pollutant	SERs (tpy)	PTE Estimates (both duct burners combined)			
		85 mmBtu/hr duct burners with no operational limits ^{1,2} (tpy)	170 mmBtu/hr duct burners with no operational limits ^{1,2} (tpy)	200 mmBtu/hr duct burners, each limited to 4,500 hours of annual operation ² (tpy)	Change in PTE (85 mmBtu/hr to 200 mmBtu/hr) with requested permit change (tpy)
NO _x	40	9.72	19.45	11.75	2.03
SO ₂ ³	40	4.56	9.11	5.51	0.95
CO	100	74.64	149.27	90.21	15.57
VOC ⁴	40	17.87	35.74	21.60	3.73
PM ⁴	25	11.92	23.84	14.40	2.48
PM ₁₀ ⁴	15	11.92	23.84	14.40	2.48
H ₂ SO ₄ ⁵	7	0.70	1.40	0.84	0.14

¹ Based on assuming operating rate of 8,760 hours per year and use of lb/mmBtu emission rates derived from previous BBGS permitting efforts.
² Emissions from both duct burners combined.
³ Assumes a natural gas sulfur content of 2 grains per 100 scf.
⁴ VOC and PM/PM₁₀ emissions are limited by permit on a lb/hr basis. JEA is not requesting an increase in the current lb/hr limits associated with the 170 mmBtu/hr duct burner heat input. Therefore, there will be no increase in permitted hourly emissions of these pollutants.
⁵ H₂SO₄ emissions based on 10 percent SO₂ oxidation to SO₃ and 100 percent conversion of SO₃ to H₂SO₄.

If there are any questions regarding this application please contact me at 904-665-6247.

Sincerely,



N. Bert Gianazza, P.E.
 Environmental Services

Enclosures: As noted.

cc: Bruce Mitchell, FDEP

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PEEL HERE ▲

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SENDER'S RECEIPT

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117 W. Duval St., Suite 225

Jacksonville, FL 32202
UNITED STATES

Attention To: Mr. Richard Robinson
Phone#: 904/630-4900

Sent By: P. Adams
Phone#: 850-921-9505

Rate Estimate: 3.08
Protection: Not Required
Description: JEA Brandy Branch 6/20/06 application

Weight (lbs.): 1
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delivery in 1 business day(s))


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21 West Church Street
Jacksonville, Florida 32202-3139

June 19, 2006

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JUN 20 2006

BUREAU OF AIR REGULATION



Trina L. Vielhauer, Chief
Bureau of Air Regulation
Division of Air Resource Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

ELECTRIC

Subject: JEA Brandy Branch Generating Station
Construction/Title V Permit Revision Application

WATER

Dear Ms. Vielhauer:

SEWER

This letter and enclosed application forms are to request a revision to Construction Permit No. PSD-FL-310 and Air Operation Permit No. 0310485-13-AV for the JEA Brandy Branch generating station (BBGS). The requested permit revision is for an increase in the permitted Unit 2 and Unit 3 duct burner heat input rate from 170 mmBtu/hr (higher heating value – HHV) to 200 mmBtu/hr (HHV). Also, JEA is requesting a limit on the operation of each duct burner of less than 4,500 hours per year, so the requested permit changes do not result in an increase in the duct burner potential emissions. This request does not involve a physical change at the facility. It instead simply seeks to change the permit to reflect the installed capacity of these duct burners.

Background

JEA initially received an air permit for construction of three simple cycle combustion turbines at the Brandy Branch Generating Station. Subsequently, JEA applied for and received an air permit application to convert two of the three simple cycle units to combined cycle units (Unit 2 and Unit 3). The initial combined cycle conversion permit allowed for installation of an 85 mmBtu/hr (HHV) duct burner on each combined cycle unit. Subsequently, JEA applied for and received a revised construction permit that allowed for the installation of 170 mmBtu/hr (HHV) duct burners. The combined cycle conversion project was completed in 2004, with operation beginning in the November 2004 timeframe. With operation of the combined cycle units, it was found that the duct burners could actually operate at a maximum heat input of approximately 200 mmBtu/hr (HHV). As such, the purpose of the proposed permit change is to simply have the permitted duct burner maximum heat input limit reflect the heat input that can be achieved by the installed duct burners. The following items highlight the basis for this requested permit change:

- There is no actual physical change to the emission units.
- The units are relatively new and the requested change stems from a desire to make changes to the permit necessary to have the permit match the final installation.
- JEA is willing to take a limit on annual duct burner operating hours to ensure that the duct burner potential to emit is not increased with this permit change.
- No other permit changes are requested as part of this permit application.

Emissions Change/NSR Applicability

The potential emissions of the subject duct burners with the current permitted limit of 170 mmBtu/hr heat input rate and the proposed permitted limit of 200 mmBtu/hr heat input rate are shown in Table 1 below. As seen from this table, there is a minimal increase in potential emissions associated with the increase in the duct burner heat input. This table demonstrates that the potential emissions increase associated with the proposed permit change does not exceed the PSD major modification significant emission rate (SER) threshold levels. Further, JEA is proposing that the increase in the duct burner heat input limits be accompanied by a limit on the annual operating hours of the duct burners of 4,500 hours per year. This will effectively result in potential duct burner emissions less than what they were before the requested permit change. This is also shown in Table 1.

Table 1 – Estimated Potential to Emit (PTE)					
Pollutant	SERs (tpy)	PTE Estimates (both duct burners combined)			
		85 mmBtu/hr duct burners with no operational limits ^{1,2} (tpy)	170 mmBtu/hr duct burners with no operational limits ^{1,2} (tpy)	200 mmBtu/hr duct burners, each limited to 4,500 hours of annual operation ² (tpy)	Change in PTE (85 mmBtu/hr to 200 mmBtu/hr) with requested permit change (tpy)
NO _x	40	9.72	19.45	11.75	2.03
SO ₂ ³	40	4.56	9.11	5.51	0.95
CO	100	74.64	149.27	90.21	15.57
VOC ⁴	40	17.87	35.74	21.60	3.73
PM ⁴	25	11.92	23.84	14.40	2.48
PM ₁₀ ⁴	15	11.92	23.84	14.40	2.48

¹ Based on assuming operating rate of 8,760 hours per year and use of lb/mmBtu emission rates derived from previous BBGS permitting efforts.

² Emissions from both duct burners combined.

³ Assumes a natural gas sulfur content of 2 grains per 100 scf.

⁴ VOC and PM/PM₁₀ emissions are limited by permit on a lb/hr basis. JEA is not requesting an increase in the current lb/hr limits associated with the 170 mmBtu/hr duct burner heat input. Therefore, there will be no increase in permitted hourly emissions of these pollutants.

Under prevention of significant deterioration (PSD) regulations, a review of a modification project emission increases typically involves a comparison of baseline actual emissions to projected actual emissions, or alternatively potential emissions. According to 62-210.200(34)(c), F.A.C., for a new emissions unit the baseline actual emissions shall equal the unit's potential to emit. Because the combined cycle units 1 and 2 duct burners commenced operation only slightly more than a year ago, and the higher achievable duct burner heat input was discovered during the subsequent shakedown of the units, the potential to emit is used as the baseline actual emissions for the duct burners. As shown in Table 1 above, the potential emissions from both duct burners after the requested permit change, considering the requested 4,500 hour per year limit on duct burner operation, is less than the potential to emit (or baseline actual emissions) of the duct burners prior to the proposed permit change. Therefore, not only are the emission changes associated with the proposed permit change less than the PSD SER levels, there will also be no increase in potential emissions associated with the proposed change. Further, as shown in Table 1, the potential emissions increase from the original 85 mmBtu/hr duct burner heat input rate to the requested 200 mmBtu/hr heat input rate (with the 4,500 hours per year operational limit) does not result in potential emission increases greater than the PSD SER levels. Also of note is that the maximum short-term (i.e. 24-hour) emissions from the units occur when the combustion turbine is firing fuel oil. Because the duct burners do not operate when the combustion turbines are firing fuel oil, there will be no increase in the maximum short-term combustion turbine emission levels associated with this request.

Review of NSPS applicability

The duct burners are currently subject to the New Source Performance Standard (NSPS) for Industrial-Commercial-Institutional Steam Generating Units located at 40 CFR Part 60 Subpart Db. This NSPS is applicable to steam generating units with a heat input greater than 100 mmBtu/hr. Note that Subpart Da, Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978, is generally applicable to a fossil fuel fired electric utility steam generating unit with a heat input greater than 250 mmBtu/hr. Because the increase in the duct burner size to 200 mmBtu/hr will not affect which NSPS the duct burners will be applicable to and the facility is currently required to comply with Subpart Db requirements and will continue to be required to comply with Subpart Db requirements, the requested change should not result in any changes to NSPS applicability or related permit conditions.

Review of MACT Standard applicability

There is no maximum achievable control technology (MACT) standard that would be applicable to the BBGS duct burners. The industrial boiler MACT, found at 40 CFR 63 Subpart DDDDD, does not apply to an electric utility steam generating unit that is a fossil fuel-fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. As such, the duct burners would not be subject to this MACT standard. Also, BBGS is not a major source of HAPs and Subpart DDDDD is only applicable to major HAP sources.

Ms. Vielhauer
June 19, 2006
Page Four

Summary

In summary, the requested increase in the permitted heat input of the BBGS Unit 2 and Unit 3 duct burners is a minor change to the existing construction permit and Title V operation permit. It results in no change to the NSPS or MACT standard applicability for these emission units. The proposed change does not involve a physical change to the facility and is simply requested so that the permit reflects the actual heat input rate that the duct burners can attain. The only other permitting change included as part of this request is to limit the operation of each duct burner to less than 4,500 hours per year so the combined requested permit changes do not result in an increase in emissions.

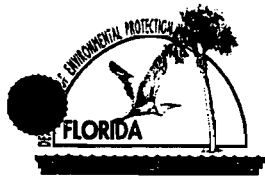
If there are any questions regarding this application please contact me at 904-665-6247.

Sincerely,



N. Bert Gianazza, P.E.
Environmental Services

Enclosures: As Noted.



Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for any air construction permit at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air permit. Also use this form to apply for an air construction permit:

- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- Where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- Where the applicant proposes to establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial/revise/renewal Title V air operation permit.

Air Construction Permit & Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: JEA	
2. Site Name: Brandy Branch Generating Station	
3. Facility Identification Number: 0310485	
4. Facility Location... Street Address or Other Locator: JEA Brandy Branch Generating Station City: Baldwin City County: Duval Zip Code: 32234	
5. Relocatable Facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Existing Title V Permitted Facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Application Contact

1. Application Contact Name: N. Bert Gianazza, P.E.	
2. Application Contact Mailing Address... Organization/Firm: JEA Street Address: 21 West Church Street City: Jacksonville State: FL Zip Code: 32202-3139	
3. Application Contact Telephone Numbers... Telephone: (904) 665-6247 ext. Fax: (904) 665-7376	
4. Application Contact Email Address: giannb@jea.com	

Application Processing Information (DEP Use)

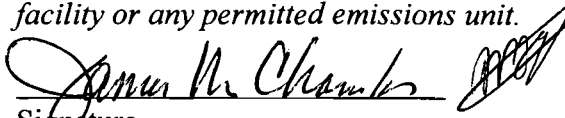
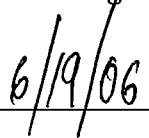
1. Date of Receipt of Application: 6/20/06	3. PSD Number (if applicable):
2. Project Number(s): 0310485-016-AV	4. Siting Number (if applicable):

0310485-017-LAC

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name : Mr. James M. Chansler, P.E., D.P.A., Vice President, Operations and Maintenance
2. Owner/Authorized Representative Mailing Address... Organization/Firm: JEA Street Address: 21 West Church Street City: Jacksonville State: FL Zip Code: 32202
3. Owner/Authorized Representative Telephone Numbers... Telephone: (904) 665-4433 ext. Fax: (904) 665-7990
4. Owner/Authorized Representative Email Address:
5. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other requirements identified in this application to which the facility is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit.</i>  Signature  Date