

Walker, Elizabeth (AIR)

From: Heron, Teresa
Sent: Wednesday, August 12, 2009 2:34 PM
To: Walker, Elizabeth (AIR)
Subject: FW: Bartow TV Air Permit Application
Attachments: 20090616161715.pdf; Attachment BA-FI-C7.doc; Air Regulatory Matrix.doc; Master Test Matrix.doc

For Filing

From: Osbourn, Scott [mailto:Scott_Osbourn@golder.com]
Sent: Tuesday, June 16, 2009 4:27 PM
To: Heron, Teresa
Cc: Holtom, Jonathan; Bradley, Chris; McDaniel, Kim
Subject: RE: Bartow TV Air Permit Application

Attached is the revised page 2 of the application form, which has boxes checked to indicate that the request is for a TV revision and renewal and not for concurrent revisions to the air construction permit. That being said, PEF had requested a change to one of the reporting conditions of the air construction permit (Condition 38.b) that you reference in your email below. The rationale is that, basically, every other pollutant that has a reporting requirement is on a semi-annual basis. The only exception is for CO which, for some reason, is required to report excess emissions each calendar quarter. PEF was requesting the change so that all reporting would be on a consistent basis. We believe that the Department has this discretion.

Finally, as you had requested, attached are the 3 Word files that comprise the Compliance Plan (i.e., Attachment BA-FI-C7 to the air application package). Please don't hesitate to ask if you need any additional information.

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From: Heron, Teresa [mailto:Teresa.Heron@dep.state.fl.us]
Sent: Tuesday, June 16, 2009 3:05 PM
To: Osbourn, Scott
Cc: Holtom, Jonathan
Subject: FW: Bartow TV Air Permit Application

Scott:

I found Page 17 of the Construction Permit PSD-FL-381 (after Appendix U) in the Title V Application. This page has some strikethrough/underlined mark ups in the Excess Emissions Report that show a change from "quarterly" to "semi-annual". This appears to be a modification request for PSD-FL-381. What is the rationale for this request?

Please let us know.

Teresa

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: Heron, Teresa
Sent: Wednesday, June 10, 2009 4:36 PM
To: 'Osborn, Scott'
Cc: Holtom, Jonathan
Subject: Bartow TV Air Permit Application

Scott:

If you are not requesting any changes to the construction permit, please send us a new page 2 of the Application form without the X check mark for Concurrent Processing. This is needed to clear the AC number assigned to this project from the DEP system.

Also, please send me a copy (word) of the Compliance Plan.

I will be waiting for the update CAIR & Acid Rain documents that you mentioned today during our telephone conversation.

Thanks, Teresa

From: Osborn, Scott [mailto:Scott_Osborn@golder.com]
Sent: Wednesday, May 06, 2009 11:21 AM
To: Holtom, Jonathan; Heron, Teresa
Subject: FW: Bartow TV Air Permit Application

Attached is the Word version, as well as the pdf (which has the signed RO and PE pages). These files have the application forms. All attachments are in a separate pdf (23 MB) which we've posted to an FTP site. I'll forward to you, so that you can access the file.

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From: Osborn, Scott
Sent: Tuesday, May 05, 2009 1:24 PM
To: 'Bradley, Chris'; 'Sanchez, Terese'; Callaghan, Tom; 'Williams, Teresa'; McDaniel, Kim
Cc: Pringle, Paola; Larocca, David
Subject: Bartow TV Air Permit Application

Attached is an electronic version of the application that was submitted to the DEP yesterday for the Bartow TV air permit renewal and revision to incorporate the new repowered units. The attachment contains the application forms only. All attachments are in a separate file (23 MB) that we'll have to post to an FTP site for you to access. I produced several additional hard copies, so please let me know if you'd like one of those.

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APPLICATION INFORMATION

Purpose of Application

This application for air permit is being submitted to obtain: (Check one)

Air Construction Permit

- Air construction permit.
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

- Initial Title V air operation permit.
- Title V air operation permit revision.
- Title V air operation permit renewal.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

- Air construction permit and Title V permit revision, incorporating the proposed project.
- Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

- I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

This application is for a Title V renewal and revision. Specifically, this TV revision is to incorporate the permit terms and conditions of the air construction permit (1030011-012-AC and PSD-FL-381A) that authorized construction of the Bartow Repowering Project. The permittee must apply for a TV operation permit no later than 180 days after commencing operation (i.e., 180 days after the commence operation date of November 5, 2008 is May 4, 2009). Therefore, this application is being submitted even though the compliance demonstrations required under the air construction permit have not yet been fully met. Due to these circumstances, this application also includes a Compliance Plan to address those compliance requirements that have yet to be demonstrated.

This application also requests revisions to the lists of unregulated emission units and insignificant activities (see Attachment BA-FI-C8), as well as to address the retirement of fossil fuel steam units 1, 2 and 3 (EU ID Nos. 001, 002 and 003, respectively).

ATTACHMENT BA-FI-C7

COMPLIANCE PLAN

Background

Florida Power Corporation dba Progress Energy Florida, Inc. (PEF) repowered its existing P.L. Bartow Power Plant (Facility ID No. 1030011) in Pinellas County, Florida. The project site is approximately 675 acres in size and presently contains the existing P.L. Bartow Power Plant. The site is located in eastern Pinellas County on Tampa Bay at 1601 Weedon Island Drive, St. Petersburg, Pinellas County; UTM Coordinates: Zone 17, 342.4 km East and 3,082.6 km North; Latitude: 27° 52' 10" North and Longitude: 82° 35' 59" West.

The permittee must apply for a TV operation permit no later than 180 days after commencing operation (i.e., 180 days after the commence operation date of November 5, 2008 is May 4, 2009). Therefore, this application is being submitted even though the compliance demonstrations required under the air construction permit (1030011-012-AC and PSD-FL-381A) have not yet been fully completed. Due to these circumstances, this application also includes this Compliance Plan to address those compliance requirements that have yet to be demonstrated.

Repowering Project

This Compliance Plan addresses the repowering project (the Project) at the Bartow Power Plant. The three existing boilers (EU ID Nos. 001, 002 and 003) will be replaced with a 4-on-1 combined cycle power block. This power block configuration consists of four combustion turbines (CTs), with associated heat recovery steam generators (HRSGs), exhausting to one steam turbine (ST) generator. Also, the Project includes duct burner (DB) firing, power augmentation (PA), and evaporative cooling, resulting in an estimated increase of 827 MW (winter) over the existing plant's capacity.

A separate generating unit, a fifth CT in a simple cycle mode, nominally rated at 190 MW (winter), as well as the fifth of five fuel gas heaters, have not yet been constructed. However, these units are addressed in this air application, as they remain in PEF's plans for the site. An auxiliary boiler, nominally rated at 99 MMBtu/hr, was included in the initial air application and air construction permit, but has also not yet been constructed. This unit may also be required for future site operation and is, therefore, addressed in the TV application for revision and renewal.

PEF is aware that authorization to construct will expire if construction is not commenced within 18 months of receipt of the permit, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. PEF began construction on the Project within 18 months of permit issuance and there has not been any gap in continuous construction. Finally, if the current construction permit expiration date (March 31, 2010) does not provide sufficient time to complete construction, perform required testing, submit test reports

and submit a supplemental application to the Department, PEF is aware that, for good cause, the PSD air construction permit expiration date may be extended.

As stated previously, this application is being submitted even though the compliance demonstrations required under the air construction permit (1030011-012-AC and PSD-FL-381A) have not yet been fully completed. There are several attachments to this Compliance Plan to summarize the compliance requirements that have been addressed, as well as those compliance requirements that have yet to be demonstrated. Attached is a table entitled "*Construction and Startup Activity Requirements*", which includes the action item or underlying requirement, the associated permit condition, the due date description and any applicable comment regarding this item (e.g., the item submittal or completion date, etc.). In addition, attached is a "*Master Testing Matrix*" that summarizes those items completed, those that are underway and those that are yet to be initiated.

Existing Unit Retirement

The existing Bartow Power Plant (Facility ID No. 1030011) consists of three fossil fuel-fired electric utility steam generating units (EUSGUs), a pipeline heating boiler, four gas turbine peaking units and as-needed relocatable diesel generator(s). A brief description of the existing EUSGUs to be retired is provided below.

Unit No. 1 (Emissions Unit No. -001) is a front-fired, fossil fuel steam generator which produces 120 megawatts of electric power. The maximum heat input rate is 1,220 million British thermal units per hour (MMBtu/hr) and the unit fires No. 2 through No. 6 fuel oil, and on-specification used oil. Unit 1 began commercial service in 1958.

Unit No. 2 (Emissions Unit No. -002) is a tangential-fired fossil fuel fired steam generator which produces 120 megawatts of electric power. The maximum heat input rate is 1,317 million Btu per hour and the unit fires No. 2 through No. 6 fuel oil, on-specification used oil, and propane. Unit 2 began commercial service in 1961.

Unit No. 3 (Emissions Unit No. -003) is a tangential-fired fossil fuel fired steam generator which produces 225 megawatts of electric power. The maximum heat input rate is 2,211 million Btu per hour and the unit fires No. 2 through No. 6 fuel oil, on-specification used oil, natural gas, and propane. Unit 3 began commercial service in 1963.

Permit No. 1030011-012-AC, Condition 16, indicates that the new CTs (the Project) may commence commercial operation after the existing Units 1, 2 and 3 cease commercial operation. Therefore, in order to meet the projected in-service date for the Project of June 1, 2009, these three EUSGUs would be required to cease operation on that date. The four existing gas turbine peaking units (Emissions Unit Nos. -005 through -008), as well as the pipeline heating boiler (Emissions Unit No. -004), are unaffected by this project and will remain after the project is complete. Finally, the revised lists of unregulated emission units and insignificant activities reflect the retirement of other ancillary equipment, as well as the correction of previous errors.

**Air Quality Regulatory Submittal Activities – Construction and Startup
FL DEP Air Permit No. PSD-FL-381**

*Progress Energy/Florida Power Corporation
P. L. Bartow Power Plant Repowering Project – Units 4A, 4B, 4C, and 4D
St. Petersburg, Pinellas County, Florida*

Revision 04/24/09

CONSTRUCTION AND STARTUP ACTIVITY REQUIREMENTS

No.	Action/Item Requirement	Permit Condition	Due Date Description	Comments
1	Letter Notification – Commencement of Construction (Units 4A-4D)	40 CFR Part 60 §60.7(a)(1)	≤ 30 days after commencement of construction	Submitted on 02/08/07
2*	Letter Notification – Anticipated Commercial Operation (Units 4A-4D)	40 CFR Part 75 §75.61(a)(2)(i)	≥ 45 days prior to anticipated commercial operation (synch-to-grid)	Submitted on 07/25/08
3	Letter Notification – Actual Startup (Units 4A-4D)	40 CFR Part 60 §60.7(a)(3)	≤ 15 days after actual startup	SU letter (4A bypass): Submitted 12/10/08 SU letter (4B bypass): Submitted 11/07/08 SU letter (4C bypass): Submitted 12/02/08 SU letter (4D bypass): Submitted 12/30/08 SU letter (Units 4A -4D HRSG): Submitted as a single merged letter on 03/07/09
4*	Letter Notification – Actual Commercial Operation (Units 4A-4D)	40 CFR Part 75 §75.61(a)(2)(ii)	≤ 7 days after actual commercial operation (synch-to-grid)	CCO letter (4A): Submitted 12/09/08 CCO letter (4B): Submitted 11/07/08 CCO letter (4C): Submitted 11/24/08 CCO letter (4D): Submitted 12/23/08
5	NSPS/BACT compliance testing protocol (Units 4A-4D)	No specific requirement	≥ 30 days prior to [anticipated] compliance testing	NSPS test protocol (bypass) submitted 10/22/08 NSPS test protocol (HRSG) submitted 04/09/09
6	CO CEMS certification testing protocol (Units 4A-4D)	No specific requirement	≥ 21 days prior to [anticipated] certification testing	Submitted on 10/03/08

CONSTRUCTION AND STARTUP ACTIVITY REQUIREMENTS *continued*

No.	Action/Item Requirement	Permit Condition	Due Date Description	Comments
7a*	Initial monitoring plan (Units 4A-4D)	40 CFR Part 75 §75.62(a); §75.53(e); §75.53(f); §75.73(e)	≥ 21 days prior to [anticipated] certification testing	Submitted on 09/24/08
7b*	Acid Rain/NO _x CEMS certification testing protocol (Units 4A-4D)	40 CFR Part 75 §75.53(e)(2)(i)	<i>[changed from 45 to 21 days effective 01/24/08]</i>	Submitted on 09/24/08
8*	Notice of anticipated NO _x CEMS certification testing dates (Units 4A-4D)	40 CFR Part 75 §75.61(a)(1)(i); §75.20(g)(2)	≥ 21 days prior to [anticipated] testing; ≥ 7 days prior to revised actual test date (if applicable)	Submitted on 10/09/08
9	Notice of anticipated CO CEMS certification testing dates (Units 4A-4D)	FL DEP CC 16; §60.8(d)	≥ 15 days prior to [anticipated] [RATA] testing	Submitted on 04/09/09
10	Notice of anticipated NSPS/BACT compliance testing dates (Units 4A-4D)	FL DEP CC 16; §60.8(d) and §60.7(a)(5)	≥ 15 days prior to [anticipated] testing; ≥ 7 days prior to revised actual test date	Submitted on 10/07/08
11*	QA Plan (CEMS SOP) (Units 4A-4D)	40 CFR Part 75 Appendix B, §1; Acid Rain Program Policy Manual Question Nos. 11-1 and 11-2	As of the date that CEMS certification testing is commenced	Must be maintained on-site. Not required to submit. Will combine with a site-specific PEF CEMS SOP.

CONSTRUCTION AND STARTUP ACTIVITY REQUIREMENTS *continued*

No.	Action/Item Requirement	Permit Condition	Due Date Description	Comments
12	NSPS/BACT compliance testing	FL DEP Section III.A-27 and 28, III.B-7; 40 CFR Part 60 §60.8(a)	<p><u>Simple-Cycle Units</u> ≤ 60 days after maximum production [per CT] and ≤ 180 days after startup [per CT]</p> <p><u>Combined-Cycle Units</u> ≤ 60 days after maximum production [4 CTs + ST] and ≤ 180 days after startup [per CT]</p>	See "Bartow Repower Master Testing Matrix" for testing status (attached)
13	NSPS/BACT compliance testing report (Units 4A-4D)	FL DEP Section III.A-37; FL DEP CC 18; 40 CFR Part 60, §60.8(a)	≤ 45 days after the last sampling run of each test is completed	Compliance test report (byp gas) Submitted on 02/18/09 Compliance test report (byp oil) Submitted on 04/20/09
14*	NO _x (and O ₂) CEMS certification testing (Units 4A-4D)	40 CFR Part 75 §75.4(b)(2); FL DEP Section III.A-31	<p><u>Simple-Cycle Units</u> The earlier of ≤ 90 unit operating days or ≤ 180 calendar days after synch-to-grid</p> <p><u>Combined-Cycle Units</u> The earlier of ≤ 90 unit operating days or ≤ 180 calendar days after emissions pass through SCR control device</p>	All NO _x certification testing to be performed per 40 CFR Part 75.
14a*	RATA (and bias adjustment factor) <i>(RATA data anticipated to be used for NO_x compliance demonstration)</i>	40 CFR Part 75 Appendix A, §6.5; FL DEP Section III.A-31		Stack testing required for RATA portion only (should take ~5 hours per unit)
14b*	Linearity	40 CFR Part 75 Appendix A, §6.2		All NO _x certification testing to be performed per 40 CFR Part 75.
14c*	7-day calibration error (CE) test	40 CFR Part 75 Appendix A, §6.3		All NO _x certification testing to be performed per 40 CFR Part 75.
14d*	Cycle time test	40 CFR Part 75 Appendix A, §6.4		All NO _x certification testing to be performed per 40 CFR Part 75.

CONSTRUCTION AND STARTUP ACTIVITY REQUIREMENTS *continued*

No.	Action/Item Requirement	Permit Condition	Due Date Description	Comments
15*	NO _x (and O ₂) CEMS Certification Application Package (Units 4A-4D)	40 CFR Part 75 §75.63, §75.62, and §75.53		Includes Item Nos. 17a-17e
15a*	NO _x CEMS certification report/results (RATA, linearity, 7-day, and cycle time tests)	40 CFR Part 75 §75.59(a)(9); FL DEP Section III.A-31 and 37	≤ 45 days after the completion of all certification tests [§75.63(a)(1)]	Provide hardcopy to FL DEP and US EPA; electronic results to CAMD
15b*	Final monitoring plan	40 CFR Part 75 §75.63(b)		Provide hardcopy to FL DEP and US EPA; electronic version to CAMD
15c*	DAHS verification results	40 CFR Part 75 §75.59(a)(9) and §75.63(a)(2)(iii)	≤ 60 days after the completion of all certification tests [§60.13(c)(2)]	Include with certification report; testing notification not specified
15d1*	Fuel flowmeter calibration and accuracy results (CT gas)			
15d2*	Fuel flowmeter calibration and accuracy results (DB gas)	40 CFR Part 75 §75.53(f)(1)		4 gas + 4 DB + 4 oil meters (Rosemount/Floboss for gas and Micro Motion for oil)
15d3*	Fuel flowmeter calibration and accuracy results (oil)			

CONSTRUCTION AND STARTUP ACTIVITY REQUIREMENTS *continued*

No.	Action/Item Requirement	Permit Condition	Due Date Description	Comments
16	CO CEMS certification testing (Units 4A-4D)	FL DEP Section III.A-31; 40 CFR Part 60 §60.13(c) and Appendices B and F		All CO certification testing to be performed per 40 CFR Part 60. 40 CFR Part 75 does not apply.
16a	RATA (no bias adjustment factor) <i>(RATA data anticipated to be used for CO compliance demonstration)</i>	40 CFR Part 60 Appendix B, PS-4A, §13.2	The earlier of ≤ 60 days after maximum production [4 CTs + ST] and ≤ 180 calendar days after startup	Stack testing required for RATA portion only (should take ~5 hours per unit)
16b	Cylinder Gas Audit (CGA)	40 CFR Part 60 Appendix F, §5.1.2		All CO certification testing to be performed per 40 CFR Part 60.
16c	7-day calibration drift (CD) test	40 CFR Part 60 Appendix B, PS-4A, §13.1	<i>[differs from NSPS definition of ≤ 30 days after compliance testing]</i>	Can now perform over 7 consecutive unit operating days
16d	Response time test	40 CFR Part 60 Appendix B, PS-4A, §13.3		All CO certification testing to be performed per 40 CFR Part 60.
17	CO CEMS certification report/results (RATA, CGA, 7-day, and response time tests)	FL DEP Section III.A-31 and 37	≤ 45 days after the completion of all certification tests (to be consistent with 40 CFR Part 75)	40 CFR Part 60, §60.13(c)(2) allows for 60 days.
18	EDR/MDC preparation and submittal of all record types corresponding to (a) initial NO _x CEMS certification and (b) any applicable quarterly report data	40 CFR Part 75 §75.64(a)	≤ 30 days after end of most recent calendar quarter	This item is yet to be completed.
19	Test observation/QA memo (Units 4A-4D)	Internal GTC requirement, if deemed necessary	At a date agreed upon by RMB/GTC after conclusion of test program	This item is yet to be completed.

CONSTRUCTION AND STARTUP ACTIVITY REQUIREMENTS *continued*

No.	Action/Item Requirement	Permit Condition	Due Date Description	Comments
20	<p>Custom Fuel Analysis Schedule [aka Custom Fuel Monitoring Plan] (Units 4A-4D sulfur – gas and oil)</p> <p><i>Natural Gas (pipeline)</i> GCV Btu/scf (monthly) total sulfur gr/100scf (semi-annually)</p> <p><i>Fuel Oil (barge)</i> GCV (Btu/lb), % sulfur, and density (lb/gal), vapor pressure (each time tank is topped off/switched)</p>	<p>FL DEP Section III.A-36; 40 CFR Part 60 §§60.4360 and 4370; 40 CFR Part 75 Appendix D; QA Plan</p>	<p>Fuel sampling begins on or before startup</p>	<p>Anticipated to use same plan/schedule as Hines; provide PNG documentation in NO_x CEMS certification report; 40 CFR Part 75 Appendix D procedures used in lieu of SO₂ CEMS. Fuel sampling procedures to be outlined in Bartow QA Program, as well as air permit.</p>
21a	<p>Notification of Fuel Sulfur Records (gas)</p>	<p>FL DEP Section III.A-36 and III.D-5; 40 CFR Part 75</p>	<p>≥ 21 days prior to [anticipated] certification testing</p>	<p>Submitted on 09/24/08</p>
21b	<p>Notification of Fuel Sulfur Records (oil)</p>	<p>FL DEP Section III.A-36 and III.D-5</p>	<p>Prior to startup (no specific time)</p>	<p>Submitted on 11/07/08</p>
22	<p>Process controls installed/verified to monitor water injection rates (Units 4A-4D)</p>	<p>FL DEP Section III.A-7</p>	<p>Prior to conducting the NSPS/BACT compliance test</p>	<p>40 CFR Part 75 NO_x CEMS used in lieu of water-to-fuel injection predictive monitoring</p>
23a	<p>Process controls installed/verified to monitor ammonia injection rates (Units 4A-4D)</p>	<p>FL DEP Section III.A-8 and 33</p>	<p>Prior to conducting the NSPS/BACT compliance test</p>	<p>Internal</p>
23b	<p>Ammonia meter calibration records (Units 4A-4D)</p>	<p>FL DEP Section III.A-33</p>	<p>Prior to conducting the NSPS/BACT compliance test</p>	<p>Internal</p>
24	<p>Process controls installed/verified to monitor ambient temperature, ambient humidity, and combustor inlet pressure, for any EPA ISO corrections</p>	<p>FL DEP Section III.A-32; 40 CFR Part 60 §60.4350</p>	<p>Prior to conducting the NSPS/BACT compliance test</p>	<p>ISO calculations are no longer required. However, EPA still requires the capability to do so (just in case).</p>

CONSTRUCTION AND STARTUP ACTIVITY REQUIREMENTS *continued*

No.	Action/Item Requirement	Permit Condition	Due Date Description	Comments
25a	Tuning/Integrated Tuning	Siemens requirement	Performed over several weeks prior to compliance testing	Performed over several weeks prior to compliance testing using "semi-certified" CEMS installed each stack.
25b	Tuning/Integrated Tuning Notification	FL DEP Section III.A-26	≥ 7 days prior to tuning	Submitted on 10/07/08
26	Manufacturer's turbine curves <i>[Heat Input versus Temperature]</i>	FL DEP Section III.A-12	≤ 45 days after completing testing	Submitted on 02/18/09
27	Auxiliary Boiler compliance testing completed (CO and VE)	FL DEP Section III.B-7	≤ 60 days after maximum production and ≤ 180 days after startup	Initial notification and testing will be conducted upon commencement of construction of the boiler.
28	Process Heater manufacturer certification of emissions characteristics (CO, opacity, and %S content of PNG)	FL DEP Section III.B-11	Not specified. Will submit before startup.	Submitted on 10/07/08
29a	Install gas flowmeters on process heaters	FL DEP Section III.B-14	On or before startup	Internal
29b	Establish natural gas usage records for process heaters	FL DEP Section III.B-14	On or before startup	Must submit on an annual basis.
30a	Records of fuel oil storage tank dimensions, capacity, and annual throughput	FL DEP Section III.C-5	On or before startup	Two (2) total storage tanks. Maintain dimensions/capacity records on site. Submit throughput records on an annual basis.

CONSTRUCTION AND STARTUP ACTIVITY REQUIREMENTS *continued*

No.	Action/Item Requirement	Permit Condition	Due Date Description	Comments
30b	Records of fuel oil storage tank maximum true vapor pressure	FL DEP Section III.C-6	On or before startup	Maintain records on site. Vapor pressure shall be < 3.5 kPa. Will need stock temp and Reid pressure. Add this record to oil fuel analysis.
31	Emergency diesel fire pump manufacturer certification of emissions characteristics (CO, PM, and NMHC+NO _x)	FL DEP Section III.D-7; 40 CFR Part 60, NSPS III, §§60.4211 and 60.4214	Not specified. Will submit before startup.	Submitted on 10/07/08
32	Thermal and Reliability (T/R) Performance Testing (output, heat rate, and 100-hour reliability)	Siemens requirement	Performed over several days during or after compliance testing	Not to be confused with CEMS certification testing or NSPS/BACT compliance testing.
33	Notification of physical or operational changes to units	40 CFR Part 60 §60.7(a)(4)	≤ 60 days prior to change or as soon as practicable prior to the change	Only submit as/when applicable.
34	MACT Subpart YYYY Requirements (Tentative Initial Notification)	FL DEP Section 4 – Appendix YYYY; 40 CFR Part 63, NESHAP Subpart YYYY, §63.6145(c)		Submitted on 02/27/09

Notes

1. Unless otherwise noted, submit all required documentation/paperwork/reports to FL DEP's Local Pinellas County Office in Clearwater and FL DEP's Main Office in Tallahassee.
2. Some calendar dates subject to change due to this matrix being a "living schedule" based on anticipated dates.
3. Items Nos. (Column 1) marked with an "*" are those items subject to the federal requirements of US EPA's Acid Rain Program under 40 CFR Part 75. These items should be sent to US EPA Region IV, US EPA CAMD, and FL DEP. All Region IV and DEP submittals are typically hardcopies. All CAMD submittals are typically email/electronic.

ACRONYMS AND ABBREVIATIONS

BACT	Best Available Control Technology	NSPS	New Source Performance Standards
CCO	Commence Commercial Operation (aka synch-to-grid)	NH ₃	Ammonia (Slip)
CCU	Combined Cycle Unit (CT + ST)	O ₂	Oxygen
COC	Commencement of Construction	PM	Particulate Matter
CEMS	Continuous Emissions Monitoring System(s)	RATA	Relative Accuracy Test Audit
CFR	Code of Federal Regulations	RFP	Request for Proposal (or Quotation)
CO	Carbon Monoxide	SOP	Standard Operating Procedure(s)
CT	Combustion Turbine (also known as Gas Turbine [GT])	SO ₂	Sulfur Dioxide
DAHS	Data Acquisition and Handling System	ST	Steam Turbine
EDR	Acid Rain Program Quarterly Electronic Data Report	SU	Startup
MACT	Maximum Achievable Control Technology	TBD	To Be Determined
MDC	US EPA's Monitoring Data Checking Software	VE	Visible Emissions (aka Opacity)
NO _x	Oxides of Nitrogen (NO + NO ₂)	VOC	Volatile Organic Compound

CC	Common (aka Standard) Permit Conditions as listed in Air Permit (Appendix CC) issued by FL DEP
EUSC	Emissions Units Specific Conditions as listed in Air Permit (Section III) issued by FL DEP
GC	General Permit Conditions as listed in Air Permit (Appendix GC) issued by FL DEP
KKKK	NSPS Subpart KKKK Requirements for Gas Turbines as listed in Air Permit (Appendix KKKK) issued by FL DEP
YYYY	MACT Subpart YYYY Requirements for Gas Turbines as listed in Air Permit (Appendix YYYY) issued by FL DEP

Testing Phases

- Phase I = Tuning
- Phase II = NO_x and CO CEMS Certification Testing (includes linearity, 7-day, RATA, and cycle time testing)
- Phase III = NSPS/BACT Compliance Testing
- Phase IV = Thermal/Reliability Performance Testing & Guarantees

Progress Energy Bartow Repower – Master Testing Matrix

Shaded Items Have Been Completed, Yellow Items Are In Process (as of 04/28/09)

UNIT 4B				
Stack	Fuel	Load	Task	
Bypass	Gas	High	Compliance Run 1	
	Gas	High	Compliance Run 2	
	Gas	High	Compliance Run 3	
	Gas	Low	Compliance Run 1	
	Gas	Low	Compliance Run 2	
	Gas	Low	Compliance Run 3	
	Oil	High	Compliance Run 1	
	Oil	High	Compliance Run 2	
	Oil	High	Compliance Run 3	
	Oil	Low	Compliance Run 1	
	Oil	Low	Compliance Run 2	
	Oil	Low	Compliance Run 3	
	Gas	High	Stratification Check	
	Gas	High	NOx RATA Run 1	
	Gas	High	NOx RATA Run 2	
	Gas	High	NOx RATA Run 3	
	Gas	High	NOx RATA Run 4	
	Gas	High	NOx RATA Run 5	
	Gas	High	NOx RATA Run 6	
	Gas	High	NOx RATA Run 7	
	Gas	High	NOx RATA Run 8	
	Gas	High	NOx RATA Run 9	
	Any	Any	NOx Linearity High Range	
	Any	Any	O2 Linearity	
	Any	Any	NOx 7-Day High Range [7/7]	
	Any	Any	O2 7-Day [7/7]	
	Any	Any	NOx Cycle Time	
	Any	Any	O2 Cycle Time	
	HRSG	Gas	High	Compliance Run 1 (DB On)
		Gas	High	Compliance Run 2 (DB On)
		Gas	High	Compliance Run 3 (DB On)
		Gas	High	Compliance Run 1 (DB Off)
		Gas	High	Compliance Run 2 (DB Off)
		Gas	High	Compliance Run 3 (DB Off)
		Oil	High	Compliance Run 1
		Oil	High	Compliance Run 2
		Oil	High	Compliance Run 3
		Gas	High	Stratification Check
		Gas	High	NOx/CO RATA Run 1
		Gas	High	NOx/CO RATA Run 2
		Gas	High	NOx/CO RATA Run 3
		Gas	High	NOx/CO RATA Run 4
		Gas	High	NOx/CO RATA Run 5
		Gas	High	NOx/CO RATA Run 6
		Gas	High	NOx/CO RATA Run 7
		Gas	High	NOx/CO RATA Run 8
		Gas	High	NOx/CO RATA Run 9
		Any	Any	NOx Linearity High Range
Any		Any	O2 Linearity	
Any		Any	CO CGA High Range	
Any		Any	CO CGA Low Range	
Any		Any	NOx 7-Day High Range [4/7]	
Any		Any	O2 7-Day [4/7]	
Any		Any	CO 7-Day High Range [4/7]	
Any		Any	CO 7-Day Low Range [4/7]	
Any		Any	NOx Cycle Time	
Any		Any	O2 Cycle Time	
Any		Any	CO Response Time	
Bypass		Protocols	I, III	
		Reports	V	VI, VIII
HRSG		Protocols	II, IV	
		Reports	VII	IX, X

UNIT 4C				
Stack	Fuel	Load	Task	
Bypass	Gas	High	Compliance Run 1	
	Gas	High	Compliance Run 2	
	Gas	High	Compliance Run 3	
	Gas	Low	Compliance Run 1	
	Gas	Low	Compliance Run 2	
	Gas	Low	Compliance Run 3	
	Oil	High	Compliance Run 1	
	Oil	High	Compliance Run 2	
	Oil	High	Compliance Run 3	
	Oil	Low	Compliance Run 1	
	Oil	Low	Compliance Run 2	
	Oil	Low	Compliance Run 3	
	Gas	High	Stratification Check	
	Gas	High	NOx RATA Run 1	
	Gas	High	NOx RATA Run 2	
	Gas	High	NOx RATA Run 3	
	Gas	High	NOx RATA Run 4	
	Gas	High	NOx RATA Run 5	
	Gas	High	NOx RATA Run 6	
	Gas	High	NOx RATA Run 7	
	Gas	High	NOx RATA Run 8	
	Gas	High	NOx RATA Run 9	
	Any	Any	NOx Linearity High Range	
	Any	Any	O2 Linearity	
	Any	Any	NOx 7-Day High Range [7/7]	
	Any	Any	O2 7-Day [7/7]	
	Any	Any	NOx Cycle Time	
	Any	Any	O2 Cycle Time	
	HRSG	Gas	High	Compliance Run 1 (DB On)
		Gas	High	Compliance Run 2 (DB On)
		Gas	High	Compliance Run 3 (DB On)
		Gas	High	Compliance Run 1 (DB Off)
		Gas	High	Compliance Run 2 (DB Off)
		Gas	High	Compliance Run 3 (DB Off)
		Oil	High	Compliance Run 1
		Oil	High	Compliance Run 2
		Oil	High	Compliance Run 3
		Gas	High	Stratification Check
		Gas	High	NOx/CO RATA Run 1
		Gas	High	NOx/CO RATA Run 2
		Gas	High	NOx/CO RATA Run 3
		Gas	High	NOx/CO RATA Run 4
		Gas	High	NOx/CO RATA Run 5
		Gas	High	NOx/CO RATA Run 6
		Gas	High	NOx/CO RATA Run 7
		Gas	High	NOx/CO RATA Run 8
		Gas	High	NOx/CO RATA Run 9
		Any	Any	NOx Linearity High Range
Any		Any	O2 Linearity	
Any		Any	CO CGA High Range	
Any		Any	CO CGA Low Range	
Any		Any	NOx 7-Day High Range [4/7]	
Any		Any	O2 7-Day [4/7]	
Any		Any	CO 7-Day High Range [2/7]	
Any		Any	CO 7-Day Low Range [2/7]	
Any		Any	NOx Cycle Time	
Any		Any	O2 Cycle Time	
Any		Any	CO Response Time	
Bypass		Protocols	I, III	
		Reports	V	VI, VIII
HRSG		Protocols	II, IV	
		Reports	VII	IX, X

UNIT 4D				
Stack	Fuel	Load	Task	
Bypass	Gas	High	Compliance Run 1	
	Gas	High	Compliance Run 2	
	Gas	High	Compliance Run 3	
	Gas	Low	Compliance Run 1	
	Gas	Low	Compliance Run 2	
	Gas	Low	Compliance Run 3	
	Oil	High	Compliance Run 1	
	Oil	High	Compliance Run 2	
	Oil	High	Compliance Run 3	
	Oil	Low	Compliance Run 1	
	Oil	Low	Compliance Run 2	
	Oil	Low	Compliance Run 3	
	Gas	High	Stratification Check	
	Gas	High	NOx RATA Run 1	
	Gas	High	NOx RATA Run 2	
	Gas	High	NOx RATA Run 3	
	Gas	High	NOx RATA Run 4	
	Gas	High	NOx RATA Run 5	
	Gas	High	NOx RATA Run 6	
	Gas	High	NOx RATA Run 7	
	Gas	High	NOx RATA Run 8	
	Gas	High	NOx RATA Run 9	
	Any	Any	NOx Linearity High Range	
	Any	Any	O2 Linearity	
	Any	Any	NOx 7-Day High Range [7/7]	
	Any	Any	O2 7-Day [7/7]	
	Any	Any	NOx Cycle Time	
	Any	Any	O2 Cycle Time	
	HRSG	Gas	High	Compliance Run 1 (DB On)
		Gas	High	Compliance Run 2 (DB On)
		Gas	High	Compliance Run 3 (DB On)
		Gas	High	Compliance Run 1 (DB Off)
		Gas	High	Compliance Run 2 (DB Off)
		Gas	High	Compliance Run 3 (DB Off)
		Oil	High	Compliance Run 1
		Oil	High	Compliance Run 2
		Oil	High	Compliance Run 3
		Gas	High	Stratification Check
		Gas	High	NOx/CO RATA Run 1
		Gas	High	NOx/CO RATA Run 2
		Gas	High	NOx/CO RATA Run 3
		Gas	High	NOx/CO RATA Run 4
		Gas	High	NOx/CO RATA Run 5
		Gas	High	NOx/CO RATA Run 6
		Gas	High	NOx/CO RATA Run 7
		Gas	High	NOx/CO RATA Run 8
		Gas	High	NOx/CO RATA Run 9
		Any	Any	NOx Linearity High Range
Any		Any	O2 Linearity	
Any		Any	CO CGA High Range	
Any		Any	CO CGA Low Range	
Any		Any	NOx 7-Day High Range [1/7]	
Any		Any	O2 7-Day [1/7]	
Any		Any	CO 7-Day High Range [1/7]	
Any		Any	CO 7-Day Low Range [1/7]	
Any		Any	NOx Cycle Time	
Any		Any	O2 Cycle Time	
Any		Any	CO Response Time	
Bypass		Protocols	I, III	
		Reports	V (High)	VI+V (Low), VIII
HRSG		Protocols	II, IV	
		Reports	VII	IX, X

nd Oil), III = Bypass and HRSG NOx CEMS, IV = HRSG CO CEMS
G Compliance (Gas and Oil), VIII = Bypass NOx CEMS, IX = HRSG NOx CEMS, X = HRSG CO CEMS