



Jeb Bush  
Governor

# Department of Environmental Protection

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

Colleen M. Castille  
Secretary

October 1, 2004

Wade A. Maye, General Manager  
H. L. Culbreath Bayside Power Station  
P.O. Box 111  
Tampa, FL 33601-0111

Re: H. L. Culbreath Bayside Power Station (Formerly the F. J. Gannon Station)  
Project No. 0570040-021-AC: Revision of Permit No. PSD-FL-301A  
Project No. 0570040-023-AV: Renewal of Title V Air Operation Permit

Dear Mr. Maye:

On February 26, 2004, the Department received your application to revise Condition 17 in air construction Permit No. PSD-FL-301A for the Bayside Power Station, which located at on Tampa's Port Sutton Road in Hillsborough County, Florida. The Department issued a draft permit on August 27, 2004. Based on recent comments, the Department is issuing a revised Draft Permit (PSD-FL-301B). Enclosed are the following related documents: "Technical Evaluation and Preliminary Determination" and "Draft Permit Revision". The "Technical Evaluation and Preliminary Determination" summarizes the Permitting Authority's technical review of the application and provides the rationale for making the preliminary determination to issue the permit. The "Draft Permit Revision" includes the specific changes to permit conditions that the Department intends to make.

On May 5, 2004, the Department received your application to revise the current Title V air operation permit to include the new Bayside Units 1 and 2. On July 2, 2004, the Department received your application to renew the existing Title V air operation permit for the re-powered H. L. Culbreath Bayside Power Station. Enclosed are the following related documents: "Statement of Basis" and "DRAFT Title V Permit". The "Statement of Basis" summarizes the Permitting Authority's technical review of the application and provides the rationale for making the preliminary determination to issue a DRAFT Permit. The proposed "DRAFT Permit" includes specific conditions that regulate the emissions units at this facility.

The Department is providing its preliminary determination to issue both of these permits at the same time. Enclosed are the following combined documents related to these projects: "Written Notice of Intent to Issue Revised Air Construction Permit/Title V Air Operation Permit" and "Public Notice of Intent to Issue Revised Air Construction Permit/Title V Air Operation Permit". These documents combine both projects so that the revised conditions of the air construction permit can be incorporated into the renewal Title V air operation permit. The "Written Notice" provides important information regarding: the Permitting Authority's intent to issue the permits; the requirements for publishing the Public Notice of the Permitting Authority's intent to issue the air permits; the procedures for submitting comments on the Draft Permits; the requirements for requesting a public meeting; the process for filing a petition for an administrative hearing; and the availability of mediation. The "Public Notice" is the actual notice that you must have published in the legal advertisement section of a newspaper of general circulation in the area affected by this project.

If you have any questions, please contact the Project Engineer, Jeff Koerner, at 850/921-9536.

Sincerely,

Trina Vielhauer, Chief  
Bureau of Air Regulation

Enclosures

"More Protection, Less Process"

Printed on recycled paper.

**WRITTEN NOTICE OF INTENT TO ISSUE  
REVISED AIR CONSTRUCTION PERMIT/TITLE V AIR OPERATION PERMIT**

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*In the Matter of an  
Application for Title V Air Operation Permit by:*

Wade A. Maye, General Manager  
H. L. Culbreath Bayside Power Station  
Tampa Electric Company  
P.O. Box 111  
Tampa, FL 33601-0111

Draft Air Construction Permit No. 0570040-021-AC  
(Revision of Condition 17, PSD-FL-301B)  
DRAFT Title V Permit No. 0570040-023-AV  
(Renewal of Title V Air Operation Permit)  
Hillsborough County, Florida

**Facility Location:** The H. L. Culbreath Bayside Power Station is located at 3602 Port Sutton Road in Tampa, Florida.

**Revised Air Construction Permit Project:** In accordance with Air Permit No. PSD-FL-301A, the applicant constructed the new H.L. Culbreath Bayside Power Station to re-power the existing coal-fired Gannon Station with combined cycle gas turbines firing natural gas. The project required the shutdown of all coal-fired units, which resulted in large reductions in annual pollutant emissions. The current permit allows limited amounts of continuous monitoring data to be excluded from the compliance average for specific operating periods including startup, shutdown, malfunction, cold steam turbine startups, and tuning. The applicant proposes the following changes: allow operation of the gas turbines below 50% base load without restriction, but in compliance with the standards; clarify that only equipment malfunctions resulting in emissions beyond the permitted rates must be reported within one day; retain the current restriction on data exclusion for cold steam turbine startups; add a provision for maximum data exclusion due to startup, shutdown, and malfunction for days with a startup following an unplanned forced outage; and allow the exclusion of all data collected during the following periods of maintenance: tuning the dry low-NOx combustion system, drying of the compressor blades following a water wash, and conducting an over speed trip test. These scenarios identify specific periods during which the gas turbines are not yet able to operate in full dry low-NOx combustion mode with the resulting low emission levels. As conditioned and restricted by the draft permit, these cases are limited in scope and impact. Details of the project are provided in the in the application and the enclosed "Technical Evaluation and Preliminary Determination".

**Title V Air Operation Permit Project:** The Tampa Electric Company operates the H. L. Culbreath Bayside Power Station, which is the re-powered F. J. Gannon Station. The coal-fired boilers have been permanently shut down. The new Bayside Station consists primarily of two "units": Bayside Unit 1 is comprised of three 169 MW gas turbines and three heat recovery steam generators that re-power a 239 MW existing steam turbine electrical generator; and Bayside Unit 2 is comprised of four 169 MW gas turbines and four heat recovery steam generators that re-power a 424 MW existing steam turbine electrical generator. The gas turbines fire natural gas as the exclusive fuel. Emissions of nitrogen oxides are reduced with dry low-NOx combustion and selective catalytic reduction. Emissions of carbon monoxide and nitrogen oxides are continuously monitored. Each gas turbine is subject to the New Source Performance Standards for stationary gas turbines, the Department's Best Available Control Technology determination (for emissions of carbon monoxide, particulate matter, and volatile organic compounds), and the Phase II acid rain program. Additional details of the project are provided in the in the application and the enclosed "Statement of Basis". The DRAFT Title V Air Operation permit incorporates new Bayside Units 1 and 2 and is a renewal of the initial Title V Air Operation Permit for this facility.

**Permitting Authority:** Applications for these permitting actions are subject to review in accordance with the provisions of Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-210, 62-212, 62-213 and 62-214 of the Florida Administrative Code (F.A.C.). The proposed projects are not exempt from air permitting requirements and air permits are required for the revised air construction permit and to operate the facility. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making permit determinations regarding these projects. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, in Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

**Project Files:** Complete project files are available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at the address indicated above for the Permitting Authority. For the Revised Air Construction Permit Project, the complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. For the Title V Air Operation Permit Project, the complete project file includes the DRAFT Permit, the Statement of Basis, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may view the DRAFT Permit and file electronic comments by visiting the following website: <http://www.dep.state.fl.us/air/eproducts/ards/>. Copies of the complete project

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files are also available at the Air Resources Section of the Department's Southwest District Office at 3804 Coconut Palm Drive, Tampa, Florida 33619-8218 (Telephone: 813/744-6100). In addition, copies of the project files are available from the Air Management Division of the Hillsborough County Environmental Protection Commission at 1900 9th Avenue, Tampa, FL 33605 (Phone: 813/272-5530.)

**Notice of Intent to Issue Air Permits:** The Permitting Authority gives notice of its intent to issue the revised Draft Air Construction Permit and the DRAFT Title V Air Operation Permit to the applicant for the projects described above. The applicant has provided reasonable assurance that operation of the facility will not adversely impact air quality and that the projects will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-214, 62-256, 62-257, 62-281, 62-296, and 62-297, F.A.C. For the Draft Air Construction Permit, the Permitting Authority will issue a Final Permit in accordance with the conditions of the Draft Permit unless a response received in accordance with the following procedures results in a different decision or a significant change of terms or conditions. For the DRAFT Title V Air Operation Permit, the Permitting Authority will issue a PROPOSED Permit and subsequent FINAL Permit in accordance with the conditions of the DRAFT Permit unless a response received in accordance with the following procedures results in a different decision or a significant change of terms or conditions.

**Public Notice:** Pursuant to Section 403.815, F.S. and Rules 62-110.106 and 62-210.350, F.A.C., you (the applicant) are required to publish at your own expense the enclosed "Public Notice of Intent to Issue Revised Air Construction Permit/Title V Air Operation Permit" (Public Notice). The Public Notice shall be published one time only as soon as possible in the legal advertisement section of a newspaper of general circulation in the area affected by this project. The newspaper used must meet the requirements of Sections 50.011 and 50.031, F.S. in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Permitting Authority at above address or phone number. Pursuant to Rule 62-110.106(5), F.A.C., the applicant shall provide proof of publication to the Permitting Authority at the above address within seven (7) days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rule 62-110.106(11), F.A.C.

**Comments on the Revised Air Construction Permit Project:** The Permitting Authority will accept written comments concerning the Revised Draft Air Construction Permit for a period of fourteen (14) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address, email or facsimile. If written comments result in a significant change to the Draft Permit, the Permitting Authority will issue a revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

**Comments on the DRAFT Title V Air Operation Permit Project:** The Permitting Authority will accept written comments concerning the DRAFT Permit for a period of thirty (30) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address, email or facsimile. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location on the Department's official web site for notices at <http://tlhora6.dep.state.fl.us/onw> and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the DRAFT Permit, the Permitting Authority will issue a Revised DRAFT Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

**Petitions:** A person whose substantial interests are affected by the proposed permitting decisions may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within fourteen (14) days of receipt of this "Written Notice of Intent". Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of the attached "Public Notice" or within fourteen (14) days of receipt of this "Written Notice", whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within fourteen (14) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall

**WRITTEN NOTICE OF INTENT TO ISSUE  
REVISED AIR CONSTRUCTION PERMIT/TITLE V AIR OPERATION PERMIT**

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constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this "Written Notice". Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on these applications have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

**Mediation:** Mediation is not available in this proceeding.

**Objections to the DRAFT Title V Permit:** Finally, pursuant to 42 United States Code (U.S.C.) Section 7661d(b)(2), any person may petition the Administrator of the EPA within sixty (60) days of the expiration of the Administrator's 45 (forty-five) day review period as established at 42 U.S.C. Section 7661d(b)(1), to object to the issuance of any Title V air operation permit. Any petition shall be based only on objections to the Permit that were raised with reasonable specificity during the thirty (30) day public comment period provided in the Public Notice, unless the petitioner demonstrates to the Administrator of the EPA that it was impracticable to raise such objections within the comment period or unless the grounds for such objection arose after the comment period. Filing of a petition with the Administrator of the EPA does not stay the effective date of any permit properly issued pursuant to the provisions of Chapter 62-213, F.A.C. Petitions filed with the Administrator of EPA must meet the requirements of 42 U.S.C. Section 7661d(b)(2) and must be filed with the Administrator of the EPA at: U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460. For more information regarding EPA review and objections, visit EPA's Region 4 web site at <http://www.epa.gov/region4/air/permits/Florida.htm>.

Executed in Tallahassee, Florida.



Trina Vielhauer, Chief  
Bureau of Air Regulation



**PUBLIC NOTICE OF INTENT TO ISSUE  
REVISED AIR CONSTRUCTION PERMIT/TITLE V AIR OPERATION PERMIT**

Florida Department of Environmental Protection  
Revised Draft Air Construction Permit No. 0570040-021-AC (PSD-FL-301B)  
DRAFT Title V Air Operation Permit No. 0570040-023-AV  
H. L. Culbreath Bayside Power Station  
Hillsborough County, Florida

**Applicant:** The applicant for this project is the Tampa Electric Company. The applicant's mailing address is P.O. Box 111, Tampa, Florida 33601-0111. The applicant's responsible official is Mr. Wade A. Maye, General Manager.

**Facility Location:** The H. L. Culbreath Bayside Power Station is located at 3602 Port Sutton Road in Tampa, Florida.

**Revised Air Construction Permit Project:** In accordance with original air construction Permit No. PSD-FL-301, the applicant constructed the new H.L. Culbreath Bayside Power Station to re-power the existing coal-fired Gannon Station with combined cycle gas turbines firing natural gas. The project required the shutdown of all coal-fired units, which resulted in large reductions in annual pollutant emissions. The current permit allows limited amounts of continuous monitoring data to be excluded from the compliance average for specific operating periods including startup, shutdown, malfunction, cold steam turbine startups, and tuning. The applicant proposes the following changes: allow operation of the gas turbines below 50% base load without restriction, but in compliance with the standards; clarify that only equipment malfunctions resulting in emissions beyond the permitted rates must be reported within one day; retain the current restriction on data exclusion for cold steam turbine startups; add a provision for maximum data exclusion due to startup, shutdown, and malfunction for days with a startup following an unplanned forced outage; and allow the exclusion of all data collected during maintenance periods to tune the dry low-NOx combustion system, dry the compressor blades following a water wash, and conduct over speed trip tests. These scenarios identify specific periods during which the gas turbines are not yet able to operate in full dry low-NOx combustion mode with the resulting low emission levels. As conditioned and restricted by the draft permit, these cases are limited in scope and impact.

**Title V Air Operation Permit Project:** The Tampa Electric Company operates the H. L. Culbreath Bayside Power Station, which is the re-powered F. J. Gannon Station. The coal-fired boilers have been permanently shut down. The new Bayside Station consists primarily of two "units": Bayside Unit 1 is comprised of three 169 MW gas turbines and three heat recovery steam generators that re-power a 239 MW existing steam turbine electrical generator; and Bayside Unit 2 is comprised of four 169 MW gas turbines and four heat recovery steam generators that re-power a 424 MW existing steam turbine electrical generator. The gas turbines fire natural gas as the exclusive fuel. Emissions of nitrogen oxides are reduced with dry low-NOx combustion and selective catalytic reduction. Emissions of carbon monoxide and nitrogen oxides are continuously monitored. Each gas turbine is subject to the New Source Performance Standards for stationary gas turbines, the Department's Best Available Control Technology determination (for emissions of carbon monoxide, particulate matter, and volatile organic compounds), and the Phase II acid rain program. The DRAFT Title V Air Operation permit incorporates new Bayside Units 1 and 2 and is a renewal of the initial Title V Air Operation Permit for this facility.

**Permitting Authority:** Applications for these permitting actions are subject to review in accordance with the provisions of Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-210, 62-212, 62-213 and 62-214 of the Florida Administrative Code (F.A.C.). The proposed projects are not exempt from air permitting requirements and air permits are required for the revised air construction permit and to operate the facility. The Florida Department of Environmental Protection's Bureau of Air Regulation is the Permitting Authority responsible for making permit determinations regarding these projects. The Permitting Authority's physical address is: 111 South Magnolia Drive, Suite #4, in Tallahassee, Florida. The Permitting Authority's mailing address is: 2600 Blair Stone Road, MS #5505, Tallahassee, Florida 32399-2400. The Permitting Authority's telephone number is 850/488-0114.

**Project Files:** Complete project files are available for public inspection during the normal business hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (except legal holidays), at the address indicated above for the Permitting Authority. For the Revised Air Construction Permit Project, the complete project file includes the Draft Permit, the Technical Evaluation and Preliminary Determination, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. For the Title V Air Operation Permit Project, the complete project file includes the DRAFT Permit, the Statement of Basis, the application, and the information submitted by the applicant, exclusive of confidential records under Section 403.111, F.S. Interested persons may view the Draft Permit documents and file electronic comments by visiting the following website: <http://www.dep.state.fl.us/air/eproducts/ards/>. Copies of the complete project files are also available at the Air Resources Section of the Department's Southwest District Office at 3804 Coconut Palm Drive, Tampa, Florida 33619-8218 (Telephone: 813/744-6100). In addition, copies of the project files are available from the Air Management Division of the Hillsborough County Environmental Protection Commission at 1900 9th Avenue, Tampa, FL 33605 (Phone: 813/272-5530.)

**(Public Notice to be Published in the Newspaper)**

**PUBLIC NOTICE OF INTENT TO ISSUE  
REVISED AIR CONSTRUCTION PERMIT/TITLE V AIR OPERATION PERMIT**

**Notice of Intent to Issue Air Permits:** The Permitting Authority gives notice of its intent to issue the Revised Draft Air Construction Permit and the DRAFT Title V Air Operation Permit to the applicant for the projects described above. The applicant has provided reasonable assurance that operation of the facility will not adversely impact air quality and that the projects will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-214, 62-256, 62-257, 62-281, 62-296, and 62-297, F.A.C. For the Draft Air Construction Permit, the Permitting Authority will issue a Final Permit in accordance with the conditions of the Draft Permit unless a response received in accordance with the following procedures results in a different decision or a significant change of terms or conditions. For the DRAFT Title V Air Operation Permit, the Permitting Authority will issue a PROPOSED Permit and subsequent FINAL Permit in accordance with the conditions of the DRAFT Permit unless a response received in accordance with the following procedures results in a different decision or a significant change of terms or conditions.

**Comments on the Revised Air Construction Permit Project:** The Permitting Authority will accept written comments concerning the Revised Draft Air Construction Permit for a period of fourteen (14) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received by the close of business (5:00 p.m.), on or before the end of this 14-day period by the Permitting Authority at the above address, email or facsimile. If written comments result in a significant change to the Draft Permit, the Permitting Authority will issue a revised Draft Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

**Comments on the DRAFT Title V Air Operation Permit Project:** The Permitting Authority will accept written comments concerning the DRAFT Permit for a period of thirty (30) days from the date of publication of the Public Notice. Written comments must be post-marked, and all e-mail or facsimile comments must be received by the close of business (5:00 p.m.), on or before the end of this 30-day period by the Permitting Authority at the above address, email or facsimile. As part of his or her comments, any person may also request that the Permitting Authority hold a public meeting on this permitting action. If the Permitting Authority determines there is sufficient interest for a public meeting, it will publish notice of the time, date, and location on the Department's official web site for notices at <http://tlhora6.dep.state.fl.us/onw> and in a newspaper of general circulation in the area affected by the permitting action. For additional information, contact the Permitting Authority at the above address or phone number. If written comments or comments received at a public meeting result in a significant change to the DRAFT Permit, the Permitting Authority will issue a Revised DRAFT Permit and require, if applicable, another Public Notice. All comments filed will be made available for public inspection.

**Petitions:** A person whose substantial interests are affected by the proposed permitting decisions may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed with (received by) the Department's Agency Clerk in the Office of General Counsel of the Department of Environmental Protection, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. Petitions filed by the applicant or any of the parties listed below must be filed within fourteen (14) days of receipt of this "Written Notice of Intent". Petitions filed by any persons other than those entitled to written notice under Section 120.60(3), F.S., must be filed within fourteen (14) days of publication of the attached "Public Notice" or within fourteen (14) days of receipt of this "Written Notice", whichever occurs first. Under Section 120.60(3), F.S., however, any person who asked the Permitting Authority for notice of agency action may file a petition within fourteen (14) days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when each petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so state; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

**(Public Notice to be Published in the Newspaper)**

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REVISED AIR CONSTRUCTION PERMIT/TITLE V AIR OPERATION PERMIT**

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**Mediation:** Mediation is not available in this proceeding.

**Objections to the DRAFT Title V Permit:** Finally, pursuant to 42 United States Code (U.S.C.) Section 7661d(b)(2), any person may petition the Administrator of the EPA within sixty (60) days of the expiration of the Administrator's 45 (forty-five) day review period as established at 42 U.S.C. Section 7661d(b)(1), to object to the issuance of any Title V air operation permit. Any petition shall be based only on objections to the Permit that were raised with reasonable specificity during the thirty (30) day public comment period provided in the Public Notice, unless the petitioner demonstrates to the Administrator of the EPA that it was impracticable to raise such objections within the comment period or unless the grounds for such objection arose after the comment period. Filing of a petition with the Administrator of the EPA does not stay the effective date of any permit properly issued pursuant to the provisions of Chapter 62-213, F.A.C. Petitions filed with the Administrator of EPA must meet the requirements of 42 U.S.C. Section 7661d(b)(2) and must be filed with the Administrator of the EPA at: U.S. EPA, 401 M Street, S.W., Washington, D.C. 20460. For more information regarding EPA review and objections, visit EPA's Region 4 web site at <http://www.epa.gov/region4/air/permits/Florida.htm>.



**TECHNICAL EVALUATION  
&  
PRELIMINARY DETERMINATION**

**PROJECT**

Draft Air Construction Permit No. PSD-FL-301B (Revision)  
Project No. 0570040-021-AC  
Revised Condition 17, Excluded Data

**COUNTY**

Hillsborough County, Florida

**APPLICANT**

Tampa Electric Company  
H. L. Culbreath Bayside Power Station  
ARMS Facility ID No. 0570040

**PERMITTING  
AUTHORITY**

Florida Department of Environmental Protection  
Division of Air Resource Management  
Bureau of Air Regulation  
Air Permitting South Program



September 29, 2004  
(Revision)

{Filename: PSD-FL-301Br - TEPD}

## 1. GENERAL PROJECT INFORMATION

### Applicant Name and Address

H. L. Culbreath Bayside Power Station (Formerly the F. J. Gannon Station)  
P.O. Box 111  
Tampa, FL 336601-0111

### Processing Schedule

02/26/04: Received the application for a minor source air pollution construction permit.  
03/19/04: Department requested additional information.  
04/09/04: Department mailed reminder for requested additional information.  
06/21/04: Department received additional information; complete.

### Facility Description and Location

The H. L. Culbreath Bayside Power Station is the re-powered F. J. Gannon Station located in Tampa, Florida. When fully constructed, the plant will have four combined cycle units consisting of gas turbines with heat recovery steam generators supplying four re-powered Gannon steam turbine electrical generators. Each combined cycle unit employs SCR to reduce NO<sub>x</sub> emissions. The Standard Industrial Classification Code is SIC No. 4911 for electric services. The UTM coordinates are: Zone 17, 360.00 km E, 3087.50 km N. This site is in an area that is in attainment (or designated as unclassifiable) for all air pollutants subject to a National Ambient Air Quality Standard (NAAQS).

### Regulatory Categories

Title III: The existing Gannon Station was a major source of hazardous air pollutants (HAP). However, the re-powered Bayside Station is no longer a major source of HAPs.

Title IV: The existing facility operates units subject to the acid rain provisions of the Clean Air Act.

Title V: The existing facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.

PSD: The existing facility is a PSD-major source of air pollution in accordance with Rule 62-212.400, F.A.C.

NSPS: The existing facility operates units subject to the New Source Performance Standards of 40 CFR 60.

### Project Description

The H. L. Culbreath Bayside Power Station is being constructed under Permit No. PSD-FL-301A issued on January 8, 2002. Bayside Units 1 and 2 have been constructed, demonstrated initial compliance, and are currently in operation. Construction of Bayside Units 3 and 4 has not yet commenced. Bayside Unit 1 consists of three gas turbines (169 MW each), three heat recovery steam generators, and the re-powered Gannon Unit 5 steam turbine (239 MW). Bayside Unit 2 consists of four gas turbines (169 MW each), three heat recovery steam generators, and the re-powered Gannon Unit 6 steam turbine (414 MW). Each gas turbine is a General Electric Model PG7241(FA) with an automated control system, an inlet air filtration system, an evaporative inlet air cooling system, and a single exhaust stack. All units fire natural gas as the exclusive fuel. See Figure 1, which is a schematic of Bayside Unit 1.

Based on the actual operation of Bayside Units 1 and 2, the applicant requests several revisions to Specific Condition 17 regarding low load operation, startups, shutdowns, malfunctions, DLN tuning, compressor blade drying, and over speed trip testing. Each request is discussed in detail in Section 3 of this technical evaluation. Under separate applications, the Department is also reviewing the following additional requests for this plant: an initial simple cycle phase for the Bayside Unit 3 gas turbines with restricted oil firing; a revised Title V air operation permit to incorporate Bayside Units 1 and 2; and a renewal of the Title V air operation permit for the existing plant.

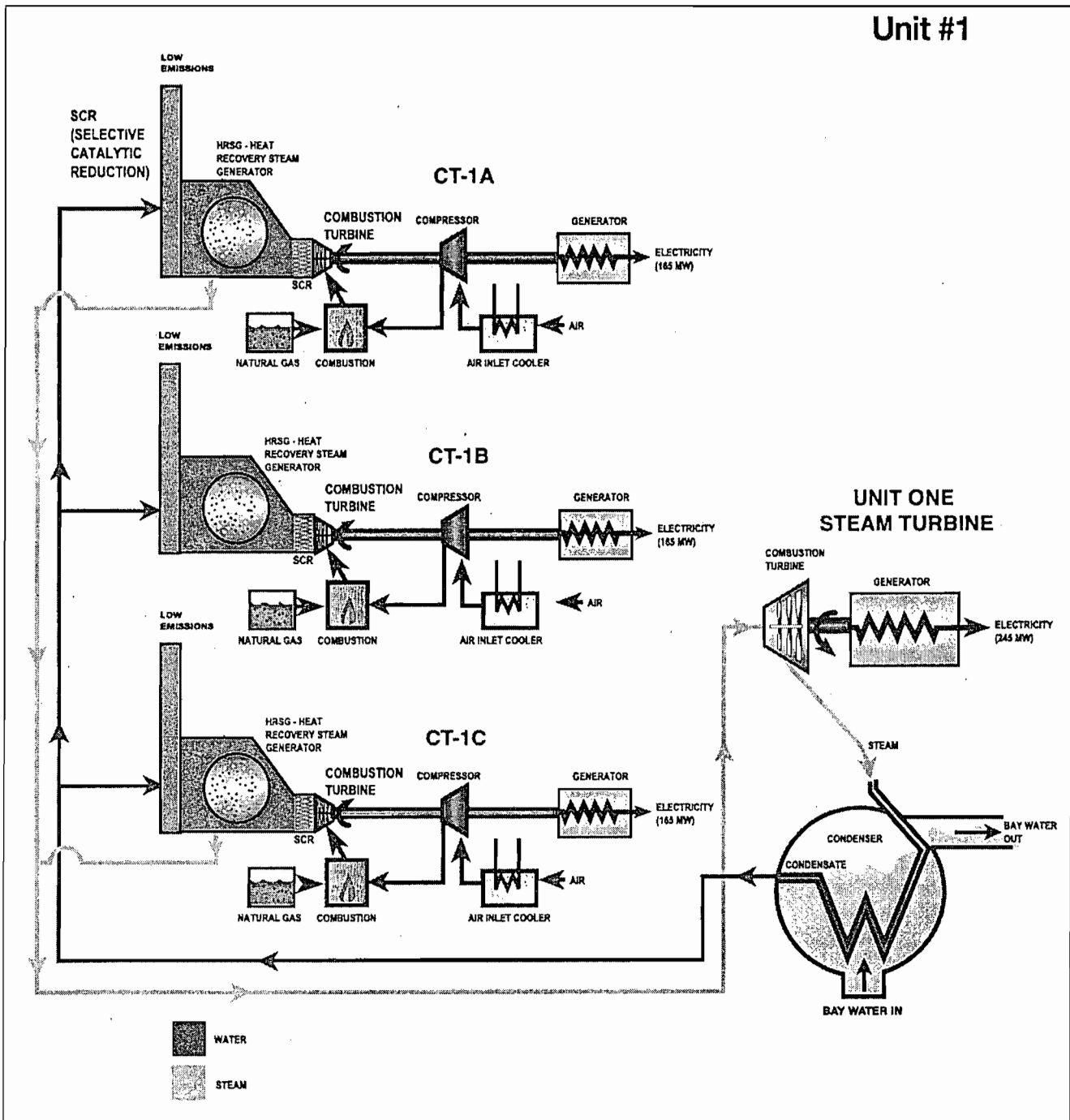


Figure 1. Schematic of Bayside Unit 1

## 2. APPLICABLE REGULATIONS

### State Regulations

This project is subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The Florida Statutes authorize the Department of Environmental Protection to establish rules and regulations regarding air quality as part of the Florida Administrative Code (F.A.C.). The units remain subject to the applicable provisions in Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296, and 62-297 of the

Florida Administrative Code.

### **Federal Regulations**

NSPS: The new gas turbines remain subject to the applicable provisions of Subpart GG in 40 CFR 60, which is the New Source Performance Standard for gas turbines.

NESHAP: The existing Gannon Station was a major source of hazardous air pollutants (HAPs). However, the Bayside gas turbine project did not trigger a 112(g) case-by-case determination of the Maximum Available Control Technology (MACT). The re-powered Bayside Station is not a major source of HAPs. The project to revise Condition 17 does not trigger any new NESHAP requirements.

### **Prevention of Significant Deterioration (PSD) Preconstruction Review**

The existing power plant is a PSD-major facility as defined in Rule 62-212.400, F.A.C. The original air construction permit project included shutdown of the existing coal-fired Gannon Units as well as the construction of the new Bayside Units. Based on the PSD netting analysis, the project was subject to PSD preconstruction review for emissions of carbon monoxide (CO), particulate matter (PM/PM<sub>10</sub>), and volatile organic compounds (VOC). The Department made determination of the Best Available Control Technology (BACT) for each of these pollutants. Emissions of nitrogen oxides (NO<sub>x</sub>) and sulfur dioxides netted out of PSD review with the shutdown of the existing coal-fired Gannon Units.

The re-powering project was part of settlement agreements with the Department and EPA, which alleged that major modifications had been performed on the Gannon Units without PSD preconstruction review. As a result, the netting analysis for this project considered "past actual emissions" to be those emissions that would have been generated if BACT-level controls had been installed. This is the reason that the combined cycle project triggered PSD review for emissions of particulate matter even though the gas turbines will emit much less particulate matter than the previous coal-fired boilers. All of the existing coal-fired Gannon Units have been permanently shut down. Bayside Units 1 and 2 have been constructed, tested, and are currently in operation. Construction has not yet begun on Bayside Units 3 and 4.

As conditioned in the draft permit, the changes are not expected to result in increased annual emissions for the following reasons.

- *Removing the 3-hour restriction on operation below 50% based load*: No increase in annual emissions is expected because the condition requires operation in full, dry low NO<sub>x</sub> combustion mode with compliance ensured by CEMS.
- *Retaining the 16-hour data exclusion for cold startups*: No increase in annual emissions is expected because the applicant has requested retaining the original limit.
- *Adding a provision for 8-hours of data exclusion due to a steam turbine startup following an unplanned forced outage*: It is possible that this additional provision could result in some increased annual emissions. However, the ability to use this provision is narrowly defined to periods when the steam turbine has inadvertently tripped off line or must be shut down for unscheduled maintenance or repair. In the past, such cases have been infrequent and beyond the control of the facility. Based on the Department's estimates, twelve such episodes would be well below the PSD significant emission rates. In addition, it is expected that these startups would actually replace several cold steam turbine startups.
- *Removal of 3-hour restriction for DLN tuning*: No increase in annual emissions is expected because a tuning session generally follows an extended period of shutdown to perform maintenance or repair. A gas turbine that is properly tuned will exhibit lower emissions. In addition, this is a necessary maintenance procedure that is required by the existing permit.
- *Compressor blade drying*: No increase in annual emissions is expected because compressor blade drying generally follows extended periods of shutdown to perform the maintenance activity. Such activities are typically less than two hours per occurrence. This necessary maintenance procedure will likely result in improved efficiency and lower actual emissions.

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- *Over speed trip testing:* No increase in annual emissions is expected because over speed trip testing generally follows an extended period of shutdown to perform the maintenance activity. Such activities are typically less than five hours per occurrence and are required by the manufacturer to prevent catastrophic failure of the unit.

### 3. MODIFICATION OF PERMIT CONDITIONS

The applicant requested several changes to Specific Condition 17 in Section III, Subsection A of Permit No. PSD-FL-301A. The following provides a discussion of each request and the Department's conclusion. The full text of the original condition and the revised condition follow this discussion.

#### b. Low Load Operation

Applicant's Request: The current permit limits operation below 50% base load to 3 hours in a 24-hour block. The applicant requests deletion of the 3-hour restriction because the installed General Electric gas turbines are capable of complying with the permit standards below 50% of base load. The change will offer some operational flexibility for these units while the installed CO and NOx CEMS will confirm that each gas turbine is operating in full dry low-NOx combustion mode in compliance with the permitted emission rates.

Department's Review: The applicant provided new additional information from the manufacturer that the Frame 7FA gas turbine can achieve full dry low-NOx combustion perhaps as low as 40% of base load. The installed CO and NOx CEMS will ensure that the gas turbine is operating in full, dry low-NOx combustion mode. Therefore, the 3-hour restriction is unnecessary and may be removed as requested.

#### c. CEMS Data Exclusion – Startup, Shutdown and Malfunction

Applicant's Request: This condition requires the operator to document a malfunction within one working day of detection by contacting the Compliance Authority. The applicant believes that reporting each malfunction within one day is burdensome and requests removal of the requirement.

Department's Review: The Department notes that Condition 16 in Section II of the permit requires the following in accordance with Rule 62-4.130, F.A.C., "If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall notify the Compliance Authority as soon as possible, but at least within one working day, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations." Therefore, the similar requirement in Condition 17 of Section III is redundant and can be removed. Note that only malfunctions resulting in a failure to comply with permit conditions must be reported. The revised condition will also specify that excluded data must be summarized in the Semiannual CEMS Report as required by Condition 25 of the permit.

#### c. CEMS Data Exclusion – Steam Turbine Cold Startup

Applicant's Request: The permit allows the Department to review startup information and modify the provision allowing up to 16 hours of data exclusion for a steam turbine cold startup. Based on actual operational information, the applicant requests no revision of the current permit regarding cold steam turbine startups. In addition, the applicant requests removal of the requirement to provide 24-hour advance notice of a steam turbine cold startup because this could delay bringing the unit back on line.

Department's Review: The current PSD permit allows a single gas turbine to operate at low loads (~ 10% of base load) for extended periods when conducting a cold steam turbine startup. Operating procedures provide 11 hours of low load operation to warm the main and hot reheat steam lines, some of which are more than 1700 feet in length. Procedures also allow an additional 5 hours of low load operation to gradually warm up the steam turbine to a uniform temperature. Without an extended gradual warm up, thermal fatigue could cause failures

and decrease the life of the existing components. The actual amount of time needed depends on how long the steam turbine has actually been down and actual component temperatures.

Condition 17 currently allows up to 16 hours of monitoring data exclusion due to a cold steam turbine startup because the gas turbine cannot achieve full dry low-NO<sub>x</sub> combustion at such low loads. This is related to the unique design of the re-powered plant and is not typical for new combined cycle plants. Such new units may require less than four hours for a cold steam turbine startup. However, re-powered plants present unusual circumstances such as long steam lines or older steam turbines that necessitate extended startups. For example, the re-powered FPL Fort Myers and Sanford plants allow up to 12 hours for cold steam turbine startups for reasons similar to the Bayside Units.

Based on the operating information provided, it does not appear that the plant has had an excessive number of cold steam turbine startups. The Bayside plant has averaged about one steam turbine cold startup per month between the two units. The average duration of a steam turbine cold startup has been about 8 hours with the longest being 13 hours. For additional details see the discussion in "Review of Operating Data" which follows this section of the technical evaluation. The Department agrees to retain the current provision regarding cold steam turbine startups. However, the revised condition will also add a limit of 16 hours of excluded data due to *all* startups, shutdowns, and malfunctions. Note that each gas turbine must always meet the current requirement that, "No more than four, 1-hour CEMS emission averages shall be excluded from any 24-hour block compliance average due to standard startups, shutdowns, and malfunctions (total)." These four hours of excluded data are included within the 16 hours of excluded data.

**c. CEMS Data Exclusion – DLN Tuning**

Applicant's Request: "Tuning" involves stepping the gas turbine through various loads while gathering operational and emissions data and adjusting the dry low-NO<sub>x</sub> combustion system accordingly. Such data allows fine-tuning of the control system to ensure low emissions with dry low-NO<sub>x</sub> combustion throughout the operational load range. Major tuning sessions are required after the replacement of combustors or other critical equipment. Minor tuning sessions may be necessary after other repairs or maintenance. The applicant notes that tuning sessions are typically determined by General Electric.

The permit currently allows for up to 3 hours of CEMS data to be excluded during any 24-hour block due to tuning with a 5-day advance notice. The applicant requests the ability to exclude all tuning data from the compliance demonstration because of the possibility of higher than normal emission levels. After an overhaul or repair, the gas turbine must be "tuned" to reestablish the low emissions profile. During a tuning session, elevated emissions are somewhat beyond the operator's control due to a new or repaired component as well as the requirement to operate at some low load levels to gather data. The applicant also requests removal of the 5-day advance notice because tuning is often the result of a repair needed to return the units to service as soon as possible.

Department's Review: General Electric's dry low-NO<sub>x</sub> combustion system must be properly tuned to achieve low emissions of CO and NO<sub>x</sub>. Such tuning sessions generally occur after a period of shutdown and require operation throughout the load range including very low loads. Elevated CO and NO<sub>x</sub> emissions may occur, but this information is used to adjust the combustion and control systems as necessary. During these periods, the unit is unable to respond to demands from the electrical grid. So, it is in the best interest of the plant to minimize such tuning sessions in order to rapidly return the units to service.

The applicant provided emissions information for three tuning sessions involving two different gas turbines. The first was conducted on 05/11/03 and resulted in approximately 13 hours of data collected during tuning. The second tuning session occurred on 10/31/03 and lasted approximately 8 hours. The third session went from 11/05/03 through 11/06/03 and covered roughly 26 hours of tuning. Note that not all of the data collected during tuning shows elevated emissions. However, it is possible to show low NO<sub>x</sub> emissions with high CO emissions (and vice versa) before the system is properly tuned. Data collected during tuning sessions also represents only a small fraction of actual operation of the gas turbines.

The Department agrees that tuning is an important part of maintaining low emissions for the gas turbine systems and is required by the permit. During these tuning sessions, low emissions are not completely within the control of the operators and the unit is unable to respond to demands from the grid. Also, it is difficult to estimate the frequency and duration of tuning sessions throughout the year. Therefore, this condition will be revised to allow the exclusion of tuning data with a requirement to summarize this activity in the Semiannual CEMS Report as required by Condition 25 of the permit.

**c. CEMS Data Exclusion – New Startup Following an Unplanned Forced Outage**

Applicant's Request: The applicant requests a new provision in the permit to address a "warm steam turbine startup". Such a startup would be defined as startup after the steam turbine is shutdown for less than 24 hours and the first stage metal temperature is more than 250° F. The applicant requests up to 8 hours of data exclusion for a warm steam turbine startup during which a gas turbine will operate at low loads to gradually warm up the steam lines and steam turbine. The applicant believes that the request is justified based on the actual operational data provided and Condition 17d which states, "The Department shall also evaluate the operational information and determine whether a separate "warm startup" requirement shall be specified in the Title V operation permit for startup after the steam turbine has been offline for 24 hours or more, but less than 48 hours." This would provide operational flexibility to quickly restart the unit after the steam turbine accidentally trips offline or is taken off line for a quick repair of the steam turbine. On a few occasions, the plant delayed restarting the steam turbine so that the startup would occur after the steam turbine had been down for at least 24 hours. The startup would then qualify as a cold steam turbine startup and provide the necessary period of data exclusion for restart.

Department's Review: The Department agrees that the original permit allows the evaluation of a "warm steam turbine startup". Further discussions with the applicant suggest that there have been a handful of incidents when the steam turbine tripped off line, a corrective action was taken, and the steam turbine was ready to return to service within 24 hours. However, the plant was concerned that the restart would take longer than allowed by permit. The Department agrees to add a provision for the following two limited cases: (1) the steam turbine inadvertently trips off line, or (2) the plant is forced to take the steam turbine off line for repair. This will be referred to as a "startup following an unplanned forced outage". For such incidents, up to eight hours of excluded data due to *all* startups, shutdowns, and malfunctions will be allowed. These cases are narrow in scope and may replace a few steam turbine cold startups. Note that each gas turbine must always meet the current requirement that, "No more than four, 1-hour CEMS emission averages shall be excluded from any 24-hour block compliance average due to standard startups, shutdowns, and malfunctions (total)." These four hours of excluded data are included within the 16 hours of excluded data.

**c. CEMS Data Exclusion – New Compressor Blade Drying**

Applicant's Request: Over time, compressor blades become fouled, which reduces power output and increases fuel consumption as well as costs. Approximately six times each year, each gas turbine is shut down and the compressor blades are washed with water. After a compressor blade wash, General Electric requires operating the gas turbine at very low loads (< 10% base load) to heat and dry the compressor blades. At such loads, the gas turbine is not operating in dry low-NOx combustion mode and the HRSG temperature is not sufficient to initiate operation of the SCR system. Drying is typically complete well within two hours. The applicant requests exclusion of CEMS data from the compliance demonstration due to low-load operation performed to dry compressor blades after a wash.

Department's Review: A compressor blade wash is a necessary maintenance procedure during which the gas turbine is shutdown for a considerable period of time. After completing the wash, the manufacturer requires operators to follow strict procedures at low loads to gradually heat and dry the compressor. This is to prevent damage to the compressor blades due to thermal expansion while drying. Based on the expected maintenance schedule, it is estimated that this activity would result in a negligible amount of data exclusion. Therefore, the Department agrees to add a provision for excluding data collected during compressor blade drying after a wash.

**c. CEMS Data Exclusion – New Over Speed Trip Test**

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**Applicant's Request:** To ensure that the turbine is protected from over speed (i.e, 3960 rpm), an "over speed trip test" is performed. The turbine reaches a speed of 3600 rpm and then speed is gradually increased to 3960 rpm (110%) until a trip is initiated. During this test, the gas turbine is operated at full speed, no load (FSNL) and CO and NOx emissions may be elevated. The over speed trip test is usually conducted for each gas turbine at least once each year, but may also be required after a long outage or a major overhaul. The applicant requests the exclusion of 6 hours of emissions data due to an over speed trip test.

**Department's Review:** The applicant provided information from General Electric regarding the over speed trip test requirement. According to General Electric, the gas turbine operates at FSNL for approximately 4 hours to thermally and mechanically stabilize the rotor before initiating the turbine trip. The internal gas vanes are then positioned to 88° and the gas turbine is run for an additional 45 minutes. This procedure is intended to provide adequate blade clearance and prevent "rubs". The Department agrees that the over speed trip test is a necessary maintenance activity and will allow the exclusion of monitoring data from the 24-hour compliance averages.

### d. Startup and Shutdown Plan

**Applicant's Request:** The permit requires submittal of a Startup and Shutdown Plan to consider a revision of the condition regarding cold steam turbine startups. As part of this project, the applicant has submitted these plans and requests removal of the requirement to submit this information.

**Department's Review:** The Department acknowledges that the requirement to submit startup and shutdown plans has been met. A discussion of the emissions from startups is provided in "Review of Operating Data" which follows this section of the report. The Department agrees to revise this condition to require the plant to maintain the startup and shutdown plan on site.

### Review of Operating Data

Since beginning operation, Bayside Units 1 and 2 have had approximately 16 cold steam turbine startups, which is an average of about one such startup per month for one of the units. To evaluate emissions resulting from cold steam turbine startups, the Department reviewed operational and emissions data from nine specific startups involving most of the Bayside gas turbines. The average duration is 8 hours, but at least two cold steam turbine startups lasted 13 hours. Again, the extended periods of low load operation are needed to heat the very long main and hot reheat steam lines as well as gradually warm up the steam turbine to a uniform temperature. This plant's unique operating procedures are due to the physical configuration of the re-powered units.

Predicted emissions from these startups averaged about 400 pounds of CO per hour and about 100 pounds of NOx per hour. For comparison, potential emissions from the gas turbines operating in full dry low NOx combustion mode without add on controls are approximately 30 pounds of CO per hour and approximately 60 pounds of NOx per hour. The applicant's request for a separate provision to cover startups following an unplanned forced outage is expected to result in similar hourly emission rates. Using the average emissions rates, the following table summarizes the expected range of emissions from 12 cold steam turbine startups and from 12 steam turbine startups following a "forced, unplanned outage".

Table 3A. Estimated Startup Emissions

Pollutant	lb/hr, avg.	12 Cold ST Startups		12 Unplanned, Forced Outages	
		Hours	TPY	Hours	TPY
CO	400	8	19.2	4	9.6
CO	400	16	38.4	8	19.2
NOx	100	8	4.8	4	2.4
NOx	100	16	9.6	8	4.8



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Although the actual data shows that individual hourly emissions may be high, annual impacts are predicted to be relatively low based on the actual frequency. In fact, it is expected that the few steam turbine startups following an unplanned forced outage will replace several cold steam turbine startups.

The Department also reviewed the amount of data being excluded due to startups, shutdowns, and malfunctions. The following table summarizes this information for three quarters of operation.

Table 3B. Summary of Data Exclusion (Hours)

Quarter	Unit	CT1A	CT1B	CT1C	CT2A	CT2B	CT2C	CT2D
2 <sup>nd</sup> Quarter 2003	Total Operation	1461	1376	1424	---	---	---	---
	Startup/Shutdown	37	35	58	---	---	---	---
	Malfunctions	4	2	1	---	---	---	---
	Tuning	0	0	0	---	---	---	---
	Total Exclusion	41	37	59	---	---	---	---
	% Excluded	3%	3%	4%	---	---	---	---
3 <sup>rd</sup> Quarter 2003	Total Operation	1666	1601	1714	---	---	---	---
	Startup/Shutdown	116	76	106	---	---	---	---
	Malfunctions	24	0	5	---	---	---	---
	Tuning	0	0	0	---	---	---	---
	Total Exclusion	140	76	111	---	---	---	---
	% Excluded	8%	5%	6%	---	---	---	---
4 <sup>th</sup> Quarter 2003	Total Operation	1666	1601	1714	71	79	82	78
	Startup/Shutdown	107	134	124	6	5	8	4
	Malfunctions	1	0	0	0	0	0	0
	Tuning	19	0	0	0	0	0	0
	Total Exclusion	127	134	124	6	5	8	4
	% Excluded	8%	8%	7%	8%	6%	10%	5%

Table Notes:

1. Based on the information provided, Bayside Unit 1 had the following operation from 07/01/03 through 12/31/03: CT1A (3331.4 hours); CT1B (3201.75 hours); and CT1C (3428.25 hours). The Department assumed similar operation for each calendar quarter in preparing this table.
2. Bayside Unit 2 began operation in the 4<sup>th</sup> quarter of 2003.

Reported malfunctions that affect emission levels have been infrequent. In general, only a few malfunctions have been reported that appear to be directly related to the combined cycle gas turbine units. For example, a review of 3 quarters of data for Bayside Unit 1 (3 gas turbines) indicated that there were 37, 1-hour emissions rates reported as “excluded” due to malfunctions. However, 20 of these were reported in the same quarter for the same gas turbine and were not related to “process equipment”. This indicates approximately 2 hours of excluded data per gas turbine per quarter related to malfunctions of the gas turbine systems and/or controls. The few incidents reported as “malfunctions” show that the plant is properly interpreting and applying this provision.

The data also indicates that the number of startups/shutdowns has increased since Bayside Unit 1 first commenced operation. Note that only a few of the reported startup hours resulted from cold steam turbine startups. For the remainder of the “normal” startups, it appears that one or more gas turbines are being taken offline at night during periods of low electrical energy demands and then “restarted” the following day. The remaining gas turbines are used to maintain the operating temperature of the steam turbine. The increased startups are likely the result of higher natural gas prices combined with the fact that Bayside Unit 2 came on line in the 4<sup>th</sup> quarter of 2003 and displaces some of the power production at the plant.

A closer look at emissions from Bayside Unit CT1A shows the following for 92 days of operation during the 3<sup>rd</sup> quarter of 2003.

- There were 80 daily NOx compliance averages of 3.0 ppmvd @ 15% oxygen or less.

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- There were 12 daily NO<sub>x</sub> compliance averages between 3.1 to 3.5 ppmvd @ 15% oxygen.
- There were 76 daily CO compliance averages of 1.0 ppmvd @ 15% oxygen or less.
- There were 16 daily CO compliance averages between 1.1 and 2.0 ppmvd @ 15% oxygen.

In addition, the CEMS data availability has been reported as 95% or greater for all units for each quarter of operation. For each gas turbine, excluded data represents less than 8% of the total operation in each quarter. In summary, the installed units appear to be reliable and operating well with low emissions profiles during normal combined cycle operation. The proposed changes will not result in significant emissions from startups, shutdowns, malfunctions, DLN tuning, compressor blade drying, or over speed trip testing.

### Revised Specific Condition 17

Based on the applicant's requests and the Department's conclusions, Condition 17 will be revised *from*:

17. Alternate Standards and CEMS Data Exclusion: The following permit conditions establish alternate standards or allow the exclusion of monitoring data for specifically defined periods of startup, shutdown, and documented malfunction of a gas turbine. These conditions apply only if operators employ the best operational practices to minimize the amount and duration of emissions during such incidents.
- (a) **Opacity During Startup and Shutdown**: During startup and shutdown, the opacity of the exhaust gases shall not exceed 10%, except for up to ten 6-minute averaging periods in a calendar day during which the opacity shall not exceed 20%. Data for each 6-minute averaging period shall be exclusive from other 6-minute averaging periods.
  - (b) **Low Load Operation**: Excluding startup, shutdown, and documented malfunction, each gas turbine is allowed up to three hours of operation below 50% base load in any 24-hour block, providing: the gas turbine is firing natural gas; the CO and NO<sub>x</sub> CEMS are functioning properly during such periods and recording valid emissions data within the span range of the monitors; and the gas turbine remains in compliance with the CO and NO<sub>x</sub> emissions standards based on 24-hour block averages of valid CEMS data.
  - (c) **CEMS Data Exclusion**: For the following identified operational periods, CO and NO<sub>x</sub> emissions data may be excluded from the 24-hour block compliance averages in accordance with the corresponding requirements.
    - (1) *Startup, Shutdown, and Malfunction*: Periods of data excluded for gas turbine startup (excluding steam turbine cold startup), shutdown, or documented malfunction shall not exceed four 1-hour emission averages in any 24-hour block due to all such episodes. Gas turbine startup is the commencement of operation of a gas turbine that has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, or pollution control device imbalances, which may result in elevated emissions. Shutdown is the process of bringing a gas turbine off line and ending fuel combustion. A malfunction is any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner. A documented malfunction is a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile transmittal, or electronic mail.
    - (2) *Steam Turbine Cold Startup*: Periods of data excluded for a steam turbine cold startup shall not exceed sixteen 1-hour emission averages in any 24-hour block. A "steam turbine cold startup" is defined as startup after the steam turbine has been offline for 24 hours or more or the first stage turbine metal temperature is 250° F or less. Based on actual operating data and experience, the Department may modify this period of data exclusion in the Title V air operation permit without modifying this PSD permit.
    - (3) *Tuning*: If the permittee provides at least five days advance notice prior to a major tuning session performed by the manufacturer's representative, monitoring data during tuning may be excluded

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from the 24-hour block compliance averages. Periods of data excluded for such episodes shall not exceed a total of three 1-hour averages in any 24-hour block. Tuning sessions must be performed in accordance with the manufacturer's recommendations. {Permitting Note: As an example, a major tuning session would occur after a combustor change-out. A tuning session may take a few hours each day over a few days. No more than two major tuning sessions would be expected during any year.}

If a CEMS reports emissions in excess of a CO or NO<sub>x</sub> standard, the permittee shall notify the Compliance Authority within one working day with a preliminary report of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Compliance Authority may request a written summary report of the incident.

- (d) **Startup and Shutdown Plan:** A "steam turbine cold startup" is defined as startup after the steam turbine has been offline for 24 hours or more or the first stage turbine metal temperature is 250° F or less. To minimize emissions, no more than one gas turbine for each Bayside Unit shall be operated during each steam turbine cold startup. The permittee shall notify the Compliance Authority at least 24 hours in advance of a steam turbine cold startup. For each Bayside Unit, the permittee shall provide a Startup and Shutdown Plan as part of the application for a Title V air operation permit. The plan shall identify startup and shutdown procedures, the duration of each procedure, and the methods used to minimize emissions during these periods. Within 90 days of completing eight steam turbine cold startups following commencement of commercial operation or within 90 days after 12 months of commercial operation (whichever occurs first), the permittee shall submit a revised plan to the Department based on actual operating data and experience. The Department shall review the actual operational data and determine whether data exclusion allowed for a steam turbine cold startup defined in Condition 23 of this section shall be modified to represent good operational practices. The Department shall also evaluate the operational information and determine whether a separate "warm startup" requirement shall be specified in the Title V operation permit for startup after the steam turbine has been offline for 24 hours or more, but less than 48 hours.

As provided by the authority in Rule 62-210.700(5), F.A.C., the above requirements are established in lieu of the provisions of Rule 62-210.700(1), F.A.C. [Design; Rules 62-210.700(5), 62-4.130, and Rule 62-212.400 (BACT), F.A.C.]

**To:**

17. **Alternate Standards and CEMS Data Exclusion:** The following permit conditions establish alternate standards or allow the exclusion of monitoring data for specifically defined periods of startup, shutdown, and malfunction. These conditions apply only if operators employ the best operational practices to minimize the amount and duration of emissions during such incidents.
- a. **Opacity During Startup and Shutdown:** During startup and shutdown, the opacity of the exhaust gases shall not exceed 10%, except for up to ten 6-minute averaging periods in a calendar day during which the opacity shall not exceed 20%. Data for each 6-minute averaging period shall be exclusive from other 6-minute averaging periods.
  - b. **Low Load Operation:** Excluding startup, shutdown, malfunction, DLN tuning, compressor blade drying, and over speed trip tests, each gas turbine may operate below 50% base load providing: the gas turbine is firing natural gas and operating in full dry low-NO<sub>x</sub> combustion mode; the CO and NO<sub>x</sub> CEMS are functioning properly during such periods and recording valid emissions data within the span range of the monitors; and the gas turbine remains in compliance with the CO and NO<sub>x</sub> emissions standards (24-hour block averages).
  - c. **CEMS Data Exclusion:** For the following specified operational periods, CO and NO<sub>x</sub> emissions data may be excluded from the 24-hour block compliance averages in accordance with the corresponding requirements.

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- (1) *Definitions*: Rule 62-210.200(231), F.A.C. defines “shutdown” as the cessation of the operation of an emissions unit for any purpose. Rule 62-210.200(160), F.A.C. defines “malfunction” as any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner. Rule 62-210.200(246), F.A.C. defines “startup” as the commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.
- (2) *Standard Startups, Shutdowns, and Malfunctions*: For each gas turbine, no more than four 1-hour CEMS emission averages shall be excluded from any 24-hour block compliance average due to standard startups, shutdowns, and malfunctions (total).
- (3) *Cold Steam Turbine Startup*: “Cold steam turbine startup” means a startup after the steam turbine has been offline for 24 hours or more, or the first stage turbine metal temperature is 250° F or less. To minimize emissions, no more than one gas turbine per Bayside Unit shall be operated during a cold steam turbine startup. No more than sixteen 1-hour CEMS emission averages shall be excluded from the 24-hour block compliance averages due to a cold steam turbine startup. In addition, no more than sixteen 1-hour CEMS emission averages shall be excluded from any 24-hour block compliance average due to cold steam turbine startup. In the event of a cold steam turbine startup and standard startups, shutdowns and/or malfunctions within the same 24 hour period, a total of sixteen 1-hour CEMS emissions averages may be excluded with no more than four of those sixteen 1-hour CEMS emissions averages being excluded due to standard startups, shutdowns, and malfunctions (total). This condition applies only to the gas turbine being used for the cold steam turbine startup. The permittee shall notify the Compliance Authority no later than 24 hours after beginning a cold steam turbine startup. Notification may be by phone, facsimile, email, or letter.
- (4) *Steam Turbine Startup Following an Unplanned Forced Outage*: “Steam turbine startup following unplanned, forced outage” means startup when the first stage turbine metal temperature is 250° F or more and occurs within 24 hours after either (1) the steam turbine inadvertently trips offline, or (2) the plant is forced to take the steam turbine offline for repair. To minimize emissions, no more than one gas turbine per Bayside Unit shall be operated during a steam turbine startup following an unplanned forced outage. No more than eight 1-hour CEMS emissions averages shall be excluded from the 24-hour block compliance averages due to a steam turbine startup following an unplanned forced outage. In addition, no more than eight 1-hour CEMS emission averages shall be excluded from any 24-hour block compliance average due to steam turbine startups following an unplanned forced outage. In the event of a startup following an unplanned forced outage and standard startups, shutdowns and/or malfunctions within the same 24 hour period, a total of eight 1-hour CEMS emissions averages may be excluded with no more than four of those eight 1-hour CEMS emissions averages being excluded due to standard startups, shutdowns, and malfunctions (total). This condition applies only to the gas turbine being used for steam turbine startup following an unplanned forced outage. The permittee shall notify the Compliance Authority no later than 24 hours after beginning a steam turbine startup following an unplanned forced outage. Notification may be by phone, facsimile, email, or letter and shall include the reason for the unplanned forced outage.
- (5) *DLN Tuning*: “DLN Tuning” means operating the gas turbine at intermittent loads throughout the full load range in order to adjust and tune the dry low-NO<sub>x</sub> (DLN) combustion system. DLN tuning shall be conducted in accordance with manufacturer’ recommendations. Emissions data collected during DLN tuning may be excluded from the 24-hour block compliance averages. *{Permitting Note: For example, a major tuning session would occur after combustor change-out.}*
- (6) *Compressor Blade Drying*: Following a compressor blade wash in accordance with the manufacturer’s recommendations, the permittee may operate a gas turbine at very low loads to heat

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

---

and dry the compressor blades. Emissions data collected while drying the compressor blades may be excluded from the 24-hour block compliance averages. *{Permitting Note: A gas turbine would typically operate at approximately 10% of base load or less to perform compressor blade drying.}*

- (7) **Over Speed Trip Test:** As a periodic maintenance practice, the permittee may perform over speed trip tests in accordance with the manufacturer's recommendations. Emissions data collected while conducting over speed trip tests may be excluded from the 24-hour block compliance averages. *{Permitting Note: During this test, the gas turbine is operated at full speed, no load (FSNL) for approximately 5 to 6 hours. The unit is gradually accelerated to 110% speed (3960 rpm) to initiate a trip and then coasts down normally. Over speed trip tests are typically performed after a long outage or a major component overhaul.}*

To the extent practicable, the permittee shall minimize the amount and duration of emissions during periods of startup, shutdown, malfunction, DLN tuning, compressor blade drying, and over speed trip testing. If a CEMS reports emissions in excess of an emissions standard (24-hour block), the permittee shall notify the Compliance Authority within one working day with a preliminary report of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Compliance Authority may request a written summary report of the incident. All emissions data allowed for exclusion shall be summarized in the Semiannual CEMS Report required in Condition 25 of this subsection.

- d. **Startup and Shutdown Plan:** The permittee shall maintain on site a "Startup and Shutdown Plan" that describes procedures for startup and shutdown of the Bayside Units.

As provided by the authority in Rule 62-210.700(5), F.A.C., the above requirements are established in lieu of the provisions of Rule 62-210.700(1), F.A.C.

*{Permitting Note: The durations for a cold steam turbine startup and a steam turbine startup following an unplanned forced outage are not typical for combined cycle units. The Bayside Units utilize the existing Gannon steam turbines. Operating procedures require one gas turbine to operate at low loads for extended periods to gradually warm the main and hot reheat steam lines to the steam turbine as well as the steam turbine. Some steam lines are in excess of 1700 feet. Such startups are expected to occur infrequently.}*  
[Design; Rules 62-4.130, 62-210.700(5), and 62-212.400 (BACT), F.A.C.; Permit No. PSD-FL-301B]

#### 4. PRELIMINARY DETERMINATION

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. No air quality modeling analysis is required because the project does not result in a significant increase in emissions. Jeff Koerner is the project engineer responsible for reviewing the application and drafting the permit. Additional details of this analysis may be obtained by contacting the project engineer at the Department's Bureau of Air Regulation at Mail Station #5505, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NOTICE OF FINAL PERMIT REVISION

In the Matter of an  
Application for Permit by:

Tampa Electric Company  
P. O. Box 111  
Tampa, FL 33601-0111

Permit No. PSD-FL-301B  
Project No. 0570040-021-AC  
Bayside Power Station  
Revised Condition 17, Data Exclusion

*Authorized Representative:*

Mr. Wade A. Maye, General Manager  
H. L. Culbreath Bayside Power Station

Enclosed is the final revised air permit (No. PSD-FL-301B) for the Bayside Power Station, which modifies Condition 17 in Section IIIA regarding startups, shutdowns, malfunctions, low load operation, DLN tuning, compressor blade drying, and over speed trip testing. The existing plant is located on Tampa's Port Sutton Road in Hillsborough County, Florida. As noted in the attached Final Determination, only minor changes and clarifications were made. An explanation of the project is provided in the attached Technical evaluation and Preliminary Determination. This permit is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes 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 (30) days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

**DRAFT**

Michael G. Cooke, Director  
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Final Permit (including the Final Permit) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on \_\_\_\_\_ to the persons listed:

Mr. Wade A. Maye, TECO\*  
Ms. Greer Briggs, TECO  
Ms. Raisa Calderon, TECO  
Ms. Elena Vance, TECO  
Mr. Tom Davis, ECT  
Mr. Jerry Kissel, SWD Office  
Mr. Jerry Campbell, EPC of Hillsborough County  
USEPA, Region 4 (INTERNET E-mail Memorandum)  
Mr. John Bunyak, National Park Service

Clerk Stamp

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

\_\_\_\_\_  
(Clerk)

\_\_\_\_\_  
(Date)

**PERMIT HISTORY**

On March 30, 2001, the Department issued Permit No. PSD-FL-301, which authorized construction of Bayside Units 1 and 2 to re-power existing coal-fired Gannon Units 5 and 6. On January 8, 2002, the Department modified that permit (PSD-FL-301A) to include construction of Bayside Units 3 and 4 to re-power existing Gannon Units 3 and 4. Bayside Units 1 and 2 have been constructed, demonstrated initial compliance, and are currently in operation. Construction of Bayside Units 3 and 4 has not yet commenced.

**MODIFIED PERMIT CONDITIONS**

Emissions units at the Bayside Power Station are subject to the existing terms and conditions as specified in Permit No. PSD-FL-301A unless otherwise revised below.

In Section IIIA of Permit No. PSD-FL-301A, Condition 17 is revised *from*:

17. **Alternate Standards and CEMS Data Exclusion:** The following permit conditions establish alternate standards or allow the exclusion of monitoring data for specifically defined periods of startup, shutdown, and documented malfunction of a gas turbine. These conditions apply only if operators employ the best operational practices to minimize the amount and duration of emissions during such incidents.
- a. **Opacity During Startup and Shutdown:** During startup and shutdown, the opacity of the exhaust gases shall not exceed 10%, except for up to ten 6-minute averaging periods in a calendar day during which the opacity shall not exceed 20%. Data for each 6-minute averaging period shall be exclusive from other 6-minute averaging periods.
  - b. **Low Load Operation:** Excluding startup, shutdown, and documented malfunction, each gas turbine is allowed up to three hours of operation below 50% base load in any 24-hour block, providing: the gas turbine is firing natural gas; the CO and NOx CEMS are functioning properly during such periods and recording valid emissions data within the span range of the monitors; and the gas turbine remains in compliance with the CO and NOx emissions standards based on 24-hour block averages of valid CEMS data.
  - c. **CEMS Data Exclusion:** For the following identified operational periods, CO and NOx emissions data may be excluded from the 24-hour block compliance averages in accordance with the corresponding requirements.
    - (1) *Startup, Shutdown, and Malfunction:* Periods of data excluded for gas turbine startup (excluding steam turbine cold startup), shutdown, or documented malfunction shall not exceed four 1-hour emission averages in any 24-hour block due to all such episodes. Gas turbine startup is the commencement of operation of a gas turbine that has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, or pollution control device imbalances, which may result in elevated emissions. Shutdown is the process of bringing a gas turbine off line and ending fuel combustion. A malfunction is any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner. A documented malfunction is a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile transmittal, or electronic mail.
    - (2) *Steam Turbine Cold Startup:* Periods of data excluded for a steam turbine cold startup shall not exceed sixteen 1-hour emission averages in any 24-hour block. A "steam turbine cold startup" is defined as startup after the steam turbine has been offline for 24 hours or more or the first stage turbine metal temperature is 250° F or less. Based on actual operating data and experience, the Department may modify this period of data exclusion in the Title V air operation permit without modifying this PSD permit.

- (3) **Tuning:** If the permittee provides at least five days advance notice prior to a major tuning session performed by the manufacturer's representative, monitoring data during tuning may be excluded from the 24-hour block compliance averages. Periods of data excluded for such episodes shall not exceed a total of three 1-hour averages in any 24-hour block. Tuning sessions must be performed in accordance with the manufacturer's recommendations. {Permitting Note: As an example, a major tuning session would occur after a combustor change-out. A tuning session may take a few hours each day over a few days. No more than two major tuning sessions would be expected during any year.}

If a CEMS reports emissions in excess of a CO or NO<sub>x</sub> standard, the permittee shall notify the Compliance Authority within one working day with a preliminary report of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Compliance Authority may request a written summary report of the incident.

- d. **Startup and Shutdown Plan:** A "steam turbine cold startup" is defined as startup after the steam turbine has been offline for 24 hours or more or the first stage turbine metal temperature is 250° F or less. To minimize emissions, no more than one gas turbine for each Bayside Unit shall be operated during each steam turbine cold startup. The permittee shall notify the Compliance Authority at least 24 hours in advance of a steam turbine cold startup. For each Bayside Unit, the permittee shall provide a Startup and Shutdown Plan as part of the application for a Title V air operation permit. The plan shall identify startup and shutdown procedures, the duration of each procedure, and the methods used to minimize emissions during these periods. Within 90 days of completing eight steam turbine cold startups following commencement of commercial operation or within 90 days after 12 months of commercial operation (whichever occurs first), the permittee shall submit a revised plan to the Department based on actual operating data and experience. The Department shall review the actual operational data and determine whether data exclusion allowed for a steam turbine cold startup defined in Condition 23 of this section shall be modified to represent good operational practices. The Department shall also evaluate the operational information and determine whether a separate "warm startup" requirement shall be specified in the Title V operation permit for startup after the steam turbine has been offline for 24 hours or more, but less than 48 hours.

As provided by the authority in Rule 62-210.700(5), F.A.C., the above requirements are established in lieu of the provisions of Rule 62-210.700(1), F.A.C. [Design; Rules 62-210.700(5), 62-4.130, and Rule 62-212.400 (BACT), F.A.C.]

In Section IIIA of Permit No. PSD-FL-301A, Condition 17 is revised *to*:

17. **Alternate Standards and CEMS Data Exclusion:** The following permit conditions establish alternate standards or allow the exclusion of monitoring data for specifically defined periods of startup, shutdown, and malfunction. These conditions apply only if operators employ the best operational practices to minimize the amount and duration of emissions during such incidents.
- a. **Opacity During Startup and Shutdown:** During startup and shutdown, the opacity of the exhaust gases shall not exceed 10%, except for up to ten 6-minute averaging periods in a calendar day during which the opacity shall not exceed 20%. Data for each 6-minute averaging period shall be exclusive from other 6-minute averaging periods.
- b. **Low Load Operation:** Excluding startup, shutdown, malfunction, DLN tuning, compressor blade drying, and over speed trip tests, each gas turbine may operate below 50% base load providing: the gas turbine is firing natural gas and operating in full dry low-NO<sub>x</sub> combustion mode; the CO and NO<sub>x</sub> CEMS are functioning properly during such periods and recording valid emissions data within the span range of the monitors; and the gas turbine remains in compliance with the CO and NO<sub>x</sub> emissions



standards (24-hour block averages).

- c. **CEMS Data Exclusion:** For the following specified operational periods, CO and NO<sub>x</sub> emissions data may be excluded from the 24-hour block compliance averages in accordance with the corresponding requirements.
- (1) *Definitions:* Rule 62-210.200(231), F.A.C. defines “shutdown” as the cessation of the operation of an emissions unit for any purpose. Rule 62-210.200(160), F.A.C. defines “malfunction” as any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process resulting in operation in an abnormal or unusual manner. Rule 62-210.200(246), F.A.C. defines “startup” as the commencement of operation of any emissions unit which has shut down or ceased operation for a period of time sufficient to cause temperature, pressure, chemical or pollution control device imbalances, which result in excess emissions.
  - (2) *Standard Startups, Shutdowns, and Malfunctions:* For each gas turbine, no more than four 1-hour CEMS emission averages shall be excluded from any 24-hour block compliance average due to standard startups, shutdowns, and malfunctions (total).
  - (3) *Cold Steam Turbine Startup:* “Cold steam turbine startup” means a startup after the steam turbine has been offline for 24 hours or more, or the first stage turbine metal temperature is 250° F or less. To minimize emissions, no more than one gas turbine per Bayside Unit shall be operated during a cold steam turbine startup. No more than sixteen 1-hour CEMS emission averages shall be excluded from the 24-hour block compliance averages due to a cold steam turbine startup. In addition, no more than sixteen 1-hour CEMS emission averages shall be excluded from any 24-hour block compliance average due to cold steam turbine startup. In the event of a cold steam turbine startup and standard startups, shutdowns and/or malfunctions within the same 24 hour period, a total of sixteen 1-hour CEMS emissions averages may be excluded with no more than four of those sixteen 1-hour CEMS emissions averages being excluded due to standard startups, shutdowns, and malfunctions (total). This condition applies only to the gas turbine being used for the cold steam turbine startup. The permittee shall notify the Compliance Authority no later than 24 hours after beginning a cold steam turbine startup. Notification may be by phone, facsimile, email, or letter.
  - (4) *Steam Turbine Startup Following an Unplanned Forced Outage:* “Steam turbine startup following unplanned, forced outage” means startup when the first stage turbine metal temperature is 250° F or more and occurs within 24 hours after either (1) the steam turbine inadvertently trips offline, or (2) the plant is forced to take the steam turbine offline for repair. To minimize emissions, no more than one gas turbine per Bayside Unit shall be operated during a steam turbine startup following an unplanned forced outage. No more than eight 1-hour CEMS emissions averages shall be excluded from the 24-hour block compliance averages due to a steam turbine startup following an unplanned forced outage. In addition, no more than eight 1-hour CEMS emission averages shall be excluded from any 24-hour block compliance average due to steam turbine startups following an unplanned forced outage. In the event of a startup following an unplanned forced outage and standard startups, shutdowns and/or malfunctions within the same 24 hour period, a total of eight 1-hour CEMS emissions averages may be excluded with no more than four of those eight 1-hour CEMS emissions averages being excluded due to standard startups, shutdowns, and malfunctions (total). This condition applies only to the gas turbine being used for steam turbine startup following an unplanned forced outage. The permittee shall notify the Compliance Authority no later than 24 hours after beginning a steam turbine startup following an unplanned forced outage. Notification may be by phone, facsimile, email, or letter and shall include the reason for the unplanned forced outage.
  - (5) *DLN Tuning:* “DLN Tuning” means operating the gas turbine at intermittent loads throughout the

full load range in order to adjust and tune the dry low-NO<sub>x</sub> (DLN) combustion system. DLN tuning shall be conducted in accordance with manufacturer's recommendations. Emissions data collected during DLN tuning may be excluded from the 24-hour block compliance averages. *{Permitting Note: For example, a major tuning session would occur after combustor change-out.}*

- (6) *Compressor Blade Drying:* Following a compressor blade wash in accordance with the manufacturer's recommendations, the permittee may operate a gas turbine at very low loads to heat and dry the compressor blades. Emissions data collected while drying the compressor blades may be excluded from the 24-hour block compliance averages. *{Permitting Note: A gas turbine would typically operate at approximately 10% of base load or less to perform compressor blade drying.}*
- (7) *Over Speed Trip Test:* As a periodic maintenance practice, the permittee may perform over speed trip tests in accordance with the manufacturer's recommendations. Emissions data collected while conducting over speed trip tests may be excluded from the 24-hour block compliance averages. *{Permitting Note: During this test, the gas turbine is operated at full speed, no load (FSNL) for approximately 5 to 6 hours. The unit is gradually accelerated to 110% speed (3960 rpm) to initiate a trip and then coasts down normally. Over speed trip tests are typically performed after a long outage or a major component overhaul.}*

To the extent practicable, the permittee shall minimize the amount and duration of emissions during periods of startup, shutdown, malfunction, DLN tuning, compressor blade drying, and over speed trip testing. If a CEMS reports emissions in excess of an emissions standard (24-hour block), the permittee shall notify the Compliance Authority within one working day with a preliminary report of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Compliance Authority may request a written summary report of the incident. All emissions data allowed for exclusion shall be summarized in the Semiannual CEMS Report required in Condition 25 of this subsection.

- d. **Startup and Shutdown Plan:** The permittee shall maintain on site a "Startup and Shutdown Plan" that describes procedures for startup and shutdown of the Bayside Units.

As provided by the authority in Rule 62-210.700(5), F.A.C., the above requirements are established in lieu of the provisions of Rule 62-210.700(1), F.A.C.

*{Permitting Note: The durations for a cold steam turbine startup and a steam turbine startup following an unplanned forced outage are not typical for combined cycle units. The Bayside Units utilize the existing Gannon steam turbines. Operating procedures require one gas turbine to operate at low loads for extended periods to gradually warm the main and hot reheat steam lines to the steam turbine as well as the steam turbine. Some steam lines are in excess of 1700 feet. Such startups are expected to occur infrequently.}* [Design; Rules 62-4.130, 62-210.700(5), and 62-212.400 (BACT), F.A.C.; Permit No. PSD-FL-301B]

Filename: PSD-FL-301Br - Draft Permit Revision



TAMPA ELECTRIC

January 31, 2003

Mr. Lynn Haynes  
Region IV  
U.S. Environmental Protection Agency  
Atlanta Federal Center  
61 Forsyth Street  
Atlanta, Georgia 30303-3104

Ms. Trina Vielhauer  
Bureau Chief  
Florida Department of Environmental Protection  
111 South Magnolia Drive, Suite 4  
Tallahassee, FL 32301

**Re: Tampa Electric Company  
Bayside Power Station Unit 1  
Initial Compliance Testing  
Air Permit No. PSD-FL-301A  
Project No. 0570040-15-AC, ORIS code #7873**

RECEIVED

FEB 10 2003

BUREAU OF AIR REGULATION

**Via FedEx  
Airbill No. 7901 9588 1500**

**Via FedEx  
Airbill No. 7915 2562 0812**

Dear Mr. Hayes and Ms. Vielhauer:

Tampa Electric Company (TEC) is notifying the Environmental Protection Agency (EPA) and Florida Department of Environmental Protection (FDEP) of the initial compliance testing. As required by 40 CFR Part 60.8(a) and Condition 20 of permit PSD-FL-301A, within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s). Also as required by 40 CFR Part 60.8(d) and Condition 20 of permit PSD-FL-301A, the owner or operator of an affected facility shall provide the Administrator at least 30 days prior notice of any performance test. TEC hereby gives notice that the initial compliance test may be performed for Bayside Power Station (BPS) Unit 1 on the following dates:

BPS 1A - April 7, 2003  
BPS 1B - April 8, 2003  
BPS 1C - April 9, 2003

Mr. Lynn Haynes  
Ms. Trina Vielhauer  
January 31, 2003  
Page 2 of 2

As the schedule changes TEC will keep EPA and FDEP updated. TEC appreciates your cooperation in this matter and if you have any questions, please call me at (813) 641-5034.

Sincerely,

*Dru Latchman*

Dru Latchman  
Associate Engineer- Air Programs  
Environmental Affairs

EA/bmr/DNL

c: **Mr. A. Linero – FDEP**  
Mr. J. Kissel – FDEP SW  
Mr. S. Woodard- EPCHC  
Mr. J. Kahn - FDEP  
Kim Nguyen - CAMD  
Mr. S. Sheplak – FDEP



TAMPA ELECTRIC

January 31, 2003

Mr. Lynn Haynes  
Region IV  
U.S. Environmental Protection Agency  
Atlanta Federal Center  
61 Forsyth Street  
Atlanta, Georgia 30303-3104

Ms. Trina Vielhauer  
Bureau Chief  
Florida Department of Environmental Protection  
111 South Magnolia Drive, Suite 4  
Tallahassee, FL 32301

**Re: Tampa Electric Company  
Bayside Power Station Unit 1  
Initial Certification Testing  
Air Permit No. PSD-FL-301A  
Project No. 0570040-15-AC, ORIS code #7873**

Dear Mr. Hayes and Ms. Vielhauer:

Tampa Electric Company (TEC) is notifying the Environmental Protection Agency (EPA) and Florida Department of Environmental Protection (FDEP) of the initial Continuous Emissions Monitoring System (CEMS) certification test as required by 40 CFR Part 75.61(a)(1)(i), which states initial certification test notifications shall be submitted not later than 21 days prior to the first scheduled day of initial certification testing. TEC hereby gives notice that the initial CEM certification test may be performed for Bayside Power Station (BPS) Unit 1 on the following dates:

BPS 1A - March 05, 2003  
BPS 1B - March 10, 2003  
BPS 1C - March 15, 2003

RECEIVED

FEB 10 2003

BUREAU OF AIR REGULATION

Via FedEx  
Airbill No. 7901 9588 1500

Via FedEx  
Airbill No. 7915 2562 0812

Mr. Lynn Haynes  
Ms. Trina Vielhauer  
January 31, 2003  
Page 2 of 2

As the schedule changes TEC will keep EPA and FDEP updated. TEC appreciates your cooperation in this matter and if you have any questions, please call me at (813) 641-5034.

Sincerely,

*Dru Latchman*

Dru Latchman  
Associate Engineer- Air Programs  
Environmental Affairs

EA/bmr/DNL149

c: Mr. A. Linero – FDEP  
Mr. J. Kissel – FDEP SW  
Mr. S. Woodard- EPCHC  
Mr. J. Kahn - FDEP  
Kim Nguyen – CAMD  
Mr. S. Sheplak – FDEP



July 30, 2003

Ms. Deborah Getzoff  
Southwest District  
Florida Department of Environmental Protection  
3804 Coconut Palm Drive  
Tampa, Florida 33619

**Via FedEx**  
**Airbill No. 7929 3829 7680**

Mr. Jerry Campbell  
The Environmental Protection Commission  
of Hillsborough County  
1410 North 21<sup>st</sup> Street  
Tampa, Florida 33605

**Via FedEx**  
**Airbill No. 7914 5467 0464**

**Re: Tampa Electric Company**  
**Quarter II, 2003**  
**Bayside Semi-Annual Excess Emissions & Subpart GG Report**  
**Air Construction Permit #0570040-015-AC**  
**Air Permit Number: PSD-FL-301A**  
**AIRS #0570040, E.U. ID#020, 021, 022**

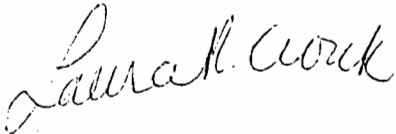
Dear Ms. Getzoff and Mr. Campbell:

As required by Section III, Specific Condition 25. of the above referenced permit, TEC shall submit a semi-annual report to the Department of Environmental Protection and the Environmental Protection Commission of Hillsborough County, by July 30<sup>th</sup> of each year for Quarters 1 and 2, for each gas turbine summarizing the CEMS data and equipment. The report shall include: the 24-hour block average for each day of operation; the number of 1-hour emission averages excluded from each 24-hour average; the emissions due to monitor downtime; the reason for any monitor downtime; unusual maintenance or repair of the CEMS; a summary of any RATA tests performed, and updated general range of ammonia flow rates required to meet NO<sub>x</sub> emissions limitations over the range of gas turbine load conditions. Also, as required by Section IV Appendix XS of the above referenced permit, TEC shall submit a semi-annual Continuous Monitor Systems Report.

Ms. Deborah Getzoff  
Mr. Jerry Campbell  
July 30, 2003  
Page 2 of 2

If there are any questions regarding this report, please contact Laurie Pence or me at (813) 641-5060.

Sincerely,



Laura R. Crouch  
Manager – Air Programs  
Environmental Affairs

EA/br/RPT001BPS Exc. Emis./GG Report Qtr 2, 03

Enclosures

c/enc: Jeff Koerner- FDEP



I, the undersigned, am the responsible official as defined in Chapter 62-213, F.A.C., of the Title V source for which this document is being submitted. I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in this document are true, accurate, and complete.

W. Maye \_\_\_\_\_ 7/30/03 \_\_\_\_\_  
Signature Date

Wade A. Maye \_\_\_\_\_ General Manager, Bayside Power Station \_\_\_\_\_  
Name Title

**BAYSIDE POWER STATION  
MONTHLY SULFUR CONTENT REPORT**

<b>Date</b>	<b>Sulfur Content (grains per 100 SCF)</b>
April-03	0.112
May-03	0.092
June-03	0.092

**SUMMARY REPORT – NO<sub>x</sub> EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE  
NSPS SUBPART GG**

Pollutant: NO<sub>x</sub> - Combustion Turbine

Emission Limitation: 3.5 ppmvd @ 15% O<sub>2</sub> on a 24-hour block average

Reporting period dates: From 04/01/03 to 06/30/03

Company: Tampa Electric Company  
Address: P.O. Box 111  
Tampa, FL 33601-0111

Monitor Manufacturer  
and Model No.:

Thermal Environmental 42CLS

Process Unit  
Description : 169 MW Combined Cycle  
Combustion Turbine  
(CT 1A)

Date of Latest CMS  
Certification or Audit

April 2003

Total source operating  
time in reporting period<sup>1</sup>:

1460.50

Emission Data Summary <sup>1</sup>	CMS Performance Summary <sup>2</sup>
1. Duration of excess emissions in reporting period due to:	1. CMS downtime in reporting period due to:
a. Startup/Shutdown <u>37</u>	a. Monitor equipment malfunctions <u>34</u>
b. Control equipment problems <u>0</u>	b. Non-Monitor equipment malfunctions <u>4</u>
c. Process problems <u>4</u>	c. Quality assurance calibration <u>2</u>
d. Other known causes <u>0</u>	d. Other known causes <u>0</u>
e. Unknown causes <u>0</u>	e. Unknown causes <u>0</u>
2. Total duration of excess emission <u>41</u>	2. Total CMS Downtime <u>40</u>
3. <u>Total duration of excess emissions x (100)</u> Total source operating time <u>2.8 %</u>	3. <u>Total CMS Downtime x (100)</u> Total source operating time <u>2.7 %</u>

*Note: On a separate page, describe any changes to CMS, process or controls during last 6 months. For each quarter, summarize the ammonia injection rates over various loads and the data excluded due to startups, shutdowns, and malfunctions.*

*This form is used for reporting excess emission according to New Source Performance Standard (NSPS) Subpart GG only. (CO is not a regulated by Subpart GG and is reported under the semi-annual excess emission report required by Section III, permit condition 25.)*

- For gases record all times in hours.
- For the reporting period: if the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 60.7(c) shall be submitted.

*TEC Note: The summary report form and the excess emission report required will also be submitted in the semi-annual report.*

**BAYSIDE POWER STATION - CT 1A**  
**24 - HOUR BLOCK AVERAGE - QUARTER 2, 2003**

Date	24-hour block CO	24-hour block NOx
04/23/2003	0.4	3.1
04/24/2003	0.7	3.1
04/25/2003	0.8	2.9
04/26/2003	0.9	3.2
04/27/2003	1.1	2.7
04/28/2003	Offline	Offline
04/29/2003	0.0	0.0
04/30/2003	1.1	3.1
05/01/2003	1.3	2.9
05/02/2003	1.4	3.0
05/03/2003	1.3	3.0
05/04/2003	1.5	3.0
05/05/2003	1.6	3.0
05/06/2003	1.4	3.0
05/07/2003	1.5	3.0
05/08/2003	1.6	3.0
05/09/2003	1.8	3.0
05/10/2003	1.8	3.0
05/11/2003	1.8	3.0
05/12/2003	1.8	3.0
05/13/2003	1.9	3.0
05/14/2003	1.8	3.0
05/15/2003	1.8	3.0
05/16/2003	2.0	3.0
05/17/2003	2.0	3.0
05/18/2003	1.9	3.0
05/19/2003	1.8	3.0
05/20/2003	0.9	3.0
05/21/2003	0.5	3.0
05/22/2003	0.5	3.0
05/23/2003	0.4	3.0
05/24/2003	0.6	3.0
05/25/2003	0.7	3.0
05/26/2003	0.6	3.0
05/27/2003	0.5	3.0
05/28/2003	0.5	3.1
05/29/2003	0.2	3.0
05/30/2003	0.2	3.0
05/31/2003	0.2	3.0
06/01/2003	0.2	3.0
06/02/2003	0.3	3.0
06/03/2003	0.3	3.0
06/04/2003	0.2	3.0
06/05/2003	0.3	3.0
06/06/2003	0.4	3.0
06/07/2003	0.3	3.0
06/08/2003	0.4	3.0
06/09/2003	0.5	3.0
06/10/2003	0.7	3.0

06/11/2003	0.7	3.0
06/12/2003	0.6	3.0
06/13/2003	0.5	3.0
06/14/2003	0.6	3.0
06/15/2003	0.6	3.0
06/16/2003	0.5	3.0
06/17/2003	0.5	3.0
06/18/2003	0.6	3.4
06/19/2003	2.9	2.6
06/20/2003	0.6	3.0
06/21/2003	0.5	3.0
06/22/2003	0.6	3.0
06/23/2003	0.6	3.0
06/24/2003	0.7	3.0
06/25/2003	0.7	3.1
06/26/2003	0.8	3.0
06/27/2003	0.7	3.0
06/28/2003	0.2	3.0
06/29/2003	0.1	3.0
06/30/2003	0.8	3.0

Per Air Permit No. 0570040-015-AC, Section III, Specific Condition 25

**BAYSIDE POWER STATION - CT 1A  
EXCLUDED DATA - QUARTER 2, 2003**

Date	Hours Data Excluded	NOx Value of Excluded Data	CO Value of Excluded Data	Reason for Exclusion
04/23/2003	0600	27.3	118.2	Start-up
04/26/2003	0400	20.8	254.5	Shutdown/ Malfunction
	0500	16.9	844.7	Shutdown/ Malfunction
	1300	3.4	549.1	Invalid Hour
	1400	50.9	318	Start-up/ Malfunction
	1500	61.3	244.9	Start-up/ Malfunction
04/27/2003	2000	9.7	101	Shutdown
04/29/2003	0700	46.6	352.5	Malfunction
	0800	9.9	4.7	Malfunction
	0900	6	256	Malfunction
04/30/2003	1200	22.7	406.7	Start-up
	1300	35.8	145.3	Start-up
	1600	10.4	16.7	Malfunction
	2400	8.6	79.8	Shutdown
05/01/2003	0900	22.2	148.4	Start-up
05/02/2003	2100	7.1	66.1	Shutdown
05/03/2003	0800	43.5	391.9	Start-up
	0900	11.9	22.7	Start-up
05/16/2003	2300	44.3	685.5	Shutdown
05/17/2003	0900	38	451.4	Start-up
	1000	11.9	26.8	Start-up
05/18/2003	2300	8.3	87.3	Shutdown
05/19/2003	0800	36.9	445.8	Start-up
	0900	17.8	59.4	Start-up
	2400	23.1	329.5	Shutdown
05/20/2003	1200	*	0	Calibration Hour
	1300	*	0	Calibration Hour
05/21/2003	0700	27.3	141.1	Start-up
05/23/2003	2100	7.7	164.8	Shutdown
05/24/2003	1100	14.9	426.4	Start-up
	1200	18.3	110.6	Start-up
05/28/2003	0800	41.4	231.4	Start-up
	2400	21	259.1	Shutdown
05/29/2003	1100	37.1	188.5	Start-up
05/30/2003	2100	17.7	738	Shut-down
05/31/2003	0900	21	113.9	Start-up
06/02/2003	1900	31.4	178.1	Steam Turbine Merge
	2000	37.1	317.8	Steam Turbine Merge
	2100	36.1	325.3	Steam Turbine Merge
	2200	23.7	139.1	Steam Turbine Merge
06/13/2003	2100	11.4	121.3	Shutdown
06/14/2003	1100	35.8	189.1	Start-up
06/19/2003	0100	23.7	12	Start-up
	0900	9.7	48.4	Startup
	1200	29.5	221.7	Start-up
06/22/2003	0800	8.4	544.4	Start-up
	0900	26.5	217.1	Start-up
	1000	12.2	35.8	Start-up
06/27/2003	1700	0	0	Calibration Hour
	1800	0	0	Calibration Hour
06/28/2003	0400	*	0	Monitor System Trouble
	0500	*	0	Monitor System Trouble
	0600	*	0	Monitor System Trouble
	0700	*	0	Monitor System Trouble
	0800	*	0	Monitor System Trouble
	0900	*	0	Monitor System Trouble
	1000	*	0	Monitor System Trouble
	1100	*	0	Monitor System Trouble
	1200	*	0	Monitor System Trouble
	1300	*	0	Monitor System Trouble
	1400	*	0	Monitor System Trouble

	1500	*	0	Monitor System Trouble
06/29/2003	0100	*	0	Monitor System Trouble
	0300	*	0	Monitor System Trouble
	1600	*	0	Monitor System Trouble
	1700	*	0	Monitor System Trouble
	1900	*	0	Monitor System Trouble
	2000	*	0	Monitor System Trouble
	2200	*	0	Monitor System Trouble
06/30/2003	0100	*	0	Monitor System Trouble
	0200	*	0	Monitor System Trouble
	0300	*	0	Monitor System Trouble
	0400	*	0	Monitor System Trouble
	0500	*	0	Monitor System Trouble
	0600	*	0	Monitor System Trouble
	0700	*	0	Monitor System Trouble
	0800	*	0	Monitor System Trouble
	0900	*	0	Monitor System Trouble
	1000	*	0	Monitor System Trouble
	1100	*	0	Monitor System Trouble
	1200	*	0	Monitor System Trouble
	1300	*	0	Monitor System Trouble
	1400	*	0	Monitor System Trouble
	1500	*	0	Monitor System Trouble

Per Air Permit No. 0570040-015-AC, Section III, Specific Condition 25

\* NOx data not excluded.

**BAYSIDE POWER STATION - CT 1A  
MAINTENANCE/REPAIR OF CEMS - QUARTER 2, 2003**

Date	Unusual Maint. Or Repair of CEMS
	No Unusual Maintenance of CEMS

Per Air Permit No. 0570040-015-AC, Section III, Specific Condition 25



**BAYSIDE POWER STATION - CT 1A  
MONITOR DOWNTIME - QUARTER 2, 2003**

Date	Hours of Missing Data for Monitor Downtime	Reason for Monitor Downtime
06/28/2003	12	Spectrapak Communication Lost w/DAHS
06/29/2003	7	Spectrapak Communication Lost w/DAHS
06/30/2003	15	Spectrapak Communication Lost w/DAHS

Monitor availability:	97.68%
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Per Air Permit No. 0570040-015-AC, Section III, Specific Condition 25

NOx: 40 CFR 75, Appendix B  
 CO: 40 CFR 60, Appendix F  
 Date RATA data

RATA data required pursuant to these CFRs

MONITORING DATA CHECKING SOFTWARE 4.1 BETA  
 TEST SUMMARY REPORT PAGE 1

05/28/2003

ORIS Code: 7873 State: FL  
 Facility Name: BAYSIDE County: HILLSBOROUGH

Unit/	Reported	Recalculated
Stack	Hour/ Test Load	Test Test
ID Comp/Sys Parm Type Type	End Date Time #	Lvls Reason Result Result
CT1A /113 NOX RATA (RT 610-616)	04/23/2003 1519 1 1 C	Pass-APS Pass-APS
MONITORING DATA CHECKING SOFTWARE 4.1 BETA		05/28/2003
RATA REPORT (RT 610/611)		PAGE 2

ORIS Code: 7873 Facility: BAYSIDE State: FL  
 Unit/Stack ID: CT1A System ID: 113 Parameter: NOX  
 Test End Date/Time: 04/23/2003 1519 Test No.: 1 # of Operating Levels: 1 Units of Measure: LB/MMBTU  
 Reason for Test: C  
 Performance Spec: <= 10.0% Next RATA: Four Op Qtrs  
 Recalc. Results: Pass-APS % RA:12.77 Mean Diff: 0.001 BAF: 1.111  
 Reported Results: Pass-APS % RA:12.77 Mean Diff: 0.001 BAF: 1.111

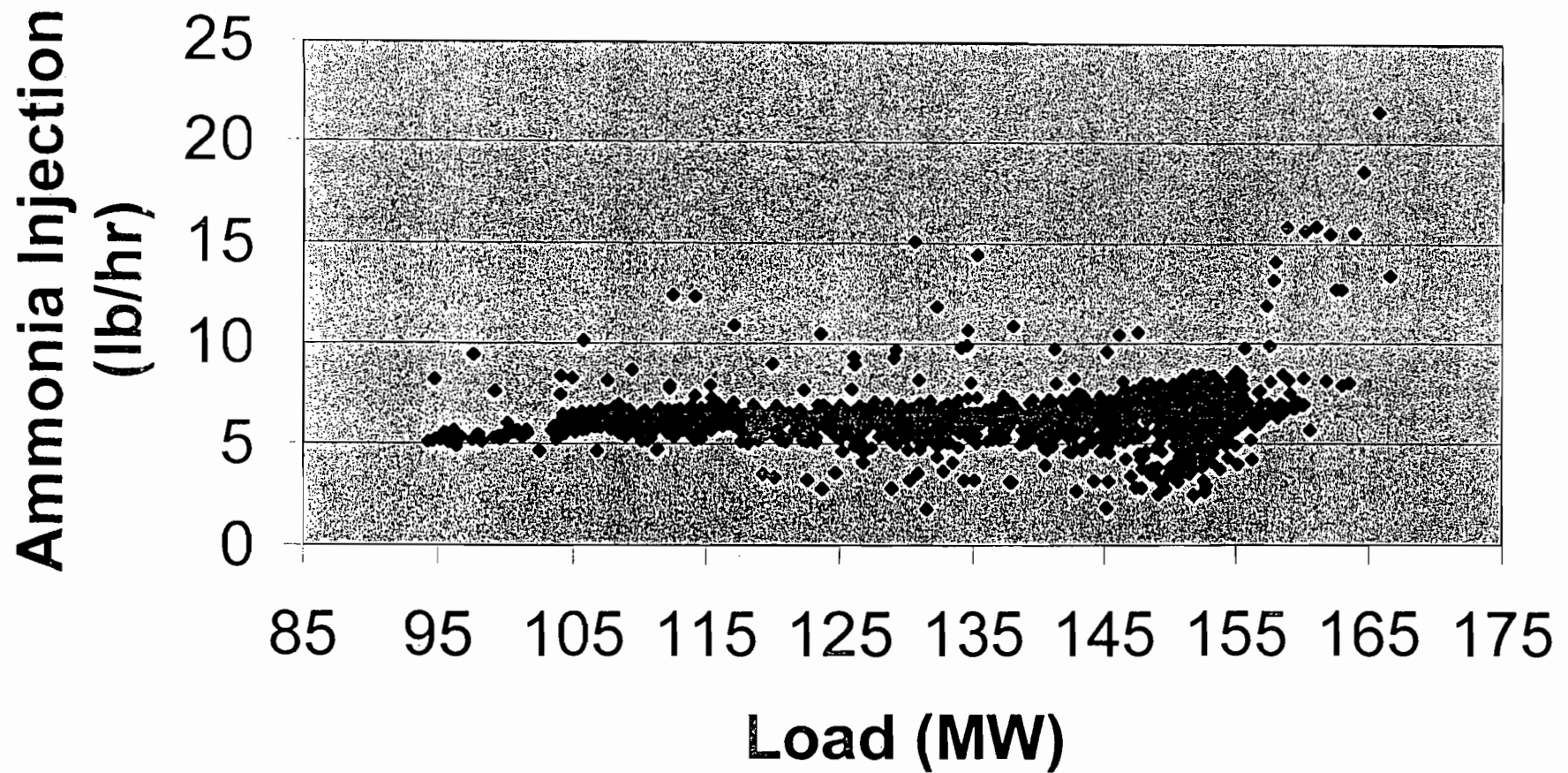
Operating Level: H

Run	Start Date	Start Time	End Run	End Date	Reference Time	Monitoring Status	Method	Gross Load Value	or Velocity
1	04/23/2003	1023	04/23/2003	1044	1	0.012	0.011	162	
2	04/23/2003	1054	04/23/2003	1115	1	0.012	0.011	162	
3	04/23/2003	1128	04/23/2003	1149	1	0.012	0.011	161	
4	04/23/2003	1212	04/23/2003	1233	1	0.012	0.011	160	
5	04/23/2003	1247	04/23/2003	1308	1	0.013	0.011	160	
6	04/23/2003	1323	04/23/2003	1344	1	0.012	0.011	159	
7	04/23/2003	1355	04/23/2003	1416	1	0.012	0.011	158	
8	04/23/2003	1427	04/23/2003	1448	1	0.012	0.011	158	
9	04/23/2003	1458	04/23/2003	1519	1	0.013	0.011	157	

Summary Statistics	Reported	Recalculated
Mean of Monitoring System	0.011	0.011
Mean of Reference Method Values	0.012	0.012
Mean of Difference	0.001	0.001
Standard Deviation of Difference	0.000	0.000
Confidence Coefficient	0.000	0.000
T-Value	2.306	2.306
Relative Accuracy:	12.77	12.77
Bias Adjustment Factor	1.111	1.111
APS Flag	1	1
Indicator of Normal Op. Level	N	N
Gross Unit Load or Velocity	160	160
Reference Method Used	7e.3a	

# BPS Unit 1A

## Load(MW) vs. Ammonia Injection



**SUMMARY REPORT – NO<sub>x</sub> EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE  
NSPS SUBPART GG**

Pollutant: NO<sub>x</sub> - Combustion Turbine

Emission Limitation: 3.5 ppmvd @ 15% O<sub>2</sub> on a 24-hour block average

Reporting period dates: From 04/01/03 to 06/30/03

Company: Tampa Electric Company  
Address: P.O. Box 111  
Tampa, FL 33601-0111

Monitor Manufacturer  
and Model No.:

Thermal Environmental 42CLS

Process Unit  
Description : 169 MW Combined Cycle  
Combustion Turbine  
(CT 1B)

Date of Latest CMS  
Certification or Audit

April 2003

Total source operating  
time in reporting period<sup>1</sup>:

1376.25

Emission Data Summary <sup>1</sup>		CMS Performance Summary <sup>2</sup>	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Startup/Shutdown	<u>35</u>	a. Monitor equipment malfunctions	<u>0</u>
b. Control equipment problems	<u>0</u>	b. Non-Monitor equipment malfunctions	<u>0</u>
c. Process problems	<u>2</u>	c. Quality assurance calibration	<u>1</u>
d. Other known causes	<u>0</u>	d. Other known causes	<u>0</u>
e. Unknown causes	<u>0</u>	e. Unknown causes	<u>0</u>
2. Total duration of excess emission	<u>37</u>	2. Total CMS Downtime	<u>1</u>
3. <u>Total duration of excess emissions x (100)</u> Total source operating time	<u>2.7 %</u>	3. <u>Total CMS Downtime x (100)</u> Total source operating time	<u>0.07 %</u>

*Note: On a separate page, describe any changes to CMS, process or controls during last 6 months. For each quarter, summarize the ammonia injection rates over various loads and the data excluded due to startups, shutdowns, and malfunctions.*

*This form is used for reporting excess emission according to New Source Performance Standard (NSPS) Subpart GG only. (CO is not a regulated by Subpart GG and is reported under the semi-annual excess emission report required by Section III, permit condition 25.)*

- For gases record all times in hours.
- For the reporting period: if the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 60.7(c) shall be submitted.

*TEC Note: The summary report form and the excess emission report required will also be submitted in the semi-annual report.*

**BAYSIDE POWER STATION - CT 1B**  
**24 - HOUR BLOCK AVERAGE - QUARTER 2, 2003**

Date	24-hour block CO	24-hour block NOx
04/23/2003	0.7	3.2
04/24/2003	2.0	3.5
04/25/2003	0.8	3.0
04/26/2003	0.7	2.9
04/27/2003	0.8	3.0
04/28/2003	0.7	3.0
04/29/2003	0.8	3.0
04/30/2003	0.8	3.0
05/01/2003	0.9	2.8
05/02/2003	0.8	2.7
05/03/2003	0.9	2.8
05/04/2003	Offline	Offline
05/05/2003	Offline	Offline
05/06/2003	Offline	Offline
05/07/2003	Offline	Offline
05/08/2003	Offline	Offline
05/09/2003	Offline	Offline
05/10/2003	Offline	Offline
05/11/2003	Tuning	Tuning
05/12/2003	Tuning	Tuning
01/03/1900	1.0	1.0
05/14/2003	1.1	3.0
05/15/2003	1.0	3.0
05/16/2003	1.1	3.0
05/17/2003	1.1	3.0
05/18/2003	1.1	3.0
05/19/2003	1.1	3.0
05/20/2003	0.9	3.0
05/21/2003	0.6	3.0
05/22/2003	0.7	3.0
05/23/2003	0.7	3.0
05/24/2003	0.7	3.0
05/25/2003	0.7	3.0
05/26/2003	0.7	3.1
05/27/2003	0.7	3.0
05/28/2003	0.8	3.0
05/29/2003	0.7	3.0
05/30/2003	0.8	3.0
05/31/2003	0.7	3.0
06/01/2003	0.8	3.0
06/02/2003	0.8	3.0
06/03/2003	0.8	3.2
06/04/2003	0.8	3.0
06/05/2003	0.8	3.0
06/06/2003	0.8	3.0
06/07/2003	0.8	2.9
06/08/2003	0.8	3.1
06/09/2003	0.8	3.0
06/10/2003	0.9	3.0

06/11/2003	0.8	3.0
06/12/2003	0.9	3.0
06/13/2003	0.9	3.0
06/14/2003	0.9	3.1
06/15/2003	0.9	3.0
06/16/2003	0.9	3.0
06/17/2003	0.9	3.0
06/18/2003	1.0	3.3
06/19/2003	1.3	3.4
06/20/2003	1.0	3.0
06/21/2003	0.3	3.1
06/22/2003	4.3	3.2
06/23/2003	1.0	3.0
06/24/2003	1.0	3.0
06/25/2003	1.2	3.1
06/26/2003	1.3	3.0
06/27/2003	1.1	3.0
06/28/2003	1.1	3.0
06/29/2003	1.1	3.0
06/30/2003	1.0	3.0

Per Air Permit No. 0570040-015-AC, Section III, Specific Condition 25

**BAYSIDE POWER STATION - CT 1B  
EXCLUDED DATA - QUARTER 2, 2003**

<b>Date</b>	<b>Hours Data Excluded</b>	<b>NOx Value of Excluded Data</b>	<b>CO Value of Excluded Data</b>	<b>Reason for Exclusion</b>
04/23/2003	0300	*	0	Calibration Hour
	2200	11.4	339.5	Shutdown
04/24/2003	0800	42	362.8	Start-up
04/29/2003	1300	48.4	362	Start-up
	1400	33.7	87.6	Start-up
04/30/2003	1800	32.3	245.3	Malfunction
	1900	47.3	298.6	Malfunction
05/01/2003	2300	11.9	151.2	Shutdown
05/02/2003	0900	38.6	343.2	Start-up
	1000	12.7	24.2	Start-up
	2200	10.1	360.5	Shutdown
05/03/2003	1000	26.7	175.7	Start-up
	2200	19.6	311.9	Shutdown
05/04/2003	1100	38.3	508	Start-up/Tripped
05/08/2003	1000	34.4	530.6	Start-up/Tripped
	1800	37.6	544.3	Start-up/Shutdown
05/11/2003				Tuning
05/12/2003				Tuning
05/13/2003	0700	19.8	144.3	Start-up
05/17/2003	2200	8.5	268.4	Shutdown
05/18/2003	0900	26.5	299.7	Start-up
05/23/2003	2200	17.7	766.3	Shutdown
05/24/2003	1300	40.3	415.4	Start-up
	1400	12.3	20.5	Start-up
05/26/2003	2300	7	220.5	Shutdown
05/27/2003	0900	39.2	237.9	Shutdown
05/30/2003	2200	9.9	127.3	Shutdown
05/31/2003	1000	30.9	226.4	Start-up
06/05/2003	2400	8.6	369.4	Shutdown
06/06/2003	0900	11.7	134	Start-up
06/07/2003	0200	8	198.2	Shutdown
	0800	32.2	174.8	Start-up
	2000	4.1	70.6	Shutdown
06/08/2003	1400	15.1	119.7	Start-up
06/20/2003	2200	6.2	216.3	Shutdown
06/21/2003	0900	0.3	233.3	Start-up
	1000	8.9	111.6	Start-up
	2000	30	36.4	Start-up
	2100	13.6	112.4	Start-up
06/22/2003	0700	19.3	272.4	Start-up

Per Air Permit No. 0570040-015-AC, Section III, Specific Condition 25

\* NOx data not excluded.

**BAYSIDE POWER STATION - CT 1B  
MAINTENANCE/REPAIR OF CEMS - QUARTER 2, 2003**

Date:	Unusual Maint. Or Repair of CEMS:
	No Unusual Maintenance of CEMS

Per Air Permit No. 0570040-015-AC, Section III, Specific Condition 25



**BAYSIDE POWER STATION - CT 1B  
MONITOR DOWNTIME - QUARTER 2, 2003**

Date	Hours of Missing Data for Monitor Downtime	Reason for Monitor Downtime

Monitor availability	100%
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Per Air Permit No. 0570040-015-AC, Section III, Specific Condition 25

NOx: 40 CFR 75, Appendix B  
 CO: 40 CFR 60, Appendix F  
 Date RATA data

RATA data required pursuant to these CFRs

MONITORING DATA CHECKING SOFTWARE 4.1 BETA  
 TEST SUMMARY REPORT PAGE 1

05/28/2003

ORIS Code: 7873 State: FL  
 Facility Name: BAYSIDE County: HILLSBOROUGH

Unit/ Stack	Sys Comp Test	Hour/ Test Load	Test	Test	Reported	Recalculated
ID	Comp/Sys Parm Type Type	End Date	Time #	Lvls	Reason	Result
CT1B /213	NOX RATA (RT 610-616)	04/17/2003	1209	1 1	C	Pass-APS Pass-APS
MONITORING DATA CHECKING SOFTWARE 4.1 BETA						05/28/2003
RATA REPORT (RT 610/611)						PAGE 2

ORIS Code: 7873 Facility: BAYSIDE State: FL  
 Unit/Stack ID: CT1B System ID: 213 Parameter: NOX  
 Test End Date/Time: 04/17/2003 1209 Test No.: 1 # of Operating Levels: 1 Units of Measure: LB/MMBTU  
 Reason for Test: C  
 Performance Spec: <= 10.0% Next RATA: Four Op Qtrs  
 Recalc. Results: Pass-APS % RA: 9.09 Mean Diff: 0.001 BAF: 1.100  
 Reported Results: Pass-APS % RA: 9.09 Mean Diff: 0.001 BAF: 1.100

Operating Level: H

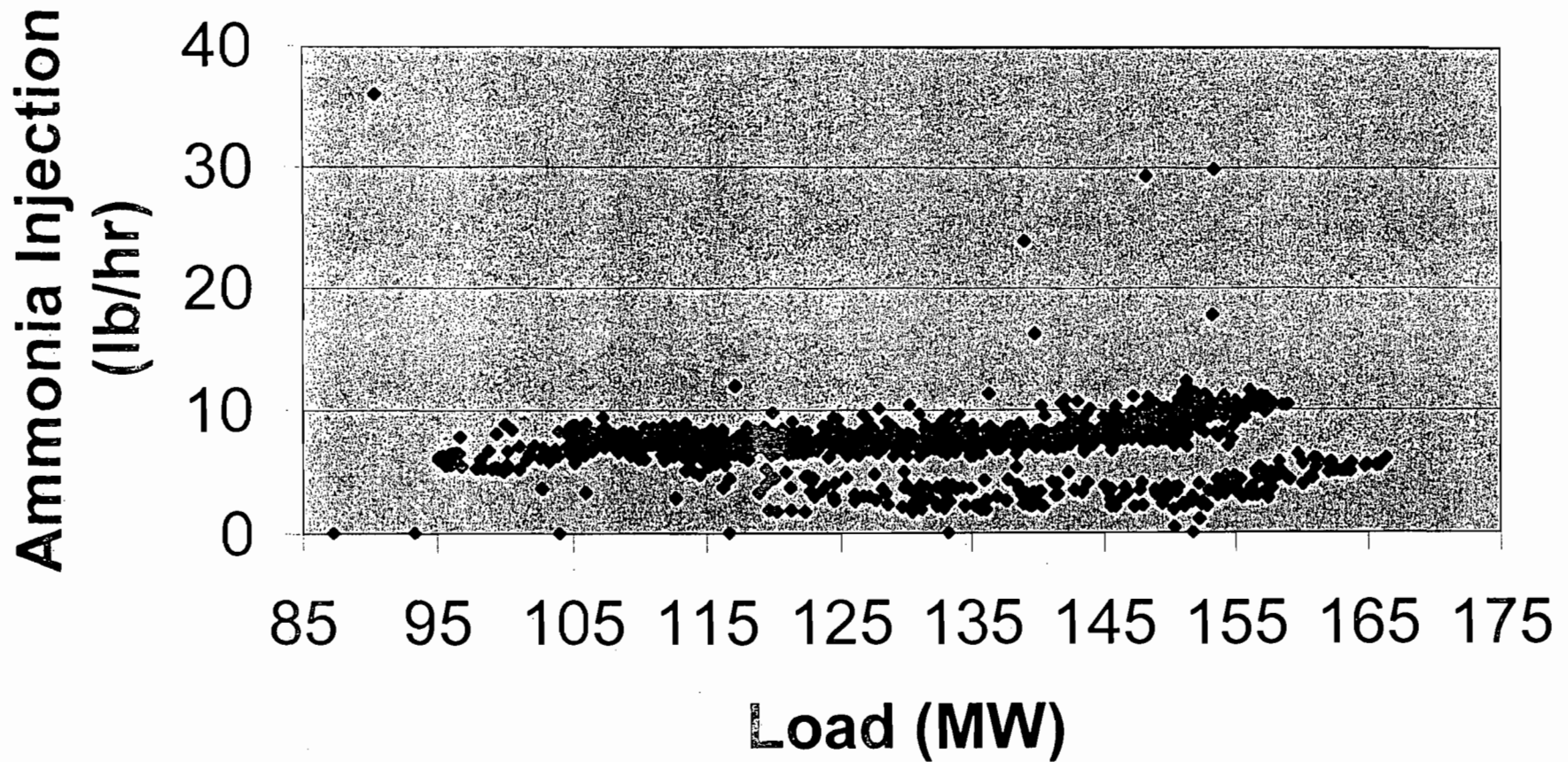
Run	Start Date	Start Time	End Run	End Date	Reference Time	Status	Monitoring Method	Gross Load Value	or Velocity
1	04/17/2003	0702	04/17/2003	0723	0723	1	0.011	0.010	164
2	04/17/2003	0736	04/17/2003	0757	0757	1	0.011	0.010	163
3	04/17/2003	0809	04/17/2003	0830	0830	1	0.011	0.010	162
4	04/17/2003	0850	04/17/2003	0911	0911	1	0.011	0.010	160
5	04/17/2003	0923	04/17/2003	0944	0944	1	0.011	0.010	160
6	04/17/2003	1000	04/17/2003	1021	1021	1	0.011	0.010	159
7	04/17/2003	1035	04/17/2003	1056	1056	1	0.011	0.010	158
8	04/17/2003	1116	04/17/2003	1137	1137	1	0.011	0.010	157
9	04/17/2003	1148	04/17/2003	1209	1209	1	0.011	0.010	157

Summary Statistics

	Reported	Recalculated
Mean of Monitoring System	0.010	0.010
Mean of Reference Method Values	0.011	0.011
Mean of Difference	0.001	0.001
Standard Deviation of Difference	0.000	0.000
Confidence Coefficient	0.000	0.000
T-Value	2.306	2.306
Relative Accuracy:	9.09	9.09
Bias Adjustment Factor	1.100	1.100
APS Flag	1	1
Indicator of Normal Op. Level	N	N
Gross Unit Load or Velocity	160	160
Reference Method Used	7e.3a	

# BPS Unit 1B

## Load(MW) vs. Ammonia Injection



**SUMMARY REPORT – NO<sub>x</sub> EXCESS EMISSION AND MONITORING SYSTEM PERFORMANCE  
NSPS SUBPART GG**

Pollutant: NO<sub>x</sub> - Combustion Turbine

Emission Limitation: 3.5 ppmvd @ 15% O<sub>2</sub> on a 24-hour block average

Reporting period dates: From 04/01/03 to 06/30/03

Company: Tampa Electric Company  
Address: P.O. Box 111  
Tampa, FL 33601-0111

Monitor Manufacturer and Model No.: Thermal Environmental 42CLS

Process Unit Description : 169 MW Combined Cycle  
Combustion Turbine  
(CT 1C)

Date of Latest CMS Certification or Audit April 2003

Total source operating time in reporting period<sup>1</sup>: 1424

Emission Data Summary <sup>1</sup>		CMS Performance Summary <sup>2</sup>	
1. Duration of excess emissions in reporting period due to:		1. CMS downtime in reporting period due to:	
a. Startup/Shutdown	<u>58</u>	a. Monitor equipment malfunctions	<u>0</u>
b. Control equipment problems	<u>0</u>	b. Non-Monitor equipment malfunctions	<u>0</u>
c. Process problems	<u>1</u>	c. Quality assurance calibration	<u>0</u>
d. Other known causes	<u>0</u>	d. Other known causes	<u>0</u>
e. Unknown causes	<u>0</u>	e. Unknown causes	<u>0</u>
2. Total duration of excess emission	<u>59</u>	2. Total CMS Downtime	<u>0</u>
3. <u>Total duration of excess emissions x (100)</u> Total source operating time	<u>4.1 %</u>	3. <u>Total CMS Downtime x (100)</u> Total source operating time	<u>0%</u>

*Note: On a separate page, describe any changes to CMS, process or controls during last 6 months. For each quarter, summarize the ammonia injection rates over various loads and the data excluded due to startups, shutdowns, and malfunctions.*

*This form is used for reporting excess emission according to New Source Performance Standard (NSPS) Subpart GG only. (CO is not a regulated by Subpart GG and is reported under the semi-annual excess emission report required by Section III, permit condition 25.)*

- For gases record all times in hours.
- For the reporting period: if the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in 60.7(c) shall be submitted.

*TEC Note: The summary report form and the excess emission report required will also be submitted in the semi-annual report.*

**BAYSIDE POWER STATION - CT 1C**  
**24 - HOUR BLOCK AVERAGE - QUARTER 2, 2003**

<b>Date</b>	<b>24-hour block CO</b>	<b>24-hour block NOx</b>
04/23/2003	0.4	3.2
04/24/2003	0.5	3.1
04/25/2003	5.8	3.3
04/26/2003	0.5	3.0
04/27/2003	0.5	3.0
04/28/2003	0.4	3.0
04/29/2003	0.5	3.0
04/30/2003	0.4	3.0
05/01/2003	0.5	2.9
05/02/2003	0.5	3.0
05/03/2003	0.5	3.1
05/04/2003	0.6	3.0
05/05/2003	0.6	3.0
05/06/2003	0.5	3.1
05/07/2003	0.5	3.1
05/08/2003	0.5	3.0
05/09/2003	0.5	3.0
05/10/2003	0.5	3.0
05/11/2003	0.6	3.0
05/12/2003	0.7	3.0
05/13/2003	0.6	3.0
05/14/2003	0.6	3.0
05/15/2003	0.6	3.0
05/16/2003	0.6	3.0
05/17/2003	0.6	3.1
05/18/2003	0.6	3.1
05/19/2003	0.5	3.0
05/20/2003	0.5	3.1
05/21/2003	0.5	3.1
05/22/2003	Offline	Offline
05/23/2003	0.6	3.0
05/24/2003	0.6	3.0
05/25/2003	0.5	3.0
05/26/2003	0.6	3.1
05/27/2003	0.6	3.1
05/28/2003	0.7	3.1
05/29/2003	0.6	3.2
05/30/2003	0.7	3.0
05/31/2003	0.6	3.0
06/01/2003	0.7	3.0
06/02/2003	0.7	3.0
06/03/2003	0.7	3.2
06/04/2003	4.8	3.3
06/05/2003	0.7	3.0
06/06/2003	0.7	3.0
06/07/2003	0.6	3.0
06/08/2003	0.6	3.0
06/09/2003	0.7	3.0
06/10/2003	0.7	3.0

06/11/2003	0.7	3.0
06/12/2003	0.8	3.1
06/13/2003	0.7	3.0
06/14/2003	0.6	3.1
06/15/2003	0.8	2.8
06/16/2003	0.8	3.2
06/17/2003	0.7	3.2
06/18/2003	0.8	3.1
06/19/2003	0.7	3.0
06/20/2003	0.8	3.0
06/21/2003	0.8	3.0
06/22/2003	0.8	3.0
06/23/2003	0.8	3.0
06/24/2003	0.9	3.1
06/25/2003	1.0	3.1
06/26/2003	0.9	3.0
06/27/2003	1.9	3.1
06/28/2003	0.6	3.0
06/29/2003	0.7	3.0
06/30/2003	0.7	3.0

Per Air Permit No. 0570040-015-AC, Section III, Specific Condition 25

**BAYSIDE POWER STATION - CT 1C  
EXCLUDED DATA - QUARTER 2, 2003**

<b>Date</b>	<b>Hours Data Excluded</b>	<b>NOx Value of Excluded Data</b>	<b>CO Value of Excluded Data</b>	<b>Reason for Exclusion</b>
04/26/2003	0600	41.4	297	Start-up
	0700	12.9	16.9	Start-up
04/29/2003	1500	40.3	270.6	Start-up
	1600	10.6	13.2	Start-up
04/30/2003	1400	12.5	101.5	Shutdown
	1500	19.9	225.3	Shutdown
	1600	19	233.6	Malfunction
	1700	5.4	2316	Shutdown
05/01/2003	1300	4.7	275.4	Start-up
	1400	35.5	468.5	Start-up
	1500	9.7	33.2	Start-up
	2400	17.2	788.4	Shutdown
05/02/2003	1100	28.1	145	Start-up
05/03/2003	2200	9.3	142.5	Shutdown
05/04/2003	1000	29.9	161.5	Start-up
05/11/2003	2200	8.1	181.3	Shutdown
05/12/2003	0700	20.9	126.6	Start-up
	2300	21	290.9	Shutdown
05/13/2003	0800	21	125.5	Start-up
05/16/2003	2200	28.5	410.3	Shutdown
05/17/2003	0800	48.2	172.2	Start-up
	2300	15.8	200.5	Shutdown
05/18/2003	1000	44.4	335	Start-up
05/23/2003	1100	34.7	411.5	Start-up
	1200	32.4	177.3	Start-up
05/24/2003	2400	16.7	323	Shutdown
05/25/2003	1000	37.1	274.3	Start-up
05/29/2003	2100	16.4	772.2	Shutdown
05/30/2003	0900	43.3	260.3	Start-up
06/05/2003	0700	41.3	248.8	Start-up
	0800	12.1	54.7	Start-up
06/07/2003	2100	3	68.8	Shutdown
06/08/2003	1200	10.9	377.9	Start-up
	1300	15.2	97.2	Start-up
06/09/2003	2200	6.8	75	Shutdown
06/10/2003	0800	40.1	285.8	Start-up
06/12/2003	1900	9.3	108.8	Shutdown
06/13/2003	0500	22.2	395.7	Start-up
	0600	11.1	123	Start-up
	2000	24.5	331.4	Shutdown
06/14/2003	1100	40.1	330.6	Start-up
	1200	26.7	125.8	Start-up
06/16/2003	2200	9.4	97.8	Shutdown
06/17/2003	0800	0	4	Start-up
	0900	22.9	180.2	Start-up
06/18/2003	2100	15.5	235.2	Shutdown
06/19/2003	0900	31.6	266.7	Start-up
	2100	3	57.2	Shutdown

06/20/2003	0900	6.5	424.1	Start-up
	1000	12	79.5	Start-up
06/21/2003	2100	13.1	426.4	Start-up
	2200	40.6	221.3	Start-up
	2300	22.7	114.2	Start-up
06/28/2003	0100	18.9	2074	Shutdown
	0700	27.5	297.7	Start-up
	0800	7.5	38.9	Start-up
	2300	19.9	301	Shutdown
06/29/2003	1100	22.7	166.6	Start-up
06/30/2003	2400	8.1	207.2	Shutdown

Per Air Permit No. 0570040-015-AC, Section III, Specific Condition 25







NOx: 40 CFR 75, Appendix B  
 CO: 40 CFR 60, Appendix F  
 Date RATA data

RATA data required pursuant to these CFRs

**MONITORING DATA CHECKING SOFTWARE 4.1 BETA**  
 TEST SUMMARY REPORT

05/28/2003

PAGE 1

ORIS Code: 7873 State: FL  
 Facility Name: BAYSIDE County: HILLSBOROUGH

```

=====
Unit/                               Reported Recalculated
Stack      Sys Comp Test           Hour/ Test Load   Test   Test
ID  Comp/Sys Parm Type Type       End Date  Time #  Lvl Reason Result  Result
=====
CT1C  /313 NOX   RATA (RT 610-616)   04/18/2003 1110 1 1 C   Pass-APS Pass-APS
                               MONITORING DATA CHECKING SOFTWARE 4.1 BETA
                               RATA REPORT (RT 610/611)                               PAGE 2
  
```

ORIS Code: 7873 Facility: BAYSIDE State: FL  
 Unit/Stack ID: CT1C System ID: 313 Parameter: NOX  
 Test End Date/Time: 04/18/2003 1110 Test No.: 1 # of Operating Levels: 1 Units of Measure: LB/MMBTU  
 Reason for Test: C  
 Performance Spec: <= 10.0% Next RATA: Four Op Qtrs  
 Recalc. Results: Pass-APS % RA:16.97 Mean Diff: 0.002 BAF: 1.111  
 Reported Results: Pass-APS % RA:16.97 Mean Diff: 0.002 BAF: 1.111

Operating Level: H

Run	Start Date	Start Time	End Run	End Date	Reference Time	Status	Monitoring Method	Gross Load Value	or Velocity
1	04/18/2003	0601	04/18/2003	0622	0622	1	0.011	0.010	168
2	04/18/2003	0652	04/18/2003	0713	0713	1	0.012	0.010	168
3	04/18/2003	0725	04/18/2003	0746	0746	1	0.012	0.010	167
4	04/18/2003	0757	04/18/2003	0818	0818	1	0.012	0.010	165
5	04/18/2003	0830	04/18/2003	0851	0851	1	0.012	0.010	163
6	04/18/2003	0904	04/18/2003	0925	0925	1	0.012	0.010	162
7	04/18/2003	0941	04/18/2003	1002	1002	1	0.011	0.010	161
8	04/18/2003	1014	04/18/2003	1035	1035	1	0.011	0.010	160
9	04/18/2003	1049	04/18/2003	1110	1110	1	0.011	0.010	159

Summary Statistics	Reported	Recalculated
Mean of Monitoring System	0.010	0.010
Mean of Reference Method Values	0.012	0.012
Mean of Difference	0.002	0.002
Standard Deviation of Difference	0.001	0.001
Confidence Coefficient	0.000	0.000
T-Value	2.306	2.306
Relative Accuracy:	16.97	16.97
Bias Adjustment Factor	1.111	1.111
APS Flag	1	1
Indicator of Normal Op. Level	N	N
Gross Unit Load or Velocity	164	164
Reference Method Used	7e,3a	

# BPS Unit 1C

## Load(MW) vs. Ammonia Injection

