

Scott
Ross



RECEIVED

APR 26 1999

BUREAU OF
AIR REGULATION

1050223-002-AV

April 22, 1999

Mr. Clair Fancy, P.E.
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

Re: Tiger Bay Duct Burner

Florida Power Corporation's (FPC) Tiger Bay facility was originally permitted to install and operate a natural gas-fired duct burner downstream of the combustion turbine. The facility's original owner, Destec Corporation, installed and operated the duct burner for only a few days. The burner was subsequently removed and permanently abandoned. Although the duct burner was abandoned, Destec included it in the Title V permit application for the Tiger Bay facility.

FPC purchased the facility from Destec in 1997, and obtained a site certification for Tiger Bay in early 1998. FPC excluded the duct burner from the site certification, because FPC does not intend to install or operate it.

With this letter, FPC requests DEP to exclude the duct burner from the Tiger Bay Title V permit. This will make the Title V permit consistent with the site certification.

Please contact Mike Kennedy at (727) 826-4334 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Jeffrey Pardue", written over a horizontal line.

W. Jeffrey Pardue, C.E.P.
Director
Title V Responsible Official

✓ **1. Comment # 1:** Page 2. The Title V application (Facility Regulatory Classification) indicated that the facility was not a major source of HAPs. To the best of our knowledge, the facility classification has not changed.

Response: The Department agrees with the comment, a major source of HAPs is any facility which emits 10 TPY of any HAP or 25 TPY of any combination of HAPs. Tiger Bay does not qualify as a major source of HAPs, so the permit can be changed.

Important

Comment # 2: Page 3. Brief Description of Unregulated Units. FPC requests that the units described as unregulated (i.e., internal combustion engines, emergency generator, and fresh water cooling towers) be re-classified as insignificant.

Response: *The Department acknowledges the comment. The request may be granted if the facility can meet with a fuel restriction of less than 16,000 gallons per year, collectively.*

[(only if a change is made) As a result of this comment **Condition #** ___ is hereby changed:

From: [state original text] *internal combustion engines (how many, what kinds of fuel)*

To: [state new text] *emergency generator*

cooling towers

Comment # 3: Page 7. Description. First Paragraph. The model number listed in line 2 for the combustion turbine should be MS7221 FA. The MS7001 FA is the general model classification made by General Electric. The HRSG was not manufactured by GE, as stated in line 4. Since the HRSG is not an emissions unit, it is not necessary to include a vendor designation. Also, all references to a duct burner, fuels for a duct burner, and emissions from the HRSG because of a duct burner, should be deleted as the duct burner has been physically removed.

*Duct burner has been removed from description
Search document for duct burner and HRSG*

Response: *The Department acknowledges the comment. The conditions of the duct burner will be removed pending the receipt of a statement from the responsible official as discussed on March 17, 1999.*

[(only if a change is made) As a result of this comment **Condition #** ___ is hereby changed:

From: [state original text]

To: [state new text]

✓ **Comment # 4:** Page 7. Second Paragraph. The flow rate listed in the paragraph (4th line) is for distillate oil; the flow rate listed in the application is 1,072,001 acfm. It should be noted the flow and other parameters change as a result of load and turbine inlet temperature. These data were included in the original construction permit application. It is suggested that these data be so qualified. Also, for your information, the statement that the emissions from the CT are controlled with DLN 2.6 will be accurate when the permit becomes effective; FPC has ordered this equipment and will have it installed in 1999.

The model number has been changed

Several conditions will be changed

(do they use chromium) they use a weak bromine solution

Response: The Department agrees with the comment, the permit can be amended to reflect that the flow rate does change due to the load and the turbine inlet temperature. The permit will be changed as follows:

[(only if a change is made) As a result of this comment **Condition #** ___ is hereby changed:

From: [state original text]

To: [state new text]]

- ✓ **Comment # 5:** Page 7. Condition A.3. This Condition should be deleted because it does not impose any existing requirement; it simply states that a "modification" to the unit will subject it to the NSPS requirements.

Response: The Department believes that this condition is an applicable requirement. No change will be made.

✓ **Comment # 6:** Page 8. Condition A.4. This Condition should clarify that the heat input is dependent upon the ambient temperature in accordance with manufacturer's curves. Also, as stated above, the reference to the duct burner should be deleted.

~~*List manufacturer's curves as a referenced attachment~~
Response: *The Department acknowledges the comment. A permit note can be added to the condition to clarify that the heat input is dependent upon the ambient temperature in accordance with manufacturer's curves. The manufacturer's curves should also be added as attachment and listed as a referenced attachment on the first page of the permit.*

Manufacturer's curves can be supplied for compliance, they do not have to be attached

[(only if a change is made) As a result of this comment **Condition #** ___ is hereby changed:

From: [state original text]

To: [state new text]]

- ✓ **Comment # 7:** Page 8. Condition A.6.a. The description of the distillate fuel should be changed from "New" to "distillate fuel oil." This would be consistent with the terminology in the PSD/BACT permit that did not characterize the distillate oil as either "new", "No. 2" or "low sulfur." The latter comment applies to Condition A.6.b. Also, the third and fourth sentences of Condition A.6.a should be deleted: as stated above, the HRSG does not contain a duct burner, and the pre-construction requirements are redundant with Appendix TV-1.

Check document for New fuel oil

Response: The Department acknowledges with the comment. Since the permittee can not burn used oil and in order to be consistent with previous permits, the description will be changed to "distillate fuel oil". However, the pre-construction requirements are applicable requirements and will not be changed.

[(only if a change is made) As a result of this comment **Condition #** ___ is hereby changed:

From: [state original text]

To: [state new text]]

✓ **Comment # 8:** All citations to the BACT as authority for a permit condition should be deleted because the BACT is simply the basis for the PSD permit. The PSD permit is appropriately listed, and is sufficient authority.

Response: *The Department acknowledges the comment. The BACT Determination for this permit did appear in permit PSD-190, therefore citations using BACT can be deleted and the PSD permit alone will be cited. The permitting note in the Emission Limitations and Standards section will be changed*

From:

To:

[(only if a change is made) As a result of this comment **Condition #** ___ is hereby changed:

From: [state original text]

To: [state new text]]

✓ **Comment # 9:** Pages 9-11. Conditions A.12, A.15, A.19, A.22, A.25, and A.28 should be deleted because the HRSG does not contain a duct burner.

Response: The Department acknowledges the comment. All references to the duct burner will be removed and the remaining conditions will be re-numbered.

✓ **Comment # 10:** Page 10. Condition A.20. The phrase “at full load conditions” should be added to this condition as was done in Condition A.21. This terminology is consistent with the PSD permit conditions.

Response: The Department disagrees with the comment. This language would not be consistent with the PSD permit. (See Table PSD-FL-190)

✓ **Comment # 11:** Pages 10 and 11. In the Title V application, FPC requested that the Conditions for sulfuric acid mist, listed in Conditions A.26., A.27., and A.28, be deleted from the Title V Permit. These conditions were added to the original PSD Permit for the Tiger Bay Cogeneration Facility, as was common practice for other similar facilities at the time of permitting. These conditions are currently obsolete and no longer included in PSD permits for combustion turbines firing natural gas and distillate oil.

Response: The Department disagrees with the comment. This is an applicable regulation that was established by the PSD permit.

✓ **Comment # 12:** Page 11. In the Title V application, FPC requested that the conditions for mercury, arsenic, beryllium and lead, listed in Conditions A.31 through A.34, be deleted from the Title V Permit. These conditions were added to the original PSD Permit for the Tiger Bay Cogeneration Facility, as was common practice for other similar facilities at the time of permitting. These conditions are currently obsolete and no longer included in PSD permits for combustion turbines firing natural gas and distillate oil. In addition, arsenic and beryllium have been deleted from the list of PSD Significant Emission Rates, by the Department. This request is consistent with Department guidance (DARM-PER/GEN-18).

Would have to be changed through the construction permit

Response: The Department disagrees with the comment. This is an applicable regulation that was established by the PSD permit.

✓ **Comment # 13:** Page 11. Condition A.35. In accordance with the attached start-up curve, FPC requests that this unit be specifically authorized to have excess emissions for 3 hours (rather than 2 hours) in any 24-hour period, unless specifically authorized by the Department for longer duration. Also, the pertinent excess emission provisions of 40 CFR Part 60 should be included in this section of the permit, i.e., §§ 60.8(c), 60.11(c), and 60.43c(d).

Response: *The Department disagrees with the comment. This is a quote of the rule. Are the sections from 40 CFR Part 60 applicable?*

[(only if a change is made) As a result of this comment **Condition #** ___ is hereby changed:

From: [state original text]

To: [state new text]]

✓ **Comment # 14:** Page 12. Condition A.39. This Condition is identical with Condition A.37 and therefore should be deleted.

Response: The Department agrees with this comment. The conditions are identical therefore condition ~~A.39.~~ can be deleted.
A.37. will

✓ **Comment # 15:** Page 12. Condition A.41. This condition should be replaced with the Custom Fuel Monitoring Schedule issued by the Department and dated December 2, 1994 (attached).

Response: *The Department acknowledges the comment. ~~If the permittee has an approved Custom-Fuel-Monitoring Schedule then it can be used in the permit. Otherwise, the condition will remain the same.~~ The permittee's approved CFMS will be added to the permit.*

[(only if a change is made) As a result of this comment **Condition #** ___ is hereby changed:

From: [state original text]

To: [state new text]]

check
the PSD
permit

✓ **Comment # 16:** Page 13. Condition A.43. The reference to 40 CFR Part 75 on line 5 should be put into context with Part 60 and the word "or" should be added. The following is suggested:
“(July 2, 1992) or 40 CFR Part 75, whichever is more stringent.” Also, the last sentence of this Condition should be deleted because it does not appear in the PSD permit.

* **Response:** It appears that a typing error was made in condition A.43. ^{The} Your suggested change will be made. The last sentence

~~[(only if a change is made) As a result of this comment Condition # ___ is hereby changed:~~

~~From: [state original text]~~

~~To: [state new text]]~~

✓ **Comment # 17:** Page 14. Condition A.46. The references to annual testing for VOCs and H₂SO₄ should be deleted. A sentence should be added to this Condition stating that “VOC testing is only required if the CO test indicates an exceedance of the CO standard. See Condition A.55.” In accordance with Comment No. 11, there should be no need for annual H₂SO₄ testing. Also, as stated above, the Permitting Note should be revised to reflect the deletion of the limits for mercury, arsenic, beryllium, and lead.

Response: The Department acknowledges the comment. Specific condition A.55. states that VOC testing is required only if the CO test indicates an exceedance of the CO standard. In order to change the requirements for testing for H₂SO₄, mercury, arsenic, beryllium and lead the PSD permit would have to be modified. Condition A.46. will be changed, based on this comment

From:

To:

[(only if a change is made) As a result of this comment Condition # ___ is hereby changed:

From: [state original text]

To: [state new text]]

✓ **Comment # 18:** Page 14. Condition A.47. Section 60.335(a) applies only to fuel oil, since the nitrogen in gas is not fuel bound as provided in Section 60.332(a)(3).

Response: The Department does not agree with this comment. This condition is an applicable regulation. No change will be made.

✓ **Comment # 19:** Page 14. Condition A.48. This condition was deleted from the PSD permit by the Department letter dated April 23, 1996, which changed several permit conditions.

Response: The Department acknowledges this comment. This condition was deleted from the PSD permit by the letter dated April 23, 1996. However, it is still an applicable regulation for the Title V permit. Compliance with this condition must be met if the annual test is not performed

at 95% - 100% of rated capacity. For clarity condition A.48. will be moved to follow current condition A.62. and will be qualified as follows:

[(only if a change is made) As a result of this comment **Condition #** ___ is hereby changed:

From: [state original text]

To: [state new text]]

✓ **Comment # 20:** Conditions A.44, A.45, A.49, A.50, A.51, A.52, A.57, A.58, A.59, and A.67 through A. 72 should be deleted. Other Title V permits for similar facilities do not have these conditions and they are either misapplied to this unit or simply cause confusion. For example, Condition A.44 is not appropriate because the only CEM on this unit is for NOx and Method 20 (a stack test method) is the compliance determination method pursuant to Condition A.48. Also, the permit should not reference 40 CFR 60.335(c)(2) in Condition A.49 as clarified by DEP guidance (DARM-EM-05).

Response: The Department disagrees with most of this comment. These conditions are applicable regulations, with the exception of condition A.49. If compliance is not demonstrated at 95% - 100% of rated capacity, new curves must be established pursuant to this condition. It will also be moved and qualified as described in response 19.

[(only if a change is made) As a result of this comment **Condition #** ___ is hereby changed:

From: [state original text]

To: [state new text]]

Comment # 21: Page 15. Condition A.53. The references to the other permit conditions should be revised as follows: "A.13, A.14, and A.16; and A.26 - A.27."

Comment # 22: Page 15. Condition A.54. The reference to the other permit conditions should be revised as follows: "A.20 and A.21."

Comment # 23: Page 16. Condition A.55. The reference to the other permit conditions should be revised as follows: "A.23 and A.24 . . . A.20 and A.21."

Response: The Department acknowledges the comments. Since the duct burner references are being removed, specific condition cross-references will be changed.

✓ **Comment # 24:** Page 16. Condition A.59. The reference to PSD-FL-014 appears incorrect.

Response: The Department agrees. PSD permit PSD-FL-190 should have been cited. This condition is also a quote from 40 CFR 60.

✓ **Comment # 25:** Page 17. Condition A.62. This Condition should reference the manufacturer's curve for heat input vs. inlet temperature.

possibly
use
their
revisions

Response: *The Department agrees. Condition A.62. will be changed as follows:*

[(only if a change is made) As a result of this comment **Condition # ___** is hereby changed:

From: [state original text]

To: [state new text]]

✓ **Comment # 26:** Page 18. Condition A.65. Paragraph (a)4. is redundant to Condition A.46, and therefore should be deleted.

Response: The Department disagrees. These conditions are quotes of rules. These conditions are in the permit for permit consistency. No change will be made.

✓ **Comment # 27:** Page 19. Condition A.66. There does not appear to be any basis for this Condition and therefore FPC requests that it be deleted.

Response: The Department disagrees. Conditions like this are required by Rule 62-213.440, F.A.C. No change will be made.

✓ **Comment # 28:** Page 23. Condition A.76. This Condition is obsolete and duplicative and therefore should be deleted. Compliance with 40 CFR Part 75 should be sufficient.

Response: The Department agrees with the comment. Conditions A.75. and A.76. will be deleted from the permit.

✓ **Comment # 29:** Page 24. Description. Second Paragraph. FPC requests the following revision of the first sentence for clarification: "This unit is ~~regulated under~~ exempt from Rule 62-296.700, F.A.C., Reasonably Available Control Technology (RACT) Particulate Matter ~~Exemptions pursuant to Rule 62-296.700(2), F.A.C.~~" Also, as listed in the application, the stack flow should be 5,000 acfm and not 5,050 acfm.

Response: The Department agrees that this source is exempt from Particulate Matter RACT based on limitations in AC53-230744. RACT references will be removed, including the permitting note following condition B.5.

✓ **Comment # 30:** Page 25. Condition B.4. The second sentence of this condition should be deleted, since the air construction permit did not include such wording.

Response: The Department acknowledges the comment. However, without a log, any claims of less than continuous operation on the AOR would be difficult to substantiate. The Department wishes to leave this requirement in the permit.

✓ **Comment # 31:** Page 25. Condition B.5. For clarification, FPC requests that this Condition specify the compliance method to be used, assuming the provisions of Condition B.6 are met.

Response: *The Department acknowledges the comment. Method 5 will be specified as the compliance method, in a new condition under test methods and procedures. Based on this comment the following condition is added: §.9. -EPA Method 5*

[(only if a change is made) As a result of this comment **Condition #**___ is hereby changed:

From: [state original text]

To: [state new text]]

✓ **Comment # 32:** Page 25. Condition B.6. This Condition states that compliance determinations, if required, shall be “demonstrated by the test method specified in the applicable rule.” FPC is uncertain what the “applicable rule” is, and therefore requests that a specific citation be included.

Response: The Department acknowledges the comment. A cross-reference to the new condition stated in comment 31 will be added.

[(only if a change is made) As a result of this comment **Condition #**___ is hereby changed:

From: [state original text]

To: [state new text]]

✓ **Comment # 33:** Page 29. Condition B.15. FPC requests that paragraphs (a)4.b. and c. be deleted and replaced with a simple reference to particulate matter, because this unit is only subject to limits on visible emissions and particulate matter.

Response: The Department chooses to leave these paragraphs since this condition is a quote of the rule and was included in the permit for permit consistency. It is possible that the referenced paragraphs could be applicable in the future.

✓ **Comment # 34:** Page 33. Condition A.4. Consistent with other DEP Title V permits, FPC requests that this Condition be moved to the facility-wide section of the permit.

Response: The Department disagrees. This is an acid rain condition and appropriately belongs here. No change will be made.

Note: The Department agrees that some Title V permits may have this condition in the facility-wide section of the permit. In retrospect, we feel that it is more appropriate to be with the rest of the acid rain requirements and will likely be moved to the acid rain sections of those permits at the next opportunity.

✓ **Comment # 35:** Page 35. Item 17. The chemical tank listed is 550 lb., not 5,500 lb. indicated in the condition. There are several similar tanks associated with the Cooling Tower Area that were ✓

Ask Jonathan about the cooling tower area

not listed. The tanks were pH guard (500 gal., 2,925 lb.) and Conguor 3583 (2 @ 500 lb.).

~~Several chlorine tanks were also identified in this area, as well as gas cylinders (CO₂ and H₂).~~

Do not add

Gas used for CEM's calibration

Response: The Department acknowledges the comment. This appears to have been a typing error and will be changed. The other tanks listed in your comment will also be added.

*call
Mike
Kennedy*

[(only if a change is made) As a result of this comment **Condition #** ___ is hereby changed:

From: [state original text]

To: [state new text]]

Comment # 36: Page 35. Items 19 and 20. The natural gas knockout tank was not listed with these items. This insignificant emission unit had a vent.

Response: The Department acknowledges the comment and will add this unit to the list of insignificant emissions units.

~~In response to comments 35 and 36, Appendix I-1 is changed as follows:~~

~~From:~~

~~To:~~

*Make sure new Appendix I-1 is correct
- Look at Application*

INTEROFFICE MEMORANDUM

Date: 29-Mar-1999 02:09pm
From: Jonathan Holtom TAL
HOLTOM_J
Dept: Air Resources Management
Tel No: 850/921-9531 GIC: 286

To: Ross Pollock TAL (POLLOCK_R)

Subject: FWD: FPC

Ross, please make sure that this is included in Tiger Bay. I can't remember if it is already covered or not. Thanks, Jonathan.

*Appendix about 3 hr
startup also has to be
added. Condition can not be
added through TV - it's a
compliance issue.*

INTEROFFICE MEMORANDUM

Date: 26-Mar-1999 09:28am
From: Scott Sheplak TAL
SHEPLAK_S
Dept: Air Resources Management
Tel No: 850/488-1344

Subject: FPC

Here's the attachment.

For FPC permits

- 1) Add to each permit below the condition titled Permitted Capacity and add to the Statement of Basis: ^{added to permit} 7
- ^{already in SOB} {Permitting note: The heat input limitations have been placed in each permit to identify the capacity of each unit for the purposes of confirming that emissions testing is conducted within 90 to 100 percent of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for heat input. Instead the owner or operator is expected to determine heat input whenever emission testing is required, to demonstrate at what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

- ^{add} 2) For SIP boilers regulated under acid rain add a new condition to each permit in the titled Record Keeping and Reporting Requirements:

X.x. COMS for Periodic Monitoring. The owner or operator is required to install continuous opacity monitoring systems (COMS) pursuant to 40 CFR Part 75. The owner or operator shall maintain and operate COMS and shall make and maintain records of opacity measured by the COMS, for purposes of periodic monitoring. [Rule 62-213.440, F.A.C.]

- ^{add} 3) For SIP boilers add to the statement of basis for each permit:

The Department has determined that the appropriate particulate matter testing frequency for the fossil fuel steam generators is annually whenever fuel oil is used for more than 400 hours in the preceding year. This frequency is justified by the low emission rate documented in previous emissions tests while firing fuel oil. These units are subject to a steady-state PM emission limit of 0.1 lb/mmBtu, which is effectively equivalent to 0.149 lb/mmBtu because of rounding, and 0.3 lb/mmBtu for soot blowing, which is equivalent to 0.349 lb/mmBtu. The applicant has presented historical PM test results which show that the steady-state and soot blowing average results are less than half the applicable effective standards. The Department has determined that sources with emissions less than half of the effective standard shall test annually. A five year average of results of particulate matter emission testing in lb/mmBtu for Unit (# designation) are #.### (steady-state) and #.### (soot-blowing).

4) Relocatable conditions for

3/19/99
v:/models/fpc1

Ross Pollock



RECEIVED

JAN 27 1999

BUREAU OF AIR REGULATION

January 21, 1999

Crystal River and Bartow

Scott Sheplak, P.E.
Bureau of Air Regulation
Division of Air Resources Management
Department of Environmental Protection
2600 Blair Stone Road, MS 5505
Tallahassee, FL 32399-2400

Dear Mr. Sheplak:

Re: Tiger Bay Cogeneration Facility
Draft Title V Permit No.: 1050023-002-AV

Florida Power Corporation (FPC) is providing comments related to the draft Title V permit dated October 27, 1998. Our comments are directed at specific conditions for the facility and emissions units. The comments are presented below in the same order as the conditions appear in the initial draft permit. FPC has filed a Request for Extension of Time until February 1, 1999. In this regard, if we are unable to resolve each of the issues described below before this time, FPC intends to file an additional Request for Extension. Accordingly, at your earliest convenience after reviewing this letter, please contact me at (727) 826-4258 to discuss.

10 TPY of any HAP or 25 TPY of any combination of HAP

change ->

1. Page 2. The Title V application (Facility Regulatory Classification) indicated that the facility was not a major source of HAPs. To the best of our knowledge, the facility classification has not changed.

Fuel Limitation (2)
62-21(b) 300
(3)(a) 20
AP-42 (3) 21

Page 3. Brief Description of Unregulated Units. FPC requests that the units described as unregulated (i.e., internal combustion engines, emergency generator, and fresh water cooling towers) be re-classified as insignificant.

L -> PM? < 5 TPY

Waiting for a response from FPC

Page 7. Description. First Paragraph. The model number listed in line 2 for the combustion turbine should be MS7221 FA. The MS7001 FA is the general model classification made by General Electric. The HRSG was not manufactured by GE, as stated in line 4. Since the HRSG is not an emissions unit, it is not necessary to include a vendor designation. Also, all references to a duct burner, fuels for a duct burner, and emissions from the HRSG because of a duct burner, should be deleted as the duct burner has been physically removed.

When was this done?

Waiting for a statement from FPC. Any effect on construction permit?

→ This is the value in the permit.

4. Page 7. Second Paragraph. The flow rate listed in the paragraph (4th line) is for distillate oil; the flow rate listed in the application is 1,072,001 acfm. It should be noted the flow and other parameters change as a result of load and turbine inlet temperature. These data were included in the original construction permit application. It is suggested that these data be so qualified. Also, for your information, the statement that the emissions from the CT are controlled with DLN 2.6 will be accurate when the permit becomes effective; FPC has ordered this equipment and will have it installed in 1999.

note that the flow rate does change

Added: *The actual volumetric flow rate may change as a result of the load and the turbine inlet temp.*

6. Page 8. Condition A.4. This Condition should clarify that the heat input is dependent upon the ambient temperature in accordance with manufacturer's curves. Also, as stated above, the reference to the duct burner should be deleted.

Waiting on the curves to be sent

7. Page 8. Condition A.6.a. The description of the distillate fuel should be changed from "New" to "distillate fuel oil." This would be consistent with the terminology in the PSD/BACT permit that did not characterize the distillate oil as either "new"; "No. 2" or "low sulfur." The latter comment applies to Condition A.6.b. Also, the third and fourth sentences of Condition A.6.a should be deleted: as stated above, the HRSG does not contain a duct burner, and the pre-construction requirements are redundant with Appendix TV-1.

IF PSD uses distillate fuel oil change

don't remove preconstruction requirement. check the PSD permit. Remove Change Response to

8. All citations to the BACT as authority for a permit condition should be deleted because the BACT is simply the basis for the PSD permit. The PSD permit is appropriately listed, and is sufficient authority.

should A be changed and to the conditions only apply to HRSG

note that the pre-construction reqs will not be changed.

9. Pages 9-11. Conditions A.12, A.15, A.19, A.22, A.25, and A.28 should be deleted because the HRSG does not contain a duct burner.

10. Page 10. Condition A.20. The phrase "at full load conditions" should be added to this condition as was done in Condition A.21. This terminology is consistent with the PSD permit conditions.

It consistent w/ PSD change.

11. Pages 10 and 11. In the Title V application, FPC requested that the Conditions for sulfuric acid mist, listed in Conditions A.26., A.27., and A.28, be deleted from the Title V Permit. These conditions were added to the original PSD Permit for the Tiger Bay Cogeneration Facility, as was common practice for other similar facilities at the time of permitting. These conditions are currently obsolete and no longer included in PSD permits for combustion turbines firing natural gas and distillate oil.

Would construction permit have to be modified first?

12. Page 11. In the Title V application, FPC requested that the conditions for mercury, arsenic, beryllium and lead, listed in Conditions A.31 through A.34, be deleted from the Title V Permit. These conditions were added to the original PSD Permit for the Tiger Bay Cogeneration Facility, as was common practice for other similar facilities at the

would AC have to be changed to change TV?

time of permitting. These conditions are currently obsolete and no longer included in PSD permits for combustion turbines firing natural gas and distillate oil. In addition, arsenic and beryllium have been deleted from the list of PSD Significant Emission Rates, by the Department. This request is consistent with Department guidance (DARM-PER/GEN-18).

Page 11. Condition A.35. In accordance with the attached start-up curve, FPC requests that this unit be specifically authorized to have excess emissions for 3 hours (rather than 2 hours) in any 24-hour period, unless specifically authorized by the Department for longer duration. Also, the pertinent excess emission provisions of 40 CFR Part 60 should be included in this section of the permit, i.e., §§ 60.8(c), 60.11(c), and 60.43c(d). *Ask Clair + Jonathan*

Page 12. Condition A.39. This Condition is identical with Condition A.37 and therefore should be deleted. *Are we going to authorize 3 hrs. Add appendix*

Page 12. Condition A.41. This condition should be replaced with the Custom Fuel Monitoring Schedule issued by the Department and dated December 2, 1994 (attached). *- Is this condition in the AC? Deleted is in the "Monitoring of Operations" section*

Page 13. Condition A.43. The reference to 40 CFR Part 75 on line 5 should be put into context with Part 60 and the word "or" should be added. The following is suggested: "(July 2, 1992) or 40 CFR Part 75, whichever is more stringent." Also, the last sentence of this Condition should be deleted because it does not appear in the PSD permit. *40 CFR 75 is more stringent than 40 CFR 60-
Waiting on FPC*

Page 14. Condition A.46. The references to annual testing for VOCs and H₂SO₄ should be deleted. A sentence should be added to this Condition stating that "VOC testing is only required if the CO test indicates an exceedance of the CO standard. See Condition A.55." In accordance with Comment No. 11, there should be no need for annual H₂SO₄ testing. Also, as stated above, the Permitting Note should be revised to reflect the deletion of the limits for mercury, arsenic, beryllium, and lead. *Ask Jonathan*

Page 14. Condition A.47. Section 60.335(a) applies only to fuel oil, since the nitrogen in gas is not fuel bound as provided in Section 60.332(a)(3).

Page 14. Condition A.48. This condition was deleted from the PSD permit by the Department letter dated April 23, 1996, which changed several permit conditions.

Conditions A.44, A.45, A.49, A.50, A.51, A.52, A.57, A.58, A.59, and A.67 through A.72 should be deleted. Other Title V permits for similar facilities do not have these conditions and they are either misapplied to this unit or simply cause confusion. For example, Condition A.44 is not appropriate because the only CEM on this unit is for NO_x and Method 20 (a stack test method) is the compliance determination method pursuant to Condition A.48. Also, the permit should not reference 40 CFR 60.335(c)(2) in Condition A.49 as clarified by DEP guidance (DARM-EM-05). *move both 19 + 20 after current specific condition A.62. Both conditions depend on the 95-100% of capacity testing*

? 13.

Condition applies to both sections, so should it be kept? 14.

check p. 16. Isn't this from 40 CFR 75? 17.

were these conditions in the PSD permit? 18.

? 18. check PSD permit? 19.

were the conditions in the PSD permit? 20.

Can they be removed or are they applicable regulations?

Wait for FPC to remove
all these comments?

→ Change all references after the duct-burner references
have been removed

DB would
have to
be changed
in PSD before
these can
be changed.

21. Page 15. Condition A.53. The references to the other permit conditions should be revised as follows: "A.13, A.14, and A.16; and A.26 - A.27"
conditions A.15 and A.28 apply to DB

22. Page 15. Condition A.54. The reference to the other permit conditions should be revised as follows: "A.20 and A.21."
A.22 applies to duct burner

23. Page 16. Condition A.55. The reference to the other permit conditions should be revised as follows: "A.23 and A.24 . . . A.20 and A.21."
A.25, A.22 apply to DB

24. Page 16. Condition A.59. The reference to PSD-FL-014 appears incorrect. ✓
How is it incorrect

✓ 25. Page 17. Condition A.62. This Condition should reference the manufacturer's curve ✓
for heat input vs. inlet temperature.

26. Page 18. Condition A.65. Paragraph (a)4. is redundant to Condition A.46, and therefore should be deleted. ✓
more detail than A.46, taken directly from the rule.

27. Page 19. Condition A.66. There does not appear to be any basis for this Condition ✓
and therefore FPC requests that it be deleted.
This rule should apply.

✓ 28. Page 23. Condition A.76. This Condition is obsolete and duplicative and therefore ✓
should be deleted. Compliance with 40 CFR Part 75 should be sufficient.
Delete work A.75 and A.76. could possibly be removed. Requirements are stated elsewhere.

When construction began was criteria nonattainment? 29. Page 24. Description. Second Paragraph. FPC requests the following revision of the first sentence for clarification: "This unit is regulated under exempt from Rule 62-296.700, F.A.C., Reasonably Available Control Technology (RACT) Particulate Matter - Exemptions pursuant to Rule 62-296.700(2), F.A.C." Also, as listed in the application, the stack flow should be 5,000 acfm and not 5,050 acfm. ✓

Check AS 30. Page 25. Condition B.4. The second sentence of this condition should be deleted, ✓
since the air construction permit did not include such wording.
Also, couldn't this condition apply even if it wasn't in the AC

31. Page 25. Condition B.5. For clarification, FPC requests that this Condition specify the ✓
compliance method to be used, assuming the provisions of Condition B.6 are met.

32. Page 25. Condition B.6. This Condition states that compliance determinations, if ✓
required, shall be "demonstrated by the test method specified in the applicable rule."
FPC is uncertain what the "applicable rule" is, and therefore requests that a specific citation be included. *copy condition B.6 and change to read for particulate matter, cross-reference the new condition that was added as a result of comment 31. Look at B.1 and determine what the applicable rule is*

33. Page 29. Condition B.15. FPC requests that paragraphs (a)4.b. and c. be deleted and ✓
replaced with a simple reference to particulate matter, because this unit is only subject to limits on visible emissions and particulate matter.
How can they be deleted.

✓ 34. Page 33. Condition A.4. Consistent with other DEP Title V permits, FPC requests that ✓

this Condition be moved to the facility-wide section of the permit.

- change (35) Page 35. Item 17. The chemical tank listed is 550 lb., not 5,500 lb. indicated in the condition. There are several similar tanks associated with the Cooling Tower Area that were not listed. The tanks were pH guard (500 gal., 2,925 lb.) and Conquor 3583 (2 @ 500 lb.). Several chlorine tanks were also identified in this area, as well as gas cylinders (CO₂ and H₂).
- ? (36) Page 35. Items 19 and 20. The natural gas knockout tank was not listed with these items. This insignificant emission unit had a vent.

FPC appreciates the opportunity to comment on the Initial Title V Permit. Thank you again for your prompt attention to this matter.

Sincerely,



Scott H. Osbourn
Senior Environmental Engineer

Attachments

cc: Ken Kosky, P.E., Golder Assoc.
Robert Manning, HGS&S

MEMORANDUM

SUBJECT: Use of Acid Rain CEMS as NSPS CEMS

FROM: John B. Rasnic, Director
Stationary Source Compliance Division
Office of Air Quality Planning and Standards

TO: Air, Pesticides, and Toxics Management Division
Directors
Regions I and IV

Air and Waste Management Division Director
Region II

Air, Radiation, and Toxics Division Director
Region III

Air and Radiation Division Director
Region V

Air, Pesticides, and Toxics Division Director
Region VI

Air and Toxics Division Directors
Regions VII, VIII, IX, and X

The Stationary Source Compliance Division (SSCD) has recently received a number of questions pertaining to using 40 CFR Part 75 (Acid Rain) continuous emission monitoring systems (CEMSs) to meet the SO₂ and NO_x CEMS requirements of New Source Performance Standards (NSPS), 40 CFR Part 60, Subparts D, Da, and Db. In the near future, electric utilities operating CEMSs to comply with the requirements of Part 60 must also install CEMSs to meet the requirements of Part 75. These utilities wish to use the same CEMSs to comply with both Acid Rain and NSPS programs. Representatives from the Regions, States, and regulated community requested a clarification on whether the Acid Rain CEMSs can be used as the NSPS CEMSs, and if during the replacement period of the existing NSPS CEMSs by the Acid Rain CEMSs, NSPS monitoring and reporting could be curtailed.

SSCD realizes that the requirements of Part 75 directly affect CEMS performance, data collection, and reporting for the purposes of Part 60, and that there may be a conflict when the NSPS CEMSs are replaced by Acid Rain CEMSs. The possibility of this conflict has also been identified in the Acid Rain CEMS Implementation Team Approach paper.

SSCD has determined that since the CEMS requirements of 40 CFR Part 75 are equivalent to or more stringent than the requirements of 40 CFR Part 60, EPA can accept Acid Rain CEMSs as NSPS CEMSs provided that the utility demonstrates compliance with all applicable NSPS regulations. However, while authorizing the use of Acid Rain CEMSs as NSPS CEMSs, we determined that a blanket "grace period" from complying with the requirements of Part 60 when installing CEMSs for Part 75 is not an appropriate option.

SSCD recommends that, whenever possible, a utility operate the existing NSPS CEMSs until the new Part 75 CEMSs are operational and certified according to the requirements of Parts 60 and 75 (except for the DAHS certification). The field test of the Part 75 certification process should be scheduled as soon as possible after the CEMSs become operational. If there is an unavoidable changeover time, the utility must minimize that time since all periods of missing data will count as monitor downtime for NSPS reporting purposes.

SSCD also recommends that, to meet the monitor data availability during a changeover time, a utility use an approach consistent with the requirements of Part 60. To collect data for SO₂ and NO_x from Subpart Da and Db boilers, a utility shall use methods, procedures, and alternatives specified in Part 60.47a(h),(j), Part 60.47b(b), and in Part 60.48b(f). The utility must notify EPA when using this approach. The Regions, at their discretion, may require additional monitoring procedures. To meet the monitoring requirements when a Subpart D boiler is involved, a utility should apply to the Region for a short-term alternative to operating CEMS consistent with the applicable requirements of 40 CFR Part 60. The EPA Regional Offices may allow using the requested alternative to operating CEMS that meets the general criteria of this memorandum. Every petition for an approval of a temporary alternative to operating CEMS should:

Justify the request.

Present the alternative.

Present the approach to monitoring compliance with the NSPS emission limitations.

Provide a monitoring schedule.

Examples of acceptable temporary alternatives to operating CEMS include instrumental, analytical, and parametric approaches; e.g., fuel sampling and analysis, periodic stack testing using a reference method, control device parametric monitoring, visible emission observation, or a backup monitor. These alternatives must be capable of clearly indicating compliance with applicable regulations.

If the utility-proposed alternative to operating CEMS does not meet the above listed conditions, the request must be denied. The use of any alternative must be short-term, not to exceed eight weeks. The Regions may grant an extension of this term only in extreme fully justifiable circumstances. We also suggest that the Regions take a similar approach to other federally-mandated programs that require SO₂/NO_x CEMSs; e.g., SIPs.

The Regions will approve in writing a successfully completed field test of the acid rain CEMS certification procedure as an equivalent to NSPS CEMS certification if a utility can demonstrate compliance with the NSPS relative accuracy requirements (by using data from Part 75 relative accuracy test, diluent CEMS, and reference method) and the 7-day calibration drift test (may involve a recalculation of the drift results as a percentage of the NSPS span value rather than the Part 75 value).

If you have any questions, please call Zofia Kosim of my staff at 703-308-8733.


cc: John Seitz
Larry Kertcher, ARD


bcc: Richard Biondi
Steven Hoover
Mamie Miller
Linda Lay
Sally Mitoff
Peter Westlin
Anthony Wayne
Daniel Bivins
Zofia Kosim
Richard Copland
Judy Tracy
Ken Harmon
Regional CEMS Coordinators

□

Division of Air Resource Management


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DARM-EM-05

TO: District Air Program Administrators County Air Program Administrators

FROM: Howard L. Rhodes, Director Division of Air Resources Management

DATE: November 22, 1995

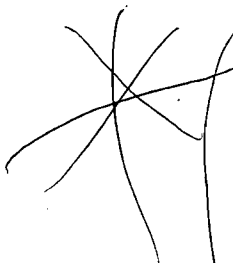
SUBJECT: Guidance on Rate of Operation During Compliance Testing for Combustion Turbines

This memo is to provide guidance on determining the rate of operation during compliance testing for combustion turbines (CTs).

The mass throughput rate of combustion turbines is inversely proportional to temperature and humidity measured at the CT inlet as a result of the changing air densities encountered. Inlet air temperature is the predominant factor; therefore, higher temperatures will result in a lower heat input rate (MMBtu/hr) and vice versa. The temperature is referenced to the CT inlet temperature rather than ambient temperature, as some CTs are equipped with inlet air conditioning systems (e.g., chillers or evaporative coolers) to maintain optimum operating temperature. Inlet air temperature and ambient temperature are equivalent in cases where no conditioning systems are used. Variations of heat input (capacity) are to be expected due to the range of ambient temperatures and humidities encountered in Florida. Over the usual operating ranges, the CT operating curve (capacity vs. inlet air temperature) is essentially a

straight line. An owner or operator of a CT may use these curves in determining the maximum heat input rate for the unit.

The determination of the rate of CT operation during compliance testing is illustrated in the following example. The heat input limit is often referenced to 59 F, and in this example, corresponds to 750 MMBtu/hr (Point A). On the date that compliance testing is conducted, the average ambient (or conditioned) air temperature during the test period is determined to be 80 F. According to the attached curve, the maximum design heat input rate achievable is 700 MMBtu/hr (Point B). The CT has successfully achieved 90 percent of its maximum permitted capacity for this temperature if it is determined to be operating at 630 MMBtu/hr or more (Point C). In this example, the dashed line represents 90 percent of the maximum heat input value achievable over a range of inlet air temperatures. Heat input may vary depending on CT characteristics; therefore, manufacturer's curves for correction to other temperatures shall be provided to the Department, if a source intends to use the curves for compliance purposes. At the request of a permittee, the following condition shall be incorporated into the construction and corresponding operating permits:



"Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 95-100 percent of the manufacturer's rated heat input achievable for the average ambient (or conditioned) air temperature during the test. If it is impracticable to test at capacity, then sources may be tested at less than capacity. In such cases, the entire heat input vs. inlet temperature curve will be adjusted by the increment equal to the difference between the design heat input value and 105 percent of the value reached during the test. Data, curves, and calculations necessary to demonstrate the heat input rate correction at both design and test conditions shall be submitted to the Department with the compliance test report."

To demonstrate compliance with federal new source performance standard Subpart GG - Standards of Performance for Stationary Gas Turbines, an initial test shall be conducted at four load points and corrected to ISO conditions for comparison to the NSPS allowable. Subsequent annual compliance tests conducted to establish compliance with NOx limits that are more stringent than the NSPS standard shall not require an ISO correction or testing at four load points; rather, the testing shall be done at capacity, as defined above. However, when testing shows that NOx emissions exceed the standard when operating at capacity, the company shall recalibrate the NOx emission control system using emission testing at four loads as required in Subpart GG.

HLR/chf/h

Attachment



GE Energy Services

Todd R. Nass, Facility Manager
FPC Tiger Bay

Contractual Services
3219 County Road 630 West
Fort Meade, FL 33841
(941) 285-1200
(941) 285-1206 Fax
Cell 941-512-0204
Todd.Nass@ps.ge.com

November 19, 1998

TO: Mike Kennedy
Florida Power Corporation
MAC BB1A

Re: 7FA Gas Turbine Soft Start Sequence

Mike,

Per your request attached please find a graph showing the start up sequence for the 7FA at Florida Power's Tiger Bay Facility. As we discussed the attached sequence occurs automatically after any gas turbine shutdown of 50 hours or more duration. General Electric has added this revised start up sequence (titled "Soft Start") to the gas turbine controls as a protective measure to minimize potentially damaging thermal stresses in the turbine rotor during a cold startup.

Of note is the long period at which the gas turbine operates below the steady state pre-mix mode (just over 2 hours from initial start up command). At loads below steady state pre-mix the combustion system is not capable of achieving 25 ppmvd NOx levels. Shortening of the cycle to get the turbine into steady state pre-mix sooner would offset the benefit of allowing the slower warm-up of the turbine rotor and may result in pre-mature failure of turbine components.

I trust this information will assist you in revising the Tiger Bay Air permit. If I can provide any further information on this or any other matter please do not hesitate to call me.

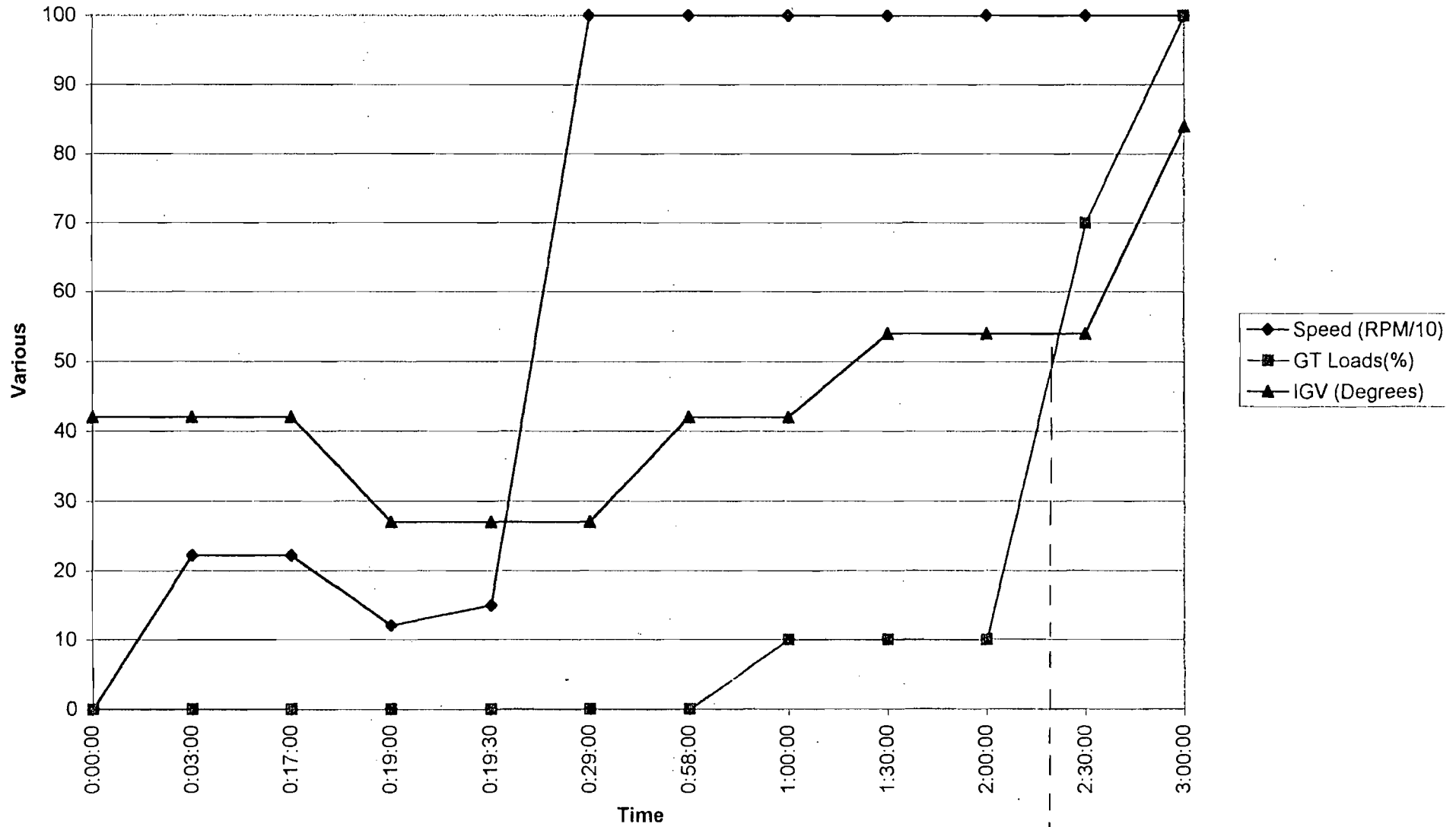
Regards,

Todd Nass

Copy to Letterbook

publi\nassto\letters\TNTB 98-27

7F/FA MSCC W/IBH



Approx Transition
to Pre-mix
Steady State
(Low NOx)



DESTEC ENERGY, INC.
2500 CITYWEST BLVD., SUITE 150
P.O. BOX 4411
HOUSTON, TEXAS 77210-4411
(713) 735-4000

June 13, 1996

Mr. Joseph Kahn
Florida Department of Environmental Protection
Southeast District
1900 South Congress Avenue, Suite A
West Palm Beach, Florida 33406

RECEIVED

JUN 14 1996

DEPT OF ENV PROTECTION
WEST PALM BEACH

Re: Tiger Bay limited Partnership
Facility Id. No.: AIRS-1050223
Title V Air Operating Permit Application

Dear Mr. Kahn:

Enclosed you will find four (4) original hard copies of Tiger Bay Limited Partnership's *Title V Air Operating Permit Application*. The application is hereby submitted prior to the June 15, 1996 submittal deadline date. An electronic copy of the application will be forwarded to you directly by Mr. Ken Kosky of KBN Engineering.

If you should have any questions or require any further information please do not hesitate to contact me at (713) 735-4568 or Mr. Kosky or KBN at (352) 336-5600.

Very truly yours,

Jeanne Benedetti
Senior Environmental Engineer

Enclosures

CC J.D. Sellers
Ken Kosky - KBN Engineering
File 1253

RECEIVED
JUN 18 1996

DEPT OF ENV PROTECTION
SOUTHWEST DISTRICT
BY _____





Letter of Transmittal

Date: 06/14/96

Project No.: 15079-0100

To: David Zell
FDEP
SW District Office
Tampa, Florida

Re: Tiger Bay Cogen Title V
Application

D.E.R.

JUN 17 1996

SOUTHWEST DISTRICT
TAMPA

The following items are being sent to you: with this letter under separate cover

<u>Copies</u>	<u>Description</u>
1	Title V Application

These are transmitted:

- As requested
- For review
- For review and comment
- For approval
- For your information
- For your use

Remarks:

Note: 4 copies of the original application was inadvertently sent to the Southeast District and was received on June 14, 1996. The Southeast District is sending the originals to your office. Attached is a copy for your use until the originals arrive. Please call if you have questions.

Sender: Kennard F. Kosky

Copy to: Wendy Lessig

FORMS/WP61/LOT (06/14/96)

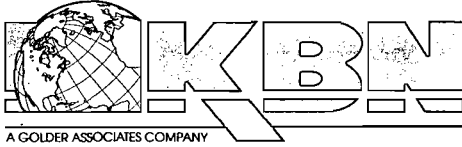
6241 Northwest 23rd Street
Suite 500
Gainesville, Florida 32653-1500
352-336-5600 FAX 352-336-6603

5405 West Cypress Street
Suite 215
Tampa, Florida 33607
813-287-1717 FAX 813-287-1716

1801 Clint Moore Road
Suite 105
Boca Raton, Florida 33487
407-994-9910 FAX 407-994-9393

7785 Baymeadows Way
Suite 105
Jacksonville, Florida 32256
904-739-5600 FAX 904-739-7777

1616 P Street NW
Suite 350
Washington, DC 20036
202-462-1100 FAX 202-462-2270



Letter of Transmittal

Date: 06/26/96

Project No.: 15079-0100

To: David Zell
Florida Dept. of Environmental Prot.
SW District Office
3804 Coconut Palm Drive
Tampa, Florida 33619-8319



Re: Tiger Bay Limited Partnership
Title V: Tiger Bay Limited Partnership

The following items are being sent to you: [x] with this letter [] under separate cover

Table with 2 columns: Copies, Description. Row 1: 1, Page 1 of Form hardcopy for verification. Row 2: 4, Air Operating Permit Application (Electronic Submittal ELSA 1.3b)

These are transmitted:

- As requested, For approval, For review, For your information, For review and comment, For Electronic Submittal

Remarks: This is an electronic submittal of the permit application represented by page 1 of the form (attached). As indicated by the bulletin accompanying the previously submitted hard copy, original signature pages are not enclosed. They were provided with the hardcopy submittal. These disks were created using the submittal program included in ELSA 1.3b. If you have any questions, please contact Teresa Franklin or Jane Burnette.

Sender: Teresa Franklin for Ken Kosky

cc: Jeanne Benedetti, File(2)

15079Y/F1/NP/6.LOT (06/26/96)

Department of Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name: Tiger Bay Limited Partnership	
2. Site Name: Tiger Bay Limited Partnership	
3. Facility Identification Number: AIRS-1050223 [] Unknown	
4. Facility Location Information: Street Address or Other Locator: 3219 State Road 630 East City: Ft. Meade County: Polk Zip Code: 33841	
5. Relocatable Facility? [] Yes [X] No	6. Existing Permitted Facility? [X] Yes [] No

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Permit Number:	
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	



Bulletin

Due to FDEP's recall of ELSA Version 1.3 dated prior to June 7, 1996, this permit application will be submitted as hard copy and electronically.

To proceed efficiently and meet the June 15, 1996 deadline, this permit application is being submitted as follows:

- * Four hard copies of the complete application submittal (i.e., form and attachments) for FDEP are enclosed.
- * After June 15th, KBN will submit four copies of the application to FDEP electronically, using the approved ELSA Version 1.3. (Signature pages and hard-copy attachments will not be resubmitted.)

In addition, KBN Engineering and Applied Sciences, Inc. has received prior FDEP verification from Patricia Comer, June 7, 1996, that FDEP receipt of the permit application by 5:00 pm, Monday, June 17, 1996 will meet the rule deadline of June 15, 1996.

From: <J-Michael.Kennedy@fpc.com>
To: HGSSMAIL.HGSS(RobertM)
Date: 6/21/99 2:10PM
Subject: Changed language to Tiger Bay Proposed Permit

Robert,

Attached is the changed language in the Tiger Bay permit reflecting the change in the acid rain affected unit. I think you have all the other correspondence. Let me know if you need anything else to withdraw the request for extension of time. Thanks.

Mike

Forward Header

Subject: Changed language to Tiger Bay Proposed Permit
Author: Jonathan.Holtom (Jonathan.Holtom@dep.state.fl.us) at internet
Date: 6/21/99 2:11 PM

Mike,
As requested. Let me know if you need anything else.
Jonathan.

FROM:

Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of a single combustion turbine (CT) that exhausts through a heat recovery steam generator (HRSG). The facility is permitted to combust natural gas as the primary fuel and distillate fuel oil as back-up fuel. However, the fuel oil capability has yet to be installed. The facility also operates a zero liquid discharge (ZLD) system which provides treatment of process wastewater and exhausts through a baghouse for the control of particulate matter. The total combined capacity of the facility is 269.5 megawatts. A nominal 184 megawatts are provided by the combustion turbine. In addition a nominal 85.5 megawatts are provided by a steam generator. This facility is regulated under Acid Rain Phase II.

TO:

Section I. Facility Information.

Subsection A. Facility Description.

This facility consists of a single combustion turbine (CT) that exhausts through a heat recovery steam generator (HRSG). The facility is permitted to combust natural gas as the primary fuel and distillate fuel oil as back-up fuel. However, the fuel oil capability has yet to be installed. The facility also operates a zero liquid discharge (ZLD) system which provides treatment of process wastewater and exhausts through a baghouse for the control of particulate matter. The total combined capacity of the facility is 269.5 megawatts. A nominal 184 megawatts are provided by the combustion turbine. In addition a nominal 85.5 megawatts are provided by a steam generator. Emissions unit -001 is regulated under Acid Rain Phase II.

INTEROFFICE MEMORANDUM

Date: 07-Jun-1999 05:05pm
From: J-Michael.Kennedy
J-Michael.Kennedy@fpc.com
Dept:
Tel No:

To: HOLTOM_J (HOLTOM_J@A1)

Subject: Manning Comments

Jonathan,

Robert had a few comments. See what you think.

Regarding the response letter to the FPC comments, Comment #13:

Did you also disagree with the second part of the comment regarding the inclusion of the excess emissions provisions of Part 60 (60.8(c), 60.11(c), and 60.43c(d))? Should these provisions be included in the excess emissions portion of the permit?

The version of the proposed permit determination e-mailed to you did not contain the latest version of our response to comment 13. I have corrected the PPD and verified the appropriate changes in the permit.

Comment #18: No problem applying 60.335(a) to oil, but is it your position that it also applies to gas (no FBN in gas)?

No change was made because this condition applies to all fuels.

Regarding the draft permit:

Robert says that the unit is not referred to as an acid rain unit in the permit. I need to look to confirm, but it did become an acid rain unit when FPC purchased it in 1997.

Refer to Subsection A. Facility Description, 1st paragraph, last sentence.

Condition A.35: As written, the custom fuel monitoring schedule would begin anew when this permit becomes effective. Can we state that the schedule was effective on(whatever the date was)?

*Added the following citation following specific condition A.35.:
[Approved and effective December 6, 1994.]*

Condition A.45: typo in first line - change t2 to "to".

Correction made.

Condition A.55: Should we remove the reference to the construction/PSD permit, since this provision was removed from that permit?

Reference was removed. This is still an NSPS requirement that applies if testing is not performed at 95-100% of capacity.

Condition A.58(a)2: Remove "either" from first line.

Correction made.

Condition A.60: Per permitting note in Condition A.4, the heat input capacity is not a limit. Should we reword this or delete?

This condition should stay as a means of requiring a compliance demonstration during testing.

Condition B.5: Not a big deal, but Robert thinks it would be cleanest if this condition referred the reader to Condition B.10 (to clarify what the applicable compliance methods are).

Cross-reference added.

That's finally it. I'll be out tomorrow, but back in Wed. afternoon. Thanks for working with us on this, and I'll talk to you later.

Mike

INTEROFFICE MEMORANDUM

Date: 04-Jun-1999 10:27am
From: J-Michael.Kennedy
J-Michael.Kennedy@fpc.com
Dept:
Tel No:

To: HOLTOM_J (HOLTOM_J@A1)

Subject: Tiger Bay

Jonathan,

I finally have obtained comments on the Tiger Bay Title V permit from all but one person (Robert Manning, who will get with me first thing Monday). Hopefully the following thoughts and comments will cover any that Robert will have. Some of my comments are actually questions I am asking for clarification. They are as follows (by specific condition):

1) Facility Information: The permittee address is incorrect; it must be from the permit upon which this one was built. Our address is:

P.O. Box 14042
MAC BB1A
St. Petersburg, FL 33733

2) Condition A.4: For the permitting note, I would like to request the standard language that usually comes with heat input curves associated with combustion turbine units. For such sources, the rated capacity is ambient (or inlet) temperature-dependent as described by the heat input vs. temp. curve. Also, although I actually prefer the 90-100% of capacity criterion, the guidance used thus far for CTs employs a 95-100% criterion (as specified later in the permit by Condition A.54). (I have heard that the upcoming rule on this may revert back to 90-100%, even for CTs, because the 95% threshold can be hard to meet, especially for older units.) Let me know if I'm off-base here, since the language is just clarifying the meaning of the heat input limits. I just thought it might be cleaner to match it up with other parts of the permit.

3) Condition A.11: This is really more of a question. We currently use NOx CEMs for measuring excess emissions while operating on natural gas. If we fire oil in the future, can we also use the CEMs to measure NOx directly rather than the increasingly antiquated water/fuel ratio measurement? This would also apply to Condition A.31, which then begs the question of the averaging time. As I understand it, EPA likes 3 hours for purposes of periodic monitoring. Should we make compliance based on CEMs using a 3-hr. average? Longer?

4) Condition A.35 2.a: We have been relying on vendor analysis for sulfur content of the gas. Is this understood, or should we add specific language to that effect? I note that A.43 states the owner or operator shall determine compliance, and A.44 specifies that vendor



changed 90-100
to 95-100

See Second
P.N. @ A.A.

when & if. >
Admin corrects

add P.N.
about Part 75
CEMS
A.37 covers
already

Nothing on A.11

add Note

oh as is

J
P.M.
ok to
X.S. Davis

data may be used. Can we make all three conditions allow the use of vendor analysis?

5) Condition A.40: The whole VE compliance testing issue confuses me a bit. Is a VE only required if we exceed 400 hours of operation on oil in a given year? I was thinking that you folks were moving away from VE testing on natural gas.

6) Condition A.42: Since our emissions are so low on natural gas, our span value is 100 ppm. In addition, as I understand it, the four-load test only applies to the initial compliance test for Subpart GG. At our other CTs, that has been the case, and the annual test is conducted at full load only.

7) Condition A.48: Same question as in Comment #5 on performing a VE for natural gas firing.

8) Conditions A.55 and A.56: I think our comments on this may have caused some confusion. As I understand it, the ISO correction is used for calculating emissions with respect to the NSPS limit (as stated in the permit), and only during the initial NSPS-related compliance test. After that, we revert to the annual test required by the construction permit with respect to the limits set by BACT and without the ISO correction. The performance of the ISO correction has nothing to do with whether testing is performed at 95-100% of capacity. The 95-100% criterion determines whether capacity was reached during the compliance test, but it is not a trigger for use of the ISO correction, again as I understand how these things have been done to date.

9) Appendix I-1, Insignificant Units: Number 34 shows NOx emissions at 2 TPH. It should be 2 TPY.

Thanks for your patience with us on this, Jonathan. I just want to make sure we have a good permit we all understand and agree upon before it goes up to EPA. I'll get any comments Robert may have Monday morning. I'll be out the afternoon of Friday the 4th, but I'll be in Monday.

Talk to you later.

Mike Kennedy
(727) 826-4334

No, tied to PM test
Add exemption
Credited 100%
61

or if cannot change

Covered by P.N.'s
if 90-10 do ISO
if 95-10, no
always for NSPS
} wrong by guidelines

✓

INTEROFFICE MEMORANDUM

Date: 07-Jun-1999 05:05pm
From: J-Michael.Kennedy
J-Michael.Kennedy@fpc.com
Dept:
Tel No:

To: HOLTOM_J (HOLTOM_J@A1)
Subject: Manning Comments

Jonathan,

Robert had a few comments. See what you think.

Regarding the response letter to the FPC comments, Comment #13:

Did you also disagree with the second part of the comment regarding the inclusion of the excess emissions provisions of Part 60 (60.8(c), 60.11(c), and 60.43c(d))? Should these provisions be included in the excess emissions portion of the permit?

The version of the proposed permit determination e-mailed to you did not contain the latest version of our response to comment 13. I have corrected the PPD and verified the appropriate changes in the permit.

Comment #18: No problem applying 60.335(a) to oil, but is it your position that it also applies to gas (no FBN in gas)?

No change was made because this condition applies to all fuels.

Regarding the draft permit:

Robert says that the unit is not referred to as an acid rain unit in the permit. I need to look to confirm, but it did become an acid rain unit when FPC purchased it in 1997.

Refer to Subsection A. Facility Description, 1st paragraph, last sentence.

Condition A.35: As written, the custom fuel monitoring schedule would begin anew when this permit becomes effective. Can we state that the schedule was effective on(whatever the date was)?

***Added the following citation following specific condition A.35.:
[Approved and effective December 6, 1994.]***

Condition A.45: typo in first line - change t2 to "to".

Correction made.

Condition A.55: Should we remove the reference to the construction/PSD permit, since this provision was removed from that

permit?

Reference was removed. This is still an NSPS requirement that applies if testing is not performed at 95-100% of capacity.

Condition A.58(a)2: Remove "either" from first line.

Correction made.

Condition A.60: Per permitting note in Condition A.4, the heat input capacity is not a limit. Should we reword this or delete?

This condition should stay as a means of requiring a compliance demonstration during testing.

Condition B.5: Not a big deal, but Robert thinks it would be cleanest if this condition referred the reader to Condition B.10 (to clarify what the applicable compliance methods are).

Cross-reference added.

That's finally it. I'll be out tomorrow, but back in Wed. afternoon. Thanks for working with us on this, and I'll talk to you later.

Mike

INTEROFFICE MEMORANDUM

Date: 04-Jun-1999 10:27am
From: J-Michael.Kennedy
J-Michael.Kennedy@fpc.com
Dept:
Tel No:

To: HOLTOM_J (HOLTOM_J@A1)

Subject: Tiger Bay

Jonathan,

I finally have obtained comments on the Tiger Bay Title V permit from all but one person (Robert Manning, who will get with me first thing Monday). Hopefully the following thoughts and comments will cover any that Robert will have. Some of my comments are actually questions I am asking for clarification. They are as follows (by specific condition):

1) Facility Information: The permittee address is incorrect; it must be from the permit upon which this one was built. Our address is:

P.O. Box 14042
MAC BB1A
St. Petersburg, FL 33733

Correction Made

2) Condition A.4: For the permitting note, I would like to request the standard language that usually comes with heat input curves associated with combustion turbine units. For such sources, the rated capacity is ambient (or inlet) temperature-dependent as described by the heat input vs. temp. curve. Also, although I actually prefer the 90-100% of capacity criterion, the guidance used thus far for CTs employs a 95-100% criterion (as specified later in the permit by Condition A.54). (I have heard that the upcoming rule on this may revert back to 90-100%, even for CTs, because the 95% threshold can be hard to meet, especially for older units.) Let me know if I'm off-base here, since the language is just clarifying the meaning of the heat input limits. I just thought it might be cleaner to match it up with other parts of the permit.

Changed permitting note after A.4. to read 95-100%. Curves covered by second permitting note following A.4.

3) Condition A.11: This is really more of a question. We currently use NOx CEMs for measuring excess emissions while operating on natural gas. If we fire oil in the future, can we also use the CEMs to measure NOx directly rather than the increasingly antiquated water/fuel ratio measurement? This would also apply to Condition A.31, which then begs the question of the averaging time. As I understand it, EPA likes 3 hours for purposes of periodic monitoring.

Should we make compliance based on CEMs using a 3-hr. average?
Longer?

No change made at A.11. Permitting Note added after A.31. and A.38.

4) Condition A.35 2.a: We have been relying on vendor analysis for sulfur content of the gas. Is this understood, or should we add specific language to that effect? I note that A.43 states the owner or operator shall determine compliance, and A.44 specifies that vendor data may be used. Can we make all three conditions allow the use of vendor analysis?

Permitting Note added after A.35. 2.a. and A.43. A.44. ok as-is.

5) Condition A.40: The whole VE compliance testing issue confuses me a bit. Is a VE only required if we exceed 400 hours of operation on oil in a given year? I was thinking that you folks were moving away from VE testing on natural gas.

No change to VE requirements due to link to PM testing waiver.

6) Condition A.42: Since our emissions are so low on natural gas, our span value is 100 ppm. In addition, as I understand it, the four-load test only applies to the initial compliance test for Subpart GG. At our other CTs, that has been the case, and the annual test is conducted at full load only.

Changed 300 ppm span value to 100 ppm.

7) Condition A.48: Same question as in Comment #5 on performing a VE for natural gas firing.

See comment 5.

8) Conditions A.55 and A.56: I think our comments on this may have caused some confusion. As I understand it, the ISO correction is used for calculating emissions with respect to the NSPS limit (as stated in the permit), and only during the initial NSPS-related compliance test. After that, we revert to the annual test required by the construction permit with respect to the limits set by BACT and without the ISO correction. The performance of the ISO correction has nothing to do with whether testing is performed at 95-100% of capacity. The 95-100% criterion determines whether capacity was reached during the compliance test, but it is not a trigger for use of the ISO correction, again as I understand how these things have been done to date.

A.55. and 56. are covered by existing permitting notes.

9) Appendix I-1, Insignificant Units: Number 34 shows NOx emissions at 2 TPH. It should be 2 TPY.

Requested change was made.

Thanks for your patience with us on this, Jonathan. I just want to make sure we have a good permit we all understand and agree upon before it goes up to EPA. I'll get any comments Robert may have Monday morning. I'll be out the afternoon of Friday the 4th, but I'll be in Monday.

Talk to you later.

Mike Kennedy
(727) 826-4334

**Florida Power Corporation
Tiger Bay Facility
Auxiliary Boiler Information**

The Tiger Bay auxiliary boiler is a small (65 bhp), natural gas-fired steam boiler. Please refer to the attached data sheet for additional information.

Maximum potential annual NOx emissions

Maximum heat input: 2.8 mmBtu/hr

Natural gas heat content: 1050 Btu/cf

NOx emission factor: 170 lb/mmscf (maximum gas-fired boiler emission factor from AP-42)

$$2,800,000 \text{ Btu/hr} * 1/1050 \text{ Btu/cf} * 170 \text{ lb/mmscf} * 10^6 * 8760 \text{ hr/yr} = 3,971 \text{ lb} \\ = 1.98 \text{ tons}$$

The maximum potential NOx emissions are therefore approximately 2 tons/year, so the auxiliary boiler qualifies as an insignificant source under Title V.

Unit Nameplate:

Va Power Watertube Steam Boiler
 Vapor Canada Ltd.
 3955 Courtrai Ave.
 Montreal 249
 Quebec

Spec No.: 78502 087
 Model No.: HS2 4617 VHL

Main Burner: Natural gas
 Pilot Burner: Natural gas

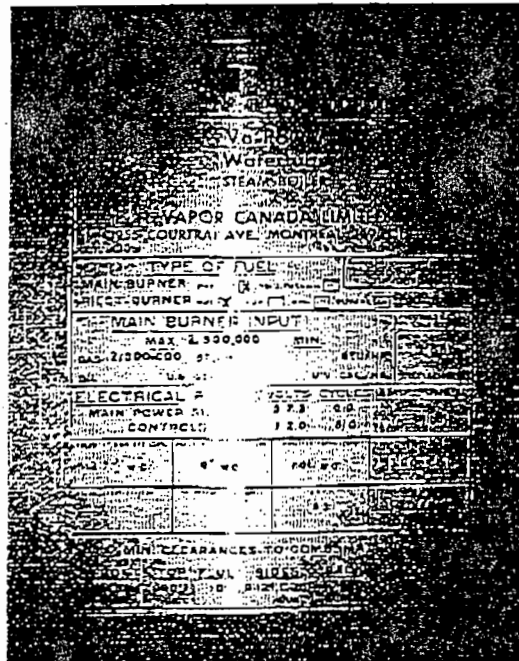
Main Burner Input: Max 2,800,000 btu/hr
 Pilot Burner Input: 40,000 btu/hr

Main Power Supply: 575V, 60 Hz, 5A, 3 ph.
 Controls: 120V, 60 Hz, 10A, 1ph.

Max. WP. 300 psi
 Bhp 65
 Heating Surface: 107 sq.ft.

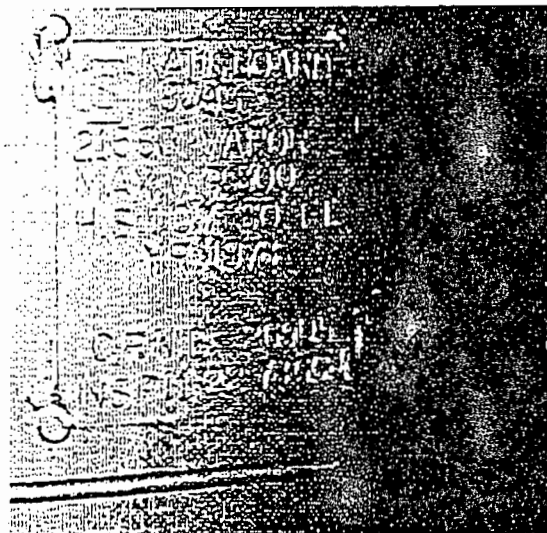
Min. clearance to combustible materials

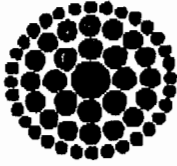
Front: 48"
 Top: 48"
 Flue: 18"
 Sides: R - 12", L - 36"



National Board Certification:

S stamp
 NAT'L BOARD 8493
 21583 VAPOR
 MAX W.P. 300
 H.S. 107 SQ.FT.
 YR 1978
 C.R.N.B. 2690.5
 INSP.11-22-78 G.C.J.





Florida Power Corporation

Date: 4/22/99

To: Ross Pollack

FAX #: (850) 922-6979

Phone #: ()

From: Mike Kennedy

FAX #: (727) 826-4216

Phone #: (727) 826-4334

2 Total number of pages including cover page.

Please notify _____ at (727) 826 - _____ for any problems concerning the receipt of this FAX.

Comments:



APR 22 1999

April 22, 1999

Mr. Clair Fancy, P.E.
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

Re: Tiger Bay Duct Burner

Florida Power Corporation's (FPC) Tiger Bay facility was originally permitted to install and operate a natural gas-fired duct burner downstream of the combustion turbine. The facility's original owner, Destec Corporation, installed and operated the duct burner for only a few days. The burner was subsequently removed and permanently abandoned. Although the duct burner was abandoned, Destec included it in the Title V permit application for the Tiger Bay facility.

FPC purchased the facility from Destec in 1997, and obtained a site certification for Tiger Bay in early 1998. FPC excluded the duct burner from the site certification, because FPC does not intend to install or operate it.

With this letter, FPC requests DEP to exclude the duct burner from the Tiger Bay Title V permit. This will make the Title V permit consistent with the site certification.

Please contact Mike Kennedy at (727) 826-4334 if you have any questions.

Sincerely,



W. Jeffrey Pardue, C.E.P.
Director
Title V Responsible Official



RECEIVED

APR 21 1999

BUREAU OF
AIR REGULATION

April 20, 1999

Mr. Jonathan Holtom
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Rd.
Tallahassee, Florida 32399-2400

Dear Mr. Holtom:

Re: Tiger Bay Title V Information

As we discussed, I have enclosed the additional information requested for the processing of the Tiger Bay Title V permit. Included are the startup/shutdown procedure, the custom fuel monitoring schedule documentation, and information regarding emissions from the auxiliary steam boiler.

Please contact me at (727) 826-4334 if you have any questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "J. Michael Kennedy", is written in a cursive style.

J. Michael Kennedy, Q.E.P.
Manager, Air Programs

**PLANT STARTUP/SHUTDOWN PROCEDURE
TIGER BAY COGEN**

**(COLD) soft start
PRE-START CHECKLIST**

1. Run a scan and alarm check status VIA the DCS / check active clearance log for tags.

2. A. Put cooling water systems in service, 1 (one) aux. pump and 2 (two) main cooling water pumps. Insure all are in auto and standby status.
 - B. Put all cooling tower fans in auto (MF-001A,B,C & D).
 - C. Insure instrument air compressor is in service.
 - D. BFW pumps aux. lube oil pumps are in service (MP-001A & B).
 - E. Both hotwell pumps are in service.
 - F. LIC-03900 in manual & closed (polished water valve).
 - G. Align condensate return system and put 1 (one) return pump in service.
 - H. Insure 1 (one) service water pump is in service (MP-007A & B).
 - I. Insure GTG Fire Protection system is in service.
 - J. Verify electrical system lineup SOP section 7.
 - K. Verify raw water system lined up SOP section 10 & 12.
 - 3401 L. "A" of is ok, refer to section 10.
 - 3204 M. ("C" Inst. Air) section 12.
 - 3402 N. Service water section 12.
 - O. Verify fire system lineup, section 14.
 - 3303 P. Verify condensate system lineup SOP section 9.
 - &
 - 3304

- 3105 Q. Verify BFW system lineup SOP section 9.
R. Verify chemical feed lineup SOP section 8.
S. Verify recycle sump and waste water system lined up SOP section 12.
- 3100 3. Adjust HP drum level to -18 inches.
- 3101 4. Adjust LP drum level to -14 inches.
- 3303 5. Adjust HOTWELL level to 75%.
6. Align boiler feedwater valving. Verify lineup.
7. Align boiler steam valving. Verify HRSG lineup SOP section 4.

HP STEAM DISTRIBUTION

- 3300 8. A. Hp vent PIC-03301 in manual at 100% open with set point of 1450.
B. MV-03309 open (HP block valve to condenser).
C. MV-03349 open (warm up valve for MV-03309).
D. PIC-03306 in manual closed with set point of 1470 psig (HP dump to condenser).
E. TIC-03352 in auto with set point of 390°F (HP & STG admission steam).
F. Trip to vent selected.
- 3301 9. A. LP vent PIC-03401 in manual at 100% open with set point at 228.
B. MV-03409 open (LP block valve to condenser).
C. MV-03449 open (warm up valve for MV-03409).
D. PIC-03406 in manual closed with set point of 218 psig (LP dump to condenser).

- E. TIC-03452 in auto with set point of 300°F (LP & STG admission steam).
 - F. Trip to vent selected.
 - G. SC-03609 closed (Hogger valve).
- 3100 10. A. MV-01162 in auto (attemperator block valve).
- B. TIC-01161 in auto with set point of 1001°F (HP attemp. to throttle steam).
 - C. LC-01025A in manual with level at -18.

LP BOILER

- 3101 11. A. LC-01035A or B in manual with level at -14.

STEAM SALES

- 3103 12. A. PIC-01440 in manual & closed with set point of 40 psig (sales pressure control).
- B. FIC-01435 in manual & closed (sales to host, USAC).
 - C. TIC-01430 in auto with set point of 317°F (sales attemp. to USAC).
- 3208 D. MV-01429 open (down stream to USAC).

GTG PRE-START

13. A. Verify GTG on turning gear 24 hours.
- B. Verify GTG H₂ in service for minimum of 3 hours.
 - C. Verify fuel gas properly aligned section 11.
 - D. All red tags cleared.

STG PRESTART

14. A. STG auxiliaries in service (lube oil, hydraulic pumps, vapor extractor & demister).
- B. STG on turning gear for 24 hours & MOV drains open in auto.
 - C. The steam exhaust drain (MOV) & steam seal header drain (MOV) in manual and open.

D. All red tags are cleared.

JUST BEFORE START-UP

15. A. Verify switchyard lineup.
- B. Close ATB-003 and insure that the GTG synch switch is in auto.
- C. Reset all alarms on the IOS & EX2000 systems. (NOTE) 2 (two) depresses are required to reset either of these systems.
- D. Inspect the trip devices in the BAC, notify operations supervisor if these devices are tripped. (41AC# & 41AC#2)
- E. Verify there are no tripped protective relays on GTG (PEECC).
- F. Verify there are no tripped protective relays on STG (DPU ROOM).
- G. Verify there are no tripped protective relays on PRP-003 (synch panel in control room).

DURING START-UP

1. With soft start selected the following start conditions will be in place:
 - A. Instead of immediate opening, the IGVs will open slowly at FSNL. Approx. ½ hour to open.
 - B. Upon synchronization to grid unit will remain at min load (10 mw) for 1 hour before load can be raised.
 - C. The load ramp rate after the warmup is limited to 1 mw/min.
2. Our current Air Permit requires that pre-mix mode be reached in 2 hours.
 - A. Review the NOx logs after 90 minutes and determine whether an exceedance may occur.
 - B. Notify the Environmental Services Department (ESD) of potential exceedance.
 - C. If exceedance occurs, provide ESD a full report ASAP.

(COLD)
PLANT STARTUP

1. Reset the diagnostic alarms via the Mark V (pg.3).
2. Reset the Mark V alarm display.
3. Initiate a GTG master reset via the Mark V. Check the start check logic display and verify a ready to start. If not ready to start see start check logic alarms on attachment I.
4. Initiate a GTG start (on the GTG main display/master select put unit in auto then select start/execute command. If sync hold required place sync switch in manual.
 - A. Insure bridge blower is on in PEECC (outside operator).
 - B. The unit will start a purge cycle which will take approximately 16 minutes, at 800 rpms. After the purge cycle the unit will back down to about 500 rpms, then unit will fire, then go to full speed no load (for 30 minutes then unit will go to 10MW's for 1 hour) (soft start auto after 50 hours).
5. When water is needed, start 1 (one) BFW pump (MP-002A/B) and put them both in auto. (Insure that LC01025 & LC1035 are in manual and closed or BFW pump will shut down on low discharge pressure). Control these valves in manual until the drums are lined out. Have outside operator start chemical pumps and verify correct pump rates.
- 3203 6. When 25# has been reached on the HP & LP drums, close the superheater drains (drains can be closed as soon as there is no water coming out).
8. Put fuel gas heater in service by putting LIC02981 in auto with a set point at 19" and putting TIC02980 in auto with set point of 130°F.
9. At this time keep a close eye on drum levels if the HP drum level is getting close to a positive 9 or 10 you need to open your HP cascading blowdown to about 100% to the LP drum in order to bring level down. If LP reaches a positive 6 or 7 open LP blowdown (opening the HP blowdown may help

increase the temperature and pressure on LP in order to start steam seals, gland exhauster and Hogger for pulling a vacuum sooner).

10. When the LP drum pressure and temperature reaches 100psig & 300°F put your steam sales (3 to 4 psig), gland exhauster (6 to 8"), main steam to Hogger and Hogger ejector (knife valve).
- 3301 10. When the knife valve is open put the air evacuation and Hogger in service by opening SV03609 on LP steam dist.
11. Once vacuum is obtained on the condenser, close the knife valve, shut the Hogger off by closing SV03609 from DCS. At this time you can start dumping steam to the condenser via PIC03306 & PIC03406, open valves slowly. Once these systems are stable put in auto.

STG START-UP

1. Initiate a reset of the STG static voltage regulator (in DPU room).
- 3300 2. Initiate a STG reset via the Mark V.
 - A. Enable STG trip .
 - B. Select Trip to bypass.
3. On STG Mark V control screen enter the following:
 - A. Load control set point 18% (after transfer, increase to desired set point).
 - B. Load ramp set point 10%.
 - C. Select IPC out.
 - D. IPC set point at 1450psi.
 - E. Admission control set point 190psi.
 - F. Flow control set point at 20%.
4. On STG Mark V startup screen enter the following:
 - A. Select 3600 rpm.
 - B. Select ramp rate (slow-med-fast).
 - C. Select manual or auto.
 - D. If manual is selected and you don't want any holds on select holds off. If in auto with hold on you are waiting for even temperature throughout turbine, or lube oil temp to reach 110°F.
 - E. In auto select begin start.

SYNCH

1. Bring STG to full speed/no load (monitor STG exhaust hood temp. Adjust as needed use bypass as necessary: 135° alarm).
2. Put synch switch in auto in DPU room. After LB002 is closed put synch switch back in off position. Make sure STG has transferred from full to partial arc, then increase load on GTG to 40 MWs and increase load on STG to 20 MWs as soon as possible.

LOADING

1. Before loading make sure set points are set as in step 3 on previous page.
2. When all systems are lined out, start increasing load on GTG by 10 MWs at a time until 80 MWs has been reached, then go to 110 MWs so transfer from Piloted Premix mode to PREMIX STEADY STATE has been achieved, then continue at 10 MWs until Base load has been achieved.
3. Start increasing flow set point by 10% until set point reaches 128% (can be done as you increase the GTG to Base load).
4. Increase the set point on your HP & LP vents to 1490 on HP and 225 on LP.
5. After both GTG & STG are line out raising set points on HP & LP boiler to 0.0 slowly.
6. After units are at Base load, put inlet bleed heat in service via the Mark V.
7. All systems should be running normally at this time. Have outside operator do final walk around and make sure everything outside is normal.

STG TRIP

1. Check alarms, if reset is possible ensure vacuum is maintained on condenser.
2. Stabilize both HP & LP vents to atmosphere by diverting steam to condenser.
3. Insure BFW pump is running, if not restart it by:
 - A. Placing PIC-03306 & PIC-3406 HP & LP level control valves in manual and close them.
 - B. Insure Hotwell pumps are running.
 - C. Insure Hotwell level is adequate.
 - D. Start BFW pump.
 - E. Reduce HP & LP level set points to -10 and put them in auto.
4. Put LIC-03306 and LIC-03406 HP & LP level control valves stabilized by placing them in manual and opening them to 25%.
- 3501 5. If necessary stabilize Hotwell level by diverting water to polished water tank using LIC-3900 on polished water screen.
6. Reduce load on GTG (lower load to 100MWs).
7. Reset STG, if you intend to reload unit following the STG start up procedure.

PLANT SHUTDOWN

1. Notify FPC & USAC that plant will be shutting down.
2. Stop steam sales to USAC by putting:
 - A. FIC-01435 in manual and closed.
 - B. PIC-01440 in manual and closed.
 - C. MV-01429 in manual and closed.
3. Initiate a controlled shutdown on GTG via the Mark V and monitor the turbine as it sheds load. * Insure air compressor starts in auto, if instrument and service air falls below 100psi start it automatically and notify maintenance.
4. Via the STG Mark V unit control select Auto Mode on the STG turning gear interface, enable IPC out, and enter a load set point of 10% and flow set point of 20%.
5. Enable GEN MW CONTROL with a set point of (2) on the STG control screen.
6. Monitor HP & LP drum levels and keep them close to normal during cool down until drums are depressurized.
7. Stop condensate return from USAC.
8. When the STG reaches (2) MWs trip the unit by pressing the E-stop. Verify that LB-002 opens on the PRP-003 in the control room.
9. Remove HP & LP cascading blowdown from service.
10. Verify the GTG goes on turning gear after coastdown.
11. At 300 rpm's on the STG break vacuum by securing steam to Hogger and opening the knife valve. Once you reach atmospheric pressure you can remove steams seals and gland exhausters.
12. Verify that the STG goes on turning gear after coastdown.
- 3303 13. Close SV-0537 (hood spray bypass) it will open automatically upon trip but requires an operator action to close.

14. STG L/O should be adjusted to maintain 90°.
15. Shut one (1) main cooling water pump off.



Department of Environmental Protection

Lawton Chiles
Governor

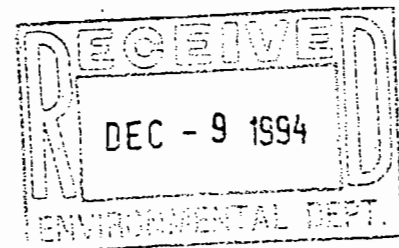
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

December 2, 1994

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Robert S. Chatham
Senior Environmental Engineer
Destec Energy, Inc.
Post Office Box 4411
Houston, Texas 77210-4411



RE: Amendment to Construction Permit
NSPS Custom Fuel Monitoring Schedule
Tiger Bay Limited Partnership
Tiger Bay Cogeneration Facility
AC 53-214903 [PSD-FL-190(A)]

Dear Mr. Chatham:

The Department has reviewed your August 3, 1994 request, with supporting data and additional data submitted on September 9 and 22, 1994, for an NSPS Custom Fuel Monitoring Schedule. The schedule would only apply to a monitoring schedule for sulfur dioxide (SO₂) and nitrogen oxide (NO_x) when natural gas is being fired at the subject facility (refer to Attachment No. 1). The facility is required by the permit to comply with Subpart GG of the New Source Performance Standards (NSPS), 40 CFR 60. For sources utilizing pipeline quality natural gas, 40 CFR 60.334(b) and 40 CFR 60.334(b)(2) state that a custom fuel monitoring schedule, if supported by data which demonstrates compliance with NSPS emission limits, may be approved by the Administrator of EPA. This authority has been delegated to EPA's regional offices and a copy of the subject request was jointly submitted to EPA Region IV for a determination. The Department received a letter from EPA on October 12, 1994, stating that a custom fuel monitoring schedule for this facility was acceptable, if it complied with all items of the attachment to the custom fuel monitoring guidance memo issued by EPA Headquarters on August 14, 1987 (Refer to Attachment No. 2). The results from a minimum of three sampling events for six consecutive months were provided by the permittee, which demonstrated consistent compliance with the allowable sulfur dioxide emissions limits specified under 40 CFR 60.333 and this permit. Therefore, upon issuance of the amended permit, the permittee shall begin monitoring the sulfur content of natural gas as specified in 2.b. of the Custom Fuel Monitoring Schedule for Natural Gas. In accordance with the EPA determination, the permit Specific Conditions will be amended as follows:

"Protect, Conserve and Manage Florida's Environment and Natural Resources"

Printed on recycled paper.

1258.2.1.1.2.1.2.

I. Specific Condition Number:

18. From

Sulfur and nitrogen content and lower heating value of the fuel being fired in the combustion turbines shall be determined as specified in 40 CFR 60.334(b). Any request for a future custom monitoring schedule shall be made in writing and directed to the Southwest District office. Any custom schedule approved by DEP pursuant to 40 CFR 60.334(b) will be recognized as enforceable provisions of the permit, provided that the holder of this permit demonstrates that the provisions of the schedule will be adequate to assure continuous compliance. The records of distillate fuel oil usage shall be kept by the company for a two-year period for regulatory agency inspection purposes. For sulfur dioxide, periods of excess emissions shall be reported if the fuel being fired in the gas turbine exceeds 0.05 percent sulfur by weight.

To

This source shall be in compliance with all requirements of 40 CFR 60, Subpart GG (Standards of Performance for Stationary Gas Turbines), 40 CFR 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units), and Rule 62-296.800(2)(a), F.A.C. (Standards of Performance for New Stationary Sources (NSPS)).

A. Natural Gas

Pursuant to 40 CFR 60.334(b)(2), a custom fuel monitoring schedule shall be followed for the natural gas fired at this facility and shall be as follows:

Custom Fuel Monitoring Schedule for Natural Gas (NG)

1. Monitoring of fuel nitrogen content shall not be required when NG is the only fuel being fired in the turbines.
2. Sulfur Monitoring
 - a. Analysis for fuel sulfur content of the NG fired at this facility shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The reference methods are ASTM D1072-80, ASTM D3031-81, ASTM D3246-81, and ASTM D4084-82, as referenced in 40 CFR 60.335(b)(2).

- b. This custom fuel monitoring schedule shall become effective on the date this permit is amended. Effective the date of this custom schedule, sulfur monitoring of NG fired at the facility shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.
 - c. If, after the monitoring required in item 2(b) above, or herein, the sulfur content of the NG fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333 and in this permit, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.
 - d. Should any sulfur analysis, as required in items 2(b) or 2(c), above, indicate noncompliance with 40 CFR 60.333 or this permit, the owner or operator shall notify the Department of such excess emissions and the custom schedule shall be re-examined by the Environmental Protection Agency. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
3. If there is a change in fuel supply, the owner or operator must notify the Department of such change for re-examination of this custom schedule. A substantial change in fuel quality shall be considered as a change in fuel supply. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.
 4. Records of sample analysis and fuel supply pertinent to this custom fuel monitoring schedule for NG shall be retained for a period of five years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

B. Distillate Fuel Oil

The records of distillate fuel oil usage shall be kept by the company for a five-year period for regulatory agency inspection purposes. For sulfur dioxide, periods of excess emissions shall be reported if the distillate fuel oil being fired in the gas turbine exceeds 0.05 percent sulfur content, by weight.

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II. Attachments to be Incorporated:

- Destec letter received September 12, 1994.
- FDEP letter dated August 18, 1994.
- U.S. EPA letter received October 12, 1994.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes (F.S.). The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the applicant of the amendment request/application and the parties listed below must be filed within 14 days of receipt of this amendment. Petitions filed by other persons must be filed within 14 days of the amendment issuance or within 14 days of their receipt of this amendment, whichever occurs first. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, F.S.

The Petition shall contain the following information:

- (a) The name, address and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and,
- (g) A statement of the relief sought by petitioner, stating precisely the action the petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this amendment. Persons whose substantial interests will be affected by any decision of the Department with regard to the amendment request/application have the right to petition to become a party to the proceeding. The petition must conform to the

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requirements specified above and be filed (received) within 14 days of receipt of this amendment in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, Florida Administrative Code.

This letter amendment must be attached to Construction Permit, No. AC 53-214903 [PSD-FL-190(A)], and shall become part of the permit.

Sincerely,



Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/cl/b

Attachments

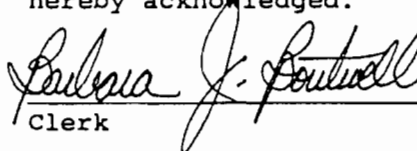
cc: G. Kissel, SWD
J. Harper, EPA
J. Bunyak, NPS
K. Kosky, KBN

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this AMENDMENT and all copies were mailed by certified mail before the close of business on 12/6/94 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED,
on this date, pursuant to
120.52(11), Florida Statutes,
with the designated Department
Clerk, receipt of which is
hereby acknowledged.



Clerk

12/6/94
Date

