

*Jonathan Ross*



**RECEIVED**

JAN 22 1999

BUREAU OF AIR REGULATION

January 21, 1999

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  
**1050223**

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.

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.

*(2) No restriction on fuels they have to be unregulated. Don't meet definition of insignificant*  
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.

*Possibly put statement in facility description that duct burner has been removed, all operational*  
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.

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*Site certification check for removal of duct burner changes should have been made in the PSD permit.*

4. Page 7. Second Paragraph. The flow rate listed in the paragraph (4<sup>th</sup> 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.
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. *The Dept. believes that this condition is applicable, the condition will remain.*
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.
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. *Drop "new" if the oil can be burned used oil. Add manu. curves as referenced attachment on the first page.*  
*Add permit note to cover manufacturer's curves*
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. *Did BACT appear in PSD-190 if so BACT is redundant*
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. *If consistent 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. *This is with remain an applicable requirement that was established by PSD*  
*If established*
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 same as 11

New Auxillary Boiler will be included <sup>exempt from permitting</sup> in TU permit as either Insig. or unregulated. categorically exempt by rule

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).

~~possible~~  
13.  
This is a quote of the rule.

Generally in 27-30 ppm during startup. Provide Best Operational Practice from GE.  
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). check w/ Bruce would this have to be proved by Mike Hurley's group

14. Page 12. Condition A.39. This Condition is identical with Condition A.37 and therefore should be deleted. Drop one add these if not in permit

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). can use if they have a schedule and it has been approved, otherwise the condition will remain the same

NOT attached  
16.  
possible  
Type - O

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. make the last sentence a separate condition

make  
cite AC if only initial tests are required

17. Page 14. Condition A.46. The references to annual testing for VOCs and H<sub>2</sub>SO<sub>4</sub> 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 H<sub>2</sub>SO<sub>4</sub> testing. Also, as stated above, the Permitting Note should be revised to reflect the deletion of the limits for mercury, arsenic, beryllium, and lead. Specify all tests

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). check NSPS to see if only applies to fuel only

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. Check letter again

44, 45, 49, 50, 51, 52, 57, 58, 59 67-72  
Quote of the rule.

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).

and the ~~rule~~ conditions are in the permit for permit consistency.

DEP guidance can only be used if they have accepted capacity as 95-100%

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."
22. Page 15. Condition A.54. The reference to the other permit conditions should be revised as follows: "A.20 and A.21."
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."
24. Page 16. Condition A.59. The reference to PSD-FL-014 appears incorrect.  
*if wrong take out, still a cite from 40 CFR PSD-FL-190 should have been cited*
25. Page 17. Condition A.62. This Condition should reference the manufacturer's curve for heat input vs. inlet temperature. *Should check PSD permit if they have accepted 95% rule cite can't be used for 95-100% ISO annual test requirements can be removed*
26. Page 18. Condition A.65. Paragraph (a)4. is redundant to Condition A.46, and therefore should be deleted. *Quote of the rule included for permit consistency*
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. *Check After A.6. @ say see condition A.66.*
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. *Check 62-213.400 may not be good to use Acid Rain check cited AC*
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. *regulated under too small a PM source to ever be RACT.*
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. *Continuous operation - why should log of operations be kept.*
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. *add method 5 if not already in permit*
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. *make separate Break out condition about Dept. ability to require tests*
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. *can be deleted, but they are a quote of the rule.*
34. Page 33. Condition A.4. Consistent with other DEP Title V permits, FPC requests that

check for NSPS reporting requirement was it w/in area of influence of downtown Tampa

this Condition be moved to the facility-wide section of the permit. *No, this is an acid rain condition.*

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 (CO<sub>2</sub> and H<sub>2</sub>). *Type - O*
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. *List*
- Move would not be consistent w/ other permits. Form not reviewed & approved by EPA*

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



## GE Energy Services

Todd R. Nass, Facility Manager  
FPC Tiger Bay

Contractual Services  
3219 County Road 630 West  
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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.

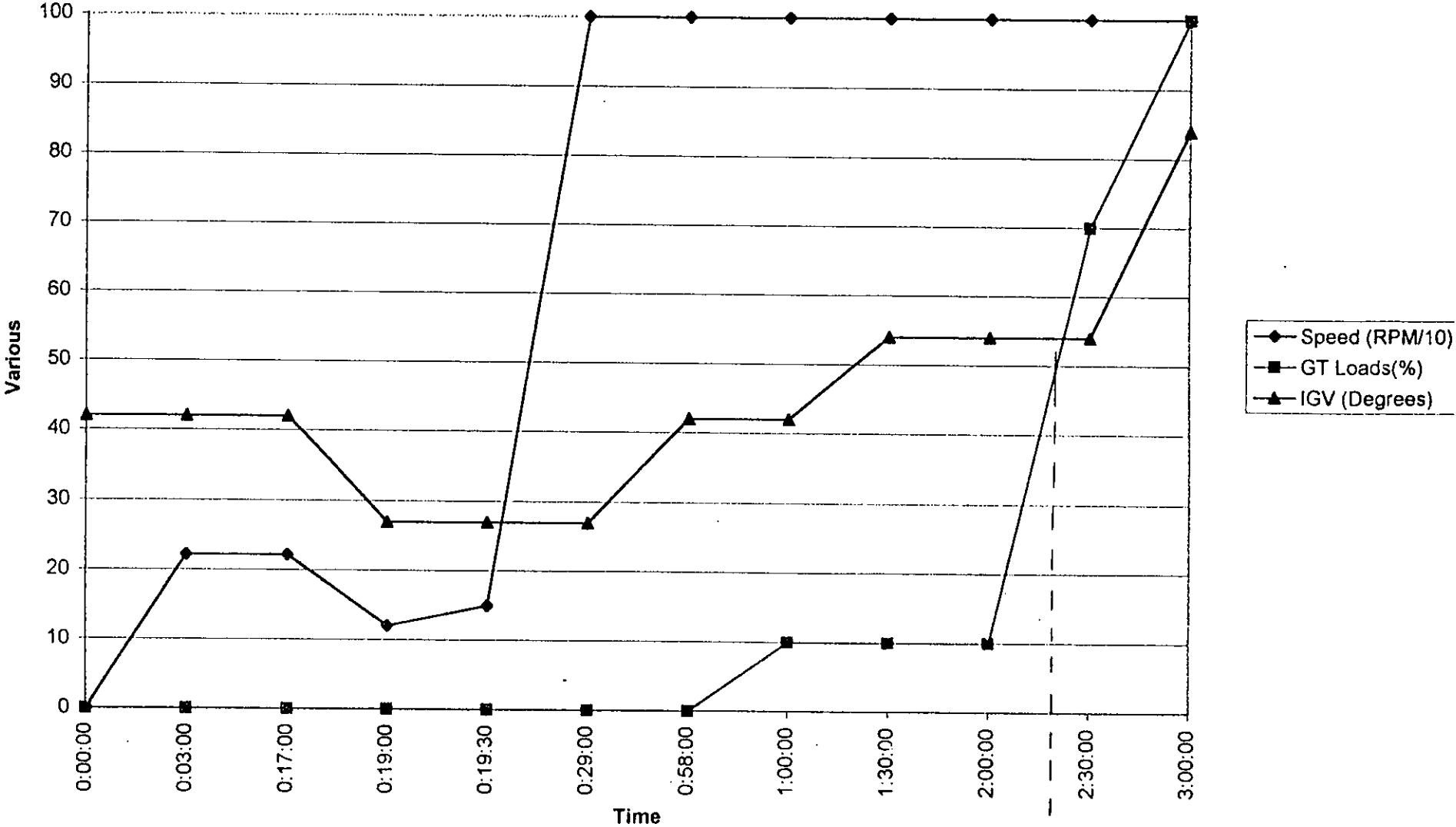
Regards,

Todd Nass

Copy to Letterbook

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7F/FA MSCC W/IBH



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