



# Department of Environmental Protection

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June 22, 1995

Mr. Richard G. Piper  
Environmental Specialist  
Florida Power and Light Company  
Post Office Box 088801  
11770 U.S. Highway One  
North Palm Beach, Florida 33408

Re: Martin Power Plant, Draft Title V Application  
Facility ID No. 50WPB430001

Dear Mr. Piper:

The Department has completed a review of the draft Title V application received on February 23, 1995. The following comments are provided. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the form.

### General Comments

1. The material contained in the submittal is well organized. The attachment showing the structure of the application submitted provides a good, quick overview of the parts of the application form that were completed.
2. Throughout the application form handwritten notes were added to various sections. Please follow-up on your notations made on the form and resolve appropriately. For example, there is a note on the segment page for the emergency generator to find out whether or not the generator is also capable of burning natural gas.
3. An accurate facsimile of the official version of DEP Form No. 62-210.900(1) - Form, effective 11-23-94 must be used. A different version of the form appears to have been used. Please see the first page of the Emissions Unit Information, Section III., Type of Emissions Unit addressed. The last emissions unit description on the form used is different from the official version of the form.

4. The baseline emissions reported in the Prevention of Significant Deterioration (PSD) Increment Tracking Information, Section III.H., of the form must be shown for each emissions unit separately.

Since all emissions units at the facility commenced construction after the SO<sub>2</sub> and PM major source baseline dates, the SO<sub>2</sub> and PM baseline emissions for each of these units are zero. Emissions units that commenced construction prior to the NO<sub>2</sub> major source baseline date cannot be said to consume or expand increment unless it is known that an increase or decrease in emissions occurred after such date. If an emissions unit is not known to consume or expand increment for NO<sub>2</sub>, a "U" should be entered in Field #3 and the NO<sub>2</sub> baseline emissions in Field #4 should be left blank. If an emissions unit commenced construction after the NO<sub>2</sub> major source baseline date, it consumes NO<sub>2</sub> increment and its NO<sub>2</sub> baseline emissions are zero. If an emissions unit existed on the NO<sub>2</sub> major source baseline date, but has been modified since, it also consumes NO<sub>2</sub> increment, but it is not necessary to give a baseline emissions value unless known.

5. Please provide a narrative of the facility's permitting history.

#### **Information Missing**

The following information was not found in the application submitted:

6. The Compliance Report and Plan. In the Facility Supplemental Information, Section II.D. of the form, Field #13, this requirement was marked as "NA". A Compliance Report is required from each Title V Source. Those emissions units in compliance need not be individually referenced in the compliance statement - a general statement will suffice. A Compliance Plan is required for any noncompliance items. [Rule 62-213.440(2), F.A.C.]
7. The proposed schedule of compliance. The instructions require the applicant to provide a proposed schedule for the submission of periodic compliance statements throughout the permit term. Please provide the proposed schedule. Also, at a minimum, an annual compliance statement must be submitted. [See Facility Supplemental Information, Section II.D., Compliance Statement - Field #14 page 16 of the form]
8. The compliance statement referred to as "PMRFS\_14.doc" in the Facility Supplemental Information, Section II.D., Field #14 of the form.
9. The file referred to as "PMRFUGDS.xls" in the Facility Pollutant Information, Section II.C., Field # 5 of the form. This file estimates particulate matter (PM) emissions from the cooling pond.

10. Periodic monitoring. When an applicable requirement does not specify a method for periodic testing or instrumental or noninstrumental monitoring, the applicant must propose periodic monitoring pursuant to Rule 62-213.440(1)(b)1.b., F.A.C.

The proposed periodic monitoring should be provided under the method of compliance part of the form. Enough detail should be provided for the department to incorporate the requirements of Rule 62-213.440(1)(b)1.b., F.A.C. into the draft Title V operation permit. [See Section III.E., Pollutant Information, Field # 5 page 28 of the form.]

11. The installation date for each continuous emissions monitor (CEM). [Section III.G., Continuous Monitor Information, Field #4 of the form.]

### Emissions Estimates

The following comments and questions relate to emission estimates in general:

12. The Department has a responsibility to ensure, on a unit-by-unit basis, that emissions factors are reasonably representative of the unit's potential emissions. Thus, you need to include with each application any source documents that provide the basis of such estimates, unless you are using AP-42 or a document that is reasonably available to the Department.

If you intend to use the EPRI, FCG or Radian factors, you need to provide copies to each permitting authority, along with the supporting documentation which provides the basis for those emissions. If you do that and provide automatic distribution of any updates, along with the supporting documentation, it would not necessitate that such documentation accompany each permit application.

13. For each AP-42 emission factor used, please identify the section and version (date) of AP-42.

14. When range values are given for an emission factor, the potential to emit should be based on the maximum value (worst case emissions), unless source specific data is available.

15. Should the facility-wide hazardous air pollutants (HAPs) be equal to 5,886.02 tons per year (TPY)? The facility-wide HAPs are reported to be 4,673.38 TPY under "Emissions Unit #10", "Pollutant #12". Summarizing the total HAPs from the emissions units below indicates otherwise.

2,770.39 TPY x 2 boilers	= 5,540.78 TPY	
86.31 TPY x 4 combustion turbines	= <u>345.24 TPY</u>	total
	5,886.02 TPY	# field

16. Referring to comment number 15 above, please provide HAP emissions summary sheet(s), which show the emissions at the facility level and the emissions unit level. On the sheet(s), clearly show how the HAP pollutant reporting requirements were met at the facility and the emissions unit level.

17. Please provide an example calculation of the estimation method used along with the assumptions and reference material for the following activities shown on the "Martin Plant VOC Summary Sheet: Aerosol Can, Painting Operation, and LU Paint Booth."

18. The HAP emissions reported under "Emissions Unit #10" - "Facility-wide fugitives" addresses emissions from the boilers and combustion turbines as "fugitive emissions." These emissions are not fugitive in nature because the emissions pass through a stack. These emissions should be reported with each appropriate emissions unit and at the facility pollutant level.

Fugitive HAPs and HAP emissions that are not fugitive should be reported per the instructions for the form in Section III, E., Hazardous Air Pollutants, page 36. Please also see Rule 62-213.420(3)(c), F.A.C.

19. Are any fugitive HAP emissions required to be reported at the facility level or emissions unit level?

**Insignificant Activities/Emissions Units:**

20. Did you find the Insignificant Activity List developed by the department for the power industry adequate? If not, how could this process be improved?

21. It is noted that you list at least one emissions unit that is not currently permitted. Prior to submitting your application for Title V you should comply with Rule 62-210.300(4), F.A.C. ( See enclosed guidance memo).

22. Are the storage tanks cited in your insignificant activity list included in the reported fugitive VOC emissions of 1.75 tons from all site tanks?

**Applicable Rules and Regulations:**

23. You chose not to cite the Core List developed by the department. The Core List may be cited in its entirety or with specific exceptions. Please comment.

24. How are the identified Applicable Rules and Regulations organized at the facility level and emissions unit levels?

25. Some of the rules cited do not appear to be complete. For example, one of the applicable regulations cited at the facility level is "Applicable Regulations F.A.C. 62-350(1) for Facility ID#1". Please correct the incomplete citations.

**Emissions Units #3, 4, 5, 6 - Combustion Turbines 3A, 3B, 4A, 4B**

26. Within the heat recovery steam generator, is there any combustion of fuels? If so, please provide a description, quantification of the pollutants, and any rule applicability.

27. These units have an hourly maximum heat input rate, which has been established by permit, and will be stated as such in the draft Title V operation permit. Consequently, we believe that your interpretation of a monthly average is incorrect. What is your basis for the monthly averaging?

[Section III.A., General Emissions Unit Information, Emissions Unit Operating Capacity: Maximum heat input rate, Field #1]

28. Please provide the % of water vapor and the dscfm values.

[Section III.C., Emission Point Information, Fields #10 & 11]

29. The synthetic limit fields do not appear to be checked properly. The limit on fuel oil firing synthetically limits pollutant emissions. Please correct where necessary.

[Section III.E., Pollutant Information, Field #6]

30. The maximum heat input rate on #2 fuel oil stated in PSD-FL-146 permit is 1,846 MMBTU/hr. You indicated this value in the operating capacity comment Field #5 on the form. However, a heat input rate of 1,758 MMBTU/hr was used to calculate the potential to emit for those pollutants based on #2 fuel oil. For example, see Section III.E. Field #10, the calculation for formaldehyde. Also, the potential to emit was based on 8,760 hours/year. Fuel oil firing of the turbines is limited to an aggregate of 2,000 hours/year. Potential to emit must be based on the maximum heat input and the limited hours of operation. Therefore, please recalculate the potential to emit using the maximum heat input and the limited hours of operation.

31. If you want the current application to reflect future emissions rates with coal-gasification, you should provide a schedule of compliance for attaining and demonstrating compliance with the limits imposed by coal-gasification capability. Alternatively, you may obtain a Title V permit that limits the emissions to the current operation with natural gas/oil levels and submit the application for Title V for the modified units per Rule 62-210.420(1)(a)2., F.A.C.

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32. The permitted emission limit for SO<sub>2</sub> is 568 TPY, not the 14,612 TPY as stated in the application form. The 14,612 TPY is for coal gasification, not for natural gas and fuel

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oil firing. Also, the permitted emission limit for CO is 871 TPY, not 1,134 TPY as stated in the application form. Please correct to reflect the current operation.

[See PSD-FL-146 permit, Specific Condition No. 4.]

33. Have the duct modules for the potential future installation of selective catalytic reduction been installed?

[See PSD-FL-146 permit, Specific Condition No. 9.]

34. Please provide the total percent efficiency of controls.

[Section III.E., Pollutant Information, Field #2]

35. For each combustion turbine, the requested allowable emissions and units fields were blank for SO<sub>2</sub>, NOX, VOC, and CO. These Fields need to be completed.

[Section III.E., Pollutant Information, Allowable Emissions, Field 3's.]

36. An Allowable Emission Section III.E., Fields #1 - 6. should be completed for each emission limit. For example, the NOX emissions from each combustion turbine is limited to 65 ppmvd @ 15% O<sub>2</sub> on fuel oil in addition to the 461 lb/hour/CT equivalent limit. The same comment applies to the other air pollutants with ppmvd limits.

37. Regarding Final Order OGC No. 91-0581, comment on condition 22 (condition addendum) - CO emissions, except during extreme conditions, shall not exceed 100 ppmvd. CO during extreme conditions should not exceed 500 ppmvd. What are extreme conditions?

38. Why is "fluoride" mentioned in the H<sub>2</sub>SO<sub>4</sub> allowable emission comment sections? Please correct.

[Section III.E., Pollutant Information, Field #11]

39. The allowable H<sub>2</sub>SO<sub>4</sub> emission limit for natural gas firing should be 11.2 lbs/hr./CT, not 1.38 & 6.05 lb/hr as specified in the comment section. Please correct.

[See PSD-FL-146 permit, Specific Condition No. 5. and Section III.E., Pollutant Information, Field #11, Comments]

40. Please complete the CEMs information for each combustion turbine.

[Section III.G., Continuous Monitoring System, Fields #10 & 11]

41. Specific Condition No. 1 of PSD-FL-146, requires fuel consumption to be continuously monitored. You indicate in the comments section of the NOX monitor that, because the units are equipped with dry low NOX burners, the water to fuel ratio is not required to be continuously monitored. Please note that the regulation requiring water to fuel ratio was listed as an applicable regulation - 40 CFR 60.334(a). Please address, correct, or explain.

42. At this time, the Department is developing guidance on the trading of emissions provisions contained in Rule 62-213.415, F.A.C. Upon receipt of the guidance, your application may need to be updated.

43. Power augmentation is not a permitted method of operation under the PSD-FL-146 and PA89-27 permits. If desired, power augmentation will have to be permitted through a preconstruction review process. Title V permitting is not a preconstruction review process for criteria pollutants, i.e., NO<sub>2</sub>.

[Alternate Methods of Operation referenced in Attachment PMRU4\_10DOC.]

44. As stated in the PSD-FL-146 permit, in Phase II and Phase III, and in accordance with the regulations, BACT will be revisited prior to commencement of construction. [See PSD-FL-146 permit, Specific Conditions #18 and 2nd paragraph of the Specific Conditions Introduction, page 6.]

#### Emissions Unit #1 - Unit 1 Boiler and Emissions Unit #2 - Unit 2 Boiler

45. These units have an hourly heat input rate, which has been established by permit, and will be stated as such in the draft Title V operation permit. Consequently, your interpretation of a monthly average is believed to be incorrect.

[Section III.A., General Emissions Unit Information, Emissions Unit Operating Capacity: Maximum heat input rate, Field #1]

46. For Boilers 1 & 2, the allowable heat input is permitted at 8650 MMBTU/hr for oil and 9040 MMBTU/hr for natural gas. In the Segment Information Section for Segment #1, Field #4 lists a calculated maximum hourly fuel rate for oil as 58.03 kgal. Using the SCC unit from Field #9 of 150,952 MMBTU/kgal and the allowable heat input rate of 8650 MMBTU/hr, the maximum hourly rate calculates to 57.3 kgal. It appears that the calculation used 8760 MMBTU/hr instead of 8650 MMBTU/hr. 8760 MMBTU/hr is stated as the allowable heat input rate, for oil, on page 1 of 2 of Attachment PMRU1\_10.doc.

Assuming the above to be true, the maximum annual rate in Field #5 should be 501,974.1 kgal, not 508,342.8 kgal.

47. The following are related to Segment #3:
- A. On-spec used oil - where does the maximum hourly limit of 0.5 kgal come from (Field #4)?
  - B. Please provide the MMBTU per SCC unit (Field #9).
  - C. Field #10 states that FP&L is authorized to burn on-spec used oil in accordance with 40 CFR 279; however, the permit quotes 40 CFR 266.40 as the applicable regulation. Does this facility receive any on-spec used oil from a barrel?

any outside handler/supplier, including from another F P & L facility? Please explain.

48. In Segment #5, a description of the process for chemical cleaning the boilers is given. This does not appear to be a permitted activity. Is this a common practice in the industry? Please describe this activity's effect on air pollutant emissions and calculate the potential to emit from this activity, if any.

49. The following are related to Section III.E., Pollutant Information:

- A. Pollutant #1 (Field #2). Please provide the percent efficiency of control (Units 1 & 2).
- B. Pollutant #7 - PM-10. The rule (and permits) limits total PM to 0.1 lb/MMBTU. In Field #1 you indicate the basis for the PM-10 allowable is "Emissions cap required by rule". Please provide the rule citation requiring the cap.
- C. Pollutant #14 - HAPs. Per the instructions for this section of the application form, since the total HAP potential from these emissions units (Unit 1 & 2) is greater than 20 TPY, please speciate the HAP emissions for each individual HAP whose potential is greater than 1 TPY. Please provide this information for both boilers.

50. For Boiler #1, the potential lead emissions listed in Section III.E., Field #5, (units of lbs/hr) should be 0.12033 lbs/hr, not 0.1033 lbs/hr.  
[See the calculation in the comments section, Field #10.]

51. The EPRI emission factors used to estimate HAP emissions from each boiler are different from those found in the AP-42, edition dated 1/95, for formaldehyde, Co, Ni, and Pb. The EPRI factors are lower than the AP-42 factors. See our comments on documentation of sources used for emission factors determination.

A comparison was made by converting the EPRI factors to units of lb/10<sup>12</sup> BTU using the reported #6 fuel oil heat content of 150,952 BTU/gallon. For example, the converted EPRI factor for formaldehyde is 56 lb/10<sup>12</sup> BTU, compared to 405 lb/10<sup>12</sup> BTU from AP-42.

Also, a different emission factor for formaldehyde was found from EPA's CHIEF database. The emission factor for formaldehyde from CARB, dated 3/93, is 1,010 lb/10<sup>12</sup> BTU.

Please provide the supporting rationale for those emission factors used. Also, see comment number 12 for additional guidance.



52. Using the AP-42 factors from Table 1.3-11, , edition dated 1/95, the following HAPs from the boilers exceed the 1 TPY reporting threshold: Ar, Cd, Cr, Mn, Hg, and Se. Please reevaluate these pollutants for reporting purposes and make changes appropriately.

53. In Section III.G., Continuous Monitor Information for Emissions Unit #1 - carbon monoxide, please make the necessary corrections as indicated by your notations. Also, please verify the monitor information for Unit 2, for it does not seem likely that these monitors would have the same serial number (model number possibly, but not the serial number).

**Emissions Unit #7 - Auxiliary Boiler**

54. Under the Emissions Unit Operating Schedule, a limit of 4,000 hrs/yr was requested. The current permit is silent on the allowable hours. Therefore, it is assumed to be 8,760. The potential to emit was based on 8,760. Do you wish to limit operations to 4,000 hrs/yr? Please explain.

55. Under Section III. E., Pollutant Information, Pollutant #2: sulfur dioxide, you state that this emissions unit does not currently have a limitation for sulfur dioxide. Review indicates the permit limits the fuel oil's sulfur content to 0.3%, however, you requested an allowable emission limit of 0.0006 lb/MMBTU. The 40 CFR 75, Appendix D2.3.2. reference for this allowable emission limit does not appear to be correct. Please explain.

56. Under Section III.F., Visible Emissions Information, your comment says that V.E. tests are not required if the emissions unit operates less than 400 hours per year. A review of the rules indicates that particulate matter (PM) tests are not required if the unit operates less than 400 hours per year; however, if a V.E. standard applies to the unit, the annual V.E. test is required pursuant to Rule 62-297.340(1)(d)1., F.A.C. Your permit does state that annual compliance tests are required for all fuels combusted for more than 400 hours per year; but, this refers to the combustion turbines, not the auxiliary boiler.

57. You indicate FP&L reserves the right to burn fuel oil; however, the fuel oil piping has not been installed. Note that initial compliance will be required to be demonstrated upon fuel oil firing.

**Emissions Unit #8 (EU8) - Emergency Diesel generator serving Boilers #1 and #2**

58. Potential emissions were calculated based on 400 hours/year; however, the requested maximum hours of operation is 8,760. Please note that the other emergency diesel generator's potential to emit was based on 8,760 hours/year, not 400 hours/year. Please explain.

Mr. Richard G. Piper  
June 22, 1995  
Page 10 of 10

59. Is this unit synthetically limited by the fuel rate and hours of operation? Review indicates this generator is rated at 800 KVA with a heat input rate of 1.11 MMBTU/hour, while the other generator is rated at 718 KVA with a heat input of 5.55 MMBTU/hour.

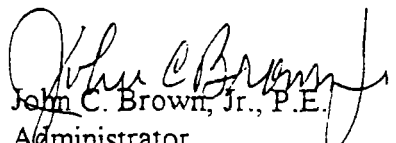
**Application for Acid Rain Critique:**

60. The latest version of the Acid Rain Forms, which will become final on July 7, 1995, and are dated July 1, 1995, must be used.

61. The Attachment, titled "Acid Rain Compliance Plan," reports that the applicant will hold the required allowances sufficient to cover SO<sub>2</sub> emissions. This will be redundant when the applicant utilizes the proper version of DEP Form Number 62-210.900(1)(a), the Air Permit Application Form Acid Rain Part (Phase II).

These comments and questions are preliminary and should not be considered final for purposes of a complete Title V application. If you should have any questions, please contact Scott Sheplak or me at (904) 488-1344.

Sincerely,

  
John C. Brown, Jr., P.E.  
Administrator  
Title V Section

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