State of Florida

# Public Service Commission

**-M-E-M-O-R-A-N-D-U-M-**

**DATE:** July 29, 1997

**TO:** Lynne Adams, Florida Power & Light Company
Charles Guyton, Steel Hector & Davis

**FROM:** Leslie J. Paugh, Senior Attorney, Division of Legal Services

**RE:** Docket No. 970539-EG - Modification of Residential A/C program
Docket No. 970540-EG - Modification of Duct System repair program
Docket No. 970541-EG - Modification of Residential Building Envelope program
Docket No. 970542-EG - Termination of Residential Heat Recovery Water Heater program
Docket No. 970543-EG - Modification of C/I Lighting program
Docket No. 970545-EG - Modification to C/I HVAC program
Docket No. 970546-EG - Modification to Off-Peak Batter Charging program
Docket No. 970547-EG - Termination of C/I Efficient Motors program
Docket No. 970391-EG - Petition to terminate residential solar water heating research project and approve c/i solar desiccant research project.

**Via Facsimile**

Attached hereto is a list of staff's questions regarding the above-referenced dockets. A meeting has been tentatively set for August 12, 1997, to discuss FPL's responses. Please contact Mark Futrell at 413-6692 if you have any questions concerning this matter.

LJP/js
cc: Tom Ballinger
Lee Colson
Kenneth Dudley
Mark Futrell
Michael Haff
Judy Harlow
Bob Elias
Cochran Keating
Kay Flynn

ACK
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FPSC-RECORDS/REPORTING

PSC Staff Questions to Florida Power and Light Company

July 29, 1997

**The questions below apply to the following programs:**

Docket 970539 - Modification of Residential A/C program
Docket 970540 - Modification of Duct System repair program
Docket 970541 - Modification of Residential Building Envelope program
Docket 970542 - Termination of Residential Heat Recovery Water Heater program
Docket 970543 - Modification of C/I Lighting program
Docket 970544 - Modification of C/I Bldg. Envelope program
Docket 970545 - Modification to C/I HVAC program
Docket 970546 - Modification to Off-Peak Battery Charging program
Docket 970547 - Termination of C/I Efficient Motors program

1. Provide program participation standards in legislative format as a result of the proposed modifications.

2. Provide the cost-effectiveness analysis, as filed in the petition, in Lotus 1-2-3 Release 5 for Windows format, or a format convertible into Lotus 1-2-3 Release 5 for Windows. Spreadsheet cells should include the appropriate formulas used to calculate values. Provide any off-sheet data and formulas used in the cost-effectiveness analysis.

3. Provide the backup data and method used to calculate the assumed summer and winter kW, and kWh savings for the program.

4. Explain how FPL determined the proposed incentives for the program?

5. If a range of incentives is utilized for the program, provide the range of incentives for each eligible measure. Explain how FPL determined the average incentive value from the range of incentives.

6. Provide documentation supporting how the following were calculated for use in the cost-effectiveness test: 1) Utility program costs; 2) Utility incentives; and 3) Participant equipment cost.

7. Provide a full description of the avoided unit used in the cost-effectiveness analysis. Include type, size (mw), and location.

8. Provide documentation supporting the following variables used in the cost-effectiveness test: 1) Avoided generating cost; 2) avoided transmission cost; 3) avoided distribution cost; 4) Generator fixed O&M cost; 5) Transmission fixed O&M cost; 6) Distribution fixed O&M cost; 7) Avoided generating unit variable O&M costs; and 8) Avoided generating unit fuel

cost.

9. Provide a revised cost-effectiveness test assuming a purchased power option as the avoided cost. Response should include an explanation of any assumptions.

10. Provide a revised cost-effectiveness test assuming a 10% reduction in FPL's current avoided cost estimate of $285/kW.

11. Explain how each program was evaluated since originally approved by the Commission in 1995, pursuant to FPL's DSM Monitoring and Evaluation Plan (filed 12/8/95 with the Commission).

12. Provide the results of the following applicable surveys pursuant to FPL's DSM Monitoring and Evaluation Plan:

Post-Participation Telephone Surveys
Trade Ally Surveys
Stated Preference Survey
Post-Impact Survey
Post-Impact Follow-up Survey
Nonparticipant Survey
Nonparticipant Follow-up Mailer for Equipment Change Detail
Site Surveys
End-Use Metering (EUM)

13. What is the current baseline of each program measure, which was used to determine the cost-effectiveness of the overall program?

14. Has the baseline changed for any program measure since the program was approved in 1995? If so, what was the baseline at the time of program approval in 1995?

15. Explain how FPL will verify the summer and winter kW demand reductions projected for the program?

16. Explain how FPL will verify the kWh energy reductions projected for the program?

**The following questions are specific to the identified docket:**

**Docket No. 970391-EG - Petition to Terminate Residential Solar Water Heating Research Project and Approve C/I Solar Desiccant Research Project**

17. Discuss the impact, if any, that termination of the Residential Solar Water Heating Research Project will have on FPL's ability to meet its Commission-designated Demand-Side Management goals.

18. Page 3 of the petition mentions that the Residential Solar Water Heating Research Project will continue to be not cost-effective due, in part, to "the intervening decline in FPL avoided costs." Provide all cost-effectiveness analyses used by FPL to determine that the Residential Solar Water Heating Research Project is not cost-effective.

19. Page 3 of the petition mentions that FPL planned to site-test up to 100 solar water heating installations. Provide a description of all installations performed under the Residential Solar Water Heating Research Project.

20. Provide a breakdown of the $12,168 period-to-date expenditure given on page 3 of the petition. Include how this amount was spent on the installations described in the previous question.

21. Explain the cause of the "smaller demand reductions per installation" mentioned on page 3 of the petition. Is this due, in part, on a comparison of engineering estimates to end-use metering data?

22. Page 3 of the petition states that FPL's estimated total expenditure for the Residential Solar Water Heating Research Project was $789,200. Discuss whether or not this amount was an expenditure cap for this project, and whether FPL's total research and development budget will be reduced by an equivalent amount, less any period-to-date expenditures associated with the Residential Solar Water Heating Research Project.

23. Page 4 of the petition details the three steps which comprise the Commercial / Industrial Solar Desiccant Research Project. Describe what work the Florida Solar Energy Center has performed in this area, and whether the FSEC has already done steps 1 (feasibility study) and 2 (lab test).

24. Page 4 of the petition states that FPL's estimated total expenditure for the Commercial / Industrial Solar Desiccant Research Project will be $106,000 for a two-year period. Discuss whether or not this amount is an expenditure cap, and whether FPL's total research and development budget will be increased by an equivalent amount.

25. Discuss the number of solar-assisted hybrid desiccant cooling systems FPL plans to build, and the types of buildings where these installations will be performed.

26. Explain whether the costs listed in Appendix A, page 4 of the petition include any costs to "design, build, and measure the performance of" the hybrid desiccant air conditioning system. If not, provide a breakdown of any additional costs.

27. Describe further the monitoring devices that FPL will install during the field testing portion of the Commercial / Industrial Solar Desiccant Research Project. Discuss whether

or not FPL's monitoring efforts will include pre / post installation evaluation, end-use metering, etc.

28. Provide a copy of the studies, discussed on Appendix A, page 1 of the petition, which support FPL's statement that hybrid desiccant cooling systems result in energy savings of 60%.

**Docket No. 970539-EG - Petition to Modify Residential Air Conditioning Program**

29. Explain why FPL has assumed that no customers will adopt the conservation measures offered in its Residential Air Conditioning Program absent the utility sponsored program.

**Docket No. 970540-EG - Petition to Modify Duct System Testing and Repair Program**

30. Provide the cost-effectiveness analysis which FPL relied on to determine that the existing Duct System Testing and Repair Program is not cost-effective. Include an explanation of any assumptions, and give the date on which this analysis was performed.

31. Explain why FPL has decided to exclude non-demand commercial and industrial customers from participating in the proposed modified Duct System Testing and Repair Program.

32. Provide the annual number of program participants since the inception of the Duct System Testing and Repair Program. Include a breakdown of annual program participation by rate class.

33. Discuss how the reduced incentive level, from an average of $629/kW to an average of $369/kW, will impact participation in the proposed modified Duct System Testing and Repair Program. Include any analysis performed by FPL that quantifies any expected reduction in the number of program participants, or demand and energy savings per participant.

34. Provide a revised estimate of the expense level expected to be recovered, during the current period, through the Energy Conservation Cost Recovery (ECCR) Clause if the Commission approves FPL's petition to revise the Duct System Testing and Repair Program. Include any impact this revised estimate will have on each of FPL's ECCR factors.

**Docket No. 970541-EG - Petition to Modify Residential Building Envelope Program**

35. Explain why FPL has assumed that no customers will adopt the conservation

measures offered in its Residential Building Envelope Program absent the utility sponsored program.

36. Explain why FPL decided to increase the incentive level of the remaining measures after removing attic/ceiling/roof insulation between R-19 and R-30, window film, shade screens, and high performance windows as eligible measures under its Residential Building Envelope Program.

37. Does any overlap or interactive effects between FPL's Residential Building Envelope and its Residential HVAC Programs exist? Response should address both incentives and participation levels.

**Docket No. 970544-EG - Petition to Modify C/I Building Envelope Program**

38. Explain why FPL does not pay an incentive based on kW winter demand savings?

39. Provide the minimum efficiencies of all qualifying measures?

40. Explain how FPL will measure the efficiency of the existing building envelope in determining the incentive amount to participating customers?

41. Explain how FPL will measure the efficiency of the installed measures or products in determining the incentive amount to participating customers?

42. Does any overlap or do any interactive effects between FPL's C/I Building Envelope and C/I HVAC Programs exist? Response should address both incentives and participation levels.

**Docket No. 970545-EG - Petition to Modify C/I HVAC Program**

43. Explain, and provide documentation and analyses justifying the elimination of additional incentives for cold air distribution systems.

44. Explain, and provide documentation and analyses justifying the discontinuance of ventilation exhaust hoods as an eligible measure.

**Docket 970546 - Modification to Off-Peak Battery Charging program**

45. Explain why FPL excludes non-demand commercial and industrial customers from participating in the proposed modified Off-Peak Battery Charging Program.

46. Discuss how the proposed increase in the Off-Peak Battery Charging program incentive from $57 to $75 per kw of summer peak reduction will assist FPL in meeting Commission approved DSM goals.