BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

CONFIDENTIAL

In re: Petition for Determination of Need of Hines Unit 3 Power Plant.	)	Docket No.: 020953-EI
	)	Submitted for Filing: October 15, 2002

FLORIDA POWER'S RESPONSES
TO STAFF'S SECOND SET OF INTERROGATORIES

Pursuant to § 350.0611(1), Fla. Stat. (2000), Fla. Admin. Code R. 28-106.206, and Fla. R. Civ. P. 1.340, Florida Power Corporation ("FPC" or "Florida Power") responds to the Staff of the Florida Public Service Commission's Second Set of Interrogatories (Nos. 34-69) subject to the previously filed objections and states as follows:

INTERROGATORIES

34. **According to FPC's testimony, FPC issued the RFP for Hines Unit 3 on November 26, 2001, on its Website. FPC then filed the RFP with the Commission on December 20, 2001. What was the reason for the delay in filing the RFP package with the Commission?**

As stated in the testimony of Daniel Roeder on page 9, lines 12-13, Florida Power e-mailed a notice to 55 people stating that the Company was going to issue its RFP and make the RFP available on the Company's web site on November 26, 2001. The Company sent this e-mail notice on November 19, 2001. Included in the distribution list was Mark Futrell of the FPSC. Subsequently, on December 20, 2001, Florida Power also filed the RFP in accordance with Rule 25-22.082, which does not contain a specific filing deadline. Thus, no delay occurred.

MH 5-19-04

DECLASSIFIED CONFIDENTIAL

STP#548114.02

This docketed notice of intent was filed with Confidential Document No. 11222-02. The document has been placed in confidential storage pending timely receipt of a request for confidentiality

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35. **Once a Greenfield Proposal has been submitted, what information should be supplied to show that the Bidder has site control and has a sufficient transmission plan?**

Bidders were required to provide as part of their response to Florida Power's RFP information to show site control and a sufficient transmission plan. This is part of the minimum amount of information needed for an informed assessment of a Bidder's ability to provide the power needed in a timely manner should its bid be ultimately selected.

The Site Control Threshold Requirements for Greenfield Proposals in FPC's RFP were outlined in Section D of Table IV-1 (see page IV-5 of the RFP in Appendix H of the Need Study, Exhibit JBC-1). Specific instructions were provided in Section I of the Response Package (see page 14, Appendix I of the Need Study). Chapter 6 of a bidder's proposal was to cover Site Control.

The Transmission Threshold Requirements in FPC's RFP were outlined in Section E of Table IV-1 of the RFP. Specific instructions were provided in Section J of the Response Package (see page 14-15, Appendix I of the Need Study). Chapter 7 of a bidder's proposal was to cover the Transmission Plan.

36. **Did FPC assume a capacity factor between 50 and 60 percent for the Greenfield proposals submitted by the bidders? If so, would this increase the total cost of the proposal?**

In the optimization and detailed economic analysis, capacity factors were not assumed. In these analyses, the capacity factors of the Greenfield Proposals, System Power Proposals, and Hines 3

were determined by the simulation models (PROVIEW and PROSYM, respectively) based on the operating costs of the alternatives.

As stated in the testimony of Daniel J. Roeder on page 15, lines 11-14, capacity factors between 50% and 60% were assumed for all alternatives (Greenfield Proposals and System Power Proposals) in the economic screening analysis only. This was necessary in order to develop screening curves that compare the total cost (fixed and variable) of each alternative. Two cases were run; one 50% case and one 60% case. The same capacity factor was used for all alternatives in both cases. As would be expected, higher capacity factors increase the total cost of each proposal, simply due to higher fuel and variable O&M costs. With the exception of one proposal (Bidder B), the prices of the proposals were not dependent on the capacity factor (higher capacity factors had the effect of increasing the firm fuel transportation price in Bidder B's proposal because of the way they proposed to charge for firm transportation). None of the proposals was eliminated from the process based on this initial economic screening.

37. What was the capacity factor submitted by each Bidder?

Capacity factors were not submitted by the Bidders.

38. By what amount did FPC lower it cost estimate for Hines Unit 3 after the short list was selected on April 29, 2002?

FPC did not lower its cost estimate after the Short List was selected on April 29, 2002. As stated in the testimony of Daniel J. Roeder on page 31 line 22 through page 32, line 6, the revised cost estimate was provided to short-listed bidders on April 19, 2002 and Florida Power encouraged

the bidders to "sharpen their pencils" based on the revised estimate. The bidders were requested to provide revised prices within 10 days. Thus, the short-listed bidders had an opportunity to beat the final cost estimate of Florida Power's self-build option.

The short-listed bidders were advised that the cost estimate of Hines 3 was lowered from $245.1 million (2001 dollars), or $260.9 million total direct cost in 2005, excluding AFUDC, to an estimate of $226.5 million total direct cost in 2005, excluding AFUDC. This is a reduction in the estimate of total direct costs, excluding AFUDC, of $34.4 million.

39. Was the EPC contractor that reduced its cost estimate for Hines Unit 3 one of the contractors used for Hines unit 2? If so, then please compare the costs that the contractor submitted for Hines 2 with the costs that were submitted for Hines 3.

As discussed in the testimony of Daniel J. Roeder at lines 9-15 on page 32, the cost estimate for Hines 3 that was included in the RFP was not based on estimates by any EPC contractor. The only cost estimate for the Hines Unit 3 developed by Florida Power in which Florida Power relied upon information from an EPC contractor was the cost estimate provided to short-listed bidders on April 19, 2002; thus, it would not be accurate to say that an EPC contractor reduced its cost estimate for Hines 3.

Gemma Power Systems, LLC provided information for the April 19 $226.5 million cost estimate for Hines 3. The current cost estimate for Hines 2 on a comparable basis (excluding transmission substation expansion and AFUDC) is $220.6 million, and is also based on information from Gemma.

40. Which generating units has FPC projected to operate at a higher capacity factor than Hines Unit 3 in 2005?

Hines 3 is scheduled to be in service in December 2005; thus, the capacity factor for Hines 3 is its projected capacity factor for the month of December 2005. The other capacity factors listed are the annual capacity factors for 2005. Please note that these projections are based upon the projected economic dispatch of Florida Power's units and compliance with its existing power purchase agreements.

Year	StationType	Station	Capacity Factor
2005	Purchase	Miller UPS	100%
2005	FPC	UNIVERS 1	91%
2005	FPC	CR NUC 3	87%
2005	Cogen	Cogen	86%
2005	FPC	CRYSTAL 2	86%
2005	FPC	CRYSTAL 4	84%
2005	FPC	CRYSTAL 5	82%
2005	FPC	CRYSTAL 1	81%
2005	FPC	TIGERBAY 1	69%
2005	FPC	HINES 1	64%
2005	FPC	HINES 2	59%
2005	FPC	BARTOW 3	53%
2005	Purchase	Teco Purc	47%
2005	FPC	BARTOW 1	41%
2005	FPC	BARTOW 2	34%
2005	FPC	HINES 3	28% December Only

41. Please provide the numerical value for the cost for each type of generation at zero capacity factor shown on Exhibit (JBC-4).

Technology	Levelized Busbar Cost at 0% Capacity Factor ($/kW-yr, 2001$)
CC	176
CT	112
Coal	304
Nuclear	467

42. Please provide an analysis that shows that FPC customers would be subjected to higher fuel costs without Hines Unit 3. How much higher would the total annual fuel costs be without Hines 3?

A one-year delay in constructing Hines Unit 3 from the end of 2005 to the end of 2006 would increase the projected production costs (fuel and variable O&M) by approximately $25 million (nominal dollars). Please also see Florida Power's response to Interrogatory 43.

43. How did FPC calculate the $25 million increase due to a one-year delay in constructing Hines Unit 3?

The $25 million increase due to a one-year delay in constructing Hines Unit 3 was calculated from two PROSYM runs and is the difference in nominal dollars in production costs from the one-year delay case minus the production costs from the base case. The TYSP base case reflects Hines 3 in service at the end of 2005. The one-year delay case assumes that Hines 3 in-service date will be delayed until the end of 2006 and that no other capacity is added in place of Hines 3 during the one-year delay period. If the Hines 3 unit is delayed, Florida Power would not be able to satisfy its minimum 20 percent Reserve Margin planning criterion by the winter of 2005/06 in the most reliable and cost-effective manner.

44. Could any of the Hines Units be converted to coal gasification based on environmental requirements?

The economics of coal gasification would have to be significantly different from current assumptions. Therefore, Florida Power has not researched the possibility of converting a Hines unit to coal gasification.

45. Will the addition of Hines Unit 3 preclude entirely the use of coal gasification?

No, it will not. Space has been set aside for the addition of coal gasification facilities at the Hines Energy Complex, and the construction of Hines 3 does not preclude future units from being built as coal gasification combined cycle.

46. According to Mr. Hunter's testimony, Hines Unit 3 requires only a supplemental application and review from the Department of Environmental Protection for site certification. This will cost less than a full review. What are the cost savings attributable to the scaled down review?

Florida Power has not undertaken to develop an estimate of the costs that would be associated with an Original Application for Site Certification in connection with the Hines 3 power block as though it were a stand-alone plant. Florida Power expects that the costs of the Supplemental Site Certification for the addition of Hines Power Block 3 will be similar to those incurred in connection with Hines Power Block 2. The cost of the Supplemental Site Certification for the addition of Hines 2 was approximately $2 million.

However, Florida Power would reasonably expect that the costs of an Original Site Certification Application for the addition of Hines Power Block 3 would be three to five times more than the costs of the Supplemental Site Certification.

47. What is the cost of the infrastructure that is already in place at the Hines Energy Complex (HEC) that will benefit Hines Unit 3?

Florida Power has obtained an extension of time to respond to the request.

48. What common environmental equipment now in place or to be added at HEC will benefit Hines Unit 3 and any of the other two Units?

Common environmental equipment (infrastructure) benefiting Hines 3 now in place includes the storm water management system, the industrial waste storage pond (cooling pond), the oil storage and secondary containment, the demineralized water production facilities and storage tank (NOx water injection), the sewage treatment facilities, and the ground water monitoring systems.

No common environmental equipment other than miscellaneous drainage facilities will be added during Hines 3 construction.

49. Mr. Murphy's testimony states that the ability of Hines Unit 3 to share facilities with Hines Unit 1 and Hines Unit 2 will capture cost saving associated with

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Public Service Commission

December 4, 2002

(CERTIFIED MAIL NO. 7002-0860-0001-1755-4930)

Gary L. Sasso, Esquire
Jill H. Bowman, Esquire
W. Douglas Hall, Esquire
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Re: Return of Portions of Confidential Document to the Source, Docket No. 020953-EI

Dear Mr. Sasso:

Commission staff have advised that interrogatory response Nos. 50 and 54 in Confidential Document No. 11222-02, filed on behalf of Florida Power Corporation, can be returned to the source. These responses, found on pages 9 and 12 of DN 11222-02, are enclosed. Interrogatory response No. 59 will be retained with the Commission per Order PSC-02-1600-CFO-EI.

Please do not hesitate to contact me if you have any questions concerning return of this material.

Sincerely,

Kay Flynn

Kay Flynn, Chief
Bureau of Records and Hearing Services

KF/mhl
Enclosure

cc: Lee Colson, Division of Economic Regulation
Larry Harris, Office of the General Counsel

To help forestall a recurrence of this situation, the Company would include cost incentives in its Hines 3 contract to encourage the EPC contractor to stay below a target cost. But we can never completely rule out the possibility that a contractor may be unwilling or unable to perform as promised at the time the contractor is actually called upon to do so.

51. On page 4 of Mr. Murphy's testimony, he stated that Hines Unit 3, a combined cycle plant, can function as a baseload or intermediate unit. Is there any reason why this unit cannot perform as a peaker?

The Hines Unit 3 is designed to operate as a combined cycle unit and was not designed to operate as a peaker. Thus, the economic dispatch of the unit results in its being operated as an intermediate or base load unit. The unit could not be prudently operated as a peaker due to the increased maintenance cost associated with the out-of-design operation of the steam cycle components. However, Florida Power fully expects to use the output of Hines 3 to meet load at time of peak, beginning with the 2005/2006 winter peak.

52. Mr. Murphy stated that FPC will follow either competitive selection or a design-build turn-key method in constructing Hines Unit 3. Please provide the analyses that FPC performed to determine which method was the most cost effective for the construction of Hines unit 3.

This determination has not been made for Hines Power Block 3. However, Florida Power did estimate the cost for Hines Unit 3 using a design-build approach. Florida Power will reserve the decision on how to contract depending on unfolding market conditions.

Certain aspects of the Hines Unit 3 project could be competitively bid, such as the heat recovery steam generators (HRSGs) and the steam turbine for the project, or negotiated with the suppliers of Unit 2 equipment. For Unit 2, this equipment is provided under a contract Florida Power has with Siemens Westinghouse Corporation. FPC could approach the EPC contract from a competitive posture and attempt to gain a firm lump sum price for the entire project. Florida Power would have to be comfortable that a replicate design of Unit 2 could be cost-effectively obtained in this manner, taking into consideration the issue of assumption of risk.

53. Which construction method will provide the minimum cost risk to FPC ratepayers?

Florida Power cannot say conclusively at this time whether the competitive selection or design-build turn-key method will provide the minimum cost risk to Florida Power's rate payers. In Florida Power's experience, the minimum risk to ratepayers occurs when the participating parties accept the risk over which they have the most control. This is because the assumption of risk must be balanced against how much control the party who assumes that risk has in managing the risk. Attempting to assign risk to a party that does not have the ability to manage that risk effectively will force that party to increase its price disproportionately to deal with the risk.

For example, if Florida Power were to create a contract arrangement with an EPC contractor that would place that contractor completely at risk for the performance of major piece of equipment that the contractor did not have performance control over, the contractor would charge an additional premium to ensure that it would not suffer a loss. The amount of that premium would be in direct proportion to the amount of risk the contractor believes it has assumed. Florida Power could, in such circumstances, take some comfort that it had shifted the risk associated with the equipment performance to the contractor, thus controlling its costs in a limited sense;

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55. At the time that FPC purchased combustion turbine equipment for Hines 1 and 2, it was able to negotiate beneficial pricing for the combustion turbine equipment to be used at Hines 3. If FPC had to negotiate the same deal for the Hine 3 turbines on today's market, what would FPC have to pay?

Florida Power has not attempted to negotiate the same deal it did for Hines 3 in the current market, so it cannot directly estimate what it would have to pay. However, based on industry information, Florida Power expects that it could obtain the combustion turbine units in today's market at approximately the same contracted price as it did for the Hines 3 combustion turbines, but without the favorable contract terms and conditions negotiated by FPC for these units, which add value for the Florida Power customers. Florida Power would expect to pay a premium above the costs of the combustion turbine equipment to achieve these same favorable terms in today's market. Florida Power believes that the favorable terms and conditions negotiated for the combustion turbines is worth approximately 5% to 7% of the purchase price.

56. FPC estimated the incremental annual fixed O&M cost of Hines Unit 3 to be $1.45/kW-Yr in 2005, and the estimated variable O&M cost to be $2.13/Mwh in 2005. Please compare these costs for Hines 3 with the same costs for Hines Units 1 and 2.

Florida Power does not input fixed O&M for existing or committed units into any of its resource planning models; thus, comparable values for 2005 are not available for Hines Unit 1 or Hines Unit 2. In the analysis performed for the RFP, Florida Power used the same variable O&M cost for Hines 1 and Hines 2 as it used for Hines 3.

57. Will Hines Unit 3 be the most economical unit when it comes on line in 2005? If not, what will be the lowest cost power plant on FPC's system in 2005?

Hines 3 is scheduled to be in service in December 2005. The lowest cost power plants on FPC's system in 2006 (based on projected fuel and variable O&M costs) are shown in the table below.

Station
CRYSTAL RIVER NUC 3
MILLER UPS (PURCHASE)
CRYSTAL RIVER 2
CRYSTAL RIVER 1
CRYSTAL RIVER 5
CRYSTAL RIVER 4
TECO (PURCHASE)
BARTOW 3
HINES 3

58. Mr. Murphy stated that, fully loaded, Hines Unit 3's heat rate will be approximately 6900 Btu/kWh. Please provide the heat rate that you expect Hines Unit 3 to obtain at a capacity factor between 50 and 60%.

Based on Prosym analyses, the heat rate for Hines 3 at a capacity factor of approximately 50% to 60% is expected to be about 6995 Btu/kWh.

59. What facilities will Hines Unit 3 share with Units 1 and 2 that if removed would cause two or more of the Hines Units to be removed from service?

The catastrophic loss of the following facilities would cause two or more of the Hines units to be removed from service:

- demineralized water storage tank
- fuel oil tank (when operating on fuel oil)
- control room
- cooling pond (dam rupture).

Also, the loss of the gas line from FGT and Gulfstream meter regulator stations would cause two or more of the Hines units to be removed from service.

60. According to Ms. Murphy's testimony, Hines Unit 3 will share certain natural gas line facilities with units 1 and 2 on the Hines Energy Complex (HEC). What gas lines will these units share on the HEC?

The Hines Energy Complex is served by both Gulfstream Natural Gas and Florida Gas Transmission pipelines. A lateral from each pipeline serves the site through individual pressure regulating stations. Downstream of the pressure regulating stations, the gas supply lines merge into a common 16-inch header that runs through the site. Each of the Hines power blocks is served by a 10-inch supply line off this 16-inch header.

61. Once the gas lines enter the HEC, explain how these gas lines are routed to Hines Unit 3.

See response to Interrogatory Number 60.

62. Will the distillate fuel oil lines or facilities that will be used to supply Hines Unit 3 be routed through the Hines 1 or 2 power units? Please explain.

The fuel oil supply for the site is provided from one tank. A common supply header from the tank feeds the forwarding pump skid area just outside the tank compartment where the forwarding pumps for Hines 1 and 2 are currently located. The supply header will be extended and pumps added for Hines 3. The oil supply from the pumps to each power block will be routed separately along the south side of the site along the plant island boundary. At no point downstream of the forwarding pumps are the oil supplies common.

63. According to Mr. White's testimony, the Hines-West Lake Wales 230kV line has been pushed out because of the construction of the Vandolah-Whidden 230kV line. The latter is associated with certain independent power producers' (IPP's) transmission service contracts. Who do these IPPs have contracts with?

- Calpine Corporation has contracted, or will contract, with Tampa Electric Company for interconnection and transmission service.
- Shady Hills Power Company, LLC has contracted with Florida Power for Interconnection Service.
- Reliant Energy has contracted with Florida Power for transmission service associated with the Shady Hills plant.

64. Who are these IPPs?

The IPP's are Shady Hills Power Company, LLC and Calpine Corporation.

65. Have these IPPs posted security bonds?

RE: Shady Hills Power Company, LLC - No.

RE: Calpine Corporation - Unknown

66. What will happen if this line (Vandolah-Whidden 230kV) is later found to be not needed?

Firm commitments were entered into by Shady Hills Power Company, LLC, Reliant Energy and Florida Power for the interconnection, five years of transmission service, respectively, and the construction of the Vandolah – Whidden 230 kV transmission line. We fully anticipate the terms and conditions being met by the parties.

67. What was the estimated cost of constructing the Hines-West Lake Wales 230kV line?

The cost of constructing the Hines – West Lake Wales 230 kV line was most recently estimated at $20,371,500.

68. The transmission system simulations show that with or without Hines Unit 3 dispatched, several 230kV breakers are overdutied. Was the replacement of these

breakers part of Hines Unit 2 addition? What was the cost included in Hines Unit 2 need for these breakers?

The cost of replacing twelve (12) breakers at Hines Substation was most recently estimated at $1,505,000. The estimated salvage credit as a result of recovering the old breakers is $950,000, and the additional removal cost of the old breakers is $60,000. The net cost of replacing these breakers would then be $615,000. Replacing these breakers is necessary to accommodate new nearby transmission facilities, as well as the installation of Hines 2 and other local generation. No single transmission or generation facility may be assigned responsibility for the total costs of replacing these breakers.

69. What year was Hine Unit 3 included in this transmission study?

Please see Section III, Question 2, beginning at line 19 on page 5 of 8 of The Direct Testimony of W. Bart White.

In re: Petition to determine need
for Hines Unit 3 in Polk County
by Florida Power Corporation
Docket No. 020953-EI

Signature

AFFIDAVIT

STATE OF NORTH CAROLINA)
)
COUNTY OF WAKE)

I hereby certify that on this 11th day of OCTOBER, 2002, before me, an officer duly authorized in the State and County aforesaid to take acknowledgments, personally appeared DANIEL J. ROEDER, who is personally known to me, and he/she acknowledged before me that he/she provided the answers from Staff's Second Set of Interrogatories (Nos. 34-69) to Florida Power Corporation in Docket No. 020953-EI, and that the responses are true and correct based on his/her personal knowledge.

In Witness Whereof, I have hereunto set my hand and seal in the State and County aforesaid as of this 11th day of October, 2002.

NA'IMAH 'UBAYDAH
NOTARY
***
PUBLIC
WAKE COUNTY, N.C.

(AFFIX NOTARIAL SEAL)

Na'imah 'Ubaydah
(Signature)

Na'imah 'Ubaydah
(Printed Name)

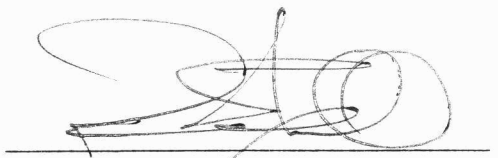
NOTARY PUBLIC, STATE OF NC

July 6, 2003
(Commission Expiration Date)

(Serial Number, If Any)

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT a true and correct copy of the foregoing has been served by U.S. Mail to Lawrence Harris and Marlene Stern, Legal Division, Florida Public Service Commission, Gunter Building, 2540 Shumard Oak Boulevard, Tallahassee, FL 32399-0850, on this 15th day of October, 2002.



Attorney