

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Fuel and Purchased Power)	DOCKET NO. 910001-EI
Cost Recovery Clause and Generating)	
Performance Incentive Factor (Crystal)	ORDER NO. 24387
River #3 1989 Outages))	
<hr/>		ISSUED: 4/18/91

Pursuant to Notice, a Prehearing Conference was held on April 15, 1991, in Tallahassee, before Commissioner Betty Easley, Prehearing Officer.

APPEARANCES:

JAMES A. MCGEE, Esquire and GERALD A. WILLIAMS, Esquire, Florida Power Corporation, P.O. Box 14042, St. Petersburg, Florida 33733 and ALAN C. SUNDBERG, Esquire, Carlton, Fields, Ward, Emmanuel, Smith & Cutler, P.A., 410 First Florida Bank Building, Tallahassee, Florida 32301
On behalf of Florida Power Corporation

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On behalf of the Citizens of the State of Florida

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Counsel to the Commissioners

PREHEARING ORDERBackground

In connection with the August, 1989 hearing in Docket No. 890001-EI, the Office of Public Counsel raised an issue with regard to Florida Power Corporation's recovery of replacement fuel costs for outages at its Crystal River Unit 3. In order to allow sufficient time for discovery, the parties agreed to defer decision on the following issue until February, 1990, with some testimony to

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be heard in August, 1989:

ISSUE: Is it appropriate for FPC to recover replacement fuel cost for the Crystal River Unit 3 outages?

Over time, the issue was further developed and eventually replaced by the issues shown herein.

At the August, 1989 hearing, FPC's witness, Mr. Paul McKee, submitted a short outage report to the Commission. The written report forms a portion of Mr. McKee's prefiled direct testimony herein. FPC filed no other direct testimony on this issue in preparation for the February, 1990 hearing. Public Counsel's witness, Dr. Stephen Hanauer, filed his prepared direct testimony on January 26, 1990. Mr. McKee filed rebuttal testimony on February 9, 1990. However, the issue was thereafter deferred before the hearing due to a refueling outage which FPC anticipated would begin in March, 1990 and would last approximately four months. FPC anticipated that the outage would make preparation for hearing difficult or impossible. With the agreement of the parties, the prehearing officer deferred the replacement fuel issue indefinitely, with the understanding that the parties would renew discovery efforts 30 days following the conclusion of the refueling outage, and that this matter would be severed and set for hearing separately from the regularly scheduled hearings in this docket.

The refueling outage ended in June, 1990. Thereafter, this matter was scheduled for hearing in April, 1991 and the parties renewed preparation for hearing. Mr. McKee supplemented his earlier testimony on October 29, 1990, and FPC filed the prepared direct testimony of Dr. Elemer Makay on October 29, 1990. Thereafter, Dr. Hanauer filed revised prepared direct testimony on March 28, 1991. Dr. Makay filed rebuttal testimony on April 16, 1991, while Mr. McKee filed rebuttal testimony on April 16, 1991. The parties have agreed that some testimony will be offered for other than the purpose for which it was originally filed. For example, as shown in the witness list herein, Mr. McKee's direct testimony will consist of testimony originally filed for direct, rebuttal and supplemental purposes.

At issue in this hearing is the recovery of replacement fuel for two deratings and related outages: the "high vibration" derating from November 24, 1988 through December 7, 1988, the "high vibration" outage from December 7, 1988 through January 16, 1989, the "broken shaft" derating from January 18, 1989 through February 26, 1989, and the "broken shaft" outage from February 26, 1989 through June 17, 1989.

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Use of Prefiled Testimony

All testimony which has been prefiled in this case will be inserted into the record as though read after the witness has taken the stand and affirmed the correctness of the testimony and exhibits, unless there is a sustainable objection. All testimony remains subject to appropriate objections. Each witness will have the opportunity to orally summarize his testimony at the time he or she takes the stand.

Use of Depositions and Interrogatories

If any party seeks to introduce an interrogatory or a deposition, or a portion thereof, the request will be subject to proper objections and the appropriate evidentiary rules will govern. The parties will be free to utilize any exhibits requested at the time of the depositions, subject to the same conditions.

Order of Witnesses

The witness schedule is set forth below in order of appearance by the witness' name, subject matter, and the issues which will be covered by his or her testimony.

<u>Witness</u>	<u>Subject Matter</u>	<u>Issues</u>
<u>Direct</u>		
1. Paul F. McKee (FPC)	Three items of prefiled testimony will comprise Mr. McKee's direct testimony: Initial report to Commission on events surrounding outages and outage activities (Direct testimony filed 8-18-89, corrected copy and errata sheets filed 4-9-91) Rebuttal testimony filed 2-9-90 (corrected copy and errata sheets filed 4-9-91) Supplemental testimony filed 10-29-90	1-5

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	<u>Witness</u>	<u>Subject Matter</u>	<u>Issues</u>
2.	Elemer Makay (FPC)	Discussion of industry operational problems with reactor coolant pumps and reactor coolant pump seals (Prepared direct testimony filed 10-29-90)	1, 5
3.	S.H. Hanauer (OPC)	Outages at FPC's Crystal River #3 nuclear unit (Revised prepared direct testimony filed 3-28-91; replaces testimony filed 1-26-90)	1-5
<u>Rebuttal</u>			
4.	Paul F. McKee (FPC)	Rebuttal to Public Counsel witness Hanauer (Rebuttal testimony filed 4-16-91)	1-5
5.	Elemer Makay (FPC)	Rebuttal to Public Counsel witness Hanauer (Rebuttal testimony filed 4-16-91)	1-5

Exhibits

<u>Exhibit Number</u>	<u>Witness</u>	<u>Description</u>
<u>(PFM-1)</u>	McKee Direct (FPC)	Chronology of Major Events
<u>(PFM-2)</u>	McKee (FPC)	"As Built" Outage Schedule
<u>(PFM-3)</u>	McKee (FPC)	Babcock & Wilcox Contract Terms and Conditions
<u>(PFM-4)</u>	McKee (FPC)	Amended Byron Jackson Terms and Conditions

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<u>Exhibit Number</u>	<u>Witness</u>	<u>Description</u>
<u>(PFM-5)</u>	McKee (FPC)	Diagram of CR3 Nuclear Steam Supply System (visual aid)
<u>(PFM-6)</u>	McKee (FPC)	Diagram of Reactor Coolant Pump and Motor (visual aid)
<u>(PFM-7)</u>	McKee (FPC)	Photograph of Reactor Coolant Pump and Motor (visual aid)
<u>(EM-1)</u>	Makay (FPC)	Professional Experience
<u>(EM-2)</u>	Makay (FPC)	Publications and Reports
<u>(EM-3)</u>	Makay (FPC)	Shaft Break Events
<u>(EM-4)</u>	Makay (FPC)	Updated Shaft Break Events
<u>(SHH-1)</u>	Hanauer (OPC)	Qualifications of Stephen H. Hanauer
<u>(SHH-2)</u>	Hanauer	FPC, NAERC, Event Reports
<u>(SHH-3)</u>	Hanauer	NRC Status Summary Operating Report
<u>(SHH-4)</u>	Hanauer	FPC, Nonconforming Operations Report
<u>(SHH-5)</u>	Hanauer	SW Research Inst. Trip Report 1/22/89
<u>(SHH-6)</u>	Hanauer	"A" Reactor Coolant Pump Shaft Rpt. 1/27/89
<u>(SHH-7)</u>	Hanauer	MPR Associates, Inc. Final Report 4/90
<u>(SHH-8)</u>	Hanauer	FPC Memo-Clary to Donovan to Colby dated 9/4/90

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<u>Exhibit Number</u>	<u>Witness</u>	<u>Description</u>
<u>(SHH-9)</u>	Hanauer	FPC Memo-Becker to McKee dated 5/22/90
<u>(SHH-10)</u>	Hanauer	NRC letter 12/8/88
<u>(SHH-11)</u>	Hanauer	FPC, LER 88-028, 1/19/89
<u>(SHH-12)</u>	Hanauer	FPC Response POD No. 3-6
<u>(SHH-13)</u>	Hanauer	April 4, 1989 letter to T. Steele (FPC)
<u>(SHH-14)</u>	Hanauer	FPC Interoffice Correspondence 3/6/89
<u>(SHH-15)</u>	Hanauer	GE Draft Report 12/15/89
<u>(SHH-16)</u>	Hanauer	GE Engineering Evaluation 4/7/89
<u>(SHH-17)</u>	Hanauer	NRC Bulletin 88-04, dated 5/5/88
<u>(SHH-18)</u>	Hanauer	Pump Flow Evaluation 6/17/88
<u>(SHH-19)</u>	Hanauer	Letter to Gilbert re: CR Pump minimum flow requirements 8/10/88
<u>(SHH-20)</u>	Hanauer	Letter to Gilbert re: minimum flow eval., 6/22/88
<u>(SHH-21)</u>	Hanauer	Fax to E. Morea re: pump minimum flow, 9/6/88
<u>(SHH-22)</u>	Hanauer	3/22/89 Letter to Gilbert re: Decay Heat Removal Pump

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<u>Exhibit Number</u>	<u>Witness</u>	<u>Description</u>
<u>(SHH-23)</u>	Hanauer	Letter to Smith, pump minimum flow eval., 8/3/88
<u>(SHH-24)</u>	Hanauer	FPC Risk Assessment Team, Mtg. 88-02-A
<u>(SHH-25)</u>	Hanauer	FPC Risk Assessment Team, Mtg. 88-02-B
<u>(SHH-26)</u>	Hanauer	FPC, LER 89-016-02
<u>(SHH-27)</u>	Hanauer	FPC Interoffice Cor- respondence re: Audit Rpt. 88-11-EQA
<u>(SHH-28)</u>	Hanauer	FPC RCP Post Outage Rpt.
<u>(SHH-29)</u>	Hanauer	FPC Interoffice Cor- respondence re: Reactor Coolant Pump Seal Failures
<u>(SHH-30)</u>	Hanauer	FPC Interoffice Cor- respondence re: Emergency Diesel Generator Loss of Crankcase Vacuum
<u>(SHH-31)</u>	Hanauer	Steam Generator Deratings
<u>(SHH-32)</u>	Hanauer	FPC Response to POD #3-3
<u>(SHH-33)</u>	Hanauer	FPC Response to POD #4
<u>(SHH-34)</u>	Hanauer	CR3 Outage/Derating Durations

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<u>Exhibit Number</u>	<u>Witness</u>	<u>Description</u>
<u>(SHH-35)</u>	Hanauer	Makay Deposition Exhibit No. 1 produced 3/18/91
<u>(SHH-36)</u>	Hanauer	Williams/FPC Response to Item 3.3 - 1/4/90
<u>(SHH-37)</u>	Hanauer	FPC Response to OPC 2nd Int. - 3/11/91
<u>(SHH-38)</u>	Hanauer	FPC Response to OPC 1st Int. - 8/22/90
<u>(SHH-39)</u>	Hanauer	Webster to Smith - 2/7/86
<u>(SHH-40)</u>	Hanauer	Webster to Murgatroyd, 6/17/86
<u>(SHH-41)</u>		(Exhibit deleted)
<u>(SHH-42)</u>		(Exhibit deleted)
<u>(SHH-43)</u>	Hanauer	FPC Supplemental Response to OPC 2nd POD, 3/6/90 (partial)

PARTIES' STATEMENTS OF BASIC POSITION

Florida Power Corporation (FPC): FPC's testimony in this proceeding demonstrates that its actions with respect to the events which lead to the outages at Crystal River 3 (CR3) beginning in December 1988 and February 1989, and with respect to the activities performed during the outages met, and in many particulars exceed, the standard of reasonableness necessary for the recovery of the replacement fuel costs associated with the outages.

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The Office of Public Counsel (OPC):

Under prevailing case law, an electric utility must prove that replacement fuel cost for lost nuclear generation was prudently incurred and did not result from mismanagement. FPC cannot satisfy this standard with regard to deratings and outages at Crystal River #3 between November 24, 1988, and October 6, 1989. At this time, FPC does not know the root cause of the "high vibration" derating and outage between November 24, 1988, and January 16, 1989. This is also true for the "broken shaft" derating and outage between January 18, 1989, and June 26, 1989. Accordingly, FPC cannot establish that replacement fuel costs for those time periods were prudent and did not result from mismanagement. Furthermore, even if the cause of the outages were not attributable to FPC's imprudence, these outages were extended unnecessarily because of the utility's mismanagement with regard to: (1) repair of reactor coolant pump motor lamination damage incurred because of inadequate design and inspection; (2) failure to document the low-flow capabilities of decay heat pumps leading to requirement to test flow levels; 3) failure to satisfy NRC-mandated equipment qualification requirements; and (4) improper rebuilding of reactor coolant pump seals.

Staff of the Florida Public Service Commission (STAFF): None at this time.

STATEMENT OF ISSUES AND POSITIONS

1. ISSUE: Should FPC be ordered to refund monies collected from its customers to replace lost generation at Crystal River #3 attributable to shaft outages?

STAFF: No position at this time.

FPC: No. FPC's actions in response to events which lead to the shaft failure were reasonable and prudent under the conditions and information known by FPC at that time.

OPC: Yes.

2. ISSUE: Were the 1989 power reductions and outages extended unnecessarily because of repairs to reactor coolant pumps for motor lamination damage?

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STAFF: No position at this time.

FPC: No. FPC's actions with respect to the inspection and repair of the reactor coolant pump motors were reasonable and prudent under the conditions and information known by FPC at that time. Absent extenuating circumstances not present in this case, negligence on the part of a vendor, if any, is not attributable to FPC.

OPC: Yes. FPC and GE, the pump motor manufacturer, acted unreasonably. General Electric's inadequate design and/or manufacturing process required periodic inspections and repairs. If FPC had complied with a 1985 service bulletin from GE, inspections and repairs could have been performed at times which would not have caused FPC's customers to incur additional fuel charges for replacement generation. In 1990, for example, three motors were repaired without affecting the duration of a refueling outage.

3. ISSUE: Were the 1989 power reductions and outages extended unnecessarily by the need for FPC to test the low-flow capabilities of its decay heat pumps?

STAFF: No position at this time.

FPC: No. FPC's actions in attempting to secure test data required by the NRC from the successor of the pump manufacturer and in performing the low-flow tests were reasonable and prudent under the conditions and information known by FPC at that time. Absent extenuating circumstances not present in this case, negligence on the part of a vendor, if any, is not attributable to FPC.

OPC: Yes. Unreasonable actions by FPC and the pump manufacturer, Dresser/Worthington, caused a loss of generation so that flow tests, known to have been required since the 1970's, could be performed on the decay heat pumps.

4. ISSUE: Were the 1989 power reductions and outages extended unnecessarily because of FPC's need to comply with NRC-mandated equipment qualification requirements?

STAFF: No position at this time.

FPC: No. FPC's actions in attempting to comply with the

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NRC's equipment qualification requirements were reasonable and prudent under the conditions and information known by FPC at that time.

OPC: Yes. The environmental qualification work done during the "broken shaft" outage was not the result of new NRC requirements. The NRC has imposed equipment qualification requirements since 1971. More detailed regulations were issued in 1983, with a deadline for compliance by November 30, 1985. With one exception, FPC's failure to comply with the NRC's equipment qualification requirements resulted from programmatic deficiencies, evidencing mismanagement in this area.

5. ISSUE: Were the 1989 power reductions and outages extended unnecessarily by the need to replace reactor coolant pump seals?

STAFF: No position at this time.

FPC: No. FPC's actions and reliance on technical representatives of the seal manufacturer regarding the assembly and installation of the reactor coolant pump seals were reasonable and prudent under the conditions and

information known by FPC at that time. Absent extenuating circumstances not present in this case, negligence on the part of a vendor, if any, is not attributable to FPC.

OPC: Yes. FPC unreasonably managed the rebuilding of reactor coolant pump seals during the "broken shaft" outage, using "new" people and less technical supervision for this task in spite of known problems, and violated procedures in rebuilding three seals by using too much lubricant.

STIPULATED ISSUES

None.

MOTIONS

None.

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OTHER MATTERS

1. On April 15, 1991, FPC filed a "Supplement to Pretrial Statement", the purpose of which was to "advise the Commission and Public Counsel of issues of law which Florida Power will raise at the hearing as to the legal competency of certain conclusions and opinions" of Public Counsel's witness, Dr. Hanauer, as well as his qualifications. No action or decision was requested of the prehearing officer. FPC will make its motion to strike testimony, if any, at the hearing.

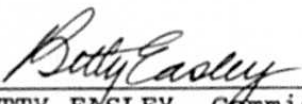
2. The following issue will be addressed at the August, 1991 hearing in this docket in order to allow FPC to properly prepare its response:

ISSUE: Did the installation of an incorrect impeller on a raw water pump cause an unnecessary outage at Crystal River #3?

Based on the foregoing, it is

ORDERED by Commissioner Betty Easley, Prehearing Officer, that these proceedings shall be governed by this order unless modified by the Commission.

By ORDER of Commissioner Betty Easley, Prehearing Officer,
this 18th day of APRIL, 1991.



BETTY EASLEY, Commissioner
and Prehearing Officer

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