

# STATE OF FLORIDA OFFICE OF THE PUBLIC COUNSEL

e/o The Florida Legislature 111 West Madison Street Room 512 Tallahessee, Florida 32309-1400 904-488-9330

June 9, 1997

Ms. Blanca S. Bayó, Director Division of Records and Reporting Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, FL 32399-0870

RE: Docket No. 970261-EI

Dear Ms. Bayó

Enclosed are an original and fifteen copies of the Prehearing Statement of the Office of Public Counsel for filing in the above referenced docket.

Also Enclosed is a 3.5 inch diskette containing the Prehearing Statement of the Office of Public Counsel in WordPerfect for Windows 6.1 format. Please indicate receipt of filing by date-stamping the attached copy of this letter and returning it to this office. Thank you for your assistance in this matter.

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Sincerely,

John Roger Howe Deputy Public Counsel

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### BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Review of nuclear outage	)	
at Florida Power Corporation's	)	Docket No. 970261-EI
Crystal River Unit No. 3.	)	Filed: June 9, 1997
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# PREHEARING STATEMENT OF THE OFFICE OF PUBLIC COUNSEL

The Citizens of the State of Florida, through the Office of Public Counsel, pursuant to the Order Establishing Procedure in this docket, Order No. PSC-97-0246-PCO-EI, issued February 28, 1997, submit this Prehearing Statement.

## APPEARANCES

JACK SHREVE, Esquire
Public Counsel
JOHN ROGER HOWE, Esquire
Deputy Public Counsel
Office of the Public Counsel
c/o The Florida Legislature
111 West Madison Street, Room 812
Tallahassee, Florida 32399-1400
On behalf of the Citizens of the State of Florida

#### A. WITNESSES:

William R. Jacobs, Jr., Ph.D. GDS Associates, Inc. Suite 720 1850 Parkway Place Marietta, Georgia 30067

Dr. Jacobs will address all issues. The Citizens reserve the right to have Dr. Jacobs address all matters which may arise during Florida Power Corporation's direct case, whether introduced through prefiled direct testimony, a witness's summary of his prefiled direct testimony and changes thereto, cross-examination, or otherwise.



## B. EXHIBITS:

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The following exhibits were prefiled by Dr. Jacobs as part of his prefiled direct testimony:

Exhibit WRJ - 1	Resumé of William R. Jacobs, Jr., Ph.D
Exhibit WRJ - 2	Excerpts from the Management Corrective Action Program
	Phase II
Exhibit WRJ - 3	FPC letter to NRC dated October 28, 1996
Exhibit WRJ - 4	NRC Inspection Manual
Exhibit WRJ - 5	Critical Path Timeline Chart - Crystal River Unit 3 Restart Plan
Exhibit WRJ - 6	Historical Description of EFW System Changes
Exhibit WRJ - 7	Modification Approval Record (MAR) for 1987 ASV-204
	Modification
Exhibit WRJ - 8	Licensee Event Report 97-001-00, Ineffective Change Management
	Results in Unrecognized NPSH Issue Affecting Emergency
	Feedwater Availability

The Citizens reserve the right to introduce other exhibits as appropriate during examination of the witnesses at the hearing.

## C. STATEMENT OF BASIC POSITION

### PURPOSE OF HEARING

FPC has been authorized to collect \$70 million from its customers for replacement fuel costs associated with the ongoing outage at its Crystal River 3 nuclear unit over the twelve-month period from April 1, 1997, through March 31, 1998. The Commission, however, has no idea at this time whether recovery of any of that money is justified. The purpose of the hearing in this docket, therefore, as the Citizens understand it, is to allow FPC an opportunity to justify continued collection of the \$70 million and retention of sums already collected until the Commission conducts a later hearing on the total scope of the outage.

### INITIATING CAUSE OF THE OUTAGE

There will be no dispute among the parties that FPC had to take CR-3 off-line because of a leak in the turbine lubricating oil system. The leak occurred in an area that is hidden from view but in which previous repairs had been performed. FPC's found a cracked pipe, a gasket loosened by vibrations and, of three pipe supports, one was damaged, one had previously been repaired, and a third was missing altogether. These factors suggest FPC management should have required routine inspections, especially during extended refueling outages such as the one which had just concluded in May, 1996, only four months before the oil leak took CR-3 out of service again.

## CONTINUATION OF THE OUTAGE

The total scope of the outage is not known at this time and must await an after-the-fact review when CR-3 returns to service. However, the reasons CR-3 was not back on line immediately after repairing the oil leak are readily ascertainable and point directly at managerial imprudence as the cause. The importance of the underlying facts to the Citizens' positions on issues require that this statement of basic position outline those facts in some detail.

In 1987, FPC was concerned about the electrical loading on the "A" emergency diesel generator (EDG). The "solution" was to have the steam-driven emergency feedwater pump, EFP-2 from the "B" train, start on an "A" train signal along with the electrically driven emergency feedwater pump, EFP-1. With both emergency feedwater pumps running, EFP-1 would have a lighter pumping load, thereby reducing the electrical load it placed on the A EDG.

In 1990, FPC was again concerned about electrical loading on the A EDG. The 1990 modification had EFP-1 "trip" off line when the pressure in the reactor coolant system dropped to 500 pounds per square inch, the point at which another electrically driven pump, the low pressure injection pump, started up. Although the low pressure injection pump started at 500 psi, it did not actually inject cooling water into the reactor coolant system until pressure fell to 185 psi. Between 500 psi and 185 psi, emergency feedwater requirements were met by EFP-2, the steam-driven pump running in tandem with EFP-1 by virtue of the 1987 modification

During the 1996 refueling outage, FPC became concerned about cavitation problems caused by inadequate net positive suction head (NPSH) to EFP-1 and EFP-2. It is the Citizens' position that NPSH and cavitation are well-known phenomena contemplated in traditional hydraulic system design which FPC should have addressed in 1987. FPC's decision to "reverse" the 1987 modification caused the A EDG to be overloaded under certain conditions.

Regardless of the reasonableness of FPC's belief that the A EDG could handle the electrical load, FPC management, in 1996, forgot about the 1990 modification. The 1990 modification depended upon the 1987 modification not being reversed, whether in 1996 or at any other time. Reversal of the 1987 modification meant that, when EFP-1 tripped off as pressure in the reactor coolant system fell to 500 psi pursuant to the 1990 modification, CR-3 would have no automatic emergency feedwater protection at all.

FPC is now in the process of putting things back the way they were. It is re-instituting the 1987 modification, but this time it is also addressing the cavitation problem. Once that is done, the 1990 modification will also again work as originally intended, i.e., EFP-2 will again provide automatic emergency feedwater after EFP-1 trips off at 500 psi.

There is no excuse for FPC's management actually implementing modifications during the 1996 refueling outage which took CR-3 outside its NRC license requirements. CR-3 is not generating electricity for FPC's customers because FPC management failed to perform a complete

modification in 1987, one that took the potential for cavitation into account. Had it been done correctly in 1987, the NPSH concerns which led to its reversal during the 1996 refueling outage would not have come into play.

The NRC's realization that FPC had unreviewed safety questions with regard to both the loading of the emergency diesel generator and the emergency feedwater system led directly to the shake-up in FPC's management, to CR-3's appearance on the "Watch List," the creation of a restart panel, and the multitude of issues FPC must address to the NRC's satisfaction before CR-3 can return to service.

### D. STATEMENT OF FACTUAL ISSUES AND POSITIONS:

- ISSUE 1: Was Florida Power Corporation's decision to shut-down Crystal River Unit No. 3 on September 2, 1996 prudent?
  - OPC: FPC had no alternative but to take CR-3 off line on September 2, 1996. The relevant question, however, is whether FPC was prudent in allowing the initiating cause of the outage to occur. Since the pipe break in the turbine lubricating oil system occurred in a relatively inaccessible area where repairs had been done before, FPC should have had a program in place to inspect the area during outages instead of waiting for another failure. [Jacobs]
- ISSUE 2: Did Florida Power Corporation's efforts to reduce costs, including downsizing and reduced reliance on contracted Crystal River Unit No. 3 engineering support, inappropriately reduce its attention to safety?
  - OPC: The relevant issue is whether Florida Power Corporation's attention to safety was less than that required to continue operation of Crystal River Unit No. 3 for any reason, or whether prudent electric utility management would allow itself to get into a position where it could not restart the unit after repairing the oil leak. In any event, prudent management would not allow a nuclear generating unit to get so far outside its design bases that an outage of the magnitude applicable to CR-3 was necessary. [Jacobs]
- ISSUE 3: Was Florida Power Corporation prudent in its approach of using engineering interim solutions through modifications to the Emergency Diesel Generator loading instead of implementing more permanent solutions?
  - OPC: Florida Power Corporation's management adopted an imprudent program of trying to work with existing facilities to maintain safety margins even when the NRC was

allowing extended periods of time to implement the lessons learned from Three Mile Island through more permanent solutions without incurring extensive additional downtime. [Jacobs]

- ISSUE 4: Did Florida Power Corporation respond prudently to information affecting the operation of Crystal River Unit No. 3 including, but not limited to, employee concerns, modifications made at other Babcock & Wilcox plants, Nuclear Regulatory Commission requirements and the results of the company's own problem corrections?
  - OPC: No. Prudent management would have required that the NPSH and cavitation issues be addressed as part of the 1987 modification. Prudent management would have recognized that the A EDG did not have sufficient capacity to accept the full electrical loading of EFP-1 which resulted from the reversal of the 1987 modification during the 1996 refueling outage. Prudent management would not have forgotten that the 1990 modification required that the 1987 modification not be reversed because doing so created a situation in which, under certain postulated accident scenarios, Crystal River Unit No. 3 was without any automatic ability to cool the reactor coolant system. [Jacobs]
- ISSUE 5: Should the modifications being performed during the current extended outage have been accomplished during previous planned outages?
  - OPC: Yes. The modification to have the steam-driven emergency feedwater pump (EFP-2) start automatically on an "A" train signal along with the electrically driven emergency feedwater pump (EFP-1) was, in fact, done during an earlier outage in 1987. This modification was "reversed" during the 1996 refueling outage and is being installed again during the current outage; i.e., the reversal is being reversed. That portion of the current outage devoted to the installation of cavitating venturis to alleviate NPSH concerns was not done in 1987 but should have been. [Jacobs]
- ISSUE 6: Did Florida Power Corporation display a pattern of management decisions at Crystal River Unit No. 3 that resulted in the current extended outage?
  - OPC: Yes. FPC management lost control of the design basis of Crystal River Unit No. 3. After the outage began on September 2, 1996, the NRC brought to FPC's attention the fact that it had an unreviewed safety question on the subject of electrical loading of the "A" emergency diesel generator as a result of the reversal of the 1987 modification during the 1996 refueling outage which, contrary to FPC's analysis, caused the EDG to be overloaded under certain circumstances. The NRC also informed FPC management that it had an unreviewed safety question with regard to

the emergency feedwater system. By reversing the 1987 modification, FPC management had created a situation, as a result of the interdependence of the 1987 and 1990 modifications, in which there was no automatic emergency feedwater protection for the reactor core when reactor coolant system pressure dropped below 500 psi. [Jacobs]

ISSUE 7: Based on the resolution of the previous issues, what amount of estimated replacement fuel costs, if any, should be disallowed for recovery by Florida Power Corporation?

OPC: FPC should be ordered to cease collection of replacement fuel costs associated with the current outage at CR-3. Furthermore, all replacement fuel costs collected thus far should be refunded with interest. This would include interest associated with the time value of money since collections began with the first billing cycle in April, 1997, as well as all interest included in the fuel adjustment cost recovery factor resulting from the actual and projected underrecoveries for the months of September, 1996, through March, 1997. [Jacobs]

E STATEMENT OF LEGAL ISSUES AND POSITIONS: None

F. STATEMENT OF POLICY ISSUES AND POSITIONS: None

G. STIPULATED ISSUES: None.

#### H. PENDING MOTIONS:

Florida Power Corporation, on May 28, 1997, filed a motion to strike the prefiled direct testimony of the Citizens' witness, Dr. Jacobs. A response was filed on June 6, 1997.

## 1 STATEMENT OF COMPLIANCE WITH ORDER ESTABLISHING PROCEDURE:

There are no provisions of the Order Establishing Procedure with which the Office of Public Counsel cannot comply.

Respectfully submitted,

JACK SHREVE Public Counsel

John Roger Howe

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Attorneys for the Citizens of the State of Florida

### CERTIFICATE OF SERVICE DOCKET NO. 970261-EI

I HEREBY certify that a copy of the foregoing PREHEARING STATEMENT OF THE OFFICE OF PUBLIC COUNSEL has been served by \*hand delivery or U.S. Mail to the following parties of record on this 9th day of June, 1997.

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