

State of Florida



Public Service Commission

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RECORDS AND REPORTING

DATE: JUNE 8, 2000

TO: DIRECTOR, DIVISION OF RECORDS AND REPORTING (BAYÓ)

FROM: DIVISION OF ECONOMIC REGULATION (LEE, REVELL, SLEMKEWICZ) ^{PSX}
DIVISION OF SAFETY AND ELECTRIC RELIABILITY (BOHRMANN) ^{JOS}
DIVISION OF LEGAL SERVICES (C. KEATING) ^{WCK} RUE ^{WBM} TB

RE: DOCKET NO. 991931-EG - DETERMINATION OF APPROPRIATE METHOD OF RECOVERY FOR THE LAST CORE OF NUCLEAR FUEL FOR FLORIDA POWER & LIGHT COMPANY AND FLORIDA POWER CORPORATION.

AGENDA: 06/20/00 - REGULAR AGENDA - PROPOSED AGENCY ACTION - INTERESTED PERSONS MAY PARTICIPATE

CRITICAL DATES: NONE

SPECIAL INSTRUCTIONS: NONE

FILE NAME AND LOCATION: S:\PSC\ECR\WP\991931.RCM

CASE BACKGROUND

In Docket No. 990001-EI, Florida Power and Light Company (FPL) presented testimony regarding the issue of recovery of the last core of nuclear fuel. By Order No. PSC-99-2512-FOF-EI in Docket No. 990001-EI, issued December 22, 1999, the Commission determined that a separate docket be opened to address this issue on a generic basis for both Florida Power Corporation (FPC) and FPL. Staff has completed its review and analyses and presents its recommendation herein.

DOCUMENT NUMBER-DATE

07004 JUN-88

FPSC-RECORDS/REPORTING

DISCUSSION OF ISSUES

ISSUE 1: What is the appropriate recovery mechanism for the cost of the last core of nuclear fuel?

RECOMMENDATION: Staff recommends that the cost of the last core of nuclear fuel be recovered through the nuclear decommissioning accrual. (LEE)

STAFF ANALYSIS:

FPL and FPC Positions

FPC and FPL consider the last core of nuclear fuel (Last Core) as the unburned fuel that will remain in the fuel assemblies at the end of the last operating cycle of the nuclear unit when it ceases operation. Currently for FPL, a typical fuel assembly is amortized over a three cycle period or about 54 months; for FPC, the three cycle period is 72 months. According to FPC and FPL, two thirds of the fuel assemblies which would be normally moved to new locations within the reactor core at the end of the normal refueling cycle (18 months for FPL and 24 months for FPC) would have to be amortized during the final cycle of unit operation unless an alternative recovery method is introduced. The currently scheduled final cycle of operation for the FPL units are November 2010 to July 2012 for Turkey Point Unit 3 (TP3), November 2012 to April 2013 for Turkey Point Unit 4 (TP4), December 2014 to March 2016 for St. Lucie Unit 1 (SL1), and May 2021 to April 2023 for St. Lucie Unit 2 (SL2). It is staff's understanding that the final cycle for FPC's Crystal River Unit 3 (CR3) will be October 2014 to December 2016. According to the companies, no feasible solution currently exists to use all the nuclear fuel by the time of unit shutdown.

FPL estimates the current cost of the Last Core associated with its units to be approximately \$77 million; FPC estimates the current cost associated with CR3 to be approximately \$18.9 million. Outages, capacity factor, plant life extension, future fuel contracts, the change in mix of generating assets owned by the company as the industry further evolves, market conditions, and technology are all factors cited by FPC that can potentially affect a Last Core estimate. According to FPL, the once or twice burned fuel at TP3 cannot practicably be used at TP4 during its last cycle due to internal restrictions on moving fuel from unit to unit. Further, FPL asserts that the Nuclear Regulatory Commission (NRC) would have to approve any fuel transfer from one unit or plant to another. Additionally, the license expiration dates for the operating licenses of the two units are relatively close together

DOCKET NO. 991931-EG
DATE: JUNE 8, 2000

(July 19, 2012 for TP3 and April 10, 2013 for TP4). According to FPL, due to the close proximity of these dates, there is no guarantee that the final refueling outage for TP4 would occur after the end of the operating license of TP3. FPC states that the fuel remaining at the time of CR3 shutdown cannot be used at any of the Carolina Power and Light Company units due to different reactor designs.

Both companies believe no salvage value will be realized from the Last Core due, in part, to the lack of a market. If however, any salvage is realized upon final shutdown of a nuclear unit, FPL opines that the salvage would be credited to the fuel clause. FPC states that no market currently exists for the Last Core and one is not expected to develop.

FPL considers the Last Core to be a result of final shut down of the nuclear reactor which equates to an unrecovered cost remaining at the end of the unit's life. Both FPL and FPC maintain that the cost of the Last Core should be amortized over the remaining life span of each nuclear unit. Additionally, the companies believe that cost recovery of the amortization expense should be provided through the fuel clause since the Last Core represents the cost of fuel.

FPC proposes that a specific Deferred Credit Account be established to track the recovery of the Last Core and that customers receive credit for the time value of money at a rate equal to the average commercial paper rate. This, FPC believes, will reduce the total obligation to FPC's customers and avoid the additional cost associated with a funded reserve. From a base rate perspective, FPC asserts that the Deferred Credit would be included for surveillance purposes so as to reduce the Nuclear Fuel Inventory cost recovered through Working Capital. The companies state that the Last Core will have to be recovered during the final cycle of each unit's operation if an alternative recovery mechanism is not introduced in the interim.

FPL and FPC have both notified the NRC of plans relative to license renewal. FPC considers the notification to simply indicate that its preliminary evaluations suggest that pursuing renewal is a favorable option and not a regulatory commitment to seek license extension. In the event of license renewal, the companies assert that the future amortization expense will be reduced reflecting a longer period of recovery.

In the event of an over-recovery due to license renewal, realized salvage, or over-estimated costs, FPC asserts that the

DOCKET NO. 991931-EG
DATE: JUNE 8, 2000

over-recovery will be refunded to customers through the Fuel Adjustment Clause True-Up mechanism. In the event of electric generation restructuring prior to the time the cost of the Last Core is incurred, FPC asserts that the funds collected could be used in the consideration of stranded cost calculations, if any, thereby assuring the customer is made whole.

Staff Analysis

By Order No. 6357, issued November 26, 1974 in Docket No. 74680-CI, the Commission found that the delivered cost of fuel to the generating plant site be used in determining a utility's fuel adjustment charge. By Order No. 14546, issued July 8, 1985 in Docket No. 850001-EI-B, the Commission determined that certain charges are properly included in the development of fuel expense in the companies' fuel cost recovery clause. One such charge is the invoice price of fuel. Staff believes it is clear from these Orders that the purpose of the Fuel Adjustment Clause is to recover the cost of currently invoiced fuel, not fuel that will be purchased well into the future.

As stated earlier, the estimated Last Core costs will require future adjustment to recognize factors such as outages, capacity factor, plant life extension, future fuel contracts, the change in mix of generating assets owned by the company as the industry further evolves, market conditions, and technology. Both FPL and FPC assert that the Last Core should not be recovered through nuclear decommissioning because it does not relate to the removal or disposal of the unit. Staff disagrees.

While both FPL and FPC argue that the cost of the Last Core does not meet the intent of nuclear decommissioning, staff notes that FPL has requested in Docket No. 981246-EI that the estimated costs of materials and supplies inventories remaining at the time of unit shut down be considered and recovered as decommissioning. Staff believes that end of life inventories and end of life nuclear fuel are very similar in that they are both unique to the nuclear unit and both represent costs remaining at the time of shut down. Additionally, staff notes that site restoration costs could be argued as not meeting the intent of nuclear decommissioning, yet these costs are currently being recovered through FPC's and FPL's nuclear decommissioning trust funds. Staff therefore believes that consideration of specific items in nuclear decommissioning estimates is at the discretion of the Commission and nothing precludes the inclusion of the cost of the Last Core. Also, staff has found no rule or federal regulation prohibiting the inclusion of the Last Core as decommissioning costs.

DOCKET NO. 991931-EG

DATE: JUNE 8, 2000

Furthermore, staff believes that the variability of the Last Core estimates provides support for the recovery through nuclear decommissioning. In 1998, FPL estimated the cost of the Last Core to be \$90 million and in 1999 the cost was estimated to be \$77 million. This typifies the variability nature of the costs. Also, while neither company currently expects salvage to be realized from the Last Core, by the time of unit shutdown, technologies may permit the reuse of this fuel.

The review of nuclear decommissioning estimates once every five years is to address changes in cost estimates based on such things as new developments, additional information, technological improvements, and forecasts. Recognizing the tenuous nature of the Last Core, staff believes it is appropriate to recover these costs through nuclear decommissioning. Additionally, the cost of nuclear decommissioning is recovered through an established trust fund. The decommissioning fund provides the financial assurance that funds will be available at the time each nuclear unit ceases operation.

By Order No. 10987, issued July 13, 1982 in Docket No. 810100-EU, the Commission established a separate fund to provide for the accumulation of nuclear decommissioning cost estimates. The reasoning as stated in that Order was to ensure adequate funds are available at the time of unit shutdown and decommissioning. A funded reserve, such as the nuclear decommissioning trust fund, protects the ratepayer by restricting the expenditure of the fund for purposes other than for decommissioning. In contrast, an unfunded reserve can be used by the company at any time for things such as stockholder dividends, the purchase of new plant, or for any other current operations.

Furthermore, due to the speculative nature of the Last Core cost estimates and the uncertainty of the future regulatory status of the electric generation, staff believes the nuclear decommissioning trust fund provides the needed ratepayer protection for any over or under funding. There is no assurance that if, or when, electric generation in Florida is deregulated, the fuel clause will continue. The companies argue that, in that event, the fuel clause costs will be considered in the determination of stranded costs. However, staff opines that there has yet to be a determination that stranded costs do indeed exist. Additionally, if technology advances whereby salvage is realized for the Last Core, staff believes recovery as part of nuclear decommissioning provides the assurances of ratepayer benefit that might not be realized otherwise.

DOCKET NO. 991931-EG
DATE: JUNE 8, 2000

The issue of recovery for the Last Core has not been addressed by many regulatory commissions. State commission determinations include recovery through nuclear decommissioning and disallowance due to the timing of when the Last Core will be incurred. The Federal Energy Regulatory Commission has provided recovery through rates.

Because of the speculative nature of the cost of the Last Core of nuclear fuel, the time at which the cost will be incurred, the speculative nature of future regulation, and consistent treatment with other items included in FPL's decommissioning cost estimates, staff believes providing recovery that ensures the greatest protection to the ratepayer for any over or under accrual is the most prudent and conservative action to take. For these reasons, staff recommends that the cost of the Last Core be considered in the estimate of nuclear decommissioning and recovered through the nuclear trust fund of each company. Additionally, recovery through nuclear decommissioning will not create additional debit deferred taxes a will recovery through the fuel clause. This will provide an additional benefit to the ratepayer. Both FPL and FPC will be filing nuclear decommissioning cost studies by year-end 2000 in which staff believes these costs should be addressed.

DOCKET NO. 991931-EG

DATE: JUNE 8, 2000

ISSUE 2: Should this docket be closed?

RECOMMENDATION: If no person whose substantial interests are affected by the proposed agency action files a protest within twenty-one days of the issuance of the order, this docket should be closed upon the issuance of a consummating order. (C. KEATING)

STAFF ANALYSIS: If no person whose substantial interests are affected by the proposed agency action files a timely request for a Section 120.57, Florida Statutes, hearing within twenty-one days, no further action will be required and this docket should be closed upon the issuance of a consummating order.