State of Florida

Public Service Commission

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

DATE: August 17, 2006

TO: Director, Division of the Commission Clerk & Administrative Services (Bayó)

FROM: Division of Economic Regulation (Von Fossen, Colson)
Office of the General Counsel (Brown)

RE: Docket No. 060162-EI – Petition by Progress Energy Florida, Inc. for approval to recover modular cooling tower costs through the Environmental Cost Recovery Clause.

AGENDA: 08/29/06 – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Arriaga

CRITICAL DATES: None

SPECIAL INSTRUCTIONS: None

FILE NAME AND LOCATION: S:\PSC\ECR\WP\060162.RCM.DOC

Case Background

On February 24, 2006, Progress Energy Florida, Inc. (PEF or company) petitioned the Commission for approval to recover the costs of its modular cooling tower project through the Fuel and Purchased Power Cost Recovery Clause (the Fuel Clause). On July 13, 2006, after discussions with staff, PEF filed an amended petition to recover the costs of the project through the Environmental Cost Recovery Clause (ECRC) rather than the Fuel Clause. With its amended petition, the Company also filed the revised direct testimony of Thomas Lawery and Javier Portuondo describing the scope, benefits and proposed cost recovery associated with the project.

PEF implemented this project on June 9, 2006, to comply with wastewater discharge standards required by the Florida Department of Environmental Protection (FDEP). These standards are codified in Chapter 62-620, Florida Administrative Code, entitled "Wastewater Facility and Activities Permitting." PEF's wastewater discharge permit, issued initially in 1988 and renewed most recently May 9, 2005, limits the temperature of discharge water in the discharge canal at PEF's Crystal River plants to 96.5 degrees Fahrenheit. Because of increased inlet water temperature from the Gulf of Mexico into the plant during the summers of 2004 and 2005, PEF has been forced to de-rate both Crystal River Units 1 and 2 to remain in compliance with its water discharge permit. A de-rate is a temporary reduction in the output of a generating unit. PEF asserts that installing modular cooling towers along the discharge canal will provide additional cooling capacity allowing the company to remain in compliance with its FDEP permit, and thereby avoid future de-rates of its baseload plants.

Section 366.8255, Florida Statutes, authorizes the Commission to review and decide whether a utility's environmental compliance costs are recoverable through an environmental cost recovery factor. Section 366.8255(1)(d) provides that:

> 'Environmental compliance costs' includes all costs or expenses incurred by an electric utility in complying with environmental laws or regulations. . . .

Section 366.8255(1)(c) provides that:

> 'Environmental laws or regulations' includes all federal, state, or local statutes, administrative regulations, orders, ordinances, resolutions, or other requirements that apply to electric utilities and are designed to protect the environment.

Section 366.8255(2) provides that:

> An electric utility may submit to the commission a petition describing the utility's proposed environmental compliance activities and projected environmental compliance costs in addition to any Clean Air Act compliance activities and costs shown in a utility's filing under s. 366.825. If approved, the commission shall allow recovery of the utility's prudently incurred environmental compliance costs, including the costs incurred in compliance with the Clean Air Act, and any amendments thereto or any change in the application or enforcement thereof, through an environmental compliance cost-recovery factor that is separate and apart from the utility's base rates. An adjustment for the level of costs currently being recovered through base rates or other rate-adjustment clauses must be included in the filing.

Discussion of Issues

Issue 1: Should the Commission approve Progress's request for recovery of the reasonably and prudently incurred costs of its modular cooling tower project through the Environmental Cost Recovery Clause?

Recommendation: Yes, the Commission should approve PEF's modular cooling tower project as eligible for ECRC cost recovery. However, cost recovery should be reviewed annually subject to a prudence evaluation as part of the Commission's ongoing proceedings in the ECRC . To effectively monitor the cost effectiveness of this project, within its annual projection testimony filed in the ECRC docket beginning in 2006, PEF should be required to provide an evaluation of the continued need and prudence of leasing the modular cooling towers. This evaluation should include the following: 1) the frequency and megawatt hour level of both actual and avoided summer de-rates for Crystal River Units 1 and 2; 2) an analysis of the operation of the modular towers in meeting its expected 1.8 degree Fahrenheit thermal decrease; 3) actual inlet water temperatures and, if available, third party projections of future Gulf water temperatures; 4) the annual and cumulative project costs, fuel cost savings and net fuel cost savings attributable to the project; and 5) an updated cost/benefit analysis of other additional cooling capacity options, including the purchase option within the lease, compared to continuing the modular cooling tower project. Also, PEF should be required to include in its 2008 true up testimony a detailed analysis determining whether additional cooling capacity is still needed and the utility's timeframe, plan, and projected costs for a permanent solution. (Von Fossen, Colson)

Staff Analysis:

The Company's Petition

PEF has requested approval to recover the costs of its modular cooling tower project through the ECRC. The company's Crystal River Units 1 and 2 are base load coal units. The FDEP industrial wastewater permit for these plants limits the temperature of cooling water discharge within the discharge canal leading to the Gulf of Mexico. The company states that the temperature of the inlet water into the Crystal River site has increased significantly in recent years due to hotter weather, especially in the summer of 2005. As a result, discharge water associated with the existing cooling towers at Crystal River have reached FDEP thermal limits at various times. In 2005, PEF was forced to de-rate the baseload units and replace a combined 220,000 megawatt hours of generation for both units with higher cost natural gas generation or purchased power.

To provide additional cooling capacity and to avoid de-rating the units, the company has installed leased, modular cooling towers along the outlet canal. The company asserts that the resulting reduction in de-rates will restore generating unit availability to its pre-existing level. Utilizing leased modular towers will allow the company to evaluate whether the increase in Gulf water temperatures and the resulting de-rate situation is a temporary or cyclical problem before considering a permanent solution.

The company proposes recovery of project costs through the ECRC in the year costs are incurred on a base production demand basis.

Project Evaluation

The company provided its cost benefit analysis showing the various options for increased cooling capacity. In addition to the modular cooling towers, the following options were considered: 1) new 15 cell cooling towers; 2) replacing fan blades and stacks; 3) dilution pumps and; 4) new 5 cell cooling towers. These options were evaluated based upon three factors: cost, level of temperature reduction, and the time needed to place the project in service.

Table 1

Project Options

Number	Option	Decrease (degrees F)	Project Schedule (months)	Estimated Cost
1	67 leased modular cooling towers	1.8	6	$18,803,000
2	New 15 cell cooling towers	3.1	12-14	$37,368,000
3	Replace fan blades and stacks of existing towers	1.0	8-9	$4,100,800
4	Dilution pumps	3.0	22-24	$39,639,000
5	New 5 cell cooling towers	1.7	9-10	$19,481,000

The company has stated its evaluation of plans to meet thermal requirements by adding additional cooling capacity was subject to two screening criteria: 1) implement a temporary solution, and 2) have added cooling capacity in place by the summer of 2006. Since all options other than the modular cooling towers failed to meet threshold consideration, staff has evaluated whether the company's screening criteria led to a prudent project selection. At issue is whether expenditures to have a temporary solution in place for 2006 could have been better spent on a permanent solution. While inlet water temperatures have increased since 2003, the company has stated it believes it would not be prudent to seek a permanent solution now, but rather evaluate weather and other variables over the term of the lease to determine if additional cooling capacity is warranted in the long term. Since planning and construction of a permanent solution can take up to 24 months, the company is presently evaluating a range of options at varying degree reductions should increasing inlet temperatures prove to be a trend, not an anomaly.

Based upon plant operation maximizing thermal limits in 2005, the company targeted a 2.0 degree Fahrenheit thermal reduction. Because PEF's criteria required a 2006 solution, the 1.8 degree Fahrenheit reduction provided by the modular cooling towers was chosen as the only viable option to meet this timeframe. These towers have been in operation since June 9, 2006. For the modular cooling tower project, PEF has estimated fuel cost savings for 2006 at $11,000,000. For the five year term of the project, PEF has estimated fuel cost savings in excess of annual project costs for each year. Also, PEF states that if the 2005 increased temperatures prove to be an anomaly, it can terminate the project prior to the end of the five year lease, with a penalty, but without expending the entire cost of the project. Under this chosen option, annual costs of the project should be offset by fuel cost savings and the company would have the flexibility to terminate the project if no longer needed. Monitoring weather and Gulf water temperatures would allow the company to document the need and scope of a cost effective permanent solution.

If PEF had pursued any of the long term options (options 2 through 5), instead of the short term option, modular cooling towers, it would not have captured 2006 fuel cost savings. Options 2 through 5 would have had the potential of burdening ratepayers with long term capital costs without assurance such costs are needed. Staff evaluated whether Option 3 (replacing fan blades and stacks, thereby reducing water temperature 1 degree Fahrenheit at a cost of $4,100,800, would have been a cost effective partial solution. PEF has stated that this cooling methodology is not as reliable as the modular towers under certain conditions and the 1 degree Fahrenheit temperature improvement may not be achievable. If foregone 2006 fuel cost savings, estimated at $11,000,000, are added to the cost of this option and compared to the modular cooling tower project, the cost per degree of temperature reduction is $10.2 million for Option 3 and $10.4 million for the modular cooling towers. PEF states that because of the small difference between these evaluations and the reliability concerns of Option 3, the modular cooling towers option was chosen.

Staff notes that PEF provided historical Gulf water temperature data, but no in-house or third party temperature projections. Global warming concerns provide an intuitive basis to consider increased temperatures an ongoing reality, but the recent rise in Gulf water temperature may be a cyclical phenomenon. Therefore, PEF's decision to implement a short term solution while it gathers more data appears reasonable. Staff believes that the modular cooling towers represent a reasonable compliance option because it will capture 2006 fuel cost savings, provide the flexibility to terminate the project prior to conclusion of the five year lease and allow PEF to assess whether the thermal issue is a temporary or permanent problem without making permanent capital improvements.

Staff's opinion that the modular cooling tower project is reasonable is based upon PEF's present cost analysis of all options and the chosen option's ability to capture 2006 fuel cost savings while PEF monitors strategic factors. This rationale may well show the project prudent for 2006, but offers no assurances for future years based upon weather and other variables. If, for example, 2006 and 2007 data shows that a less than 0.70 degree Fahrenheit thermal reduction is needed, PEF can simply terminate its lease and utilize funds not spent on the project to implement Option Three at an estimated cost of $4,100,800. On the other hand, if at the end of 2 or 3 years it is shown that a thermal reduction in excess of 1.8 degree Fahrenheit is needed, PEF

can implement a long term solution within the term of the lease. Additionally, during the term of the lease it may prove cost effective for PEF to exercise the purchase option available within the lease. Therefore, PEF's management of its lease and monitoring of the continued need for a specific level of additional cooling capacity are important factors in the continued prudence of the modular cooling tower project for cost recovery. Staff believes close monitoring of this project through annual ECRC testimony, as detailed in both the recommendation and conclusion sections of this recommendation, are warranted.

The company has provided an analysis showing the estimated costs of the project as well as an analysis showing estimated fuel savings resulting from the project. Through 2010, the company will spend an estimated $18,803,530, which staff has summarized in Table 2 below. These costs include capital and O&M expenses for unit mobilization and setup, rental fees, demobilization and fill replacement. The company estimated nominal fuel savings for the life of the project as $45,000,000 based upon the difference between dispatch simulation models run with and without projected avoided de-rates. Staff has reviewed these analyses and the projected fuel forecast used in the analyses and believes they reasonably reflect estimated project costs and fuel cost savings.

Table 2

Project Costs
(Nominal dollars)

	2006	2007	2008	2009	2010	Total
Electrical Equipment	$372,720					$372,720
Installation Costs	$781,640					$781,640
Lease Payments	$3,400,080	$3,400,080	$3,400,080	$3,400,080	$3,400,080	$17,000,400
Project Support	$119,700					$119,700
Demobilization Costs					$529,070	$529,070
Total	$4,674,140	$3,400,080	$3,400,080	$3,400,080	$3,929,150	$18,803,530

Eligibility For Cost Recovery Through The ECRC

As stated above, section 366.8255, Florida Statutes, authorizes the Commission to review and decide whether a utility's environmental compliance costs are recoverable through an environmental cost recovery factor. Environmental compliance costs include ". . . all costs or expenses incurred by an electric utility in complying with environmental laws or regulations. . ." Section 366.8255(1)(d), Florida Statutes. Environmental laws or regulations include "all federal, state, or local statutes, administrative regulations, orders, ordinances, resolutions, or other requirements that apply to electric utilities and are designed to protect the environment." Section 366.8255(1)(c), Florida Statutes. Only prudently incurred environmental compliance costs may be recovered through the clause

In Order No. PSC-94-0044-FOF-EI, issued January 12, 1994, the Commission identified three criteria for eligibility for cost recovery through the ECRC: 1) the costs must have been incurred after April 13, 1993; 2) the activity is legally required to comply with a governmentally imposed environmental regulation which was enacted, or became effective, or whose effect was triggered after the company's last test year upon which rates are based, and; 3) the costs are not recovered through some other cost recovery mechanism or through base rates.

Regarding the first criteria, costs incurred after April 13, 1993, the company initially filed its petition requesting cost recovery through the Fuel Clause because it was of the opinion that since the Crystal River permit establishing the discharge thermal limit at 96.5 degrees Fahrenheit was first issued in 1988, the project could not qualify for cost recovery through the ECRC. The permit has been renewed several times since then, most recently in May 2005. The company asserts that its ability to comply with the permit's requirements has been impacted by the recent increase in Gulf water temperatures leading to the implementing of the modular cooling tower option to avoid the unprecedented 2005 de-rate levels. Further, the costs to remain in compliance have been and will be incurred after April 13, 1993.

Regarding the second criteria, changing weather conditions triggered compliance issues with PEF's permit, causing the need for additional cooling capacity. Since the need for the cooling tower project was not determined until the last quarter of 2005, the company could not anticipate this project for inclusion in its 2006 projected test year. Therefore, staff believes the project is legally required and meets the second criteria for ECRC cost recovery. The company's wastewater discharge permit mandates that the water discharged into the Gulf of Mexico at Crystal River not exceed 96.5° degrees Fahrenheit. The permit does not mandate a particular method to meet the temperature requirement. Rather, the permit impliedly requires the company to take reasonable and necessary measures to comply with the temperature requirement.[1] To remain in compliance with the FDEP permit, the company has two options; de-rate, and thus decrease the availability of its baseload capacity, or add additional cooling capacity. Staff

[1] See, Order no. PSC-02-1421-PAA-EI, issued October 17, 2002, in Docket No. 020648-EI, In re: Petition for approval of environmental cost recovery of St. Lucie Turtle Net Project for period of 4/15/02 through 12/31/02 by Florida Power & Light Company (by requiring installation of a turtle net with no other engineering details, "the license impliedly requires that FPL take whatever measures are necessary to make the net work properly.")

believes that de-rating the plants is not a prudent economic option because increased fuel costs would be borne by PEF's ratepayers. The requested project will provide additional cooling capacity, restore plant capacity to its baseline level and avoid higher alternate fuel costs being borne by ratepayers. Although PEF has the option to de-rate its plants to comply with its permit, staff believes the modular cooling tower is the most cost-effective and beneficial compliance option for PEF's ratepayers.

Regarding the third criteria, staff has evaluated whether the company recognized or should have anticipated this project in the cost levels used to determine current base rates. The company has provided relevant sections of its MFRs from its last rate case, Docket No. 050078-EI, showing that the costs of this project were not included for cost recovery within base rates. Staff took an additional step to determine if the company could have anticipated the need for the project in negotiating the settlement in its last rate case. The company did de-rate its units in 2003 and 2004 to comply with the thermal discharge limits of its permits, but it was after the summer of 2005, including major de-rates of August 2005, that the company began seeking options for additional cooling capacity. During the last quarter of 2005, PEF determined that the de-rate level was unacceptable and initiated a RFP on November 21, 2005, to pursue a solution. PEF's last rate proceeding, Docket No. 050078-EI, was filed in April 2005 and the stipulation settling the case was dated August 31, 2005. Since PEF did not determine the need, or initiate planning for additional cooling capacity until the last quarter of 2005, staff believes that PEF could not have anticipated the costs of this project for inclusion in the negotiation process for settlement of Docket No. 050078-EI.

Other cost recovery matters

The company proposes cost recovery through the ECRC as costs are incurred, and the company proposes cost recovery on a base production demand basis. Since this project relates to energy production from base load units we believe this methodology is appropriate.

Conclusion

Staff concludes that PEF must comply with the thermal discharge limits required by FDEP and the modular cooling tower project is a reasonable and beneficial compliance option for PEF's ratepayers. This option will avoid plant de-rates, restore unit availability to baseline levels and provide fuel cost savings to ratepayers. Because the need for the cooling tower project was not determined in time to be included in the company's 2006 test year, because the need for the project was triggered by increased inlet water temperatures and because the costs of the requested project are not being recovered through base rates or another cost recovery clause, we recommend the project is eligible for cost recovery through the ECRC. Continued cost recovery of this project will be based upon the Commission's annual review of the costs and prudence of the project in the annual ECRC proceeding. Staff also recommends that the company's proposal to recover project costs on a base production demand basis be approved.

Staff's approval recommendation is, in part, based upon the modular cooling tower project being a temporary (five year) compliance option. This option allows PEF time to evaluate whether a permanent solution will be needed and whether the modular cooling tower project can be terminated in less than 5 years. Therefore, PEF's project evaluations and

management of its lease agreement have a direct bearing on the continued cost effectiveness of the modular cooling tower option. To effectively monitor the cost effectiveness of this project, within its annual projection testimony filed in the ECRC docket beginning in 2006, PEF should be required to provide an evaluation of the continued need and prudence of the modular cooling towers project. This evaluation should include the following: 1) the frequency and megawatt hour level of both actual and avoided summer de-rates for Crystal River Units 1 and 2; 2) an analysis of the operation of the modular towers in meeting its expected 1.8 degree Fahrenheit thermal decrease; 3) actual inlet water temperatures and, if available, third party projections of future Gulf water temperatures; 4) the annual and cumulative project costs, fuel cost savings and net fuel cost savings attributable to the project; 5) an updated cost/benefit analysis of other additional cooling capacity options, including the purchase option within the lease, compared to continuing the modular cooling tower project. Also, PEF should be required to include in its 2008 final-true up testimony a detailed analysis determining whether additional cooling capacity is still needed and its timeframe, plan, and projected costs for a permanent solution

Issue 2: Should this docket be closed?

Recommendation: Yes, this docket should be closed upon issuance of a consummating order unless a person whose substantial interests are affected by the Commission's decision files a protest within 21 days of the issuance of the proposed agency action. (Brown)

Staff Analysis: If no timely protest to the proposed agency action is filed within 21 days, this docket should be closed upon issuance of the consummating order.