

FLORIDA PUBLIC SERVICE COMMISSION
Capital Circle Office Center, 2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

M E M O R A N D U M

JULY 20, 1995

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

FROM: DIVISION OF ELECTRIC AND GAS (FUTRELL, HAFF) *MF RJ JS MB*
DIVISION OF LEGAL SERVICES (BROWN) *MCB LW MP RLT*

RE: DOCKET NO. 941101-EQ - PETITION FOR DETERMINATION THAT
PLAN FOR CURTAILING PURCHASES FROM QUALIFYING FACILITIES
IN MINIMUM LOAD CONDITIONS IS CONSISTENT WITH RULE 25-
17.086, F.A.C., BY FLORIDA POWER CORPORATION.

AGENDA: 8/1/95 - REGULAR AGENDA
POST HEARING DECISION - PARTICIPATION IS LIMITED TO
COMMISSIONERS AND STAFF

CRITICAL DATES: NONE

SPECIAL INSTRUCTIONS: I:\PSC\EAG\WP\941101.RCM

CASE BACKGROUND

On October 14, 1994, Florida Power Corporation (FPC) filed a petition asking the Commission to determine that its plan for curtailing purchases from Qualifying Facilities (QFs) during minimum load conditions is consistent with Rule 25-17.086, Florida Administrative Code. A minimum load condition occurs on a utility system when the combined supply of electricity from the utility, QFs, and other utility purchases exceeds the demand for electricity. This typically occurs during the hours of midnight to 6:00 a.m. when system demand is low. As a means of managing minimum load conditions, FPC developed a plan containing procedures for its system operating personnel to follow to match supply with demand on its system. The plan includes procedures for curtailing the electrical output from QFs during minimum load conditions on FPC's system.

A prehearing conference was held on April 26, 1995, in which issues were identified including the adequacy of the plan and its compliance with Commission rules. Issues were also identified concerning FPC's use of the plan on seven occasions during which FPC curtailed the purchase of electricity from QFs. A hearing was conducted on May 8-10, 1995, and the parties filed briefs on June 15, 1995. Orlando Cogen Limited (OCL) filed 40 proposed findings of fact, and staff's recommendation on these is attached.

DOCUMENT NUMBER-DATE

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DISCUSSION OF ISSUES

ISSUE 1: Has Florida Power Corporation adequately demonstrated that the minimum load conditions for curtailment outlined in its plan comply with Commission Rule 25-17.086, Florida Administrative Code?

RECOMMENDATION: Yes. Commission Order No. 12634 issued October 27, 1983, amending rules relating to cogeneration, specifically identified QF purchases during low load conditions as an operational circumstance which could lead to negative avoided costs.

POSITION OF PARTIES

FPC: Yes. During minimum load emergencies, FPC would be forced to cycle off its baseload generation in order to continue QF purchases. These "operational circumstances" are occurring despite prudent planning and reasonable mitigation practices and, without QF curtailments, would produce net increased operating costs or "negative avoided costs."

APP: No position.

DADE: No. Florida Power Corporation has not adequately demonstrated that it would incur negative avoided costs if it continued to purchase QF power during low load conditions. Moreover, FPC cannot require dispatchability of QFs by invoking the Commission's rule because it consciously decided not to negotiate for dispatchable QF contracts.

LAKE: No. Florida Power Corporation has not adequately demonstrated that it would incur negative avoided costs if it continued to purchase QF power during low load conditions. Moreover, FPC cannot require dispatchability of QFs by invoking the Commission's rule because it consciously decided not to negotiate for dispatchable QF contracts.

POLK/ORANGE: Polk and Orange do not object to FPC's curtailment plan.

RIDGE: No position.

TIGER: Tiger Bay does not object to FPC's curtailment plan.

OCL: No. FPC's plan is based -- not on extraordinary, unforeseen operational circumstances -- but on results of deliberate long-term planning tradeoffs that do not satisfy regulations governing curtailment. Nor has FPC demonstrated the existence of a system

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emergency which would permit curtailment.

PASCO: No. FPC's "minimum load" conditions are not "operational circumstances" or "system emergencies" of the type envisioned by 18 CFR §§ 292.304(f) or 292.307 (which Rule 25-17.086 implements), respectively. Contrary to the Commission rule, the plan permits FPC to curtail any time its generation will exceed its load.

PANDA: No.

STAFF ANALYSIS: Commission Rule 25-17.086, Florida Administrative Code, provides certain conditions under which a utility may be relieved of its obligation to purchase electricity from a QF. One of those conditions is that due to operational circumstances, purchases from QFs will result in costs greater than those which the utility would incur if it did not make such purchases. Staff believes FPC has demonstrated that the minimum load conditions outlined in its plan constitute an operational circumstance as discussed in Rule 25-17.086, Florida Administrative Code. The Commission contemplated low-load conditions as an operational circumstance which could lead to greater costs for the utility's ratepayers. In Order No. 12634, the Commission said:

We have retained the provisions of the original rule excusing a utility from its obligation to purchase under certain circumstances, and have added to it to make clear that a utility is not required to purchase from a QF when to do so would result in costs greater than those which the utility would incur if it did not make such purchases. We believe this is most likely to happen during a utility's off-peak periods where it may be cycling its base load units and QF purchases would force it to shut down the units altogether.

Staff also believes that during a low load condition, if FPC takes all reasonably available mitigation efforts, negative avoided costs are likely to occur absent QF curtailments.

EXTRAORDINARY CIRCUMSTANCES

Dr. Roy J. Shanker, witness for OCL and Pasco, advocates a narrow interpretation of Rule 25-17.086, Florida Administrative Code, and the applicable FERC regulations to apply to extraordinary circumstances for which the utility could not plan. (Tr. 541-42) Dr. Shanker states in his testimony that the minimum load conditions on FPC's system are neither extraordinary nor unexpected, but rather are the result of long-term planning decisions and short-term decisions within FPC's control. (Tr. 493) Staff believes that in this case, the minimum load conditions on

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FPC's system are not the result of poor planning. Conditions beyond FPC's control, specifically lower than assumed minimum load growth and greater than projected amounts of QF capacity, have contributed to this condition. (Tr. 843-848)

Staff further believes that Dr. Shanker has incorrectly interpreted Rule 25-17.086, Florida Administrative Code, and the FERC's regulation 18 C.F.R. 292.304(f) regarding the "extraordinary" nature of the operational circumstances referred to in the regulations. The above cited rules do not make any reference to "extraordinary" circumstances occurring on a utility's system which could lead to allowable curtailments. The rules plainly state "operational" circumstances which by nature are short term conditions (hour to hour, or at most a week) occurring on a utility system.

MUST-TAKE CONTRACTS

The crux of certain QFs argument against curtailments and FPC's curtailment plan is whether contracts signed by FPC and QFs are firm, "must-take" contracts. (Tr. 597, OCL Brief p. 15) That is, FPC's purchases of QF output have priority over firm purchases from other utilities. (Tr. 541) It is clear that FERC and Commission regulations implementing PURPA encourage QF development and require utilities to purchase QF capacity at costs no greater than the utilities' avoided cost. QFs therefore have a priority in the selection of capacity by the utility, given costs equal to or lower than the utility's. Clearly PURPA requires a utility to select the QF over its avoided unit, when the QF is at or below avoided costs. However, QFs do not have a priority over a utility's existing contractual obligations to purchase from other utilities. FERC and Commission regulations implementing PURPA anticipate certain circumstances when utilities are not required to "take" energy from a QF. Indeed, curtailment regulations are included or referred to in the contracts FPC has signed with QFs. (Tr. 64) FPC is not required to accept QF energy during minimum load conditions to the detriment of its ratepayers and system stability.

NEGATIVE AVOIDED COST

FPC witness Henry I. Southwick provided evidence that negative avoided costs would have occurred on FPC's system absent QF curtailments during minimum load conditions in October 1994 and January 1995. (Ex. 7, Tr. 368-9) Dade and Lake contend that FPC failed to demonstrate that negative avoided costs will occur if FPC continues to purchase QF energy during minimum load conditions. Mr. Kenneth J. Slater, witness for OCL and Pasco testified and provided exhibits purporting to show that negative avoided costs

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did not occur during the curtailment events of October 1994 and January 1995. (Ex. 12, 13) Mr. Slater made several adjustments to FPC's Unit Commit program analyses including the addition of start-up fuel for coal units for several cases; the correction of inconsistencies in the operating level of certain units; the alteration of the dispatch of FPC's units; and the expansion of the time frame for the analyses. (Tr. 758-59, 891-99) FPC witness Linda D. Brousseau provided rebuttal testimony agreeing with Mr. Slater's inclusion of start-up fuel for coal units for several cases, but disagreed with other changes including the alteration of unit dispatch, and the expansion of the time frame for the analyses. (Tr. 891-899, Ex. 16)

Staff does not believe the Commission should rely on Mr. Slater's analyses to determine whether negative avoided costs occurred in October 1994 and January 1995. The unit commit analyses provide an estimate of costs under a base case, an approximation of actual conditions on FPC's system during the curtailment events, and a change case where QFs were assumed to continue providing electricity and particular units on FPC's system were cycled off for periods of time to balance supply with demand. FPC's change cases assumed conditions on FPC's system particularly with regard to unit operation as existed in the base cases. FPC's potential responses in the change cases to balance load were thus limited, reflecting real world constraints.

Mr. Slater's analyses shut down units that made more sense economically without regard to the actual operation of units. Mr. Slater also utilized time periods for analyses which extended beyond the curtailment period. As discussed in Issue 6A, staff disagrees with this approach. FPC's analyses are appropriate to the extent they properly modelled negative avoided costs during the periods when curtailments were necessary to balance load. By extending the analysis period, the positive avoided costs QF's provide FPC outside the curtailment period outweigh the negative avoided costs measured during the curtailment period.

Staff believes the amended unit commit runs in Ms. Brousseau's exhibit 16 properly incorporate real world conditions into the change cases. These analyses are reasonable and conservative, and sufficiently prove that negative avoided costs would have occurred on FPC's system. Ms. Brousseau's amended unit commit runs show negative avoided costs ranging from \$1,375 to \$30,045 for the seven curtailment events in October 1994 and January 1995 (Ex. 16)

FPC's system operators have many factors to consider in operating its system on a moment-to-moment basis, including minimizing negative avoided costs. A utility system can not be optimized only to prevent or minimize QF curtailments. It is FPC's

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statutory obligation to provide low cost, reliable service, and to that end FPC must continually make efforts to improve the operation of its system.

DISPATCHABILITY

Dade, Lake, OCL, and Pasco argue that FPC is using the curtailment rule to obtain dispatch rights which FPC consciously chose not to obtain when it negotiated its QF contracts. (Tr. 538, Ex. 9) As FPC witness Robert D. Dolan stated, dispatch and curtailment are not synonymous. (Tr. 81-2) Dispatch involves the ability of a utility to control the output of a unit on a real-time basis for purposes of following load. Curtailment is the voluntary reduction of output by a QF, either upon request or under an agreement, for specific, brief periods of time. It is staff's opinion that FPC has developed its curtailment plan not to acquire dispatch rights, but to allow it to match generation and load under a set of procedures known in advance by the utility, QFs, and this Commission and to avoid higher costs to its ratepayers.

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ISSUE 2: Has Florida Power Corporation adequately demonstrated that its plan incorporates all appropriate measures to mitigate the need for curtailment during minimum load conditions?

RECOMMENDATION: Yes. The plan requires FPC to reduce its generation to minimum reliable, economic levels; reduce inter-utility purchases; and make economic off-system sales to the extent possible. FPC's curtailment agreements with Group A QFs also contributes to the mitigation of involuntary QF curtailments.

POSITION OF PARTIES

FPC: Yes. The curtailment rules contain no explicit mitigation requirements. Nevertheless, FPC is using reasonable measures to minimize curtailments. Before filing the plan, FPC undertook extensive efforts to avoid curtailments. Since filing the plan, FPC has continued to pursue that objective. Under the plan, appropriate mitigation will continue.

APP: No position.

DADE: No.

LAKE: No.

POLK/ORANGE: Polk and Orange take no position on whether FPC has appropriately committed its own generation, decreased other sources of generation or made all possible off-system sales during given curtailment events. FPC should, however, be directed to pursue authority to appropriately price its energy to increase off-system sales.

RIDGE: No position.

TIGER: Tiger Bay takes no position on whether FPC has appropriately committed its own generation, decreased other sources of generation or made all possible off-system sales during given curtailment events. FPC should, however, be directed to pursue authority to appropriately price its energy to increase off-system sales.

OCL: No. FPC's mitigation efforts are deficient. FPC's plan fails (to the detriment of the state's ratepayers) to require FPC to properly price excess energy for sale; fails to reflect PURPA's priority of QF contracts over inter-utility agreements; and fails to require FPC to intercept foreseeable imbalances through feasible commitment schedules.

PASCO: No. Although the Plan contains certain procedures designed

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to mitigate the need to curtail firm QF purchases, those measures are deficient when viewed in the context of the intent of PURPA and the FERC regulations implementing PURPA's requirements.

PANDA: No.

STAFF ANALYSIS: FPC's curtailment plan provides for four specific types of mitigation: (1) minimizing off-system energy purchases; (2) maximizing economic off-system sales; (3) making maximum use of voluntary QF output reductions; and (4) reducing Florida Power's own units to minimum reliable generation levels. FPC affords advance notice to the QFs of curtailments, and follow-up notice to this Commission. Notifications are provided in stages to identify different levels of alert status and keep QFs informed as conditions change. FPC's procedures give instructions to system operating personnel to ensure that they follow the plan's mitigation objectives and use consistent practices in addressing minimum load conditions. (Ex. 1)

The procedures in FPC's plan, and its actions outside the plan, are appropriate measures to mitigate the need for curtailments during minimum load conditions. FPC has negotiated curtailment agreements with many of the QFs with which it has firm capacity and energy contracts. (Tr. 68-75) The Commission approved certain curtailment agreements in Order No. PSC-95-0540-POF-EQ, issued May 2, 1995. These agreements mitigate the need for future curtailments and provide direct benefits to those QFs which have not agreed to curtailment provisions. (Tr. 816)

Many of the QFs contend that FPC should pursue off-system sales at discounted prices as a way to mitigate minimum load conditions and the need for QF curtailments. (Tr. 544) The purpose of this docket is to determine whether FPC's curtailment plan conforms to the applicable regulations. This docket is not a generic investigation into the pricing practices of off-system energy. It is inappropriate for FPC to change its pricing practices for off-system energy.

The QFs advocate that since their contracts are "must-take" FPC should sell power off-system at below cost-based rates, in order to mitigate the need for QF curtailments. As discussed in Issue 1, staff does not believe these contracts are "must-take". Therefore, if off-system sales were made at below cost-based rates, FPC's ratepayers would be subsidizing the QFs. Prior to such sales occurring, the Commission would have to decide whether such a practice would be in the public interest. That is, should ratepayers subsidize QFs during minimum load periods and bear higher costs to prevent QF curtailments.

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FPC has also taken actions to reduce the minimum operating levels of its baseload units during minimum-load conditions. (Tr. 350) This allows FPC to reduce the likelihood of QF curtailments while leaving the company in position to respond, in an economic manner, to the normal rise in load during the late morning hours. Staff believes FPC's efforts to reduce generation on its system is an appropriate response to mitigate the need for QF curtailments.

FPC's FERC-approved unit power sales agreement with the Southern Company, signed in 1988, requires FPC to purchase capacity at a base of 400 MW, though the purchase can be ramped down depending upon conditions on the Southern system from a minimum of 168 MW to zero. (Tr. 939-40, Ex. 7) FPC has mitigated minimum load conditions by reducing its purchase obligations with TECO to zero, and with Southern to the minimum allowable under the contract. (Tr. 940) In February 1995, FPC made arrangements with Southern to sell back required purchases to Southern if FPC's energy cost is at or below Southern's energy cost during minimum load periods. (Tr. 940, Ex. 17) This action should mitigate future minimum load conditions.

OCL states that FPC's plan fails to reflect PURPA's priority of QF contracts over inter-utility agreements. As stated in Issue 1, staff disagrees with OCL's position that QF contracts are "must-take" and have priority over inter-utility purchases. FPC's contract with the Southern Company has a "must-take" provision in which FPC is obligated to accept delivery of energy under the terms of the contract. (Tr. 939, Ex. 7) The contract FPC signed with OCL and other QF's do not have a specific minimum take level, but do include curtailment provisions pursuant to Commission and FERC regulations.

Staff believes that FPC's plan provides for mitigation procedures which, if properly pursued, should reduce the need for QF curtailments. (Ex. 1) However, FPC should on an on-going basis pursue all cost-effective methods of matching supply to the demand on its system. Because each minimum load event is unique, any affected QF may request a staff investigation pursuant to Rule 25-17.086, Florida Administrative Code, regarding FPC's actions, including mitigation efforts.

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ISSUE 2a: Has Florida Power Corporation adequately demonstrated that it has attempted to mitigate any foreseeable imbalance between generation and load during minimum load conditions by committing the most appropriate combination of generation resources for the circumstances?

RECOMMENDATION: Yes.

POSITION OF PARTIES

FPC: Yes. FPC appropriately dispatches its system with the dual objectives of reliability and sound economics. Neither PURPA nor any related regulations require that the system be operated in a sub-optimal manner. Alternative dispatch scenarios suggested by OCL/Pasco would cause FPC (and ratepayers) to incur unreasonable costs and potential reliability risks.

APP: No position.

DADE: No. FPC performed no comparative ex ante or advance analyses of avoided cost impacts, nor did FPC consider any alternate generation dispatch strategies, to avert QF curtailments or potential negative avoided cost impacts of excess generation.

LAKE: No. FPC performed no comparative ex ante or advance analyses of avoided cost impacts, nor did FPC consider any alternate generation dispatch strategies, to avert QF curtailments or potential negative avoided cost impacts of excess generation.

POLK/ORANGE: Polk and Orange agree that FPC could reduce the need for curtailment by appropriate dispatch of its baseload units. They do not object to the plan, however, because it appropriately requires FPC to take its peaking and intermediate generating units off-line, if possible, before curtailing QF purchases.

RIDGE: No position.

TIGER: Tiger Bay agrees that FPC could reduce the need for curtailment by appropriate dispatch of its baseload units. It does not object to the plan, however, because it appropriately requires FPC to take its peaking and intermediate generating units off-line, if possible, before curtailing QF purchases.

OCL: No. FPC must commit the feasible least cost combination of units for the circumstances. In all of the curtailment episodes, FPC failed to use forward planning to manage foreseeable low load situations. It overcommitted base load units, thereby creating the imbalances it points to as justification for curtailments.

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PASCO: No. FPC's unit commitment practices ignore the minimum load periods FPC acknowledges it anticipates, causing overcommitment of baseload units, and thereby creating the imbalance between generation and load on which it relies as justification for curtailment of firm QF purchases.

PANDA: No.

STAFF ANALYSIS: As discussed in Issue 2, staff believes FPC has taken appropriate measures to mitigate QF curtailments, including the reduction in the minimum output of its base load units. Unless unforeseen conditions arise, during minimum load conditions FPC will shut down all of its intermediate and peaking units as well as its University of Florida cogeneration unit. In addition, the Company will reduce its four Crystal River coal units to their normal minimum generation levels, while accounting for Automatic Generation Control and system security, and will attempt to reduce those units even more where unit and system conditions permit. (Tr. 350-53, Ex. 1) FPC must plan and operate its system to provide reliable low-cost service to its ratepayers, not with the single goal of avoiding QF curtailments. If, for example, FPC anticipated a minimum load condition and cycled off a base load plant allowing QF purchases to continue uninterrupted, yet the minimum load did not materialize, FPC would be forced to meet rising load with more expensive intermediate or peaking generation. Sufficient reliable, economic generation must be available to meet changing load conditions on FPC's system.

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ISSUE 2b: Does the proposed curtailment plan properly require Florida Power Corporation to take all appropriate measures to decrease other sources of generation to mitigate any imbalance between generation and load?

RECOMMENDATION: Yes.

POSITION OF PARTIES

FPC: Yes. Although the PURPA regulations contain no mitigation requirements, FPC has volunteered to substantially reduce its own generation before any curtailments. FPC also will reduce purchases from other utilities to the minimum contract levels. A new arrangement reached in February may even further mitigate the minimum takes from Southern Companies.

APP: No position.

DADE: No.

LAKE: No.

POLK/ORANGE: Polk and Orange do not object to FPC's curtailment plan.

RIDGE: No position.

TIGER: Tiger Bay does not object to FPC's curtailment plan.

OCL: No. The plan subordinates firm QF purchases to FPC's minimum obligations under its contract with Southern. As clearly required by the Preamble at 12,219 and 12,227, a utility must interrupt all purchases from other utilities prior to curtailing firm purchases from QFs.

PASCO: No. The FERC rule which Rule 25-17.086 implements must be read to require interruption of firm purchases from other utilities before curtailment of firm QF purchases. FPC's plan subordinates firm QF purchases to its purchases from other utilities, contrary to PURPA's intent and the FERC's implementing regulations.

PANDA: No.

STAFF ANALYSIS: As discussed in Issue 2, staff believes FPC has taken appropriate measures to mitigate QF curtailments, including minimizing the must-take requirements of the Southern Company interchange contract signed in 1988. (Tr. 940, Ex. 17) The Southern Company contract contains must-take provisions, thus limiting the ability of FPC to reduce its capacity resources during

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minimum load periods. OCL/PASCO argue that FERC regulations require FPC to interrupt firm inter-utility purchases prior to curtailing QFs. As stated in Issue 2, PURPA gives a priority to QFs in a utility's selection of generating capacity, assuming the QF capacity cost is equal to or less than the utility's avoided cost. PURPA does not give a priority in the operation of the QF regarding power delivery to the purchasing utility.

The preamble citation OCL points to in support of its position, 12219 (Ex. 9, RJS-6), refers to utilities that are required to purchase all of their electricity from wholesale suppliers. The FERC was concerned that all-requirements utilities, such as cooperatives, would use their contractual obligations to hinder the development of QFs. This portion of the preamble deals only with all-requirements utilities and the special concern the FERC had with their potential interaction with QFs. Staff does not believe this language can be interpreted to apply to FPC, which is clearly not an all-requirements utility. It is staff's opinion that FPC has not hindered the development of QFs, as more than 10 percent (1,032 MW) of FPC's net generating capacity is provided by QFs. (Tr. 56-7)

Contrary to the contention of several QFs, the QF contracts are not must-take contracts. FPC is allowed under Commission and FERC regulations to curtail purchases. However, minimum load conditions are event-specific and not all situations can be anticipated in advance. As such, any affected QF may still request a staff investigation of a specific curtailment event pursuant to Rule 25-17.086, Florida Administrative Code, even if FPC followed the procedures contained in its plan.

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ISSUE 2c: Does the proposed curtailment plan properly require Florida Power Corporation to take all appropriate measures to increase sales to mitigate any imbalance between generation and load?

RECOMMENDATION: Yes.

POSITION OF PARTIES

FPC: Yes. Although the PURPA regulations contain no mitigation requirements, FPC has volunteered to maximize off-system sales before initiating curtailments, so long as those sales will not cause FPC or its ratepayers to subsidize continued QF purchases. This promotes PURPA's ratepayer neutrality principle and goes beyond any specific PURPA requirement.

APP: No position.

DADR: No. Numerous additional mitigation measures are available to FPC, including more aggressive pursuit of off-system and retail sales, developing and implementing procedures for comparative advance avoided cost analyses and alternate generation dispatch simulations, reducing purchases from other utilities, and temporarily ramping down CR3.

LAKR: No. Numerous additional mitigation measures are available to FPC, including more aggressive pursuit of off-system and retail sales, developing and implementing procedures for comparative advance avoided cost analyses and alternate generation dispatch simulations, reducing purchases from other utilities, and temporarily ramping down CR3.

POLK/ORANGE: Polk and Orange do not object to FPC's curtailment plan, but believe that FPC should be ordered to pursue authority to modify off-system sales rates to properly reflect incremental costs in must-run scenarios.

RIDGE: No. FPC's plan does not appear to be appropriate in this regard. Based on the testimony of FPC witnesses, off-system "quotes" during low load conditions are based on FPC's incremental generating costs. Since QF generation is being curtailed during low load periods it seems that the QF's generating cost would be relevant in setting the off-system quotes. QFs may be willing to sell at prices below FPC's incremental cost and therefore avoid curtailment or complete shut-down of their facilities.

TIGER: Tiger Bay does not object to FPC's curtailment plan, but believes that FPC should be ordered to pursue authority to modify off-system sales rates to properly reflect incremental costs in

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must-run scenarios.

OCL: No. When QF purchases and must-run FPC units exceed system load, the plan should require FPC to use the zero incremental cost of the excess to become the low bidder. Any resulting sale would enable FPC to eliminate the generation imbalance while accepting QF deliveries and increasing Broker-based ratepayer savings.

PASCO: No. FPC overprices attempted off-system sales during low load periods. When FPC's QF purchases and baseload units' outputs exceed system load, incremental generation cost for the excess is zero. The excess should be sold at an above-zero price, and firm QF purchases continued, resulting in no negative avoided costs.

PANDA: No.

STAFF ANALYSIS: As discussed in Issue 2, staff believes FPC has taken appropriate measures to mitigate QF curtailments, including efforts to economically sell off-system energy during minimum load conditions. It is inappropriate for FPC to change its pricing practices of off-system energy. The QFs advocate that since their contracts are "must-take" FPC should sell power off-system at below cost-based rates, in order to mitigate the need for QF curtailments. As discussed in Issue 1, staff does not believe these contracts are "must-take". Therefore, if off-system sales were made at below cost-based rates, FPC's ratepayers would be subsidizing the QFs. Prior to such sales occurring, the Commission would have to decide whether such a practice would be in the public interest. That is, should ratepayers subsidize QFs during minimum load periods and bear higher costs to prevent QF curtailments.

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ISSUE 3: Has Florida Power Corporation adequately demonstrated that the procedures for curtailment outlined in its plan are reasonable and appropriate?

RECOMMENDATION: Yes. The procedures provide a benchmark for FPC, QFs, and the Commission to judge FPC's actions during minimum load conditions.

POSITION OF PARTIES

FPC: Yes. Although FPC does not contend that there is only one possible set of acceptable procedures for implementing QF curtailments, it has proposed a set of procedures which is both fair and effective.

APP: No position.

DADE: No. While the notification procedures appear to be reasonable, the operational procedures in FPC's Plan are lacking. FPC must provide for additional mitigation efforts and for advance analysis of avoided cost effects of alternate generation strategies.

LAKE: No. While the notification procedures appear to be reasonable, the operational procedures in FPC's Plan are lacking. FPC must provide for additional mitigation efforts and for advance analysis of avoided cost effects of alternate generation strategies.

POLK/ORANGE: Polk and Orange do not object to FPC's curtailment plan.

RIDGE: Yes. Assuming FPC will take appropriate steps to properly quote off-system generation prices, the proposed plan represents a reasonable and appropriate response to the current circumstance. It should be noted however, that the plan would not supersede Commission rule 25-17.086, F.A.C. which places the burden on FPC (or any utility) to demonstrate that any curtailment of purchases from QF's were justifiable and permissible under applicable law.

TIGER: Tiger Bay does not object to FPC's curtailment plan.

OCL: No. FPC's plan does not require quantification of negative avoided costs based on empirical circumstances prior to curtailment. Post-event, in comparing empirical costs with and without QFs, FPC includes inappropriate categories of costs and uses inappropriate time frames.

PASCO: No. The procedures for curtailment assume that, but

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provide for no determination whether, (a) failure to curtail firm QF purchases will result in negative avoided costs, and (b) such costs will result from "operational circumstances." Further, the procedures do not contemplate FPC's exhausting available measures to mitigate minimum load conditions.

PANDA: No.

STAFF ANALYSIS: Staff believes the procedures contained in FPC's plan are reasonable and appropriate, and allow all parties prior knowledge of the actions FPC will take during minimum load periods. (Ex. 1) FPC's plan requires these mitigation procedures: (1) reduce generation to minimum reliable levels; (2) reduce utility purchases; and (3) maximize economic off-system sales. As it becomes apparent that a minimum load condition is likely to occur, QFs are notified in advance of the likelihood of curtailments as required by Commission and FERC regulations. (Ex. 1) These procedures have the effect of giving a priority to the QFs over FPC's other sources of electrical supply.

Several QFs state that FPC should attempt to quantify negative avoided costs prior to curtailment. In response to questions from Commissioner Deason, FPC witness Linda D. Brousseau stated that cost estimates could be done prior to curtailment events, but would be both impractical and time consuming. (Tr. 916-20) Staff believes FPC has made reasonable and conservative estimates in quantifying negative avoided costs. If the Commission approves FPC's plan, FPC would still carry the burden to prove that actions during minimum load events comply with its curtailment plan and Rule 25-17.086, Florida Administrative Code.

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ISSUE 4: Has Florida Power Corporation adequately demonstrated that its proposed plan allocates justifiable curtailments among QFs in a fair and not unduly discriminatory manner?

RECOMMENDATION: Yes. The plan is based on the objective differences between those QFs in Group A, and those in Groups B and C respectively.

POSITION OF PARTIES

FPC: Yes. The plan properly distinguishes between (1) as-available energy and (2) firm energy; and between (3) QFs who have committed in writing to specific voluntary output reductions and (4) QFs who have not made this commitment. Failure to recognize these factual distinctions would undermine this Commission's approval of the voluntary output reduction plans.

APP: The curtailment priority schedule under FPC's plan is fair and not unduly discriminatory because the three NUG classifications: (1) are based on objective differences between Group A NUGs versus Group B and C NUGs; and (2) fairly recognize the benefits that Group A NUGs provide to Group B and C NUGs.

DADE: Yes. The curtailment priority system in FPC's Curtailment Plan would allocate justifiable curtailments in a fair, reasonable, and not unduly discriminatory manner, because it recognizes different objective characteristics of group A, B, and C non-utility generators.

LAKE: Yes. The curtailment priority system in FPC's Curtailment Plan would allocate justifiable curtailments in a fair, reasonable, and not unduly discriminatory manner, because it recognizes different objective characteristics of group A, B, and C non-utility generators.

POLK/ORANGE: Yes. Separate curtailment schedules for each group of QFs are necessary in order to reflect the relative value of curtailment provided by each group. The plan's allocation of justifiable curtailment among QFs is fair and not unduly discriminatory because it offers similar treatment to QFs who provide similar benefits to FPC.

RIDGE: Yes. FPC's plan is fair and not unduly discriminatory in that it recognizes the different characteristics of the various types of QF's on its system and treats them commensurate with those characteristics. Although on the surface it may appear that QF's who have entered into curtailment agreements with FPC are given more "favorable" treatment, a closer analysis reveals that the curtailment agreements reduce the number and magnitude of

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curtailments in general, thereby benefitting all QF's on the system as well as FPC and its customers. The plan mitigates FPC's low load problems in a minimally intrusive manner.

TIGER: Yes. Separate curtailment schedules for each group of Qfs are necessary in order to reflect the relative value of curtailment provided by each group. The plan's allocation of justifiable curtailment among Qfs is fair and not unduly discriminatory because it offers similar treatment to Qfs who provide similar benefits to FPC.

OCL: OCL has settled its differences with FPC with respect to this issue. FPC has submitted that agreement to the Commission.

PASCO: No. Group B QFs are involuntarily curtailed by up to 50% before any involuntary curtailment is required of Group A QFs. This unfair and undue discrimination against Group B QFs is inappropriately premised solely on the Group A QFs' having agreed to output reductions.

PANDA: No.

STAFF ANALYSIS: FPC's curtailment plan categorizes QFs into Groups A, B, and C. Group C QFs have as-available energy contracts, and do not provide a firm capacity commitment. Group B QFs have firm capacity and energy contracts, but have not entered into a formal curtailment agreement. Group A QFs have firm capacity and energy contracts, and have entered into a formal curtailment agreement. After all mitigation efforts by FPC, if it becomes apparent that generation will exceed demand, the curtailment of QFs begins. Those QFs in Group A are called on to comply with their individual curtailment agreements. If additional curtailments are required after this measure, Group C QFs are notified to reduce output by up to 100%; Group B QFs are notified to reduce output by up to 50%; Group A QFs are notified to reduce output by up to 50%; and, as a final measure, all QFs are notified to reduce output by up to 100%.

Staff disagrees with Pasco's argument that the plan is unfair and unduly discriminates against Group B QFs. FPC's allocation plan during curtailments is not discriminatory in part because each Group B QF has had the same opportunity to negotiate a curtailment agreement as the Group A QFs. During minimum load conditions, Group A QFs contribute voluntary reductions prior to other needed curtailments. (Tr. 980, Ex. 1) This conveys a direct benefit to the Group B QFs in that they may continue normal operations and receive normal energy payments while Group A QFs curtail output. In addition, if a Group A or B QF is curtailed, its capacity payments are not affected as FPC removes the curtailed hours in the calculation of the QF's capacity payment.

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ISSUE 5: If the procedures set forth in Florida Power Corporation's curtailment plan are consistent with Rule 25-17.086, did Florida Power Corporation properly implement the procedures during the curtailments that occurred from October, 1994 through January, 1995?

RECOMMENDATION: Yes. FPC properly implemented the procedures of its plan given the unique conditions on its system at the time of each curtailment event.

POSITION OF PARTIES

FPC: Yes. FPC correctly anticipated minimum load problems, took available steps to minimize the problem, issued appropriate notifications under the plan and, when necessary, curtailed QF output as needed to balance projected generation and load levels. This balance was maintained to the extent practicable during each of the seven curtailment events.

APP: No position.

DADE: No.

LAKE: No.

POLK/ORANGE: Polk and Orange do not object to FPC's implementation of its curtailment plan during the curtailments that occurred from October, 1994 through January, 1995.

RIDGE: No position.

TIGER: Tiger Bay does not object to FPC's implementation of its curtailment plan during the curtailments that occurred from October, 1994 through January, 1995.

OCL: No. FPC curtailed QF deliveries under circumstances in which it would not have incurred negative avoided costs if it had pursued technically and operationally acceptable alternatives that were readily available to the operator. See Issue 6.

PASCO: No. FPC curtailed more than necessary to respond to the minimum load situation. FPC would have incurred no negative avoided costs by accepting firm QF generation during the curtailment episodes. Curtailments could have been avoided had FPC subordinated utility purchases to firm QF deliveries.

PANDA: No position.

STAFF ANALYSIS: FPC witness Charles J. Harper provided testimony

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and exhibits of FPC's actions during the seven curtailment events. FPC properly followed the procedures contained in its plan during each curtailment event. It is evident to staff that on each occasion, FPC system operating personnel took appropriate actions to match generation and load.

Admitted communication problems occurred during the first curtailment event on October 19, 1994 which in staff's opinion hampered the efforts of FPC and the QFs to deal with the minimum load conditions. (Tr. 173) However, FPC made efforts to improve communication with the QFs and to become better informed of the QF's operating schedules. (Tr. 175)

The testimony and exhibits of Linda D. Brousseau show that FPC would have incurred negative avoided costs had deliveries of QF energy not been curtailed. See Issue 6. (Tr. 906, Ex. 16) Staff believes that the actions of FPC's system operating personnel was appropriate during the seven curtailment events. An appropriate level of utility generation was maintained by FPC, given the circumstances surrounding the operation of certain units, in order to meet FPC's rising morning load.

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ISSUE 6: Has Florida Power Corporation adequately demonstrated that the curtailments that have occurred from October 1, 1994, through January 31, 1995, were necessary to avoid negative avoided costs?

RECOMMENDATION: Yes.

POSITION OF PARTIES

FPC: Yes. FPC has demonstrated that once it has already reduced its own generating units to minimum acceptable generation levels, further reductions in Company generation to continue QF purchases necessarily would result in negative avoided costs. FPC established this fact using three independent illustrative approaches which have not been effectively rebutted.

APP: No position.

DADE: No.

LAKE: No.

POLK/ORANGE: Polk and Orange do not object to FPC's curtailments from October, 1994 through January, 1995.

RIDGE: No position.

TIGER: Tiger Bay does not object to FPC's curtailments from October, 1994 through January, 1995.

OCL: No. FPC's analysis uses a truncated time frame and flawed comparisons. Mr. Slater's testimony and exhibits demonstrate that FPC would not have incurred any negative avoided costs by accepting delivery of firm QF energy during any of the curtailment episodes.

PASCO: No. FPC failed to exhaust available measures to mitigate the occurrence of excess generation. Additionally, its analyses of its avoided costs were flawed through being based on its system as operated under normal (rather than expected minimum load) conditions, and use of inappropriate time frames and costs.

PANDA: No.

STAFF ANALYSIS: As discussed in Issue 1, staff agrees with FPC's approaches in demonstrating negative avoided costs during the seven curtailment events from October 1994 through January 1995. In particular, the corrected unit commit runs provided by FPC witness Brousseau provide a conservative estimate that negative avoided costs would have occurred if FPC had not curtailed QFs. (Tr. 906,

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Ex. 16) OCL witness Slater performed modified unit commit analyses that showed no negative avoided costs occurring during the seven curtailment events. (Ex. 12, 13) Staff believes that Mr. Slater's exhibits did not take into consideration the varying real-time constraints facing FPC's system operators.

The testimony of FPC witness Steven A. Lefton provides evidence of long-term unit impact costs resulting from the cycling of baseload coal units. (Tr. 286-302) Mr. Lefton stated that increasing and decreasing the output (cycling) of a large baseload coal unit accelerates the wear on plant components leading to increases in operational costs and decreases in plant reliability. (Tr. 286) Staff believes FPC has taken a conservative approach by recognizing, but not directly including, these costs in its analyses of negative avoided costs. Staff agrees conceptually with Mr. Lefton that cycling baseload coal units, regardless of the reason, increases O&M costs. Therefore, cycling due to a minimum load condition has cost impacts which are borne by FPC's ratepayers.

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ISSUE 6a: In determining whether purchases of firm QFs' generation during an operational circumstance that satisfies rule 25-17.086 would cause FPC to incur costs greater than the costs FPC would incur if FPC supplied the energy, what costs are appropriate to consider?

RECOMMENDATION: All costs involved in the production of electricity are appropriate to consider.

POSITION OF PARTIES

FPC: Negative avoided costs are incurred when, because of QF purchases, the utility would incur greater net power production costs than it would otherwise incur. FPC should consider all of the costs incurred to generate electricity with and without QFs. No intervenor has proven that any specific cost must be excluded.

APP: No position.

DADE: In accord with Section 292.304(f), the only appropriate costs to consider are FPC's variable production costs.

LAKE: In accord with Section 292.304(f), the only appropriate costs to consider are FPC's variable production costs.

POLK/ORANGE: No position at this time.

RIDGE: No position.

TIGER: No position at this time.

OCL: FPC should include here only the same out-of-pocket variable production costs that it assesses for its other operational decisions. "Unit impact costs" are speculative. They occur -- if at all -- over the life of the unit, and are more properly associated with long-term planning decisions. They are irrelevant to this comparison.

PASCO: Variable production costs are the only appropriate costs to consider. Long-term cycling costs should not be considered.

PANDA: No position.

STAFF ANALYSIS: FPC should consider all of the costs incurred to generate electricity with and without QFs, including fuel cost, O&M, variable operating costs, unit shut-down and start-up costs, replacement power costs, incremental unit impact costs, and transmission losses. FPC witnesses Southwick and Lefton presented testimony and exhibits illustrating increased operating costs due

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to the cycling of baseload units. (Tr. 286-302, 357-61, 862-69) An example provided by Mr. Southwick showed unit impact costs of approximately \$65,000 each time a coal unit is cycled. (Tr. 363) Many QFs have challenged the consideration of these unit impact costs. As discussed in Issue 6, FPC has not included these costs in its system dispatch analyses as the study of unit impact costs is on-going. (Tr. 973-4) Therefore, staff believes FPC has taken a conservative position on unit impact costs by not including them in its unit commit analyses. However, there are ratepayer impacts associated with the cycling of baseload units, regardless of the cause of cycling.

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ISSUE 6b: In determining whether purchases of firm QFs' generation during an operational circumstance that satisfies rule 25-17.086 would cause FPC to incur costs greater than FPC would incur if FPC supplied the energy, what is the appropriate time frame to measure?

RECOMMENDATION: Commission and FERC regulations do not dictate a particular period to measure negative avoided costs. However, the time frames utilized by FPC in the analyses of the curtailment events in October 1994, and January 1995 were appropriate.

POSITION OF PARTIES

FPC: FPC properly examined negative avoided costs over periods of one to several days, which captured all appropriate cost impacts. OCL/Pasco's proposal to examine costs or shut down units for longer periods is illogical (given the short duration of each curtailment event), ignores FPC's curtailment rights and would increase ratepayer costs.

APP: No position.

DADE: The appropriate time frame for analysis is the same time period used to determine the commitment of the base load unit that would, hypothetically, have to be shut down as the alternative to curtailing QF generation, making additional sales, or pursuing other mitigation measures.

LAKE: The appropriate time frame for analysis is the same time period used to determine the commitment of the base load unit that would, hypothetically, have to be shut down as the alternative to curtailing QF generation, making additional sales, or pursuing other mitigation measures.

POLK/ORANGE: No position at this time.

RIDGE: No position.

TIGER: No position at this time.

OCL: FPC should evaluate QFs in a manner consistent with the way it evaluates its own units prior to commitment decisions. It should consider the costs and benefits for the deliveries in question for all hours during a representative commitment period. Approximately four days to one week is the time between normal commitment decisions.

PASCO: The time period should be consistent with that used by FPC in evaluating the commitment of its own units rather than the curtailment period of approximately three to six hours used by FPC.

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PANDA: No position.

STAFF ANALYSIS: Section 292.307(f)(1) of the FERC's regulations states that curtailments are permitted during "any period" in which operational circumstances would produce negative avoided costs. Staff believes the one to three day time frames FPC's utilized in its analyses were appropriate. These analyses showed the occurrence of negative avoided costs. (Tr. 971) Some QFs argue that longer periods of up to a week should be used. (Tr. 668) Mr. Slater's analyses included curtailments in duration from 24 to 48 hours, when actual curtailments lasted no more than six hours. (Tr. 731-33) Staff believes these are simply attempts to mask or dilute the true quantification of negative avoided costs. The time frame should parallel the period during which the costs occur, because this will result in a more realistic cost analyses. If the time period is extended beyond the actual curtailment period, negative avoided costs decline. Staff believes that extending the time frame would create a false analyses of negative avoided cost, and provide more room for error and manipulation. FPC is obligated to mitigate negative avoided costs under Commission and FERC regulations; therefore, FPC should use the time frame which follows the actual curtailment period.

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LEGAL

ISSUE 7: What is the permissible scope of Rule 25-17.086, Florida Administrative Code, in view of the federal standards implementing Section 210 of PURPA?

RECOMMENDATION: Rule 25-17.086, Florida Administrative Code, clearly authorizes QF curtailments under the circumstances demonstrated by the facts of this case and contemplated by the federal standards implementing PURPA.

POSITION OF PARTIES

FPC: FPC takes no position at this time concerning the breadth of the Commission's independent authority under Rule 25-17.086 because it is not necessary for purposes of this case to look beyond the curtailment rights afforded to FPC under FERC's Rule 292.304(f) and the Company's contracts with the QFs.

APP: No position.

DADE: The Commission's rules governing utility curtailments of QF purchases cannot provide broader grounds for such curtailments than are permitted under the corresponding provisions of PURPA and the FERC's rules implementing PURPA.

LAKE: The Commission's rules governing utility curtailments of QF purchases cannot provide broader grounds for such curtailments than are permitted under the corresponding provisions of PURPA and the FERC's rules implementing PURPA.

POLK/ORANGE: No position at this time.

RIDGE: No position.

TIGER: No position at this time.

OCL: Rule 25-17.086, F.A.C., implements those federal standards. As a matter of law, the rule must be read to be no broader than the narrow scope of FERC's limited exceptions to PURPA's mandatory purchase obligation.

PASCO: The scope of Rule 25-17.086 is co-extensive with the FERC rules [18 CFR §§ 292.307 and 292.304(f)] it was adopted to implement.

PANDA: Section 210 of PURPA is intended to deal with unforeseen emergencies and the like. Since Rule 25-17.086 implements Section 210 it should be likewise construed. Under no circumstances should the Commission allow this docket to become the mechanism for

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reforming contracts or otherwise changing obligations.

STAFF ANALYSIS: In 1978 the Public Utility regulatory Policies act (PURPA) was enacted as part of a group of measures known as the National Energy act. Certain provisions of PURPA established a federal policy to encourage cogeneration and small power production and required the Federal Energy Regulatory Commission and state regulatory commissions to implement that policy through the exercise of their regulatory authority over electric utilities. In March, 1980, FERC issued its regulations. Tracking PURPA, the federal regulations established an obligation on the part of electric utilities to buy electricity from and sell electricity to cogenerators and small power producers who met certain fuel efficiency standards, hereinafter referred to as Qualifying Facilities (QFs). These transactions were to be conducted at rates which were just, reasonable, in the public interest, and non discriminatory to QFs. The federal regulations also implemented Congress' intent that electric utility ratepayers would not pay more for cogenerated power than they would have paid if the electric utility had built a power plant to generate the power to serve customers rather than purchase that power from QF's.

Consistent with the main intent of PURPA to encourage cogeneration, 18 C.F.R. Section 292.303 requires utilities to buy capacity and energy made available by a QF. Section 292.304, however, also provides an exception to the general obligation to purchase QF power. Under Section 292.304(f)(1), a utility's purchase obligation can be suspended due to operational circumstances;

- (f) Periods during which purchases not required.
- (1) Any electric utility which gives notice pursuant to paragraph (f)(2) of this section will not be required to purchase electric energy or capacity during any period during which, due to operational circumstances, purchases from qualifying facilities will result in costs greater than those which the utility would incur if it did not make such purchases, but instead generated an equivalent amount of energy itself.

The federal standards implementing Section. 210 of PURPA specifically identify a minimum load condition as an "operational circumstance" that would permit a utility to temporarily suspend purchases from QF's. FERC explained the reasons for its curtailment regulation as follows:

This section was intended to deal with a

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certain condition which can occur during light loading periods. If a utility operating only base load units during these periods were forced to cut back output from the units in order to accommodate purchases from qualifying facilities, these base load units might not be able to increase their output level rapidly when the system demand later increased. As a result, the utility would be required to utilize less efficient, higher cost units with faster start-up to meet the demand that would have been supplied by the less expensive base load unit had it been permitted to operate a constant output.

The result of such a transaction would be that rather than avoiding costs as a result of the purchase from a qualifying facility, the purchasing electric utility would incur greater costs than it would have had it not purchased energy or capacity from the qualifying facility. A strict application of the avoided cost principle set forth in this section would assess these additional costs as negative avoided costs which must be reimbursed by the qualifying facility. In order to avoid the anomalous result of forcing a qualifying utility to pay an electric utility for purchasing its output, the commission proposed that an electric utility be required to identify periods during which this situation would occur, so that the qualifying facility could cease delivery of electricity during those periods.

Order No. 69, RM79-55, 45 Fed. Reg. No. 38 at 12,227 (Feb. 25, 1980).

FERC's rules expressly leave the issues of verification and approval of curtailment practices to the discretion of state regulatory authorities. See, e.g., 18 C.F.R. section 292.304(f)(2); 292.304(f)(4).

The Commission's cogeneration rules, enacted to implement the requirements of PURPA and FERC's regulations, also include an exception to the general obligation to purchase QF power. Rule 25-17.086, Florida Administrative Code, allows a utility's purchase obligation to be suspended due to operational circumstances. Rule 25-17.086 provides:

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Where purchases from a qualifying facility will impair the utility's ability to give adequate service to the rest of its customers or, due to operational circumstances, purchases from qualifying facilities will result in costs greater than those which the utility would incur if it did not make such purchases, or otherwise place an undue burden on the utility, the utility shall be relieved of its obligation under Rule 25-17.082 to purchase electricity from a qualifying facility.

Like the FERC, this Commission also used minimum load conditions as an example of when a utility may curtail a QF. The Commission reasoned as follows:

We have retained the provisions of the original rule excusing a utility from its obligation to purchase under certain circumstances, and have added to it to make clear that a utility is not required to purchase from a QF when to do so would result in costs greater than those which the utility would incur if it did not make such purchases. We believe this is most likely to happen during a utility's off-peak periods where it may be cycling its base load units and QF purchases would force it to shut down the units altogether.

Order No. 12634, Docket No. 820406-EU (Oct. 27, 1983) at 25.

Staff believes that Rule 25-17.086, Florida Administrative Code, clearly authorizes QF curtailments under the circumstances contemplated by FERC's Section 292.304(f) and demonstrated by the facts of this case. Rule 25-17.086, reflects FERC's intent to allow a utility to suspend its purchase obligation due to operational circumstances. Therefore, we recommend that the application of the Rule to the facts presented here is appropriate and permissible in view of the federal standards implementing PURPA. It is not necessary at this time to decide what the theoretical legal limits of Rule 25-17.086 may be, because the rule and the federal standards implementing Section 210 of PURPA clearly contemplate, and in fact specifically identify, the type of "minimum load condition" addressed in FPC's curtailment plan.

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ISSUE 8: Should the Commission approve Florida Power Corporation's curtailment plan as being in compliance with Rule 25-17.086?

RECOMMENDATION: Yes. FPC's curtailment plan is a reasonable means to implement Rule 25-17.086, Florida Administrative Code. Approval of the plan does not relieve FPC of the duty to take prudent measures in order to avoid a minimum load condition. Any affected QF may still request a staff investigation of a specific event pursuant to Rule 25-17.086, Florida Administrative Code, even if FPC followed the procedures contained in its plan for its own generation resources.

POSITION OF PARTIES

FPC: Yes. FPC has demonstrated that QF curtailments under its plan are necessitated by operational circumstances associated with minimum load conditions and are required to avoid incurrence of negative avoided costs. The plan sets forth fair and reasonable procedures for implementing the required curtailments.

APP: No position.

DADK: No. FPC has not satisfied the criteria to justify curtailment in the applicable rules, nor has it adequately considered or provided for all appropriate mitigation measures. Accordingly, its Plan must be rejected, and its curtailments of QFs to date must be found to violate Rule 25-17.086.

LAKE: No. FPC has not satisfied the criteria to justify curtailment in the applicable rules, nor has it adequately considered or provided for all appropriate mitigation measures. Accordingly, its Plan must be rejected, and its curtailments of QFs to date must be found to violate Rule 25-17.086.

POLK/ORANGE: Yes, with the proviso that FPC must take its peaking and intermediate generating units off-line before curtailing QF purchases, unless a particular unit is required for system stability.

RIDGE: Yes. However, as noted previously, approval of the plan should not be construed as the approval or justification of any curtailments of QF generation which may occur on the FPC system -- even if the procedures established in a Commission approved plan are adhered to. Plan approval by the Commission should simply "certify" that the plan is not unfair or unduly discriminatory in its application to the QF class. Whether or not any given curtailment event is/was permissible under applicable law would continue to be addressed under Rule 25-17.086, F.A.C. on a case-by-case basis with the burden of proof on FPC to demonstrate the

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legality of such curtailment.

TIGER: Yes, with the proviso that FPC must take its peaking and intermediate generating units off-line before curtailing QF purchases, unless a particular unit is required for system stability.

OCL: No. FPC failed its burden to prove that its proposed plan fits FERC's narrow exceptions to PURPA's mandatory purchase obligation. FPC's plan shows no "operational circumstance;" requires inadequate mitigation measures; and requires no proper demonstration of negative avoided costs before or after curtailment. Evidence proves FPC's actual curtailments were unjustified.

PASCO: No. The proposed Plan is inconsistent with Rule 25-17.086, and FPC's petition in this docket should be denied.

PANDA: No.

STAFF ANALYSIS: A utility is not required to file a curtailment plan by any provision of the FERC's rules or Rule 25-17.086, Florida Administrative Code. The FERC rules (18 C.F.R., Section 292.304(f)(2), 292.304(f)(4)) expressly leaves the issues of verification and approval of curtailment practices to the discretion of state regulatory authorities. In order to curtail, a utility must notify, in any reasonable manner, the QF prior to the occurrence and must correctly identify the need for curtailment. In addition, the utility must notify the Commission pursuant to Rule 25-17.086, Florida Administrative Code.

Staff believes competent and substantial evidence has been presented in this docket that FPC's curtailment plan is a reasonable implementation of Rule 25-17.086, Florida Administrative Code. As discussed in the previous issues, FPC has shown that, due to operational circumstances which have occurred, purchases from qualifying facilities would have caused negative avoided costs, which would be borne by FPC's ratepayers. In addition, FPC has adequately demonstrated that minimum load conditions are likely to occur in the future which could lead to negative avoided costs. The plan contains appropriate procedures requiring FPC to reduce its generation to minimum, reliable levels; reduce inter-utility purchases to minimum levels; and maximize economic off-system sales prior to QF curtailments.

Staff believes this plan provides a benchmark against which FPC's actions during minimum load conditions may be measured. Because each curtailment event is unique, affected QFs may request a staff investigation pursuant to Commission rule.

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ISSUE 9: Should this docket be closed?

RECOMMENDATION: Yes.

STAFF ANALYSIS: If no party files a Motion for Reconsideration/Notice of Appeal of the Commission's Final Order, no further action will be required of the Commission. Therefore, this docket should be closed.

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STAFF RECOMMENDATION
ORLANDO COGEN LIMITED'S PROPOSED FINDINGS OF FACT

COMPLIANCE OF FPC PROPOSED PLAN WITH COMMISSION RULE (Issue 1)

1. In 1991 FPC executed firm contracts to purchase more than 600 MW of capacity from QFs. (Tr. 85, l. 12-16).

RECOMMENDATION: Accept.

2. Prior to issuing the RFP relating to the 1991 firm QF contracts, FPC considered internally whether to pursue provisions for dispatchability of the QF's units within the contracts. (Tr. 510, l. 9-13; Exh. 9, RJS-9).

RECOMMENDATION: Accept.

3. FPC decided not to negotiate for contractual dispatch rights prior to executing the 1991 QF contracts. (Tr. 90, l. 17-20).

RECOMMENDATION: Accept.

4. In 1993 FPC foresaw that it would experience minimum load periods beginning in 1994 when some of the QF capacity for which it had signed firm, non-dispatchable contracts in 1991 came on line. (Tr. 80, l. 2-7).

RECOMMENDATION: Accept.

5. In 1994 FPC devised a plan to use Commission Rule 25-17.086 to gain contractual rights to dispatch QF units during minimum load situations at no cost. (Exh. 9, RJS-8, at 3).

RECOMMENDATION: Reject. Conclusory and unsupported by the greater weight of the evidence.

6. FPC can experience an imbalance between generation and load of 30 MW without violating NERC standards. (Tr. 385, l. 9-18).

RECOMMENDATION: Accept and incorporate with the clarification that the particular NERC standard referenced by Witness Southwick at p. 385 refers to automatic generation control (AGC) imbalances.

7. Crystal River Units 1 and 2 are not assigned any role in Automatic Generation Control. (Tr. 393, l. 17 - Tr. 394, l. 2).

RECOMMENDATION: Reject. Unsupported by the greater weight of the evidence. In the above-referenced cite, Witness Southwick's response is to a question regarding the output of Crystal River Units 1 and 2 required to meet automatic generation control requirements, emissions restrictions, and other system conditions. This does not conclusively state that Crystal River Units 1 and 2 have NO role in automatic generation control.

8. On occasion, FPC has operated Crystal River Unit 5 below its normal minimum to help manage low load situations. (Tr. 776, l. 10-22).

RECOMMENDATION: Reject. Unsupported by the record citation. The above-referenced transcript cite is a discussion of Mr. Slater's after-the-fact manual adjustments to the output of FPC's units in the Unit Commit simulation model.

9. In some of FPC's "change case" scenarios, FPC identified shutting Crystal River 4 down as the alternative to curtailment. (Tr. 796, l. 11-14; Exh. 16, LDB-1).

RECOMMENDATION: Accept with the clarification that cycling off Crystal River Unit 4 was not the only alternative to curtailment but, rather, was part of a larger action taken by FPC in the "change case" scenarios of 1/2/95 and 1/7/95.

10. In its Unit Commit simulation model, FPC has incorporated parameters it regards as necessary to maintain reliability. (Tr. 797, l. 13-14).

RECOMMENDATION: Accept and incorporate with the clarification that the above-referenced transcript citation does not contain the above-mentioned statement. Rather, the transcript cite listed above refers to whether or not OCL/Pasco Witness Slater, in his change case calculations, respected "any criteria constraints regarding load control and voltage support." This proposed finding of fact is supported by the record at Tr. 918, l. 11-13.

MITIGATION (Issue 2)

APPROPRIATE UNIT COMMITMENT (Issue 2a)

11. Prior to four of the seven curtailments declared by FPC, FPC chose to commit all five of its Crystal River base load units to service. (Exh. 11, KJS-2).

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RECOMMENDATION: Accept with the clarification that FPC did not commit the maximum generation output of all five Crystal River units at those times.

12. Prior to the other three curtailments declared by FPC, FPC chose to commit four of its five Crystal River base load units to service. (Exh. 11, KJS-2).

RECOMMENDATION: Accept with the clarification that FPC did not commit the maximum generation output of all four of the five Crystal River units at those times.

13. On one occasion FPC avoided a generation imbalance by deliberately delaying the return to service of its Crystal River 3 nuclear unit from a planned outage. (Tr. 943, l. 21-23).

RECOMMENDATION: Accept with the following clarification: At the above-referenced transcript cite, FPC Witness Southwick stated that one QF curtailment was averted by "slowing the rate at which the Crystal River nuclear unit was returned to service after an outage." Slowing the rate of a unit's return to service is not necessarily the same as deliberately delaying the unit's return to service.

14. FPC has also managed low load situations by keeping other base load units that were down for maintenance out of service longer than planned. (Tr. 943, l. 19-20).

RECOMMENDATION: Accept with the clarification that FPC's actions did not manage low load situations, but "help[ed] avert" them (Tr. 943, l. 18-20).

15. During all of the seven curtailments declared by FPC, alternatives to base load units in the form of intermediate capacity, peaking capacity, and/or purchased power were available to FPC in sufficient quantity to enable FPC to serve its peak load following the low load event. (Tr. 654, l. 11-15; Exh. 11, KJS-3).

RECOMMENDATION: Accept.

DECREASE GENERATION FROM OTHER SOURCES (Issue 2b)

16. FPC subordinates its firm QF contracts to the minimum take provision of its UPS contract with Southern Company. (Tr. 650, l. 10-12).

RECOMMENDATION: Reject. Misleading and argumentative. FPC "is living by the terms of all its contracts. It is

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important to recognize, however, that the contracts are not all the same." (Tr. 939, ll. 6-8). The Southern Company UPS contracts are must-take contracts, while the QF contracts allow for curtailment under certain conditions.

17. During two of the seven curtailment events declared by FPC, the amount of power that FPC purchased from Southern Company exceeded the amount of firm QF purchases that it curtailed. (Tr. 651, l. 17-20).

RECOMMENDATION: Accept with the clarification that the actual hourly minimum takes for the Southern Company purchases exceeded the hourly levels of curtailment.

SALRS EFFORTS (Issue 2c)

18. When the total of firm QF purchases and must-run base load units exceed system load, a sale by the utility of its excess generation eliminates the imbalance between generation and load. (Exh. 11, KJS-4).

RECOMMENDATION: Accept with the clarification that other methods may also be used to mitigate or eliminate the imbalance between generation and load. Curtailment of QF purchases is an example of one of those methods.

19. A sale by a utility of its excess energy results in no change in the operational status or production costs of its own generators. (Tr. 656, l. 10-14; Exh. 11, KJS-4).

RECOMMENDATION: Accept.

20. A sale by a utility of its excess energy at any price above zero results in a removal of the imbalance between generation and load without any "negative avoided costs." (Tr. 657, l. 15-21).

RECOMMENDATION: Reject. Not supported by the greater weight of the evidence. The testimony of FPC Witness Southwick substantially illustrates the "negative avoided costs" associated with the sale of excess energy at any cost less than system incremental cost.

21. The price of a transaction on the Florida Energy Broker is derived by "splitting the savings," quantified as the difference between the cost of the purchasing utility to generate and the price quoted by the selling utility. (Tr. 952, l. 21 - Tr. 953, l. 5).

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RECOMMENDATION: Reject. Immaterial and irrelevant to a determination of the issues in this case.

22. During some hours in which FPC curtailed purchases from firm QFs, other utilities who quoted prices lower than FPC's sold energy on the Florida Energy Broker. (Tr. 223, l. 3-19).

RECOMMENDATION: Reject. Immaterial and irrelevant to a determination of the issues in this case.

23. During minimum load periods, FPC bases the price that it quotes for off-system sales on the same price sheet that it uses to quote bids during normal circumstances. (Tr. 214, l. 17-24).

RECOMMENDATION: Reject. Not supported by the record citation.

24. When the combination of firm QF purchases and must-run base load generation exceeds FPC's minimum load, FPC incurs no incremental cost associated with the amount of the excess. (Tr. 220, l. 6-12; Tr. 526, l. 12-24).

RECOMMENDATION: Reject. Not supported by the record citation. Unsupported by the greater weight of the evidence. FPC Witness Southwick provided substantial testimony regarding the negative avoided cost associated with excess capacity.

25. Other utilities subject to regulation by FERC -- such as those in the New York Power Pool -- routinely reflect the zero marginal cost of excess energy in the prices they incorporate in inter-utility transactions. (Tr. 658, l. 2-15).

RECOMMENDATION: Reject. Irrelevant and immaterial to the resolution of the issues in this case.

APPROPRIATE COSTS TO CONSIDER (Issue 6a)

26. Whether to increase output from a unit to make a sale is an operational decision. (Tr. 389, l. 5-7). In evaluating such a decision, FPC assesses only short-term, out-of-pocket production costs. (Tr. 388, l. 23 - Tr. 389, l. 4).

RECOMMENDATION: Accept.

27. The selection of which units to commit is an operational decision. (Tr. 387, l. 1-16). In making this decision, FPC assesses only short-term, out-of-pocket production costs. (Tr. 388, l. 23 - Tr. 389, l. 4).

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RECOMMENDATION: Reject. Not supported by the record citation.

28. The choice of removing a base load unit or curtailing firm QFs is an operational decision. (Tr. 389, l. 8-11).

RECOMMENDATION: Accept with the clarification that the above-mentioned action is a short-term, rather than long-term, action.

29. The "unit impact costs" quantified by FPC witness Lefton include changes due to creep and fatigue that may impact a unit over the course of its useful life. (Tr. 536, l. 9-12).

RECOMMENDATION: Accept with the clarification that FPC Witness Lefton's testimony illustrated that a unit's useful life is shortened due to frequent cycling, which causes creep and fatigue.

30. The analysis underlying a decision to cycle a base load unit or curtail firm QFs values QF deliveries over only the short-term, measured by FPC to be the curtailment period of several hours. (Tr. 670, l. 1-3).

RECOMMENDATION: Accept with the clarification that the "value" of QF energy deliveries (in lieu of coal-generated energy) over the short term includes both benefits and costs.

31. FPC engaged Aptech to perform three of the eleven analyses proposed by Aptech. (Tr. 667, l. 1-4; Exh. 11, KJS-6).

RECOMMENDATION: Accept.

32. The values for cycling costs supplied by Mr. Lefton contain significant uncertainty. The uncertainty has many sources. (Exh. 11, KJS-5 at 3).

RECOMMENDATION: Accept.

APPROPRIATE TIME FRAME (Issue 6b)

33. When FPC evaluates which units it will next commit to service, it examines all values associated with the unit under review for a period of at least one day and usually several days. (Tr. 685, l. 9-12).

RECOMMENDATION: Accept with the clarification that FPC's commitment decisions are based on benefits and costs

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associated with that unit for a period ranging from one day to one week.

34. When FPC evaluates whether to accept or curtail deliveries of firm QF power in a minimum load situation, it values the QFs over a period limited to the curtailment hours. (Tr. 670, 1. 1-3).

RECOMMENDATION: Accept with the clarification that one part of the analysis underlying a decision to cycle a base load unit or curtail firm QFs is to determine avoided energy costs. FPC looks at avoided energy costs for only those hours during which the QF curtailments occur.

NEGATIVE AVOIDED COSTS (Issue 6)

35. FPC has not attempted to measure production costs with and without firm QFs at any time prior to its decisions to curtail firm deliveries. (Tr. 912, 1. 9-14).

RECOMMENDATION: Accept.

36. When the status of the units on the system is known, it takes only a few minutes to compare the costs of an alternative to curtailment with the Unit Commit system simulation program. (Tr. 754, 1. 12-14).

RECOMMENDATION: Reject. Conclusory and unsupported by the greater weight of the evidence. The above-mentioned transcript cite contains an exchange between Commissioner Deason and OCL/Pasco Witness Slater. Questioned on his ability to perform "after-the-fact" trial and error runs to compare QF curtailment costs to coal unit cycling costs, Mr. Slater said that he "arrived at the strategy" on some of the runs in 30 minutes.

37. With respect to each of FPC's seven original base cases curtailment scenarios, there was available to FPC a feasible shut down alternative involving no negative avoided costs. (Tr. 676, 1. 16-21).

RECOMMENDATION: Reject. Conclusory and unsupported by the greater weight of the evidence. FPC Witness Southwick provided substantial testimony on the reality of negative avoided costs associated with purchasing QF capacity in lieu of curtailment during minimum load periods.

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38. With respect to the seven modified base cases presented by FPC in rebuttal testimony, there were available to FPC in at least six of the cases feasible shutdown alternatives that involved no negative avoided costs. (Tr. 692, l. 12-14; Exh. 13, KJS-10).

RECOMMENDATION: Reject. Conclusory and unsupported by the greater weight of the evidence. FPC Witness Southwick provided substantial testimony on the reality of negative avoided costs associated with purchasing QF capacity in lieu of curtailment during minimum load periods.

39. In all simulations of the FPC system during the seven curtailment events, using FPC's simulation model and data, the base load unit removed to eliminate the generation imbalance returned to service in time to meet rising load following the minimum load event. (Tr. 763, l. 7-15).

RECOMMENDATION: Reject. Not supported by the greater weight of the evidence. In the above-referenced cite, OCL/Pasco Witness Slater's response is to a question regarding application of the unit commit model and assumptions on the ramp-up rate of a hypothetical unit. This does not in any way conclusively state what is contemplated in the above proposed finding of fact.

40. FPC uses the same Unit Commit model and data that was employed to prepare the curtailment and change case scenarios to derive the price it pays for as-available energy. (Tr. 886, l. 21-23).

RECOMMENDATION: Accept with the clarification that the Unit Commit models were "developed during the normal course of business for as-available energy payment purposes." The models were not developed to determine the cost impacts of curtailment, although this "readily available" data could be used after-the-fact by FPC to illustrate the prudence of management decisions made before-the-fact.