

1. <u>REPORT DATE:</u> April 18, 1989	:	2. <u>BUREAU AGENDA NO.</u> APR-89-ALJ-58
3. <u>BUREAU:</u> ALJ	:	
4. <u>SECTION(S):</u>	:	5. <u>PUBLIC MEETING DATE:</u>
6. <u>APPROVED BY:</u> Chief ALJ: Allison K. Turner Director: Ext. 7-6108 Supervisor:	:	May 11, 1989
7. <u>MONITOR:</u>	:	
8. <u>PERSON IN CHARGE:</u> ALJ Smolen 8-325-2105	:	
9. <u>DOCKET NO:</u> I-870051; P-870230; M-870140; C-871364; M-FACE8715	:	

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- 10. (a) CAPTION (abbreviate if more than 4 lines)
- (b) Short summary of history & facts, documents & briefs
- (c) Recommendation

(a) PUC vs. PECO; Barasch vs. PECO; Reconciliation of Fuel Cost Adjustment Revenues for 3 Month Period ended 4/30/86 and 12 Month Period ended 4/30/87.

(b) On 3/13/87 Peach Bottom 2 was shut down for a refueling and maintenance outage. On 3/31/87 the NRC ordered a shutdown of Peach Bottom 2 and 3. On 6/1/87, PECO filed its ECRF2 resulting in a 8.627 mills credit for service from 7/1/87 to 6/30/88. By Secretarial letter of 6/26/87, the credit was ordered to be 10.457 mills per KWH. PECO objected and requested a hearing. On 9/3/87, Commission instituted an investigation of the Peach Bottom 2 and 3 shutdown, consolidated PECO's request for ECRF2 hearing. OTS, OCA and PAIEUG participated in the hearings. Following the close of hearings and the filing of briefs, supplemental issues were propounded on 10/12/88.

(c) ALJ Smolen issued a Recommended Decision recommending: (1) Upholding all Secretarial Letter Adjustments except the April 1987 Replacement Power cost valuation; (2) Retention of the 80-20 reconciliation mechanism with different application method; (3) Denial of PAIEUG proposal for a modified ECRF procedure; (4) Adoption of BUT FOR test and various factors in connection with issues propounded by Director of Operations; (5) Adoption of factors to be considered in determining of vicarious liability of PECO for imprudent acts of its craftspeople; (6) Disallowance of 14.3 days of claimed Replacement Power costs for Peach Bottom 2 by reason of management imprudence; (7) Disallowance of PECO's claimed 15 day tech spec outage for Peach Bottom 3; (8) Utilization of the Production Cost method to determine replacement power costs.

Recommended Decision served: March 17, 1989.

Exceptions filed by: Office of Consumer Advocate, April 6, 1989; Philadelphia Area Industrial Energy Users Group, April 7, 1989; and Philadelphia Electric Company, April 7, 1989.

(CONTINUED)

11. MOTION BY: Commissioner Smith	Commissioner Chm. Shane - Yes
SECONDED: Commissioner Fischl	Commissioner Rhodes - Concur & Dissent
	Commissioner

CONTENT OF MOTION: That the 80%/20% ECRF mechanism be eliminated prospectively and the Company be permitted to return to the regular ECR mechanism utilized by all other electric companies; and that for the purpose of this proceeding, the IR-Staff-1 method should be used to determine replacement power costs.

(Continued on next page)

December 14, 1989

Walter R. Hall, II, Esquire
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I-870051
P-870230
M-870140
C-871364
M-FACE8715

Pennsylvania Public Utility Commission
v.

Philadelphia Electric Company

David M. Barasch, Consumer Advocate

v.

Philadelphia Electric Company

To Whom It May Concern:

This is to advise you that an Opinion and Order has been adopted by the Commission in public meeting held May 11, 1989 in the above entitled proceeding.

A copy of this Opinion and Order has been enclosed for your records.

Very truly yours,

Jerry Rich, Secretary

fao
Encls.
Cert. Mail
Refer to letter dated March 17, 1989

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PENNSYLVANIA
PUBLIC UTILITY COMMISSION
Harrisburg, PA 17120

Public Meeting held May 11, 1989

Commissioners Present:

Bill Shane, Chairman
William H. Smith, Vice-Chairman
Joseph Rhodes, Jr., Concurring, in part, and Dissenting,
Frank Fischl in part (opinion attached)

Pennsylvania Public Utility Commission

v.

Philadelphia Electric Company

I-870051
P-870230

David Barasch, Consumer Advocate

v.

Philadelphia Electric Company

M-870140
C-871364
M-FACE8715

OPINION AND ORDER

BY THE COMMISSION:

Before the Commission for consideration are the Exceptions filed by the Philadelphia Electric Company ("PECO" or "Company"), the Office of Consumer Advocate ("OCA"), and the Philadelphia Area Industrial Energy Users Group ("PAIEUG") to the Recommended Decision of Administrative Law Judge ("ALJ") Herbert Smolen, served on March 17, 1989. Reply Exceptions were filed by the Office of Trial Staff ("OTS"), PECO, OCA and PAIEUG. The ALJ recommended, inter alia:

1. That the Complaint of the Office of Consumer Advocate be and the same is hereby sustained in part and denied in part consistent with the findings, conclusions and rulings contained herein.
2. That the 80%-20% reconciliation mechanism be retained and applied with true-up in the manner as recommended by the Administrative Law Judge in the Recommended Decision. Philadelphia Electric Company is hereby directed to

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prepare and file with the Commission, with copies to all parties of record, all necessary data and revisions, if any, to all of its applicable filings to reflect application and implementation as aforesaid.

3. That Philadelphia Electric Company report and reconcile actual ECRF results on a monthly basis and that a true-up adjustment be made when the outage period has ended; the true-up to be computed from the beginning of the ECRF period in which the outage began through the end of the ECRF period in which the outage ended.
4. That the Secretarial letter adjustment denying \$5,852,425 as the April 1987 replacement power cost associated with the NRC imposed outage be and the same is hereby revised to reflect denial of \$5,589,952, subject to further adjustment when the replacement power cost is determined utilizing the Production Cost method.
5. That Philadelphia Electric Company prepare and submit to the Commission for approval, with copies to all parties of record, a computation with supporting data of any claimed interest for revenue deferral, if any, caused as a result of the Secretarial letter adjustment and this Order relating to the April 1987 replacement power cost valuation.
6. Except as otherwise set forth in this Order, the adjustments made and the directions contained in the Secretarial letter of June 26, 1987 and in the Commission Order adopted August 20, 1987 and entered September 3, 1987 be and the same remain in full force and effect.
7. That in connection with the October 12, 1988 letter from the PUC Director of Operations, the standards, tests and factors, inter alia, to be considered in determining liability for replacement power costs as recommended by the Administrative Law Judge and set forth in the Recommended Decision, be and the same are hereby approved and adopted.

8. That of Philadelphia Electric Company's Peach Bottom 2 refueling/maintenance claim for replacement power costs for the period from March 31, 1987 to August 5, 1987, the cost of replacement power for 14.3 days, without any offsets, is hereby disallowed and denied.
9. That Philadelphia Electric Company's Peach Bottom 3 claim for replacement power costs for a hypothetical 15 day technical specification outage be and the same is hereby disallowed and denied.
10. That the Production Cost (ProdCost) method be utilized in this proceeding and in future proceedings to determine replacement power cost valuation; and Philadelphia Electric Company is hereby directed to prepare and submit to the Commission, with copies to all parties of record, a computation quantifying replacement power costs utilizing said methodology. Said computation and supporting data are to be submitted at the end of the NRC mandated outage.

HISTORY OF THE PROCEEDING^{1/}

On March 31, 1987, the United States Nuclear Regulatory Commission ("NRC") issued an Order, at Docket Numbers 50-277 and 50-278, entitled "Order Suspending Power Operation and Order to Show Cause" requiring the shutdown of Peach Bottom Atomic Power Station Units 2 and 3. Under the terms of the Order, the shutdown of the Peach Bottom facility was to continue pending NRC review and approval of a restart plan. As of the issuance date of the Recommended Decision Units 2 and 3 remained shutdown due to the NRC order.

^{1/} From the Recommended Decision, pps. 1-7.

On June 1, 1987, PECO filed with the Commission its Energy cost Rate Factor No. 2 (ECRF No. 2) pursuant to PECO's Tariff Electric-Pa. P.U.C. No. 26, second revised pages 31-32. The ECRF No. 2 as filed by PECO would have resulted in a credit of 8.627 mills per kwh for service rendered on or after July 1, 1987, based on prospective energy costs for the 12-month period ending June 30, 1988, and a net E-factor of approximately \$109.6 million in overcollection balance as of April 30, 1987. Included within the retrospective E-factor were certain replacement power costs incurred by PECO as a result of the outage at Peach Bottom Units 2 and 3.

On June 8, 1987, the OCA filed a Petition for an Investigation of the Peach Bottom outages under Section 1322 of the Pennsylvania Public Utility Code, 66 Pa. C.S. §1322. The OCA Petition, docketed at P-870230, requested that the Commission institute an investigation into these outages and an accounting of the replacement power costs. The OTS filed an Answer on June 11, 1987, essentially supporting the OCA Petition. On June 15, 1987, PAIEUG filed a Petition to Intervene in any proceeding which the Commission might order.

On June 17, 1987, the OCA filed a Formal Complaint against PECO's ECRF filing, which was docketed at C-871364. The OCA Complaint challenged the justness and reasonableness of the proposed ECRF No. 2 rate, and referenced the recovery of replacement power costs incurred as a result of the NRC's shutdown of the Peach Bottom units.

On June 19, 1987, OTS filed a Petition to Modify the ECRF Filing which opposed PECO's proposal to return the prior period overcollections over a two year period and requested a modification of the ECRF No. 2 filing to remove the portion of the over/undercollection associated with the NRC ordered shutdown of Unit 3, and to reflect a credit of 10.629 mills per kwh.

At Public Meeting on June 25, 1987, the Commission adjusted PECO's proposed ECRF No. 2 rate effective for service rendered July 1, 1987, through June 30, 1988. The Commission subsequently issued a Secretarial letter on June 26, 1987, directed to PECO. The Secretarial letter modified PECO's proposed ECRF No. 2 rate and established a credit of 10.457 mills per kwh, instead of the 8.627 mills per kwh credit proposed by PECO. The Secretarial letter also detailed four adjustments made to PECO's proposed ECRF No. 2 rate, as follows: (a) the Commission reduced PECO's estimated coal and oil prices for the period July 1, 1987, to June 30, 1988, to price levels of April 1987; (b) the Commission increased PECO's estimated generation from Peach Bottom Unit 3 for the ECRF No. 2 period from a 17.7% to a 50% capacity factor; (c) the Commission reduced by \$5,852,425 PECO's claimed cost level to reflect costs associated with the NRC Shutdown Order in April 1987; and, finally (d) the Commission made an adjustment to recognize supplemental energy costs and associated sales. Additionally, the Commission directed that future ECRFs should be filed with an average nuclear plant capacity factor within a range of 60-70% and should contain an adjustment for supplemental energy costs and sales.

On July 10, 1987, PECO filed a response objecting to the Secretarial letter adjustments and requesting that the Commission approve, as the ECRF No. 2 level, a credit of 8.902 mills per kwh instead of the 10.457 mills per kwh ordered by the Commission. In arriving at this level, PECO reinserted its fossil fuel price forecast which the Commission had frozen at April 1987 levels. As a result, PECO increased the Commission's coal price projection from \$39.40/ton to \$42.95/ton; the No. 6, .5% sulfur fuel oil price from \$18.76/barrel to \$19.15/barrel; the No. 6, 1% sulfur fuel oil from \$18.49/barrel to \$18.88/barrel; and the No. 2 fuel oil price from \$.47/gallon to \$.52/gallon. PECO also reduced the capacity factor for Peach Bottom 3 from the 50% level ordered by the Commission to a 17.7% level. The final adjustment made by PECO was a recalculation of the April 1987

replacement power costs of Peach Bottom 3 resulting from the NRC shutdown order by reason whereof PECO reduced the Commission's estimate of \$5.8 million to \$3.3 million. PECO also requested a hearing to present the rationale for the Company's objections.

On September 3, 1987, the Commission issued an Opinion and Order at Pa. P.U.C. v. Philadelphia Electric Co., I-870051, P-870230 and M-870140. Said Order instituted an investigation of the issues pertaining to the shutdown of Peach Bottom Units 2 and 3; granted the OCA's Petition concerning the issues raised by the shutdown, and consolidated the Company's request for a review of the Commission's adjustments to ECRF No. 2. The Order stated, inter alia, that stipulations as to the issues involved in the consolidated proceedings should be considered and that PECO must demonstrate why any of the adjustments to ECRF No. 2 indicated in the Secretarial letter should be changed.

The proceeding was assigned for hearing to ALJ Herbert Smolen, and a Pre-Hearing Conference was held on October 14, 1987.

On November 10, 1987, the Commission entered an Order, at M-FACE8715, which consolidated that 1307(e) proceeding with the instant consolidated proceedings. In the M-FACE8715 proceeding, OTS had contested PECO's evaluation of the replacement power costs associated with the Peach Bottom outage during the month of April, 1987, and PECO's method of implementing the 80/20 reconciliation mechanism.

Thereafter, and pursuant to the September 3, 1987 Opinion and Order, PECO, OTS, OCA and PAIEUG submitted, on November 23, 1987, a Joint Stipulation specifying the issues to be addressed in this proceeding. On January 5, 1988, the ALJ issued a Prehearing Order adopting the definition of the issues as set forth in the Joint Stipulation. In addition, a hearing schedule was established.

On February 5, 1988, the OCA moved to consolidate its Formal Complaint against PECO's ECRF-2 with the already consolidated proceedings, Pa. P.U.C. v. Philadelphia Electric Company, I-870051, P-870230 and M-870140. This motion was granted on February 16, 1988.

Hearings in the consolidated proceedings were held February 10 and 16, March 16 and 17, April 11, 19, 20 and 21, June 2, and July 6 and 7, 1988. The transcript consists of 1078 pages and numerous exhibits. The evidentiary record was closed on July 7, 1988.

On July 27, 1988, the parties submitted a Petition and Joint Stipulation with the ALJ which requested that the evidentiary record be reopened to admit PECO Exhibit 12 and OTS Exhibit 5 into the record and requested that due dates of August 11, 1988, for submission of Main Briefs and August 25, 1988, for submission of Reply Briefs be established. By Order dated July 29, 1988, the ALJ granted the Petition, accepted the Joint Stipulation and established the requested briefing schedule. On August 2, PECO's Exhibit 12 and OTS Exhibit 5 were filed with the Secretary's Office. OTS Exhibit 5 is attached to the OTS Main Brief. All parties submitted Main and Reply Briefs.

Subsequent to the filing of the Briefs, as aforesaid, the Commission, by letter dated October 12, 1988, from the Director of Operations, requested that the parties submit supplemental briefs on five (5) additional issues (hereinafter more fully discussed). The letter established a briefing schedule as follows: Main Briefs due on or before November 14, 1988, and Reply Briefs due on or before November 30, 1988. The parties were also given the opportunity to request additional hearings with respect to the additional issues. No such request was made. All parties submitted Main Briefs and PECO also filed a Reply Brief.

The ALJ recommended Commission adoption of the following Findings of Fact:

1. The fossil fuel forecast utilized by the Commission in the Secretarial letter of June 26, 1987 constitutes a reasonable forecast for the period from July 1, 1987 to June 30, 1988.

2. Use of a 60-70% capacity range of total system nuclear capacity over a rolling three-year period of ECRF filings is reasonable and appropriate.

3. The Secretarial letter direction that PECO utilize at 50% capacity factor for Peach Bottom 3 during the ECRF-2 period is and was reasonable at the time it was made.

4. Retention of the 80/20 reconciliation mechanism is reasonable.

5. The 80/20 reconciliation method proposed by the Office of Trial Staff with a true-up adjustment to be made when the outage period has ended is reasonable. Computation of the true-up from the beginning of the particular ECRF period in which the outage began through the end of the ECRF period in which the outage ended, is reasonable.

6. Applicable to this proceeding only, it is reasonable to allow interest at the rate of 6% per annum on energy cost undercollections caused as a consequence of Commission action in this proceeding setting PECO's ECRF-2 at a level resulting in inadequate cost recovery. It is reasonable that interest be so calculated on any difference between the level deemed appropriate and the level collected by PECO. It is reasonable that no interest be allowed for delayed recoupment of undercollection pending the final determination of the instant

investigation and after all judicial appeals, if any, have been concluded.

7. The Secretarial letter adjustment denying \$5,852,425 calculated to be the April 1987 replacement power cost associated with the NRC imposed outage, should have reflected denial of \$5,589,952; same being subject to further true-up when said replacement power costs are ascertained utilizing the Prod-Cost methodology.

8. It is not reasonable at this time to adopt PAIEUG's proposal for a modified ECRF procedure.

9. As to the incidents at Peach Bottom 2 relating to the Reactor Pressure Vessel ("RPV") Disassembly, the delay caused by the first strongback failure and the associated 0.7 days of outage associated therewith are not attributable to PECO imprudence. However, the delay caused by the second strongback incident and the associated 0.2 days of outage are attributable to PECO imprudence.

10. The incident at Peach Bottom 2 relating to the Out-of-Sequence Control Blade Shuffle and the 1.7 days of outage time associated therewith are attributable to PECO imprudence.

11. The incident and critical path outage delay at Peach Bottom 2 relating to the CRD exchange are attributable to PECO imprudence. The length of said critical path outage delay was 6.4 days and no other parallel critical path activities would have necessitated this outage extension.

12. The 2 days of critical path delay attributable to the development of procedures for stroking and venting (after completion of the Control Rod Drive exchange and the rebuilding of various control rods), are attributable to PECO imprudence, and no other parallel critical path activities would have necessitated this outage extension.

13. The incident and critical path delay at Peach Bottom 2 relating to bent IRMs and SRMs is attributable to PECO imprudence. The length of said critical path delay was 4 days.

14. The 4 day outage extension associated with the repair of the High-Pressure Service Water Pump is not attributable to PECO imprudence.

15. PECO has not met its burden of proof with respect to its Mod 1915 claim.

16. PECO's offset claim relating to an asserted 4 day extension of outage time to 8/10/88 to complete RPV Hydrostatic testing and an additional 1.6 days period of time between 8/5/88 and 8/6/88 aggregating a total of 5.6 days, are outside the parameters and framework of this proceeding.

17. The incident at Peach Bottom 2 relating to the Mod 1457 and the 7.6 days of critical path delay are not attributable to PECO imprudence. In addition, Mod 1457 was not a parallel critical path activity.

18. PECO has not met its burden of proof with respect to its claim relating to the 15 day hypothetical Peach Bottom 3 Technical Specification outage and the costs calculated by PECO to be attributable thereto.

19. The starting date of the Peach Bottom 3 Refueling and Pipe replacement outage is October 1, 1987, and any issues which may arise related to the management thereof, are outside the parameters of this proceeding.

20. Utilization of the ProdCost Simulation Method to determine replacement power cost valuation in this proceeding and in future proceedings is appropriate, proper and reasonable.

21. To the extent that the Recommended Conclusions of Law, hereinafter set forth, contain Findings of Fact, they are hereby incorporated by reference.

The ALJ recommended that the Commission adopt the following Conclusions of Law:

1. PECO has the burden of proof with respect to any claimed modifications or revisions to the Secretarial letter adjustments.

2. PECO has not met its burden of proof with respect to those outage claims in this proceeding which have been disallowed.

3. The ALJ's Conclusions relating to the Issues raised in the Letter of October 12, 1988, are set forth at pages 70 to 76 of the Recommended Decision and are hereby incorporated by reference.

4. The prudence standard applicable in this proceeding is set forth under the section of the Recommended Decision beginning at page 76 and is hereby incorporated by reference.

5. The ALJ's Conclusion(s) as to the factors to be considered in determining the vicarious or imputed liability of PECO for imprudent conduct and/or actions of its craftspeople are set forth under the section of the Recommended Decision beginning at page 79, and are hereby incorporated by reference.

6. The ALJ's Conclusion relating to the denial of OCA's Motion to Strike certain portions of the testimony of PECO Witness Noyes are set forth under the section of the Recommended Decision beginning at page 209 and are hereby incorporated by reference.

7. The ALJ's Conclusion(s) relating to the denial of PECO's Motion to Strike certain portions of the testimony of OTS Witness Hosler are set forth under the Section of the Recommended Decision beginning at page 217 and are hereby incorporated by reference.

8. PECO is liable for the replacement power costs associated with those of its claims which were disallowed herein.

9. To the extent that the Recommended Findings of Fact, hereinabove set forth, contain Findings of Fact, they are hereby incorporated by reference.

EXCEPTIONS

PECO filed the following Ten Exceptions to the Recommended Decision:

1. Fossil Fuel Prices.

PECO excepted to the ALJ's adoption of April 1987 "spot" prices to project PECO's fossil fuel expense for the year ending June 30, 1988. PECO argues that no attempt was made to explain why the Bureau of Audits selected those prices, whereas PECO's forecasting method was fully explained, and its reasonableness has not been challenged. PECO contends the 20% non-reconciliation feature of the ECRF should not apply to the \$20 million undercollection caused by this adjustment, and PECO should be permitted interest on the entire undercollection.

We concur with the following conclusion of the ALJ regarding the adoption of April 1987 "spot" prices to project PECO's fossil fuel expense for the year ending June 30, 1988.

Thus, the Audit Bureau adjustment constitutes a projection that fossil fuel costs were projected to be stable for the ECRF-2 period.

Moreover, even though the ECR filings of the other Pennsylvania electricians may not have broken out transportation costs or quality of fuel information, monthly filings with the Commission do contain actual fuel costs and quality of fuel information and thus are available to the Audit Bureau. Even total costs, without a breakout of transportation costs, is useful to show trends in costs. Thus, the Administrative Law Judge finds and concludes that the Audit Bureau projection was reasonable from a prospective point of view based upon an informed view of future fossil fuel prices and founded upon information available to the Bureau at the time the projection was made including but not limited to the fact that fuel prices had been dropping for some time prior to when the forecast was made (OCA Statement No. 2, p. 10). Finally, the reasonableness of the Audit Bureau's projection is emphasized when one views the actual results for the ECRF-2 period which discloses that the Commission's Audit Bureau projection was closer to actual prices than was PECO's forecast (OCA Statement No. 2, p. 11. See also OCA Statement NO. 2, Exhibit BAL 3, Exhibit BAL 4, and Exhibit BAL 5; as corrected at N.T. 486); (R.D. p. 13)

Accordingly, PECO's Exception is denied.

2. Imputation of a 50% Capacity Factor for Peach Bottom 3.

The ALJ described the positions of the various parties regarding the projection of a capacity factor for the Peach Bottom 3 Unit as follows:

In the Secretarial Letter of June 26, 1987 regarding ECRF-2, the Commission required PECO to modify its fuel and purchased power cost projections to reflect a 50% capacity factor for Peach Bottom 3, in place of the Company's 17.7% capacity factor for that unit. The Secretarial Letter also directed PECO, for ECRF-3, to reflect average nuclear generation at 60% to 70% of total system nuclear capacity.

PECO objects to the adjustment increasing the Peach Bottom 3 capacity factor from 17.7% to 50% and, in addition, objects to the establishment of a 60% to 70% capacity factor range for total nuclear plant generation applicable to the Company's next or any future ECR calculation. In support of its position, PECO asserts that its 17.7% capacity factor projection for Peach Bottom 3 during the ECRF-2 period (7/1/87 to 6/30/88) was the result of the unit's performance at an 86.5% capacity factor during the 2-1/2 months prior to September 14, 1987 and its shutdown for the remainder of the year (PECO Statement 2, pp. 3-4) for a 52 week refueling, maintenance and pipe replacement outage. PECO asserts that no party has presented evidence supporting this adjustment, and that no explanation was provided in the Secretarial Letter. Therefore, PECO seeks reversal of the adjustment prior to the application of the 20% non-reconciliation mechanism; the effect of which would be to entitle PECO to recover approximately \$4.2 million from customers (PECO Statement 1, pp. 12-14). The Company contends that based upon a review of all Peach Bottom 3 outage activities, the start of the normal refueling and maintenance pipe replacement outage was properly established as 12.01 a.m., October 1, 1987 (PECO Statement 4A, pp. 3-5). PECO also argues that OCA witness Hanauer accepted this start date (OCA Statement 3, pp. 75-76), and,

therefore, PECO's projected outage requirement, start date and projected 17.7% capacity factor should be accepted.

With respect to the establishment of a 60% to 70% capacity factor range for total nuclear plant generation applicable to PECO's next and future ECRF filings, PECO argues that the use of such a capacity factor range, especially in conjunction with the 20% non-reconciliation mechanism, would be inappropriate because, inter alia, (a) of the uneven timing of nuclear outages; (b) it would limit PECO's ability to schedule outages economically; (c) it would place PECO in a penalty situation when the timing of a planned and/or forced outage resulted in an outage schedule which would prevent PECO from achieving the minimum predetermined capacity factor; (d) it would not be equal over time and would result in PECO losing money even though it met the required range over time; (e) it would increase the financial risk associated with investment in PECO and increase the cost of acquiring capital by increasing perceived risk; and (f) adoption of either of the capacity factor range proposals would be inconsistent with the ECRF's inclusion of the 20% non-reconciliation mechanism. Finally, although PECO does not support adoption of any capacity factor range proposal, if any such proposal is adopted, then it favors OTS's 3 year rolling period proposal.

With respect to the OCA and PAIEUG industry average performance standard, more fully discussed hereinafter, and which PECO opposes, PECO argues that if it held to average performance upon a specific unit in a specific year, then shareholder investment would be confiscated to the extent that prudent performance at that particular unit was expected to be less than industry average performance.

OTS recommends that PECO be directed to reflect average nuclear generation at 60-70% of total system nuclear capacity over a rolling three-year period of ECRF filings (or the currently projected ECRF period and the previous two ECRF filing periods). OTS explains that this would cover two full 18-month nuclear refueling cycles and could be

extended to four ECRF periods, if nuclear plant refueling cycles are subsequently extended to 24 month cycles in the future. OTS points out that its proposal would only affect PECO if the two previous ECRF filings and the proposed ECRF projection period did not satisfy the minimum 60% of combined overall system nuclear capacity. If system nuclear production falls below this 3 year 60% level, ratepayers would automatically receive the benefit of PECO refunding 20% of the resulting additional energy cost. OTS asserts that the rationale for establishing the 60% to 70% band of performance is to ensure PECO's effective operation of its nuclear plants, and will guarantee a minimum level of performance. Performance below the range would result in PECO's stockholders sharing the additional energy cost with ratepayers.

The OCA submits that use of average nuclear capacity factors is generally reasonable and consistent with the objectives of the 80/20 reconciliation mechanism at the time it was established. OCA opposes PECO's approach which is based on actual anticipated capacity factors for each unit. OCA recommends that, for ECRF No. 2 and future proceedings, the projected average capacity factor for all of the Company's nuclear units be selected on the basis of the industry average performance for comparable nuclear units. OCA explains that there are at least two approaches to the selection of a nuclear capacity factor under the 80/20 reconciliation mechanism, namely, (a) the "most likely" approach and (b) the industry average performance approach. OCA points out that in the "most likely" approach, the energy costs are projected on the basis of what the Company believes is most likely to happen. While there are two primary advantages to this approach, i.e., it imposes lower business risk on the Company, and it imposes less administrative burden on the Commission (OCA Statement 1, pp. 8-9); there are certain disadvantages, i.e., a utility is not penalized for poor performance (or rewarded for good performance) that can be anticipated when fuel and purchased power costs are projected (OCA Statement 1, p. 9); and the Company, which has the best information about future energy costs, is given an incentive to submit a high fuel and

purchased power cost projection because if the Company's projection is biased upward, the Company will improve its odds of collecting a "reward" -- the 20% of the excess of projected costs over actual costs. Id.

OCA continues and explains that under the "industry average performance" approach, fuel costs are projected on the basis of performance measures that are considered representative of "average" performance (OCA Statement 1, p. 8). The primary advantage of this approach is that will consistently penalize a utility for poor performance, or reward a utility for good performance, regardless of the accuracy with which the Company can forecast its own performance (OCA Statement 1, p. 10). OCA further argues that while the industry average approach might increase the risk to the utility, the additional risk in this instant case was not substantial, i.e., the use of a 60% capacity factor for Peach Bottom 3 would lead to only a \$4.2 million penalty in this case (OCA Statement 1, p. 2). OCA submits that if the Commission finds that this risk is too great, then the solution is not to reject the industry average approach, but rather to reduce the non-reconcilable portion of the energy cost rate (Id.).

PAIEUG supports the position of the OCA and asserts that the industry average performance approach will consistently penalize a utility for poor performance and reward it for good performance, and that this is consistent with the intent of the 80/20 reconciliation procedure. PAIEUG submits that the average industry performance standard requires PECO to operate at a level achieved by all others similarly situated, and adequately protects the ratepayers and is not unduly burdensome on the Company. PAIEUG asserts that the selection of an industry average performance and a target capacity factor is not an arbitrary target, and the establishment of target capacity factors for each of PECO's nuclear units based upon industry average performance for comparable units (i.e., Boiling Water Reactor or Pressurized Water Reactor recognizes that performance is best measured at performance levels achieved by other similarly situated. (R.D. pps. 14-19).

The ALJ recommended that the Commission adopt the OTS' position, i.e., that PECO's average nuclear generation should be reflected at 60-70% of the total system nuclear capacity over a rolling three-year period of ECRF filings (the currently projected ECRF period and the previous 2 ECRF filing periods). This method would cover 2 full 18 month nuclear refueling cycles and could be extended to 4 ECRF periods, if nuclear refueling cycles are extended to 24 month cycles in the future.

PECO excepted to the ALJ's adoption of a hypothetical 50% capacity factor for Peach Bottom 3 which began a pipe-replacement/refueling outage on October 1, 1987, and which would continue beyond the ECRF-2 period. PECO argues that a 50% capacity factor was unachievable due to a prudent cause totally unrelated to the NRC-ordered shutdown, and its use would conflict with the "But For" test approved by the ALJ in connection with the Alford issues (R.D. pp. 70-72). PECO also contends that its ECRF-2 reflected a total system nuclear capacity factor of 59.4% even with the 17.7% capacity factor projected by PECO for Peach Bottom 3.

PECO contends that the ALJ's recommendation cannot be reconciled with the ALJ's finding that this unit actually began a pipe-replacement and refueling outage on October 1, 1987, which was scheduled to last and did last until well beyond the end of the ECRF-2 period. PECO further argues that upon review of the ECRF filing, the Commission approved PECO's projection of energy costs based on an estimated 52-week duration for the very same Peach Bottom 3 outage, citing Pa. P.U.C. v. Philadelphia Electric Co., Docket No. I-880082, et al. (August 12, 1988)(Order, p. 4); and that the ECRF-3 Order establishes that the 50% capacity factor should not be imposed if, after investigation, the facts support a finding that the Company's projected capacity factor reasonably depicted the output Peach Bottom 3 would have produced in the absence of the NRC's Order. PECO concludes that the 20%

non-reconciliation feature of the ECRF should not apply to the \$21.5 million undercollection caused by this adjustment, and PECO should be permitted interest on the entire undercollection.

The OCA contends that reasonable average experience should be used when projecting fuel costs, rather than a "most likely approach as advocated by PECO. The OCA, in its Reply Exceptions, generally presents the same arguments discussed by the ALJ.

We agree with PECO that the total system nuclear capacity factor must be the bench mark, not the capacity factor for individual units. Furthermore, Peach Bottom Unit No. 3 actually began a pipe-replacement and refueling outage on October 1, 1987, which lasted beyond the end of the ECRF-2 period; and no testimony was presented in this proceeding which questioned the necessity or prudence of this activity. We conclude that the capacity factor for this unit should be 17.7% as projected by PECO. PECO's Exception is granted.

3. Retention and Implementation of the 80%/20% ECRF Mechanism.

PECO excepted to the ALJ's recommendations to retain the 80%/20% mechanism; to implement it in conjunction with a 60%-70% nuclear capacity factor target; and to modify the non-reconciliation feature in the manner proposed by the OTS. PECO contends that the failure of the 80%/20% ECRF is evident from the protracted litigation engendered by its ECRF-2 and ECRF-3 filings and, therefore, urges its elimination prospectively. If the 80%/20% ECRF is retained, PECO argues that it must be implemented fairly; and that the imposition of arbitrary constraints on reasonable predictions of future costs, such as the capacity factor target, or the infusion of a disproportionate risk of penalties, such as the OTS' proposed modification would produce, preclude any semblance of fairness.

The ALJ agreed with the position of the OTS and the OCA that the 80%/20% mechanism should be retained in order to provide PECO with the financial incentive to manage its energy costs, to lower these costs through efficient, effective and economical management, and to encourage PECO to make more accurate fuel cost projections, the goals this Commission sought when the 80%/20% mechanism was adopted.

PECO has presented persuasive arguments that the 80%/20% mechanism should be eliminated prospectively. The extensive litigation associated with this matter clearly indicates that this mechanism has not accomplished its intended purposes. The implementation of this mechanism has encouraged PECO and opposing parties to engage in a degree of "gamesmanship" in projecting energy costs. Furthermore, we also see an inherent unfairness in the application of this mechanism to projections or forecasts that are not PECO's but those of the Commission or some other party.

Accordingly, PECO's Exception is granted and the 80%/20% mechanism will be eliminated prospectively. The reconciliation of adjustment clause over/under collections, for the period June 27, 1986 through June 30, 1989, will be based upon the 80%/20% ECRF mechanism.^{2/} The normal ECR, not the 80%/20% mechanism, will be in effect as of July 1, 1989; and PECO is accordingly directed to file with the Commission a tariff supplement replacing the 80%/20% ECRF rider with an appropriate ECR rider, together with the required supporting information. Since the 80%/20% ECRF mechanism is being eliminated prospectively, PECO is directed to discontinue filing information in support of its ECRF calculation as delineated in Appendix B of the ECR-8 Order entered on October 30, 1985, at Docket No. P-830453.

^{2/} The OTS recommended methodology (R.D., pps. 34-35).

4. The ALJ's Limitation Of PECO's Recovery Of Interest On Revenue Deferrals Caused by Commission Adjustments.

PECO excepted to the ALJ's recommendation to limit PECO's interest recovery to 6% and to deny interest on experienced costs deferred for investigation and ultimately judged prudent. PECO argues that allowable interest should accrue at the Pennsylvania Residential Mortgage Lending Rate, which is the rate PECO must pay on net overcollections and is closer to, but still below, its last adjudicated cost of capital, and that refusal to permit interest on prudently incurred costs deferred for investigation improperly diminishes PECO's recovery by the time value lost during deferral, and such costs cannot rationally be distinguished from those on which interest is allowed.

The ALJ has correctly stated this Commission's policy regarding the recovery, by PECO, of interest on revenue deferrals caused by Commission adjustments:

Moreover, in ECR No. 8 at Docket No. P-830453 the Commission denied interest on energy cost undercollections. However if as a consequence of Commission action in this proceeding inappropriately setting PECO's ECRF-2 at a level causing inadequate cost recovery, interest on any difference between the level deemed appropriate in this proceeding and the level being collected by PECO should be allowed and the Administrative Law Judge so recommends. However, the Administrative Law Judge also recommends that no interest be allowed for delayed recoupment of undercollections pending the prudence investigation of the incurred energy costs in this proceeding.

As to the rate of interest, the Commission at p. 14 of the GCR No. 5 Order, stated, *inter alia*,

A utility will only be permitted to recoup net 12 months undercollections

up to the amount of the difference between the already filed 1307(e) statements and the newly filed amended 1307(e) statements. The utilities having net 12 month undercollections will be permitted interest at 6% per annum up to a maximum of 20 months. (Underlining supplied).

Accordingly, if, indeed, any interest is due on undercollections as a result of Commission action, as aforesaid, the Administrative Law Judge recommends that it should be at the rate of 6% per annum. (R.D., p. 39)

We are not persuaded that our policy regarding the collection of interest on revenue deferrals should be modified, accordingly, PECO's Exception is denied.

5. The Adjustment For April 1987 Replacement Power Costs.

PECO excepted to the ALJ's quantification of April 1987 replacement power costs, arguing that those costs should be calculated using PECO's proposed ("SECM") valuation method. (R.D., pps. 40, 207-209).

PECO also argues that the ALJ recommended the use of the "Prod Cost" computer program to determine the cost per Mwh of replacement power (R.D., pps. 205-208), even though:

1. None of the parties supported its use to calculate replacement power costs in this case. In fact, the two parties who professed a theoretical attachment to that method proposed only that it be examined for possible future use.
2. The parties had stipulated that replacement power costs calculated by PECO represented a reasonable quantification of the "prudence" adjustments proposed by the OCA (see R.D., pp. 186-187).

3. The Commission in its September 3, 1987 Order initiating this proceeding directed PECO to maintain and present data to determine from its dispatching records the actual cost for the last 900 megawatts ("Mw") of supply by loading order (the "Log-1" method). PECO undertook an enormous effort to compile the Log-1 data which, under the ALJ's recommended approach, would simply be ignored. Moreover, OCA, OTS and PAIEUG all agreed that Log-1 produced a reasonable result (see R.D., pp. 198 and 200).
4. Replacement power cost estimates using the ProdCost method were not performed and therefore are not part of the record in this case. Consequently, if the ALJ's recommendation were adopted, additional time would be needed to generate such estimates, which opposing parties would undoubtedly want to examine in yet another round of evidentiary hearings, thereby assuring that PECO would be well into its ECRF-4 period before pending issues from this proceeding would be resolved. (PECO Exceptions, pps. 32-33). (Footnotes omitted).

We quote portions of PECO's Exceptions on this issue:

Third, there is simply no basis to assert that the Prod Cost method is "more accurate than the others" (see R.D., p. 206). The ProdCost model was designed to predict probable future scenarios, not to reconstruct historical events. As a result, in order to adapt ProdCost to recreate actual conditions on the PJM Interchange, historical data must be inserted for literally thousands of variables in that program. Much of those data may not be available or may not be available in the form required for the program. If ProdCost is to be used, nonetheless, then the only recourse would be to insert historical averages, approximations or, perhaps, pure "guesstimates" to fill the bill. As a result, the ProdCost method would be subject to a potentially broader range of error than other methods, which are based on

PECO's actual energy costs (PECO Initial Brief, pp. 72-78). For the same reasons, to characterize the results of the ProdCost method as the "true" cost of replacement power and the results of other methods as approximations or estimates, as the OTS did (see R.D., p. 200), is an exercise in semantics that is not borne out by the facts.

Finally, the Commission must consider the practical concerns that militate against the ProdCost method. The time and resources PECO and the Commission would have to dedicate to producing and reviewing such historical simulations cannot be justified. For example, PECO conservatively estimated that eighteen man-months of work would be needed to produce a ProdCost simulation for the period of the NRC-ordered outages of Peach Bottom 2 and 3 (PECO Initial Brief, p. 77). Thus, from a logistical standpoint, the ProdCost method is impractical for use within the time constraints of most litigated proceedings. Furthermore, the ALJ's disparagement of these considerations (see R.D., pp. 206-207) is based on his misconception that PECO used the ProdCost method with no apparent difficulty in the prior ECR-10 proceeding, which of course is not correct. (PECO Exceptions, pps. 35-36).

We agree with PECO that if the ALJ's recommendation were adopted, additional time would be needed to generate estimates using the ProdCost method, and opposing parties would undoubtedly request additional time to examine the estimate in another round of hearings. Furthermore, none of the parties specifically endorsed, on the record, the use of the ProdCost method for calculating replacement power costs in this proceeding.

We find no compelling reason to require the performance of a ProdCost study. We direct PECO to use the modified IR-Staff-1 method for determining replacement power costs for the NRC imposed outage in April 1987, and for the other Peach Bottom 2 and 3 outage adjustments in this proceeding (R.D., p. 208, OTS Ex. 5, Sch. 1, p. 2 Col. 9). PECO is also directed to discontinue filing, with this Commission, the Log I data pursuant to Order entered September 3, 1987 at Docket No. I-870051.

In accordance with the above discussion, PECO's Exception is granted, in part, and denied, in part.

6. The Finding That 6.4 Days Of The Claimed Peach Bottom 2 Outage Needed To Complete The Control Rod Drive Exchange ("CRDE") Work Were Attributable To Imprudence.

PECO excepted to the ALJ's finding that 6.4 days of the time needed to complete the CRDE work were attributable to imprudence, arguing that the actual schedule extension was 2.9 days, not 6.4 days, and that even that small delay is no basis for any disallowance. PECO also contends that the "vicarious liability" theory the ALJ relied upon to hold PECO responsible for the delay caused by its contractor contravenes recent Commission precedent, and also violates the "direction and control" requirement the ALJ himself established, since one of the instances of the contractor's alleged "negligence" occurred in areas within PECO's "direction and control." PECO also contends that the theory of "vicarious liability" makes no sense, as illustrated by the fact that PECO's largely successful efforts to minimize the schedule extension were advanced by the ALJ to establish "vicarious" imprudence.

Initially, we do not agree with PECO that replacement power costs for 2.9 days, rather than 6.4 days, were attributable to PECO imprudence. The fact that Sterns Catalytic Corporation completed the remaining work at a faster pace than PECO's original schedule contemplated (PECO St. 40, Sch. 2; PECO St. 5A, pps. 20-22) is irrelevant since a delay of 6.4 days did, in fact, occur during the period General Electric was on the job. This delay was caused by General Electric's poor performance and the ratepayers should not be charged for this delay. The scheduled duration of this work was 19.2 days, including a reasonable contingency allowance (PECO Initial Brief, p. 1112).

The ALJ, in recommending that PECO be held responsible for the critical path delay caused by General Electric, concluded that this work was being performed under the direction, control and supervision of PECO. He cited the following indicia in support of his recommendation:

1. PECO's Maintenance Department Management provided an interface between GE and Station Management and other personnel requirement to support the work;
2. PECO's Maintenance Department, Quality Control and Outage management monitored GE's activities to assure satisfactory performance in terms of quality and schedule;
3. PECO established a projected schedule (6 exchanges per day);
4. PECO's Quality-Assurance personnel had the right to and did stop the work;
5. PECO with involvement of its Health Physics and Quality Assurance personnel trained the craftsmen;
6. PECO made efforts to minimize delay in the work;
7. PECO established and instructed as to the work procedures to be followed. The procedures involved step-by-step directions for each required activity (control of details of the work).
(R.D. p. 121)

We concur with the recommendation of the ALJ and accordingly deny this Exception. The evidence establishes that PECO established and instructed as to the work procedures to be followed and PECO's involvement in this work involved more than inspecting the work. PECO retained control and supervision over the work performed. We observe, also, that PECO is in a better position than the ratepayers to seek recourse against General Electric for its failure to satisfactorily perform this work.

7. The Finding That Completion Of The "Stroke And Vent" Procedures And Repairs To Bent Intermediate Range And Source Range Monitors Extended The Critical Path Of The Peach Bottom 2 Outage.

PECO excepted to the ALJ's findings that Completion of the Stroke and Vent Procedures, and repairs to bent intermediate range and source range monitors caused an extension of the outage, arguing that modification 1457 constituted a parallel critical path that would have required the same outage duration if those mishaps had not occurred.^{3/}

Regarding PECO's contention that Modification 1457 constituted a parallel critical path item, the ALJ stated:

Thus, although Mod 1457 was shown on PECO Exhibit 2, it was not shown as a parallel critical path activity, nor was it discussed as such in PECO Witness Hufnagle's Direct Testimony. Moreover, it was not until after the OCA sought to disallow certain costs that PECO discussed Mod 1457 as a parallel critical path activity. While PECO states that work on Mod 1457 is shown on a reconstructed alleged best-efforts basis, PECO has not satisfactorily and convincingly demonstrated that the work was started as early as possible and completed as early as possible. Indeed, PECO's alleged "best-efforts" schedule was developed after completion of the work and is only hypothetical. It is to be noted that the actual Mod 1457 work initiation date was March 10, 1987 (PECO Main Brief, p. 127; PECO Statement 7, p. 16) and the discovery and correction of the transient problem actually occurred on July 22, 1987 and September 5, 1987, respectively (PECO Main Brief, p. 128, See Continuation of Footnote 49). PECO merely reconstructed these dates to be June 19, 1987 and July 18, 1987 respectively. PECO asserts, but has not satisfactorily dem-

^{3/} In its Exceptions, PAIEUG argues that there was no imprudence on the part of PECO with respect to the design or testing of the Mod 1457 circuitry.

onstrated with reasonably sufficient exactitude and precision that its reconstructed work schedule sets forth an earliest possible commencement date and an earliest possible completion date. Accordingly, the Administrative Law Judge rejects PECO's claim of parallel critical path activity. (R.D. pps. 168-169).

PECO's argument, in its Exceptions, that Modification 1457 constituted a parallel critical path activity essentially reiterate arguments set forth in its Initial Brief (pps. 115-122; 127-128) and Reply Brief (pps. 34-35, 38-39, 44-45). We agree with the ALJ that PECO did not satisfactorily demonstrate with reasonably sufficient exactitude and precision that its reconstructed work schedule set forth an earliest possible commencement date and an earliest possible completion date. PECO's Exception is accordingly denied.

The OCA excepted to the ALJ's conclusion that the 7.6 day delay to the critical path resulting from a problem encountered during Modification 1459 was not the result of imprudence on the part of the Company.

The OCA describes Mod. 1457 as follows:

Modification 1457 involved alterations to Peach Bottom 2's piping and electrical instrumentation used to measure reactor water level. R.D. 155. One component of this new water level measurement system was to avoid the need for operator interpretations of water level readings at low operating conditions. R.D. 156. The problem encountered with this new system was a "togglng" problem which was caused by a voltage surge, or transient, which crossed over the electrical system of the Emergency Core Cooling System (ECCS) logic into the electrical system of the new pressure compensation system. (OCA Exceptions, p. 2).

The OCA contends, in its Exceptions, that the ALJ erred in concluding the OCA witness, Dr. Hanauer, used impermissible

hindsight in contending that the Company should have performed a "breadboard" test of the design of the circuitry. (R.D. pg. 167). The OCA also argues that PECO improperly relied on a factory acceptance test by Foxboro, instead of performing its own "breadboard test."

We quote, with approval, the ALJ's rationale for concluding that there was no imprudence on the part of PECO with respect to the design or testing of the Mod. 1457 circuitry:

The record evidence demonstrates that PECO's previous experience with HGS and HFA relays, both in the ECCS electrical system and in other safety-related installations, provided no basis for expecting that voltage surges would create problems (PECO Statement 7A, pp. 8-14). Moreover, PECO did not fail to account for a basic law of electricity inasmuch as the designers recognized that HGA and HFA relays could cause voltage surges and thus provided a design that included contact output isolators the function of which was to prevent a surge generated in the HFA and HGA relay circuits from affecting the Foxboro circuit. In addition, the evidence discloses that PECO also relied, in part, upon the experience and expertise of Foxboro, the system supplier, to supply equipment to perform the functions specified by PECO (N.T. 699-700; PECO Statement 7A, pp. 10-11). Finally, PECO scheduled and conducted a series of tests which included qualification testing of the individual pieces of equipment by Foxboro, the factory acceptance test of the prewired equipment by Foxboro, and an actual installed field test by PECO. In the view of the Administrative Law Judge, the contention that PECO should have performed a "breadboard test" constitutes an impermissible hindsight allegation. Moreover, the credible evidence of record further indicates that a breadboard test would have been an ineffective method to test the sufficiency of surge suppression (PECO Statement 7B, pp. 1-2). As PECO convincingly points out (PECO Reply Brief, pp. 33-34), the inadequacy of a simple breadboard test as a test of surge suppression was demonstrated by the facts of

this case. The 32 different interfacing relays that were installed by Foxboro used 14 different trip and reset point configurations. On only one of these configurations did the toggling problem develop, and then only when the water indicator signal was reduced to the trip point and held right at that point. It is highly unlikely that a simple breadboard test of the circuitry would have identified any problem, especially since that test was in addition to a comprehensive series of qualification, factory and installed system tests. (R.D. pps. 167-168).

The OCA's Exception is denied.

8. The Finding That Modification 1457 Did Not Constitute An Alternative Critical Path Of the Peach Bottom 2 Outage.

PECO excepted to the ALJ's finding that Modification 1457^{4/} was not a parallel critical path of the Peach Bottom 2 outage through July 24, 1987. PECO argues that contrary to the OCA's assertions relied upon by the ALJ, PECO clearly identified this activity as a parallel critical path in its witnesses' direct testimony, and the record is replete with evidence establishing that the July 24, 1987 completion date reflects an optimum schedule for the performance of that work.

This Exception has been addressed under PECO Exception No. 7. This Exception is denied.

^{4/}

PECO states that: MOD 1457 was a major plant design change involving the installation of a new and more accurate reactor water level indication system whose safety significance should be obvious, in view of the need for reliable reactor water level readings. MOD 1457 was a plant-specific design developed in accordance with guidelines recently issued by the Boiling Water Reactor Owners' Group and the NRC (see PECO St. 7, pp. 7-8). The modification required extensive changes to piping and electrical systems associated with the reactor vessel (PECO Initial Brief, p. 128).

9. The Finding That PECO Could Have Avoided Its Claimed Fifteen-Day Outage of Peach Bottom 3 For Inspection And Testing Required By That Unit's Technical Specifications.

PECO excepts to the ALJ's disallowance of its entire claim for replacement power costs to reflect a 15-day Technical Specification ("Tech Spec") outage of Peach Bottom 3, contending that PECO could not have avoided the outage time as the OCA alleged. The Company also states that any issue as to the timing of that outage has been eliminated by PECO's amending its claim to reflect the lower replacement power costs that prevailed in May and June, 1987 when the OCA contends the outage should have been scheduled. PECO claims recovery of \$2,237,572, for replacement power costs during the Tech Spec outage.

PECO imputed hypothetical generation from the Peach Bottom 3 unit at an approximate 86.5% capacity factor through mid-September 1987 for the purpose of estimating energy costs claimed in its ECRF-2 filing (see PECO Initial Brief, p. 14). PECO contended that if Peach Bottom 3 had not been subject to the NCR Order and had actually generated the imputed electric output, an outage of not less than 15 days would have been required prior to July 18, 1987 to test and inspect the main steam isolation valves ("MSIVs") and to conduct 48 other separate tests on other plant systems and components, as mandated by the unit's Technical Specifications ("Tech Specs"), and that since the outage time that would have been required for Tech Spec compliance was completely unrelated to the NRC-ordered shutdown of Peach Bottom 3, PECO claims the associated replacement power costs, which were calculated based on date for July 1987.^{5/}

^{5/} Peach Bottom 3's Tech Specs required surveillance testing of the MSIVs at intervals of not more than two years, and the last MSIV testing was concluded on July 18, 1985 during that unit's prior refueling outage (PECO St.8, p.3; PECO Initial Brief, p.152).

The ALJ recommended disallowing PECO's entire claim based, inter alia, on the OCA's contentions that the claimed costs might have been reduced (i) if PECO had performed the Tech Spec testing as one of the last activities near the end of the prior refueling outage; (ii) PECO had tried to "shoehorn" the testing into periods of forced outage occurring prior to July 18, 1987; or (iii) PECO had scheduled a separate Tech Spec outage, if required, in May or June 1987 rather than July 1987, since replacement power costs were lower during the earlier months.

PECO contends in Exceptions that none of the approaches suggested by the OCA, even if feasible, would have eliminated the need for incremental outage time to satisfy the Tech Spec testing requirement (PECO Initial Brief, pp. 153-159) PECO Exceptions, pps. 29-31). PECO contends that it was a certainty that retesting the MSIVs at the end of the prior refueling outage would have conflicted with other critical path activities that were of higher priority in returning the unit to service, as the OCA's witness eventually acknowledged (see OCA St. 3A, p. 15; PECO Initial Brief, p. 155); and that to have attempted the retesting at that time would simply have extended the critical path of Peach Bottom 3's prior refueling outage, with little or no net benefit to customers.

PECO also contends that the forced outages Peach Bottom 3 experienced, viewed from the perspective of their initiation date as the prudence standard demands, were not expected to be long enough to accommodate the Tech Spec testing, that at the point when the total length of such outages could reasonably be assessed, the remaining "forced" outage time was insufficient to complete the Tech Spec testing without substantially extending the outage (see PECO Initial Brief, p. 157); and that during each of the "opportunities" suggested by the OCA and recommended by the ALJ, (D. p. 179), there were various resource constraints that precluded doing the MSIV testing, such as the unavailability of the testing personnel who

were occupied with other, more immediate work (PECO St. 5A, pp. 7-11; PECO Initial Brief, pp. 156-157); PECO Exceptions, pps. 30-31).

We agree with the ALJ that (i) the Company knew or should have known that the MSIV's were last tested on July 18, 1985 and that the NRC regulations required retesting before July 17, 1987; (ii) in March 1986 PECO knew or should have known that the Unit 3, Fuel Cycle No. 7, just beginning, was likely to go well into the summer of 1987, as well as the requirement to retest the MSIVs by July 17, 1987; and that PECO should have been alert to exploit any forced outage of sufficient length which would permit the testing, or some portion thereof, at the same time Unit 3 was down for other reasons (OCA Statement 3, pp. 73-74); citing PAIEUG's Main Brief, pp. 30-31, to wit:

Several opportunities occurred in which PECO could have scheduled and completed the MSIV leakage testing. Between April 17, 1986, when the Peach Bottom Unit III refilling/pipe replacement outage was rescheduled, and March 31, 1987, when the unit was shut down by the NRC, there were four likely opportunities to perform the required testing. For example, the unit was forced down due to a tripped circuit breaker and problems with the main steam isolation valves from July 19, 1986 to August 4, 1986; the unit was forced down again due to a tripper circuit breaker and problems with a feed water pump and its lube oil system from August 11 to August 31; the unit was forced down between October 30 and November 10 due to problems with demineralizers; from March 17, 1987 to March 30, 1987, due to a problem in the electrohydraulic turbine control system.

We also agree with the ALJ that it would have been prudent for PECO to have conducted additional leak rate testing toward the end of the previous Unit 3 refueling outage after it had been prolonged by six months by other problems.

We conclude that PECO has failed to demonstrate prudent planning to perform the required tech spec testing and its claims must be disallowed. PECO's Exception is accordingly denied.

10. The Finding That The So-Called "ProdCost" Method Should Be Used To Determine The Cost Per Mwh Of Replacement Power Incurred During The Peach Bottom 2 and 3 Outages.

PECO excepted to the ALJ's recommendation that the "ProdCost" method should be used to determine the cost of replacement power, arguing that none of the parties supported the use of that method to calculate costs in this case and, in fact, a stipulation was reached to use PECO's valuation method to quantify the OCA's proposed prudence adjustments. PECO also contends that replacement power cost estimates using "ProdCost" were not prepared and, if the ALJ's position is approved, a further round of hearings would be required before this case could be resolved. PECO further contends that its witness did not condone the use of that method nor was it used in PECO's last ECR proceeding. PECO concludes that the Commission should reject the ALJ's recommendation and adopt PECO's proposed replacement power cost valuation method, since its method achieves essentially the same result as the "Log-1" approach prescribed by the Commission and found acceptable by all parties, but is much simpler to apply and to review.

We have previously addressed the matter of determining the replacement power costs in the section captioned The Adjustment for April 1987 Replacement Power Costs. In accordance with our previous discussion, PECO is directed to employ the modified IR-Staff-1 method for determining the replacement power costs during the Peach Bottom 2 and 3 outages. PECO's Exception is granted, in part, and denied, in part.

Exceptions Re: Bent Intermediate Range Monitors and Source Range Monitors

The OCA and PAIEUG filed Exceptions to the ALJ's recommendation that the 7 days of recommended disallowance, in regard to the delay associated with the Intermediate Range Monitor ("IRM") and Source Range Monitors (SRM"), be shortened to four days. The ALJ concluded that Special Procedure 361 and Prepare for Core Reload were parallel critical path activities, and thus the disallowance was reduced by 3 days.

The OCA contends that in order for the above activities to properly offset the delay experienced during the IRM/SRM repairs, the Company would have to prove that these activities were performed prudently and in the shortest possible time. The OCA quotes the following testimony of Dr. Hanauer in support of its position that PECO has failed to supply sufficient evidence to support the ALJ's 3 day reduction:

PECO Version 2 - Parallel Activities. - PECO rebuttal testimony gives another, different analysis involving two other parallel activities: (1) special procedures 361 and (2) prepare for core reload. The first of these is irrelevant since it started at the same time as the second and was much shorter. The Company rebuttal testimony points out that the activity "prepare for core reload" was in-parallel with the activity "repair SRMs and IRMs" except for a 14 hour period between 1800 hours on June 11 and 0800 hours on June 12. (PECO Statement No. 4D, page 5) However, apparently PECO doesn't really believe this because PECO testimony recommends only "at minimum I [PECO witness Mr. Carroll] believe that the shortening from elimination of this activity would be several days less than asserted by Dr. Hanauer."

(OCA St. 3A at 10.)

PAIEUG's Exceptions on this issue are substantially the same as those of the OCA.

In its Reply Exceptions, PECO counters that regarding PECO's and PAIEUG's contention that PECO failed to meet its burden of proof that the parallel activities were performed prudently:

From the tone of their Exceptions, one would suspect that the OCA and PAIEUG had raised serious, unanswered questions on the record about the prudence of that work. However, such was decidedly not the case. Indeed, not a single averment of imprudence was ever made on the record with respect to the parallel work activities. Under such circumstances it is difficult to understand why the OCA and PAIEUG would even mention the issue of prudence at this late stage of the proceeding.⁹/

The OCA and PAIEUG also argue that they had an inadequate opportunity to develop the record because PECO articulated its position too late in the proceeding and allegedly even then only "on cross-examination of the Company witness" (OCA Exceptions, p. 6; see also PAIEUG Exceptions, p. 4). That argument is pure makeweight and inexplicably overlooks large parts of the record in this case. As previously noted, the simultaneous progress of the IRM/SRM repairs with Special Procedure 361 and the preparation for fuel loading was shown on PECO's Exhibit No. 2, which was submitted in conjunction with the direct testimony of PECO's witnesses at the very beginning of this proceeding. And, the preparation for reloading fuel was also clearly shown as a critical path activity on the outage summary contained in the direct testimony of PECO's witness, John G. Hufnagel (PECO St. 5, p. 6). The Company's position was explained further in the written rebuttal statement of its witness, John J. Carroll (PECO St. 4D, pp. 4-5 and Schedule 1) and, therefore, did not emerge only through cross-examination as the opposing parties erroneously assert.¹⁰/ Thus, the record unmistakably establishes that the OCA and PAIEUG had ample opportunity to review and, in fact, did review PECO's position.

Finally, the OCA and PAIEUG also contend that PECO was "unable to quantify" the critical

path impact of the IRM/SRM repairs (see OCA Exceptions, p. 6; PAIEUG Exceptions, p. 4). This argument is particularly disturbing since, as explained earlier, in an effort to minimize the controverted issues PECO conservatively proposed that parallel critical path activities should be deemed to offset only three of the seven days needed for IRM/SRM repairs, although a complete offset was probably justified. Regrettably, the opposing parties have tried to use PECO's conservatism against it by mischaracterizing PECO's position as somehow evincing a lack of certainty about the actual critical path. Nothing could be further from the truth, as the preceding discussion establishes (PECO Reply Exceptions, pps. 7-8). (Emphasis in original).

9/ Moreover, the OCA/PAIEUG argument tacitly assumes that a utility must provide a detailed defense of the prudence of every activity in an outage, even where imprudence was not alleged. That assumption makes no sense. And, if a utility were required to adhere to such a standard, the Commission would surely have to set aside several years for the trial of each case.

10/ Additionally, the portions of the transcript cited by the OCA and PAIEUG clearly show that PECO's witness Hufnagel was being cross-examined about his pre-filed written testimony and about a response to an OCA interrogatory distributed well prior to that hearing (Tr. 795-797; see also OCA Exceptions, p. 6).

The above-quoted response from PECO clearly indicates that the record contains sufficient evidence to support the ALJ's recommendation. The Exceptions of the OCA and PAIEUG are accordingly denied.

Conclusion

In accordance with the foregoing discussion the various Exceptions of the parties are granted or denied as hereinbefore stated; **THEREFORE,**

IT IS ORDERED:

1. That except as herein modified, the Recommended Decision of Administrative Law Judge Herbert Smolen is adopted as the decision of the Commission.

2. That except as herein granted specifically or by implication, the Exceptions to the Recommended Decision of the Administrative Law Judge are denied.

3. That the Complaint of the Office of Consumer Advocate be and the same is hereby sustained in part and denied in part consistent with the findings, conclusions and rulings contained in the Recommended Decision.

4. That the 80%-20% reconciliation mechanism be retained in this proceeding, but as of June 30, 1989, prospectively eliminated in accordance with this Opinion and Order.

5. That Philadelphia Electric Company report and reconcile actual ECRF results on a monthly basis and that a true-up adjustment be made when the outage period has ended; the true-up to be computed from the beginning of the ECRF period in which the outage began through the end of the ECRF period in which the outage ended.

6. That the Secretarial letter adjustment denying \$5,852,425 as the April 1987 replacement power cost associated with the NRC imposed outage be and the same is hereby revised to reflect denial of \$5,589,952, subject to further adjustment when the replacement power cost is determined utilizing the IR-Staff-1 method.

7. That Philadelphia Electric Company prepare and submit to the Commission for approval, with copies to all parties of record, a computation with supporting data of any claimed interest for revenue deferral, if any, caused as a result of the Secretarial letter adjustment and this Opinion and Order relating to the April 1987 replacement power cost valuation.

8. Except as otherwise set forth in this Opinion and Order, the adjustments made and the directions contained in the Secretarial letter of June 26, 1987 and in the Commission Order adopted August 20, 1987, and entered September 3, 1987, be and the same remain in full force and effect.

9. That in connection with the October 12, 1988 letter from the PUC Director of Operations, the standards, tests and factors, inter alia, to be considered in determining liability for replacement power costs as recommended by the Administrative Law Judge and set forth in the Recommended Decision, be and the same are hereby approved and adopted.

10. That of Philadelphia Electric Company's Peach Bottom 2 refueling/maintenance claim for replacement power costs for the period from March 31, 1987 to August 5, 1987, the cost of replacement power for 14.3 days, without any offsets, is hereby disallowed and denied.

11. That Philadelphia Electric Company's Peach Bottom 3 claim for replacement power costs for a hypothetical 15 day technical specification outage be and the same is hereby disallowed and denied.

12. That the IR-Staff-1 method be utilized in this proceeding to determine replacement power cost valuation; and Philadelphia Electric Company is hereby directed to prepare and submit to the Commission, with copies to all parties of record, a computation quantifying replacement power costs utilizing said

methodology. Said computation and supporting data are to be submitted at the end of the NRC mandated outage.

13. That the Office of Consumer Advocate's Motion to Strike Portions of the Testimony of Philadelphia Electric Company Witness Noyes be and the same is hereby denied.

14. That Philadelphia Electric Company's Motion to Strike Portions of the Testimony of Office of Trial Staff Witness Hosler be and the same is hereby denied.

15. That Philadelphia Electric Company is hereby directed to maintain its accounting records to provide the actual experienced energy costs as the historical totals in the energy cost accounts of original entry (Accounts 501, 518, 521, 547 and 555 per the ECRF Tariff) and to include these amounts on its Section 1307(e) Statements.

BY THE COMMISSION,



Jerry Rich
Secretary

(SEAL)

ORDER ADOPTED: May 11, 1989

ORDER ENTERED: December 13, 1989

PENNSYLVANIA
PUBLIC UTILITY COMMISSION
Harrisburg, Pa. 17120

Pennsylvania Public Utility Commission
vs. Philadelphia Electric Company
I-870051; P-870230; M-870140; C-871364

Public Meeting
May 11, 1989
ALJ-58

STATEMENT OF COMMISSIONER
JOSEPH RHODES, JR.

I. INTRODUCTION

Philadelphia Electric Company's ECRF-2 filing presents critical questions that have rarely, if ever, before been directly addressed. Those questions are: (1) Should normal, scheduled maintenance that requires a plant outage to perform convert an outage from imprudent to prudent if the outage initially was caused by a Nuclear Regulatory Commission's shutdown order; and (2) should an NRC shutdown order issued as a result of an operator's imprudence convert from prudent to imprudent an outage that initially began as a result of normal, scheduled maintenance when the duration of the NRC order runs concurrently with the period of maintenance? Answers to these issues will determine whether or not PECO's ratepayers truly will not pay for excess replacement power costs incurred to replace lost generation at the Peach Bottom nuclear generating facility Units 2 and 3 since the NRC's March 31, 1987 shutdown order.

Indeed, despite what most people believe, PECO's ratepayers will, in fact, be billed for \$64 million of excess replacement power costs incurred at Peach Bottom since the NRC's March 31, 1987 shutdown order if the proposed order is adopted. In the ECRF-2 filing period that started July 1, 1987 and finished June 30, 1988, ratepayers, and not PECO, will pay for all excess replacement power costs incurred by Peach Bottom Unit 3 from October 1, 1987 to June 30, 1988 and by Peach Bottom Unit 2 from July 1, 1987 to August 6, 1987. These costs total \$49 million and would raise PECO's rates by more than 1%. Under the proposed order, ratepayers will be charged this huge expense on the questionable theory that, whenever maintenance took place at Peach Bottom units following the NRC ordered shutdown, the Peach Bottom outage converted from an imprudent to a prudent shutdown for the period of the maintenance.

Moreover, it should not be forgotten, though it often is, that ratepayers are already paying for all Peach Bottom replacement power costs not judged to be "excess". The non-excess replacement power costs are the portion of total replacement power costs that equal the cost of electricity produced by Peach Bottom when it operates. Non-excess replacement power costs very conservatively amounted to \$26 million in the July 1, 1987 to June 30, 1988 period.

Allowing maintenance at Peach Bottom Units 2 and 3 to shift cost responsibility for excess replacement power costs to ratepayers not only is unfair but also lessens the financial incentives for running safe, efficient nuclear power plants. It should be remembered that any NRC shutdown order by itself inflicts little or no financial penalty on a utility. Indeed, in the case of Peach Bottom, the NRC levied "record" fines and those fines totaled a little more than one million dollars-- a small sum for a corporation with annual revenues of \$3 billion.

In the event of an NRC shutdown, the real financial penalty is levied by state regulatory commissions through their decisions about who shall pay the costs of a shutdown. As such, for a for-profit, private utility, it is the rate treatment of the shutdown that is the major deterrent against running unsafe or inefficient plants and not the puny fines levied by the NRC.

A rule, therefore, that automatically holds a utility that causes an NRC shutdown order financially harmless for the excess replacement power costs incurred during the shutdown to the extent that maintenance coincides with the shutdown period greatly diminishes financial incentives to run a safe plant. In some cases, such a rule may largely destroy those incentives, since the period of maintenance may equal or nearly equal the period of the shutdown. This point is well illustrated in this case, because in PECO's ECRF-2 filing, the period of maintenance on the two Peach Bottom units amounts to 42% of this ECRF period.

For these reasons of policy and fairness, I don't believe that PECO's ratepayers should pay for a lot of the excess replacement power costs incurred at Peach Bottom from July 1, 1987 to June 30, 1988 solely because maintenance coincided with the NRC shutdown order. I will vote to require PECO to pay \$45 million of excess replacement power costs incurred at Peach Bottom Unit 3 from October 1, 1987 to June 30, 1988.

II. DISCUSSION

The central event that impacts this ECRF filing period is the March 31, 1987 NRC shutdown order of PECO's Peach Bottom Nuclear Generating Facility units 2 and 3. It is undisputed that the NRC order resulted from the gross irresponsibility to the public and the nuclear power industry exhibited by PECO's scandalously unsafe operation of Peach Bottom. As the Institute of Nuclear Power Operators (INPO), the nuclear power industry's internal watchdog, aptly said: "PECO's operation is a disgrace to the industry and the nation."

As a consequence of the prolonged outage at Peach Bottom, this Commission found in its March 1988 order that Peach Bottom, as a result of PECO's imprudence, had been rendered not used and useful. The Commission, therefore, denied PECO a return on equity for Peach Bottom. I believe that the ALJ's decision in ECRF-2 is inconsistent with this finding of imprudence, since it allows PECO to escape financial responsibility for a very significant portion of the excess replacement power costs on the theory that a significant portion of the outage was actually prudent.

The Public Utility Code, 66 Pa. C.S.A. Section 1323, requires that excess replacement power costs resulting from imprudence be paid for by the Public Utility and not its ratepayers. The application of this statutory mandate to the present case is certainly made more difficult, because both the NRC shutdown order and previously scheduled maintenance coincided for portions of the period July 1, 1987 to June 30, 1988. A wise application of the statute is, nonetheless, aided by a review of the facts of this ECRF filing.

On March 13, 1987, Peach Bottom Unit 2 was shutdown in order to perform maintenance. Unit 3 continued to generate power until March 31, 1987, when the NRC issued its shutdown order forbidding the operation of both Units 2 and 3 until the NRC permitted restart. On October 1, 1987, PECO began previously scheduled pipe replacement maintenance on Unit 3. This maintenance was completed by September 30, 1988.

Consequently, during the 12-month period of July 1, 1987 to June 30, 1988, Unit 3 concurrently experienced both a maintenance shutdown and an NRC shutdown for 9 months and Unit 2 experienced concurrently both a maintenance shutdown and the NRC shutdown for a little more than a month. In other words, of the 24 operational months in question (12 months at Unit 3 plus 12 months at Unit 2), 14 months of shutdown (August 6, 1987 to June 30, 1988 at Unit 2 and July 1, 1987 to September 30, 1987) involved no maintenance and are attributable without dispute solely to the NRC shutdown order.

PECO, however, maintains its ratepayers must pay the \$50 million excess of replacement power costs for the 10 months when both maintenance work was being performed and the NRC order was in effect at the units. In short, PECO argues that the fortuitous scheduling of maintenance during the NRC shutdown period shifts to its ratepayers cost responsibility for the outage at Peach Bottom whenever maintenance took place. I cannot agree and believe PECO's position violates 66 Pa. C.S.A. Section 1323.

Instead, I propose that a utility should be responsible for all excess replacement power costs incurred at a nuclear generating unit for the full period of a shutdown if that shutdown was initiated by an NRC shutdown order, regardless of any maintenance commenced subsequent to the shutdown. Conversely, if a nuclear generating unit was shutdown to perform maintenance prior to the NRC shutdown order, a utility's ratepayers would pay for excess replacement power costs during the period of maintenance and the utility would pay for those costs if the shutdown exceeded the maintenance.

I would make an exception to these rules if a utility advanced future scheduled maintenance that would require a shutdown in order to prevent an extension of the plant outage beyond the end of the NRC outage, so long as the energy costs of the down plant is less than the costs of the replacement power. In such a situation, incentives for moving future scheduled maintenance into the forced outage period should be provided, since all parties would benefit. Consequently, I would allow the shifting of costs of replacement power for the period of the advanced maintenance, even if that maintenance coincided with the forced outage. The present case does not involve such a beneficial advancement of future maintenance in order to lessen the period of the total outage, and I, therefore, do not apply this exception.

The logic of my proposal is that the initial cause of a unit's shutdown is the primary cause of the outage. Subsequent events, whether maintenance or regulatory shutdown orders, do not change the real cause of the outage and magically convert the outage from imprudent to prudent or vice versa.

A rather macabre analogy illustrates my reasoning. A person, who was terminally ill with cancer and who would not live more than six months, if shot today would be considered a homicide victim today, tomorrow or six months from now. The fact that cancer would have taken his life anyway does not relieve the murderer of liability for his acts.

As applied to PECO's ECRF-2 filing, these proposed rules lead me to the decision that PECO is responsible for all excess replacement power costs at Unit 3, because the NRC shutdown order of March 31, 1987 initiated and caused that unit's shutdown. These costs total \$45 million and should not be charged to ratepayers.

PECO's ratepayers, however, can be billed for excess replacement power costs at Unit 2 for the 5-week period July 1 to August 6, 1987 subject to the imprudence findings of the ALJ with which I concur and for the reconciliation period of April 1, 1987 to June 30, 1987, because Unit 2 was shutdown for previously scheduled maintenance on March 13, 1987 and prior to the March 31, 1987 NRC order. These costs total approximately \$19 million.

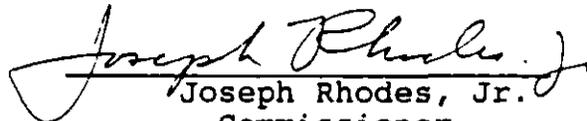
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From my review of the record I can agree with the ALJ on all items of his decision except for the following:

1. The finding that the scheduled Pipe Replacement Outage stipulated as beginning October 1, 1987 wholly and fully overturns the imprudent aspects of the NRC ordered shutdown of March 31, 1987 for Peach Bottom Unit 3.
2. That utilization of the ProdCost Simulation for this proceeding is appropriate. I would utilize the modified IR-Staff-1 method, which the ALJ accepts as the initial valuation for the April excess replacement cost.

Regarding 80/20 reconciliation, I would retain the current feature rather than return to the conventional ECR method, under which the company has been previously found to be incapable of reasonably operating. I, however, would join a motion to deny PECO the use of an ECR. This issue would be better examined in the prospective Limerick II proceeding when a full cost evaluation of the company will take place.

5-9-89
Date


Joseph Rhodes, Jr.
Commissioner

PENNSYLVANIA
PUBLIC UTILITY COMMISSION
Harrisburg, Pa. 17120

Pennsylvania Public Utility Commission
vs. Philadelphia Electric Company
I-870051; P-870230; M-870140; C-871364

DISSENTING AND CONCURRING OPINION
OF
JOSEPH RHODES, JR.

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Moreover, it should not be forgotten, though it often is, that ratepayers are already paying for all Peach Bottom replacement power costs not judged to be "excess". The non-excess replacement power costs are the portion of total replacement power costs that equal the cost of electricity produced by Peach Bottom when it operates. Non-excess replacement power costs approximately amounted to 44 million in the July 1, 1987 to June 30, 1988 period.

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May 17, 1989
Date


Joseph Rhodes, Jr.
Commissioner