COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
P.O. BOX 3265, HARRISBURG, PA 17105-3265
ISSUED: April 7, 1998

IN REPLY PLEASE
REFER TO OUR FILE

R-00973954

PAUL RUSSELL ASSC GEN COUNSEL
PP & L
TWO NORTH NINTH STREET
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APPLICATION OF PENNSYLVANIA POWER & LIGHT COMPANY FOR APPROVAL OF ITS PLAN UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE

TO WHOM IT MAY CONCERN:

Enclosed is a copy of the Recommended Decision of Administrative Law Judge George M. Kashi.

An original and nine (9) copies of signed exceptions to the decision, if any, MUST BE FILED WITH THE SECRETARY OF THE COMMISSION IN ROOM B-20, NORTH OFFICE BUILDING, NORTH STREET AND COMMONWEALTH AVENUE, HARRISBURG, PA OR MAILED TO P.O. BOX 3265, HARRISBURG, PA 17105-3265; a copy in the hands of the Office of Special Assistants, Room 210; and a copy in the hands of each party of record no later than April 27,1998 by 4:30 P.M. 52 Pa. Code §1.56(b) cannot be used to extend the prescribed period for the filing of exceptions or reply exceptions.

Replies to exceptions, if any, must be served on the Secretary of the Commission, in the manner described above, no later than May 7, 1998 by 4:30 P.M. as well as served upon the parties. A certificate of service shall be attached to the filed exceptions.

Exceptions and reply exceptions shall obey 52 Pa. Code 5.533 and 5.535, particularly the 40-page limit for exceptions and the 25-page limit for replies to exceptions. Exceptions should be clearly labeled as "EXCEPTIONS OF (name of party) - (protestant, complainant, staff, etc.)".

Any reference to specific sections of the Administrative Law Judge's Recommended Decision shall include the page number(s) of the cited section of the decision.

PLEASE NOTE: All parties, if possible, should provide the Commission with appropriate tables incorporating the adjustments contained in the Recommended Decision. Any tables should be prepared using the appropriate computer model. Any tables and associated disscussion are exempt from the page limitations for exceptions and /or reply exceptions.

Parties are also requested to provide the Commission's Office of Special Assistants with a copy of exceptions/reply exceptions on a computer disk, 3 1/2" in size, in Microsoft Word 6.0 format. If Word 6.0 is not available, either WordPerfect 5.1 or ASCII format is acceptable.

Very truly yours,

James J. McNulty

James J. McNulty
Secretary

law
Encls.
Certified Mail
Receipt Requested

cc: ALJ Kashi/OALJ/OSA/BFUS-Tariff/OTS/OCA/LAW/BFUS/PIO/Our File/New Filing/Chairman/Commissioners
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R-00973954 Pennsylvania Power and Light Company

Application for approval of a Restructuring Plan

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BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

DOCKETED
APR - 7 1998

APPLICATION OF	:	
PENNSYLVANIA POWER & LIGHT COMPANY	:	
FOR APPROVAL OF RESTRUCTURING PLAN	:	Docket No. R-00973954
UNDER SECTION 2806 OF	:	
THE PUBLIC UTILITY CODE	:	

RECOMMENDED DECISION

George M. Kashi
Administrative Law Judge

APRIL 1, 1998

DOCUMENT
FOLDER

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BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

APPLICATION OF	:	
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UNDER SECTION 2806 OF	:	
THE PUBLIC UTILITY CODE	:	

RECOMMENDED DECISION

Before
George M. Kashi
Administrative Law Judge

INTRODUCTION

A. Summary

On December 3, 1996, Governor Ridge signed into law the Electricity Generation Customer Choice and Competition Act, 66 Pa.C.S. §§ 2801 et. seq. (the "Act"). The Act fundamentally restructures the provision of retail electric service in Pennsylvania by mandating the phase-in of customer choice of electric generation supplier ("EGS") beginning January 1, 1999.

The Act establishes four critical components for a fair and balanced transition to competition:

1. The establishment of reasonable terms and conditions for open access retail competition;
2. The calculation and recovery of reasonable stranded costs;
3. The establishment of unbundled rates for the generation, transmission and distribution of electricity; and
4. The provision of continued customer protections, particularly the continuation of safe and reliable service and programs for the assistance of low-income customers.

PP&L in its Restructuring Plan filing, as revised during this proceeding:

> (a) proposed the unbundling of its rates and establishment of competitive transition charges ("CTCs") and specific tariff provisions to ensure customers direct access to all licensed EGSs; (b) projected its transition costs under the Act at $4.5 billion; (c) proposed a plan to meet its universal service obligations, including a mechanism to recover the costs of those obligations; (d) described the implementation of a consumer education program; and (e) proposed procedures for implementing PP&L's responsibilities as provider of last resort under 66 Pa.C.S. § 2807(e)(3).

See PP&L M.B. pp. 1-9.

By and large we found the petition to be just, reasonable, balanced and in compliance with the intent of the Act. Our major exception is the stranded costs. We find the adjustments of OTS to stranded costs, as modified, to most nearly reflect our own position. Additionally we felt the need for a true up reconciliation procedure. Our uppermost concern throughout were those ratepayers whose marginal positions leaves them without an ability to "compete."

The task before us in managing the case, marshalling the evidence, assessing the briefs and preparing this recommended decision was at best daunting. We have tried to keep it simple in recognition that to be able to cross all the "t's" and dot all the "i's" in a procedure that changes the history of the past seventy (75) years is virtually if not completely impossible. We expect that we are looking at surmounting one barrier after another for the next serveral years. However, that should not deter us from moving forward one step at a time; if that step can be in the same direction. Problems are only opportunities dressed in work clothes.

We have tried not to break new ground where it was not necessary. We found the differences between PP&L and PECO to be significant. Therefore we found the PECO decision, its reconsideration order and various compliance orders to be not directly on point. We viewed those decisions as stand alone decisions and not controlling precedent.

Because of the volume of material involved in this proceeding not all issues raised by the thirty-nine(39) parties are discussed below. If an issue is not presented it was considered and rejected without discussion.

B. History of the Proceedings

In accord with the PUC Order entered January 24, 1997, at. M-00960890.F05, PP&L filed its Restructuring Plan on April 1, 1997.

Copies of the filing were served on all active participants in PP&L's last general base rate investigation at Docket No. R-00943271 and provided to any person who requested a copy. PP&L provided notice of its Restructuring Plan filing to all customers by bill insert beginning with the April 1997 billing cycle. The Company further provided a one-page notice of its filing to all individuals on the Commission's Executive Director's Stakeholder list. In addition, notice of the filing was published in newspapers of general circulation throughout PP&L's service territory.

PP&L's Restructuring Plan filing was assigned to this administrative law judge, and a first prehearing conference was convened in Harrisburg on April 18, 1997. We permitted Thirty nine (39) parties to intervene in this proceeding. Of that group, seventeen (17) intervenors have maintained active party status. In addition, formal complaints against the Company's Restructuring Plan were filed by the OCA, PPLICA and the Environmentalists.

The following are active parties in Docket No R-00973954: Office of Consumer Advocate (OCA), Office of Small Business Advocate (OSBA), Office of Trial Staff (OTS), Allegheny Power, American Association of Retired Persons (AARP), Commission on Economic Opportunity (CEO), Delmarva Power & Light, Enron Power Marketing Inc.(Enron), Environmentalists, Local 1600, International Brotherhood of Electric Workers (IBEW), Eric Epstein, Gilberton Power, Mid-Atlantic Power Supply Association (MAPSA), New Energy Ventures (NEV), Pennsylvania Petroleum Association (PPA), PP&L Industrial Customer Alliance (PPLICA), Schuylkill Energy Resources (SER), and United States Department of Defense.

The following are inactive parties in Docket No R-00973954: Allegheny Electric Cooperative, American Energy Solutions, Anthracite Regional Power Producers (ARIPPA), Bethlehem Steel, Center for Energy and Economic Development (CEED), Duke Energy Trading Marketing, Dupont Power Marketing, Electric Clearinghouse Inc., ERI Services Inc., GPU Energy, Kraft Foods, Noram Energy Management, PECO Energy Company, Pennsylvania Association of Plumbing Heating & Cooling Contractors (PAPHCC), Pennsylvania Electric

Consumers Council, PP&L Rate Payers Association, and Pennsylvania Retailers Association, Vastar Power Marketing.[1]

PP&L submitted with its filing extensive supporting information, including the direct testimony and supporting exhibits of seventeen (17) witnesses and responses to the Commission's filing requirements. PP&L also responded to numerous interrogatories and data requests. In addition, an informal technical conference was held in Harrisburg on May 2, 1997, at which PP&L made available several of its witnesses to answer questions and further explain their testimony.

On July 2, 1997, the intervenors submitted extensive direct testimony addressing almost every aspect of PP&L's Restructuring Plan. On August 5, 1997, PP&L responded to the intervenors' direct testimony by filing rebuttal testimony and exhibits sponsored by twenty witnesses. A number of the intervenors submitted surrebuttal statements on August 15, 1997.

Evidentiary hearings were held in Harrisburg on August 18-22 and August 25-29, 1997 and on September 9, 1997. During those hearings 284 exhibits and the testimony of 57 witnesses were admitted into evidence. The transcribed record, which includes the cross examination of the direct testimony at evidentiary hearing, consists of 2,337 pages. The evidentiary record was closed on September 9, 1997.

Thirteen (13) public input hearings were held during the weeks of May 30, 1997 and September 2, 1997. Public input hearings were held in Allentown (June 2), Bethlehem (June 2 and September 3), Harrisburg (May 30 and September 3), Hazelton (June 4), Lancaster (May 30 and September 2), Pottsville (June 4), Scranton (June 3 and September 4), Williamsport (June 5), and Wilkes-Barre (June 3). A total of 75 persons testified at the public input hearings.

Following the evidentiary hearings, we directed the parties to enter into settlement discussions and ordered the intervenors to present PP&L with a unified proposal for settlement. Tr. 1593 (8/26/97). To accommodate those discussions the post-hearing briefing and decision schedule was extended several times. Orders extending the briefing schedule and the date for Commission decision in the case were issued on September 12, 1997, October 17, 1997, November 25, 1997 and December 24, 1997.

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[1] See Table A to PP&L Main Brief which contains a list of the parties.

Main Briefs and supplements were filed on February 13, 1998. Reply Briefs were filed on February 27, 1998. Our Recommended Decision is now due[2].

FINDINGS OF FACT

PROCEDURAL HISTORY

1. On December 3, 1996, Governor Ridge signed into law the Electricity Generation Customer Choice and Competition Act, 66 Pa.C.S. §§ 2801 et. seq. (the "Act"). The Act fundamentally restructures the provision of retail electric service in Pennsylvania by mandating the phase-in of customer choice of electric generation supplier ("EGS") beginning January 1, 1999.

2. Section 2806 of the Act requires Pennsylvania jurisdictional utilities to file Restructuring Plans for Commission approval. By Order entered January 24, 1997 at Docket No. M-00960890.F05, the Commission directed PP&L to file its Restructuring Plan on April 1, 1997. In accordance with the Commission's January 24, 1997 Order, PP&L filed its Restructuring Plan on April 1, 1997.

3. PP&L in its Restructuring Plan filing, as revised during this proceeding: (a) proposed the unbundling of its rates and establishment of competitive transition charges ("CTCs") and specific tariff provisions to ensure customers direct access to all licensed EGSs; (b) projected its transition costs under the Act at $4.5 billion; (c) proposed a plan to meet its universal service obligations, including a mechanism to recover the costs of those obligations; (d) described the implementation of a consumer education program; and (e) proposed procedures for implementing PP&L's responsibilities as provider of last resort under 66 Pa.C.S. § 2807(e)(3) ("Last Resort Service").

4. Copies of the filing were served on all active participants in PP&L's last general base rate investigation at Docket No. R-00943271. PP&L provided notice of its Restructuring Plan filing to all customers by bill insert beginning with the April 1997 billing cycle and all persons who requested a copy. The Company further provided a one-page notice of its filing to all individuals on the Executive Director's Stakeholder list. In addition, notice of the filing was published in newspapers of general circulation in PP&L's service territory.

5. Thirty-nine parties were permitted to intervene in this proceeding. Of that group, seventeen intervenors have maintained active party status. In addition, formal complaints against the Company's Restructuring Plan were filed by the OCA, PPLICA and the Environmentalists.

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2 Please note: In drafting this decision, we have taken the positions of the parties nearly verbatim from the briefs filed in this case and other documents due to the voluminous briefs and record and exigencies of time. While we could have produced a much lengthier document, we went with an alternative that places more of the burden on the reader unfamiliar with the record. We have tried not to misstate the positions of parties. Given these alternatives, the better course appears succinctness and brevity. As we stated in our first briefinging order "shorth is better than length".

As stated earlier we do not include the position of every party on every issue in this decision. We do not include a position if it is a cursory handling of an issue, adopts the position of another party without adding argument, or does not adhere to the common brief outline which we directed the parties to follow. Given the voluminous briefs and record, we could not always take the time to hunt for a party's position if it did not appear in the appropriate place in the commonlist of issues outline produced August 5, 1997. Where possible, and to keep the decision at a manageable length, at times we shorten a position and indicate that it is similar to a position already stated. In instances where a party fails to properly identify statements or exhibits as marked for the record, we have eliminated those citations and we refer the reader to the party's brief on the subject.

6. Evidentiary hearings were held in Harrisburg on August 18-22 and August 25-29, 1997 and on September 9, 1997. During those hearings 284 exhibits and the testimony of 57 witnesses were admitted into evidence. The transcribed record of the evidentiary hearing consists of 2,337 pages. The evidentiary record was closed on September 9, 1997.

7. Thirteen public input hearings were held during the weeks of May 30, 1997 and September 2, 1997. Public input hearings were held in Allentown (June 2), Bethlehem (June 2 and September 3), Harrisburg (May 30 and September 3), Hazleton (June 4), Lancaster (May 30 and September 2), Pottsville (June 4), Scranton (June 3 and September 4), Williamsport (June 5), and Wilkes-Barre (June 3).

I. CONTEXT OF RESTRUCTURING

8. Electric companies have been viewed as natural monopolies in Pennsylvania since the adoption of the Public Service Company Law of July 26, 1913, P.L. 1374 (repealed), as amended by section 4 of the Act of June 3, 1933, P.L. 1526, 66 P.S. §201-2 (repealed).

9. The Public Service Law and its successors recognize that in exchange for a monopoly to provide service in an exclusive service territory, public utilities were both exempted from competition and obligated to provide service within that service territory. Regulation of rates and service was determined to be necessary to replace the lack of competition

10. An overriding theme of traditional monopoly regulation of electric utilities has been described as the regulatory bargain or regulatory compact. PP&L St. 1, pp. 11-12.

11. Pursuant to this system of regulation,Utilities have invested billions of dollars to construct generating stations to meet the reasonably projected needs of customers in its service territory. These investments previously have been reviewed by the Commission and adjudged to be prudent expenditures. Accordingly, under a continuation of regulated monopoly service, PP&L and its investors would have had an opportunity to recover both a return of, and a reasonable return on, such investments to provide service to customers.

12. Economic circumstances have changed, however, leading the General Assembly to conclude that the generation of electricity, as distinguished from its transmission and distribution, is no longer a natural monopoly. PP&L St. 18-R, pp. 21-22.

13. In 1992 Congress passed the Energy Policy Act which specifically empowered the Federal Energy Regulatory Commission ("FERC") to order public and privately owned utilities to grant access to their transmission systems for qualified entities engaging in wholesale power transactions. 16 U.S.C. §824(j),(k).

14. The FERC dramatically expanded the availability of transmission by issuing, in 1996, Order No. 888 requiring the public utilities to unbundle wholesale contracts and offer open access non-discriminatory transmission to all eligible customers — including retail customers in states implementing retail competition — while providing for the recovery of stranded costs incurred as a result of opening up the transmission system.

15. The significant metamorphosis in the economics of producing electric power has led the General Assembly to conclude that generation of electricity can be provided more efficiently (at lower costs) under a competitive system. As the General Assembly concluded:

> Because of advances in electric generation technology and federal initiatives to encourage greater competition in the wholesale electric market, it is now in the public interest to permit retail customers to obtain direct access to a competitive generation market as long as safe and affordable transmission and distribution service is available at levels of reliability that are currently enjoyed by the citizens and businesses of this Commonwealth. 66 Pa.C.S §2802(3).

16. The Act substitutes a competitive system for determination of the generation prices for the previously employed regulated system.

17. The Act contains declarations of policy which set forth the reasons that the General Assembly has directed the restructuring of the electric industry in Pennsylvania. 66 Pa.C.S.§2802. The Act also contains specific standards for restructuring of the electric industry. 66 Pa.C.S. §2804. These declarations and standards set the bounds within which the restructuring of the electric industry is to be conducted and within which the issues in this proceeding must be resolved.

18. In adopting the Act, the General Assembly recognized the need for a fair transition from regulation to competition. 66 Pa. C.S. §2802(9).

19. In section 2802(12), the General Assembly declares that:

> The purpose of this chapter is to modify existing legislation and regulations and to establish standards and procedures in order to create direct access by retail customers to the competitive market for the generation of electricity while maintaining the safety and reliability of the electric system for all parties. Reliable electric service is of the utmost importance to the health, safety and welfare of the citizens of the Commonwealth. Electric industry restructuring should ensure the reliability of the interconnected electric system by maintaining the efficiency of the transmission and distribution system. 66 Pa.C.S. §2802(12).

20. In order to protect customers while transitioning to a competitive market for generation of electricity, Section 2804(4) of the Act provides for rate caps. These rate caps are designed to protect customers from increases in rates over the levels in effect at the time of adoption of the Act, that might result from the transition to a competitive market.

21. The Act also recognizes the fact that electric utilities and their investors have invested billions of dollars in generating facilities, that some of these costs may not be recovered under a competitive system and that electric utilities should be permitted to recover such costs during the transition period to the extent possible within the rate cap. 66 Pa.C.S. §2802(15).

22. The Act establishes the manner in which competition will be conducted. In this regard the Act provides that:

> This chapter requires electric utilities to unbundle their rates and services and to provide open access over their transmission and distribution systems to allow competitive suppliers to generate and sell electricity directly to consumers in this Commonwealth. The generation of electricity will no longer be regulated as a public utility function except as otherwise provided for in this chapter. Electric generation suppliers will be required to obtain licenses, demonstrate financial responsibility and comply with such other requirements concerning service as the commission deems necessary for the protection of the public. 66 Pa.C.S. §2802(14).

23. To implement open access, the Act sets forth certain standards to which the Commission must adhere:

> The commission may permit, but shall not require, an electric utility to divest itself of facilities or to reorganize its corporate structure. 66 Pa.C.S. §2804(5).
>
> Consistent with the provision of section 2806, the commission shall require that a public utility that owns or operates jurisdictional transmission and distribution facilities shall provide transmission and distribution service to all retail electric customers in their service territory and to electric cooperative corporations and electric generation suppliers, affiliated or nonaffiliated, on rates, terms of access and conditions that are comparable to the utility's own use of its system. 66 Pa.C.S. §2804(6).
>
> The commission shall require that restructuring of the electric utility industry be implemented in a manner that does not unreasonably discriminate against one customer class to the benefit of another. 66 Pa.C.S. §§2804(7).

24. In addition to providing for a retail access pilot (66 Pa.C.S. § 2806(G)), the General Assembly also obligated each electric distribution company to implement, in conjunction with the Commission, a consumer education program that "shall provide consumers with the information necessary to help them make appropriate choices as to their electric service." 66 Pa.C.S. § 2807(d)(3).

25. The Act further seeks to protect customers who, for any number of reasons, do not or cannot obtain service from a competitive electric supplier. In this regard, the Act contains specific policy determinations concerning continuation of programs that currently assist low-income customers (66 Pa.C.S. §2802(10) and other public purpose programs. 66 Pa.C.S. §2802(17).

26. The Act also contains requirements applicable to electric companies that are intended to provide all customers with reliable transmission and distribution service and to provide all customers with a supplier of last resort. 66 Pa.C.S. §2802(16).

II. LEGAL AND POLICY FOUNDATIONS OF STRANDED COST RECOVERY

27. The Act addresses stranded costs in three different ways. First, the "Declaration of Policy," Section 2802(15), establishes the general need for and appropriateness of recovery by electric distribution companies of their stranded costs as follows:

> In establishing the standards for the transition to and creation of a competitive electric market, heretofore, public utilities generally have had an obligation to serve customers within their defined service territories; consistent with that obligation, have undertaken long-term investments in generation, transmission and distribution facilities in order to meet the needs of their customers; and have entered into long-term power supply agreements as required by Federal law. In many instances, these investments and agreements have created costs which may not be recoverable in a competitive market. The commission is empowered under this chapter to determine the level of transition or stranded costs for each electric utility and to provide a mechanism, the competitive transition charge, for recovery of an appropriate amount of such costs in accordance with the standards established in this chapter.

Second, the Act provides a general definition of "stranded costs." Section 2803 defines "stranded costs" to be:

> An electric utility's known and measurable net electric generation-related costs, determined on a net present value basis over the life of the asset or liability as part of its restructuring plan, which traditionally would be recoverable under a regulated environment but which may not be recoverable in a competitive electric generation market and which the commission determines will remain following mitigation by the electric utility.

Third, Section 2804(14) of the Act mandates an "orderly" transition to competition designed to:

> protect electric system reliability, be fair to ratepayers and provide the investors in Pennsylvania electric utilities with a fair opportunity to fully recover the amount of transition or stranded costs that the Commission determines to be just and reasonable.

28. Sections 2802(15), 2803 and 2804(14) of the Act mandate that the Commission allow recovery of a level of stranded costs determined to be just and reasonable. In adopting these provisions, the General Assembly has balanced the interests of electric utilities and ratepayers in an appropriate manner. The Act seeks to attain, on one hand, the benefits for customers of low-cost electric generation that is becoming available, as explained above, from technological advances and reduced fuel prices. On the other hand, the Act permits electric utilities to recover their prudently-incurred costs, that would be recoverable under the prior system of regulation, but which may not be recoverable under a competitive regime.

29. Regulated utilities in Pennsylvania operated under a requirement of mutual obligations, regardless of whether those obligations are referred to as a "regulatory compact," "regulatory bargain," "understanding," or something else. The essence of that initial obligation was that utilities had a fair opportunity to recover their prudently-incurred investments in facilities used to meet their obligation to serve all customers. PP&L St. 1, pp. 11-12; PP&L St. 18-R, p. 10.

30. The General Assembly expressly recognizes the general principles of this bargain or understanding in the Declaration of Policy at Section 2802(15) of the Act. There, the General Assembly acknowledges the historic obligation of utilities to make substantial investments in facilities or contracts to provide safe and reliable service. The General Assembly recognizes also its obligation to allow recovery of costs stranded by the change the electric generation portion of electric utilities' business from a regulated monopoly to an unregulated competitive service.

31. Claims that this bargain or understanding does not exist deny the facts. Clearly, utility investors relied on prior rules concerning the prudent investment standard and fair rates of return in forming their expectation concerning risks and returns. PP&L St. 1-R, pp. 5-7.

32. The transition to a competitive market for electric generation is a fundamental change in the basic rules by which electric generation services have been provided. Electric utilities must be allowed a fair opportunity to recover investments in facilities made uneconomic by the change in regulatory policy. Any contrary breach of the Commonwealth's obligation to utility investors would be poor public policy, would be contrary to sound economic principles and would be inconsistent with prior law.

33. Under Section 2808(c)(4), in determining the level of stranded costs to be recovered, the Commission is to consider the extent to which the electric utility has mitigated generation-related stranded costs. The Act identifies examples of mitigation steps, and further directs the Commission to consider both mitigation in conjunction with restructuring and pre-restructuring efforts.

34. PP&L's mitigation efforts have reduced its stranded costs. The proof of the effectiveness of PP&L's pre-restructuring mitigation, however, is PP&L's success in controlling its rates, which the Act declares to be of "equal importance" with future efforts to mitigate stranded costs. See 66 Pa.C.S. §2808(c)(5).

35. PP&L's total rates are lower than those of other electric utilities. As shown at pages 16-19 of PP&L St. 9 and in Exhibit SFT 2, PECO's average rate is 9.91¢ per kWh; Duquesne Light Company's average rate is 8.92¢ per kWh. The Pennsylvania statewide average rate is 7.93¢ per kWh. PP&L's average rate of 7.21¢ per kWh is significantly lower than these other rates. In fact, PP&L's rates are now almost as low as the national average of 6.89¢ per kWh, while the spread between Pennsylvania's average rate and the national average rate has stayed relatively constant. PP&L Exhibit SFT 4.

36. PP&L's rates for residential service have dropped below the national average, while Pennsylvania's average residential rate has been well above the national average. PP&L Exhibit SFT 5.

37. In recent years, PP&L has taken advantage of reductions in the cost of capital to refinance higher cost securities. During the 10½ years between its last two rate cases, PP&L reduced its long term debt cost rate by almost 30 percent.

38. PP&L was also able to reduce substantially its cost rate of preferred stock. These capital cost reductions reduced PP&L's revenue requirement in its 1994 base-rate case by $100 million. PP&L St. 2, pp. 6-7.

39. After PP&L's 1985 rate case, PP&L undertook cost containment efforts which resulted in PP&L's operation and maintenance production costs only increasing by 16 percent over 10 years and, adjusted for inflation, have actually declined by 15 percent.

40. From 1985 through 1996, PP&L has reduced its employee complement by 2,005 regular full-time employees, almost 24 percent of its 1985 work force. Most reductions occur through normal attrition, early retirement programs and voluntary severance programs. PP&L St. 2, p. 8.

41. In 1991, PP&L modified its accounting for spare parts at power plants resulting in a pass back of $94 million to customers over 5 years through a rate credit mechanism. PP&L St. 2, pp. 8-9.

42. PP&L also reviewed its spare parts inventories to identify obsolete or excessive items and was able write off off $35 million of inventory, further mitigating PP&L's stranded costs. PP&L St. 2, p. 9.

43. Approximately 62 percent of PP&L's stranded costs relate to the Susquehanna Steam Electric Station, which includes two nuclear generating units PP&L St. 2, pp. 9-11.

44. PP&L was able to complete construction of two large nuclear units at a total cost of approximately $3.6 billion for 1,890 megawatts of capacity or approximately $1,900 per kilowatt. Other plants in Pennsylvania and in the United States, which were constructed contemporaneously with the Susquehanna Units, were completed at significantly higher costs per kilowatt. PP&L St. 2, p. 10.

45. Following completion of Susquehanna, PP&L pursued claims against the containment supplier, General Electric. PP&L settled its claim against General Electric in 1991, and obtained Commission approval to refund the jurisdictional amount of the net settlement proceeds --$55 million-- to customers through a special rate credit mechanism. PP&L St. 2, p. 10.

46. PP&L has operated Susquehanna at a high capacity factor, reducing energy costs and customers' rates. PP&L St. 2, pp. 10-11. More recently, between 1991 and 1995, PP&L spent $45 million to upgrade Susquehanna's capacity by 90 megawatts, or $500 per kilowatt, producing additional energy cost savings for customers.

47. PP&L has operated its fossil fuel generating plants efficiently and has made substantial expenditures to assure the continued viability of low cost, coal-fired generating stations. These generating stations benefit customers through low fuel costs and increased interchange sales, which both lower retail rates. PP&L St. 2, p. 11.

48. PP&L has converted its Martins Creek Units 3 and 4 to gas/oil dual fuel capability. PP&L now can burn gas or oil, whichever costs less, at these Units 3 and 4, which makes them more cost effective. PP&L St. 2, p. 11.

49. Under the Public Utility Regulatory Policies Act of 1978 ("PURPA"), PP&L was compelled to enter into long-term supply contracts with Non-utility Generators ("NUGs"). Rates in these agreements were based upon future market prices of fuels, which were projected when contracts were executed. Then, the price of oil was expected by now to be nearing $100 a barrel. PP&L St. 18-R, p. 22. NUG contract prices have turned out to be greater than PP&L's avoided costs of replacement generation or purchased power.

50. PP&L has calculated its stranded costs to be $4.5 billion. PP&L St. 2, p. 18. PP&L has proposed in this proceeding, however, a competitive transition charge ("CTC") that will produce only $4.001 billion, resulting in a shortfall of $500 million. PP&L St. 10-R, p. 3. Under PP&L's proposal, PP&L's shareholders will bear an estimated $500 million of stranded costs.

51. Pursuant to Section 2808(c)(4)(iii), one of the mitigation steps that electric utilities are to consider is reallocating depreciation reserves from transmission and distribution plant accounts to generation accounts. In its filing, PP&L has proposed to transfer $205 million of its depreciation reserve related to transmission and distribution plant to the accumulated reserve for depreciation associated with its Susquehanna Units. The transfer of the depreciation reserve, together with the changes in the reserve for deferred income taxes, would reduce PP&L's stranded costs by $317 million. PP&L St. 2, p. 17.

52. There is no cost shifting between rate classes at the retail jurisdictional level because PP&L's unbundled rates were derived from its cost of service study approved in its 1995 base-rate case, which was not modified to reflect the swap of the depreciation reserve. PP&L St. 3-R, pp. 12-13.

53. PP&L's proposal will not result in cost shifting between federal and state jurisdictions. Any such possible cost shifting will be avoided by PP&L's creation of a regulatory asset applicable to the transmission and distribution functions which equals the allocated depreciation reserve to be transferred. Under this proposal, the net decreased to the depreciation reserve for the Pennsylvania jurisdictional portion of the transmission and distribution function will equal the Pennsylvania jurisdictional portion of the increase to the depreciation reserve for the nuclear generation function.

54. The small change in rates that could result from the depreciation swap will not affect customers' usage patterns. PP&L St. 8-R, p. 53. Further, one purpose of the Act is to achieve lower rates to improve the economy of Pennsylvania. 66 Pa.C.S. § 2802. The Act encourages mitigation of stranded costs for the purpose of reducing electric utilities' CTCs, thereby lowering rates.

55. Customers are protected from overrecovery by electric distribution companies of transmission and distribution costs through the applicable rate cap. The "depreciation swap" is one of the mitigation procedures expressly contemplated in Section 2808(c)(4)(iii) of the Act.

56. In computing stranded costs, PP&L has projected approximately $513 million of unspecified reductions to future operation and maintenance and administrative and general costs. These projections reflect a continued commitment to cost cutting and an estimate of the reductions that PP&L expects to achieve. If PP&L for any reason is unable to achieve the projected $513 million of future cost reductions, PP&L and its investors will bear the costs that PP&L is unable to avoid.

57. In PP&L's most recent base rate case, the Commission approved PP&L's proposal to modify the method by which it accrues depreciation on its Susquehanna Units. PP&L had used a modified sinking fund method in order to moderate rate increases associated with placing these units into rate base. PP&L proposed, commencing January 1, 1999, to switch to a straight line method of depreciation, under which it would experience a reduction in its annual depreciation accrual of an estimated $71 million. In conjunction with its proposal to change the depreciation method, PP&L proposed also to reduce base rates effective January 1, 1999, to reflect the effects of this switch in depreciation method. The Commission approved PP&L's proposal. *Pa. P.U.C. v. PP&L*, Docket No. R-00943271, pp. 106-113 (September 27, 1995).

58. In late 1995, PP&L announced plans to reduce capital expenditures over a 5-year period by $671 million. Of this total, $486 million represented reductions in plant expenditures for fossil generating units. Reductions in capital investment in generating facilities mitigates PP&L's stranded costs. PP&L St. 2, p. 9.

59. Several parties have suggested that stranded costs should be shared between PP&L and its ratepayers by various means. *See, e.g.*, OCA St. 1, pp 29-32; OTS St. 1, pp. 20-21; PPLICA St. 1, pp. 15-22. The parties' proposals that the Commission disallow recovery of a portion of PP&L's stranded costs are based on an incorrect interpretation of Section 2804(13) of the Act which provides:

> Consistent with Section 2808 (relating to competitive transition charges), the commission has the power and duty to approve a competitive transition charge for the recovery of transition or stranded costs it determines to be just and reasonable to recover from ratepayers.

60. The parties "sharing" proposals also are at odds with prior regulatory practice. In previous years, parties in prior utility base-rate proceedings have contended that certain otherwise "just and reasonable" expenses of public utilities should be "shared" between ratepayers and the utility on policy grounds similar to contentions raised by various parties in this proceeding. These contentions have been uniformly rejected by Pennsylvania appellate courts. *See, e.g., Butler Township Water Co. v. Pa. P.U.C.*, 81 Pa. Cmwlth. 40, 473 A.2d 219, 221-22 (1984); *T.W. Phillips Gas & Oil Co. v. Pa. P.U.C.*, 81 Pa. Cmwlth. 205, 474 A.2d 355, 366-67 (1984).

61. The General Assembly has mandated "sharing" mechanisms elsewhere in the Public Utility Code. When considering electric generation units with excess capacity that is not used or useful in the public service or electric generating units which experience excessive outages, the General Assembly has set forth specific procedures for such determinations and specified the specific sharing mechanisms that the Commission is authorized to employ. *See* 66 Pa.C.S. § 1322 (as to excessive outages) and § 1323 (as to excess capacity). In contrast, the Act does not contain any provision requiring a "sharing mechanism."

62. The parties' sharing proposals ignore the fact that virtually all of PP&L's plant investments have been reviewed by the Commission in prior base-rate cases and included in rate base as being prudently-incurred and used or useful in the public service. PP&L's most recent base-rate case was based upon a future test year ended September 30, 1995. *Pa. P.U.C. v. PP&L*, Docket No. R-00943271, p. 1 (September 27, 1995). No generation units have been placed in service since this base-rate case. Only the relatively minor

plant additions placed into service since September 30. 1995. could even be the subject of prudence contentions in this proceeding, and no such contentions have been raised. Therefore, all of PP&L's rate base and PP&L's expenses, as of September 30, 1995, have been determined to be "just and reasonable" as that term is used in Section 1301 of the Public Utility Code, 66 Pa.C.S. A. § 1301, to establish a utility's rates.

63. In the PECO Restructuring case, the Commission ruled that in determining a joint and reasonable level of stranded cost recovery under Section 2808(c)(3), the Commission must consider whether "the utility's efforts to mitigate stranded investment have been "reasonable under all of the circumstances," PECO at 67 (citing Section 2808(c)(4). The Commission noted that Section 2808(c)(4) requires "equal consideration" of the utility's "efforts undertaken over time . . . to reduce or moderate rate levels."

64. OCA's proposal of a 32% rate reduction would produce sharply different results. Under OCA's proposal, PP&L's 1999 *pro forma* return on equity would be a *negative* 9.65%. PP&L would experience an operating loss each and every year of the transition period. PP&L St. 8-R, pp. 24-27.

65. OCA's proposed level of stranded costs is unjustified and does not represent a reasonable even-handed sharing of risks associated with stranded costs.

III. STRANDED COST CALCULATION METHODOLOGY

66. The Act generally identifies three categories of stranded costs: (1) regulatory assets and other deferred charges, the unfunded portion of nuclear plant decommissioning costs, and cost obligations under contracts with non-utility generators ("NUGs"); (2) costs related to the cancellation, buyout, buydown or renegotiation of NUG power supply contracts; and (3) generation-related expenses. 66 Pa.C.S. §2803.

67. PP&L's Restructuring Plan filing includes expenses from each of the categories identified by the Act. Specifically, the Company's filing includes: (1) regulatory assets and other deferred charges typically recoverable under traditional cost-of-service regulation, and cost obligations under Commission-approved contracts with NUGs; (2) prudently-incurred costs related to the cancellation, buyout, buydown or renegotiation of NUG contracts; and (3) net investments and operating expenses associated with existing generation facilities, disposal of spent nuclear fuel, decommissioning costs associated with existing generation facilities, and other stranded costs, including severance, early retirement, outplacement and related costs for employees who are affected by changes anticipated as a result of the transition to full competition under the Act. PP&L St. 8, p. 3.

68. For stranded cost calculation purposes, PP&L divided its claimed expenses into four categories: (1) nuclear generation; (2) fossil generation; (3) NUGs; and (4) generation-related regulatory assets. Utilizing a regulatory or revenue requirement methodology (the "regulatory method"), PP&L determined that it has approximately $4.5 billion in stranded costs after mitigation.

69. The OCA and PPLICA oppose the Company's method of calculating stranded costs related to generating plant, and recommend that the Commission adopt the asset value method proposed by PECO Energy Company in its current Restructuring Plan proceeding (Docket No. R-00973953). OCA St. 1, p. 14; PPLICA St. 2, p. 10. The OCA and PPLICA, however, propose to calculate stranded costs associated with regulatory assets using the regulatory method.

70. The regulatory method of calculating nuclear and fossil generating plant stranded costs compares the annual revenue requirements for each generating plant to the projected annual revenues each plant would receive from the sale of its output using market-based prices for each year beginning January 1, 1999, to the end of its remaining service life. PP&L St. 8, p. 4. The Company then applied a PUC-jurisdictional percentage to the annual excess or deficiency, and discounted the resulting stream of annual excesses or

deficiencies to present value at January 1, 1999 using a discount rate of 7.92%, which is PP&L's after-tax weighted average cost of capital. PP&L St. 8, p. 4; PP&L Exh. JRS 1, p. 1.

71. The asset value method compares the present value of revenues, less cash expenses, that could be earned from generating facilities in a competitive market, with the sum of the current book value of generation and regulatory assets. Cash expenses include any above-market costs that will be incurred under power purchased agreements with NUGs. PP&L St. 8-R, p. 7.

72. Several considerations favor the regulatory method (PP&L St. 8-R, pp. 5-7; PP&L St. 19-R, pp. 15-16):

a. The regulatory method is simple to understand and to apply because it essentially uses a series of future test years, a concept familiar to the Commission. All revenues and expenses are reflected in the time period in which they occur.

b. A variety of conceptual issues arising under the regulatory method -- e.g., the treatment of income taxes -- previously have been resolved by the Commission under traditional cost-of-service regulation. Thus, the regulatory method allows the Commission to apply existing rules and accepted assumptions in calculating stranded costs.

c. The regulatory method is fully consistent with the Act. Specifically, Section 2803 of the Act defines stranded costs as the "known and measurable net electric generation-related costs, determined on a net present value basis over the life of the asset or liability as part of its restructuring plan, *which traditionally would be recoverable* in a competitive generation market and which the commission determines will remain following mitigation by the electric utility." 66 Pa.C.S. §2803. Under traditional rate regulation, utilities are allowed a fair opportunity to recover revenue requirement. Consequently, revenue requirement is the proper starting point for the determination of stranded costs of generating plants. Thus, the Act defines stranded costs based on a comparison of revenue requirements under traditional regulation with revenues projected in a competitive market. The regulatory method properly implements this statutory approach.

d. The regulatory method prevents an electric utility from deriving an unfair benefit from the transition to competition. The regulatory method is designed to ensure that, at most, a utility may only receive the level of revenues that it would have received under current Commission-approved rates.

e. The regulatory method takes into account the effects of book value on revenue requirements year by year. Therefore, the specific complexities and effects of book value, e.g., changing jurisdictional allocation factors and deferred taxes, can be considered fully under the regulatory method. PP&L St. 19-R, p. 15.

73. Application of the asset value approach presents numerous problems and complexities. For example, the asset value method simply cannot be used to calculate the regulatory assets. OCA and PPLICA recognize this shortcoming and purport to use the revenue requirement method for regulatory assets, while retaining the asset value method for plant assets. The result is a mixed, hybrid approach which introduces substantial (and needless) complexities and causes serious errors in the OCA and PPLICA presentations.

74. The Commission's recent Order in the PECO Restructuring proceeding (Docket No. R-00973953) includes a footnote which states as follows (PECO Order, p. 80, note 71):

> We agree with PAIEUG witness Falkenberg that a "lost revenues" approach to stranded cost recovery is inappropriate. He notes that even under traditional regulations, a utility never had the expectation of guaranteed future revenues. Instead, traditional regulation sought to provide a reasonable opportunity to earn a just and reasonable return on investment. While future revenues are an important component of the future value of utility generation assets, they do not directly determine the amount of recoverable stranded utility plant.

75. The PECO Order does not require the use of the asset value method in this case. The regulatory method was not at issue in the PECO Restructuring case. The Commission's brief mention of the regulatory method in the PECO Order is dicta. The OCA and PPLICA stranded cost models are not in the record in this case. Thus, the record evidence simply does not include the information necessary to calculate stranded costs or to make any adjustments to such calculations. In contrast, PP&L's complete regulatory methodology is in the record and is readily available to all parties and the Commission.

76. Application of the asset value model is problematic here because it is not in the record.

77. PP&L's stranded costs should be calculated using the revenue requirements method.

78. Tables B to D to PP&L's M.B. provide a summary of PP&L's $4.5 billion stranded cost claim under the regulatory method. Table B provides the same calculation using the revenue requirements method. Table C provides a summary of OCA's proposal under the asset value method. Finally, Table D provides a reconciliation of the differences between the PP&L and OCA proposals using the asset value method. If the PUC elects to use the asset value method, Table D should be used to derive the value of any adjustments. Changing one item may have secondary effects on other figures which would have to be reconciled in the Company's compliance filing.

IV. MARKET PRICE OF ELECTRICITY

79. The forecast of prospective market prices of electricity is the critical first step in determining the competitive market value of PP&L's generating assets. These electricity prices are used to develop revenues for each plant on an annual basis. The revenues are then used to determine the stranded costs of the generating plants.

80. The prospective market prices for electricity are comprised of two components: The price of capacity and the price of energy. Customers will pay for the right to draw upon PP&L's generating assets when needed. These are payments for capacity. Customers also will pay for electric energy as they use it. These are payments for energy. While both energy and capacity prices are important in evaluating the competitive market value of PP&L's generating assets, energy prices are far more significant because they will represent approximately 90% of revenues received for electricity.

81. Three witnesses in this proceeding have estimated prospective market prices for electricity (S. Jones for PP&L, D. Smith for OCA and R. Falkenberg for PPLICA). Each witness has provided an estimate of future capacity and energy prices.

82. The supply side of the market is the generation sources in PJM and those available to serve customers in PJM. This definition includes both power sources in PJM as well as energy and capacity that can be delivered to PJM. PP&L St. No. 7, p. 9. The demand side of the market for generation includes all

customers in PJM as well as those with access to electricity that can be delivered over lines within and connected to PJM. PP&L St. No. 7, p. 9.

83. PP&L estimated future capacity prices by beginning with current contracts for sale of capacity held by PP&L. PP&L currently makes short-term or spot capacity sales and makes sales in the forward market. PP&L St. No. 7, p. 45.

84. In forecasting future capacity prices Dr. Jones projected that capacity prices would rise sharply as PJM moved from the current state of capacity excess to a balance of demand for, and supply of, capacity. This is one of the many effects of a competitive market which must be anticipated in accurately reflecting future market prices. PP&L St. No. 7, p. 45-46.

85. OCA's witness Mr. Smith, projects continually increasing capacity prices from 1999 to 2015. OCA St. No. 2, Ex. No. DCS-7; OCA St. No. 2-S, Ex. No. DCS-10. Mr. Falkenberg, PPLICA's witness, projects generally rising capacity prices with a two year reduction in prices following tightening of the capacity market in 2001. PPLICA St. No. 2-S, Ex. No. RJF-9-b.

86. OCA, PPLICA and OSBA challenged PP&L's forecast of market capacity prices as insufficient to support addition of new capacity. OCA St. No. 2, pp. 12-17; PPLICA St. No. 2, pp. 35-40; OSBA St. No. 1, pp. 32-34.

87. Parties have raised several factors to be considered in evaluating whether capacity prices and energy prices are sufficient to support construction of new capacity. These factors are the cost of the new unit, costs of other facilities such as land and pipelines to serve the unit, and the heat rate (amount of BTUs needed to produce a kWh of electric energy) at which the unit can be expected to operate.

88. PP&L Ex. STJ-28R demonstrates that Dr. Jones projected market prices are sufficient to support the installation of new capacity.

89. The contentions of various parties that Dr. Jones' market capacity prices are "insufficient" to support additions of new capacity are unsupported by the record. PP&L's forecasted prices are sufficient to support such additions at even today's costs and heat rates. As unit costs decrease and/or heat rates improve (less fuel to produce each kWh) the rates of return produced by new units will be even higher. The market capacity prices forecasted by Dr. Jones are demonstrated to be reasonable.

90. The higher capacity and energy prices projected by Messrs. Smith and Falkenberg indicate that investors in new generation will achieve rates of return well in excess of the 13.14% to 13.87% shown in PP&L Ex. STJ-32. Neither witness has provided an explanation why investors will demand capacity prices that will produce returns in excess of 14%. It is not credible to believe that investors will demand capacity prices that will produce returns in excess of 14% in an environment where there are competing projects.

91. Each of the witnesses testifying as to energy prices used a different model to project such prices. Dr. Jones, testifying for PP&L, used the EGEAS (Economic Generation Expansion Analysis System) model. Dr. Jones explained how the EGEAS model operates:

> EGEAS is an economic dispatch model designed primarily for long-term system planning. As its name implies, the primary purpose of the model is to find the best possible combination of generation resources for meeting system load in the short run and in the long run. In the short run, EGEAS is a production cost model, dispatching units to meet demand levels in each hour of the year. Over the long run, the model adds capacity to the existing system to meet reliability constraints. Depending upon the economics at that point in time a new unit will be added, either peaking or combined-cycle technology is added to minimize cost. PP&L St. No. 7, p. 25.

92. The EGEAS model has been used to dispatch units on the PJM system. It is not, therefore, a theoretical model but one which has been tested in the real world environment (Tr 1685-1686). Furthermore, the EGEAS model is publicly available. PP&L St. No. 20-R, pp. 19-21.

93. The model employed by PPLICA's witness, Mr. Falkenberg, is a theoretical model and is proprietary to his firm. (Tr 1676).

94. Mr. Falk identified five areas in which Mr. Falkenberg's model did not optimize costs. They are: 1) maintenance scheduling; 2) scheduling of capacity additions; 3) scheduling of repowering of existing units; 4) calculation of unserved energy, and 5) size of units.

95. These deficiencies cause Mr. Falkenberg's model to overstate market prices and understate stranded costs.

96. Mr. Falkenberg's model has not been tested in the real world of energy dispatch and is a proprietary model that was not made available to even the parties in this proceeding until after the filing of rebuttal. The over simplifications and the lack of independent real world application of the model make it unreliable for the purposes of forecasting market prices.

97. OCA's witness, D. Smith, used the ENPRO model to forecast energy prices. This model is less problematic than the Falkenberg model for two reasons. First, it is an operational dispatch model like EGEAS, not a theoretical model like the Falkenberg model. Second, ENPRO is commercially available, and, therefore can be obtained and run by any participant in this proceeding.

98. The primary deficiency of the ENPRO model is that it can model only 200 units (Tr 1398). In order to provide room for the addition of new units, Mr. Smith could model less than 200 of the 350 existing units in PJM (Tr 1398, 1511). To accomplish this, Mr. Smith had to aggregate existing units or treat them as one unit (Tr 1511). The problem with aggregating units is that it raises energy prices by using the average cost of the aggregate group rather than the lowest cost at all times.

99. A second deficiency is in Mr. Smith's application of ENPRO. As explained by Dr. Jones, Mr. Smith simply assumes that units which can be fired with either oil or gas will use oil one half of the time and gas the other half of the time, regardless of competing fuel prices. This is a problem, particularly where oil prices, as in Mr. Smith's fuel price forecast, rise faster than gas prices. This assumption is unrealistic and biases electricity prices upward since dual fuel units can be presumed to use the lower price fuel (Tr 1397-1398).

100. Finally, Mr. Smith reduces the availability of imports from outside PJM after 2005, without explanation or justification. (Tr. 1398). Because imports from the west generally are at lower costs (Tr 1510) this increases the price of electricity in PJM just as the 7-year rate cap under the Act expires.

101. The EGEAS model, in contrast, does not contain the methodological problems identified by PP&L with regard to the Falkenberg model and ENPRO. Specifically, EGEAS is a dispatch model which has been used for many years in dispatching units on the PJM system.

102. The EGEAS model can model all of the units in PJM as well as necessary additions, it schedules maintenance rather than spreading it arbitrarily throughout the non-summer months, it optimizes new capacity additions to produce the lowest energy costs by choosing between combustion turbine and combined cycle units, it uses appropriate prices for unserved energy and it properly reflects different summer and winter capacity ratings. PP&L St. No. 20-R, p. 18. It reflects actual conditions on PJM.

103. The main criticism which other parties have directed at the use of the EGEAS model concerns the treatment of start up or no load costs.

104. Either the EGEAS model or the ENPRO model, with certain corrections, can be used to forecast energy prices. The correct inputs to the model are, by far, the most critical issues in forecasting energy prices and differences in the inputs selected by each witness account for the majority of the differences between the forecasts of the witnesses.

105. Perhaps the most critical and significant input to the models is the cost of fuel to operate each unit that generates electricity. Since the energy price for all units running in a given hour equals the cost of operating the marginal cost unit operating in that hour, the variable cost of operating the marginal cost unit is critical. Fuel price is the primary component of variable cost.

106. A forecast of fuel prices must reflect the fundamentals of fuel markets. In particular, two concepts are extremely important. The first concept is that increases in fuel prices should be separated into two components: increases in *real* fuel prices (exclusive of inflation) and increases in fuel prices due to inflation. The combination of the increase in the real fuel price and the effect of inflation on the fuel price produces the nominal fuel price at any point in time.

107. The second concept is that projected increases in one fuel price, such as natural gas, must be reviewed in the context of competing fuels such as oil and coal. Both common sense and experience demonstrate that prices of competing fuels move in tandem and forecasts which project different rates of increase for competing fuels are highly suspect.

108. 1996 real fuel prices would remain flat until 1999. Dr. Jones then forecasted that real fuel prices would remain flat and would increase by the increase in inflation from 1999 forward. PP&L St. No. 7-R, p. 41.

109. Dr. Jones projected that real fuel prices would remain flat after 1999 because history demonstrates that real fuel prices rise and fall but revert to a mean price of about $15.50 in 1996 dollars over the long term. PP&L St. No. 7-R, p. 47. As shown in Dr. Jones' Ex. No. STJ-16, oil prices averaged about $15.50 a barrel (in 1996 dollars) over the period 1900 to 1996 excluding the unusual period of 1979 to 1985 represented by the Iranian Revolution. Nevertheless, Dr. Jones adopted a real oil price of $18.00 per barrel (Ex. No. STJ-16), which corresponds to the average price of $17.90/Bbl over the last 10 years. PP&L St. No. 7-R, p. 54.

110. Only Mr. Knecht, on behalf of OSBA, attempted to refute Dr. Jones' explanation that real prices are mean reverting, by calculating a .8% rate of increase in the price of oil from 1939 to 1996. OSBA St. No. 51, pp. 17-22, Ex. No. RDK-S-2. However, Dr. Jones explained in rejoinder that the choice of a particular starting year substantially effects this type of calculation. If Mr. Knecht had chosen any of 24 differing starting points since 1900 there would have been real declines in oil prices and, if many other starting years were used, real oil prices would simply be flat (Tr 1404-1405). As a result, choosing a starting point year near the end of a depression when oil prices were low fails to provide any useful information about the long term trend of real oil prices.

111. Projections of rising real fuel prices are contrary to both the weight of historic evidence and the progress of technological developments in exploration for fuels (Tr. 1405-1406).

112. Messrs. Falkenberg (PPLICA) and Smith (OCA) rely on the forecasts prepared by DRI and EIA respectively. By increasing nominal fuel prices more than their projected increases in inflation, these forecasts effectively project both increases in real fuel prices and increases in fuel prices due to inflation. PP&L St. No. 7-R, p. 55; Tr 1404.

113. Neither witness has presented any substantive basis for concluding that real fuel prices will rise. In this regard, it is to be noted that the real oil price of $18.00/Bbl is essentially equal to the $17.90/Bbl average price over the last 10 years and is significantly above the $15.50/Bbl average long-term price of oil in 1996 dollars excluding years affected by the Iranian Revolution. PP&L St. No. 7-R, p. 54.

114. As shown on PP&L Ex. STJ-18, one standard deviation around this average price establishes a range of $12/Bbl to $19/Bbl. While oil prices may rise and fall above the average it is reasonable to conclude that they only rarely will move outside one standard deviation. As also shown on PP&L Exhibit STJ-18, in contrast to Dr. Jones' real oil price of $18/Bbl, Mr. Falkenberg's (EIA's) real oil prices begins at about $19/Bbl and continually rises throughout the forecast period to prices of about $24/Bbl, well outside one standard deviation from the average price. The DRI forecast used by OCA produces similar results (Ex. No. STJ-19). Accordingly, the expectation of these forecasts -- that real oil prices will rise -- is not supportable given historic trends.

115. The witnesses' use of the DRI and EIA fuel prices is inappropriate given that both entities have continually over-estimated fuel prices. As shown on PP&L Ex. STJ-14a and 14b, each of EIA's 1986, 1987, 1989 and 1992 long term fuel price forecasts has consistently overstated fuel prices. DRI's fuel price forecasts closely matches EIA's over-estimates (Ex. STJ-19). As shown on PP&L Exhibit STJ-35, DRI's 1994 and 1995 forecasts also overstated inflation and, thereby fuel prices.

116. As shown in PP&L Ex. STJ-21, the DRI 96 forecast begins with average inflation rates of 2.3 for 1997-2000, but then increases inflation rates to a level of 3.5%, on average, for the period 2005-2015. OCA's Mr. Smith revised his forecast to reflect the updated DRI Spring 1997 Outlook (Tr. 1516-1517) and to correct a "starting point" problem Dr. Jones noted in his testimony (Ex. STJ-12). Even so, the updated Spring 1997 Outlook continues to use the much higher 3.5% average annual inflation rate for the period 2005-2010.

117. Mr. Falkenberg used the EIA forecast for 1997. As also shown in PP&L Exhibit STJ-21, the EIA forecast starts with inflation at 2.5% and raises it to 3.4 % on average for 2005-2010 and 3.6% on average for the period 2010-2015. As shown on PP&L Exhibit STJ-35, DRI has consistently over-estimated inflation in past forecasts. EIA forecasts match DRI's forecasts closely (Ex. STJ-19).

118. Neither Mr. Smith nor Mr. Falkenberg has offered any explanation why the inflation rates built into the DRI and EIA fuel forecasts escalate over time (Tr 1403). These inflation forecasts are from the DRI and EIA fuel price forecasts. Despite reliance on these forecasts neither witness even obtained the full source documents for these forecasts or analyzed the bases used in these forecasts to estimate inflation (Tr 1517-1518, Tr 1750). Accordingly, they have not examined the bases for these forecasts. Forecasts of inflation which rise over time are simply inconsistent with federal reserve policies observed over the last decade (Tr 1400). There is no basis, on this record, to justify the use of the EIA and DRI inflation estimates and the record demonstrates that their forecasts have consistently overstated inflation.

119. The rising rates of inflation combined with rising real oil prices projected by these parties create what Dr. Jones referred to as the "dog leg" problem. The DRI and EIA forecasts initially project gradual rises in fuel prices but as the higher inflation rates and increases in real fuel prices "kick in," nominal fuel prices rise sharply. As shown graphically in PP&L Ex. Nos. STJ 14a and b, the fuel price curve slopes upward in the shape of a dog leg. There is no precedent in history for such an effect (PP&L St. No. 7-R, p. 42) and, in past forecasts, this phenomenon accounts, in part, for DRI's and EIA's confirmed over-forecast of fuel prices (PP&L Ex. No. STJ-14a and b).

120. In addition to the errors of improperly rising real fuel prices and increasing inflation rates, the EIA and DRI forecasts project a divergence between the real prices of oil and gas versus the real price of coal.

121. The divergence of gas and oil prices from coal and uranium prices is both illogical and unprecedented for competing fuels. As demonstrated by Dr. Jones in Ex. STJ-16a, real prices of competing fuels are highly correlated over the 15 year period of 1981-1995. In other words, the prices of these fuels move up and down together. If the price of one competing fuel rose sharply and others did not move upward, there would be fuel switching in many applications (PP&L St. No. 7-R, pp. 47-49). This is particularly the case for gas and oil versus coal. As also shown in PP&L Ex. No. STJ-16a, Dr. Jones's forecasts of the prices of

each type of fuel are highly correlated. On the other hand, the fuel price projections of DRI and EIA show a significant, and historically unprecedented, divergence of oil and gas prices from the price of coal.

122. The "divergence" problem is particularly critical to the issues of stranded costs in this proceeding. The marginal cost units operating on PJM will normally be gas and oil fuel units, and these units will set the price for all units operating in the same hour. OCA and PPLICA understate the costs of operating PP&L's coal generating units by assuming coal prices that are inconsistent with oil and gas prices used in their models. The result is an understatement of stranded costs associated with these units.

123. Even if the DRI gas and oil prices were accepted, the Commission must, at a minimum, adjust upward the coal prices assumed by DRI. To do otherwise is not only contrary to the record but would punish PP&L for owning and operating coal plants that have produced low cost electricity for many years.

124. PP&L has submitted a recalculation of its stranded costs which, among other things, uses prices for coal that escalate in a manner that is consistent with DRI's escalation of oil and gas prices. Correction of this divergence problem alone would create an increase in stranded costs of approximately $230.157 million.

125. The evidence shows that the DRI and EIA fuel price forecasts are overstated. These overstated fuel prices result in a significant overstatement of energy prices forecasted in Mr. Smith's (OCA) ENPRO model and Mr. Falkenberg's (PPLICA) model.

126. The forecast of inflation is significant because it affects fuel prices and because inflation is used to escalate other costs that are used in each of the models to derive market prices of electricity. In particular, variable O&M costs must be projected for each of the units that will be operated. Each of the witnesses applies an expected inflation rate to current levels of variable O&M costs to derive future O&M costs.

127. There are two issues with regard to the projection of inflation. The first is what measure of inflation should be used. The second is the year by year amount of inflation.

128. With regard to the proper measure of inflation, Dr. Jones explained that the Consumer Price Index (CPI) is clearly overstated as to costs faced by PP&L because it relates to consumer products and not to items that affect PP&L's generating costs. While the Gross Domestic Product (GDP) deflator is a better indicator of the effect of inflation on such costs, this measure includes long-lived assets as if they were purchased monthly. Dr. Jones, therefore, concluded that the Producer Price Index (PPI), which measures prices received by industrial firms for goods they produce is the best indicator of costs to be incurred by PP&L. PP&L St. No. 7-R, pp. 60-61. Dr. Jones estimated average future inflation at 2.5%. PP&L St. No. 7, p. 40, PP&L St. No. 7-R, p. 61.

129. OCA's and PPLICA's witnesses did not evaluate the proper measure of inflation or attempt to estimate inflation. OCA and PPLICA simply adopted the rising inflation rates contained in the DRI and EIA forecasts (Tr 1401-1402). OCA and PPLICA can not explain the basis for these increasing inflation estimates because they merely accepted the numbers in the fuel price forecasts.

130. The OCA's and PPLICA's continually rising inflation assumption is completely inconsistent with federal monetary policy and the projections of other professional forecasters (Tr. 1400-1401).

131. PP&L's proposed steady 2.5% inflation rate is consistent with current experience and modern monetary policy, and provides a reasonable inflation projection for use in this proceeding.

132. PP&L forecasted electricity demand for PJM by adopting the most recent forecast of demand compiled by PJM. Updates for demand on PP&L's system through December 1996 were reflected. PP&L St. No. 7, p. 44. PP&L estimated demand growth of about 1.5% annually. No party has raised any issue with regard to forecasted demand.

133. The efficiency of new units also effects energy prices. In the EGEAS model, Dr. Jones made a very conservative estimate of the fuel consumption of new combined cycle and combustion turbine units. He assumed that a combined cycle unit would require 7000 BTUs of energy to produce a kWh and that a combustion turbine would require 10,200 BTUs to produce a kWh (Ex. No. STJ-5). These assumptions are conservative. For example, many existing combined cycle units already can produce one kWh at lower BTU levels (*i.e.* lower heat rates) (STJ-28R). Reflection of these lower actual heat rates in EGEAS would have resulted in lower energy prices and higher stranded costs because it would take less fuel to produce each kWh of energy from new units. No party has challenged the reasonableness of the efficiency assumptions used in EGEAS to project energy prices (Tr 1392).

134. Nuclear capacity factor refers to the percentage of the time that base load nuclear units will be operating. The use of a nuclear capacity factor that is too low in the models raises marginal energy prices by requiring other units with higher variable costs to operate. If actual nuclear capacity factors turn out to be higher than reflected in the models, actual energy costs will be lower than projected by the models.

135. Dr. Jones employed a forecasted 78% nuclear capacity factor in the EGEAS model based upon a study of actual unit availability factors in PJM and other systems. PP&L St. No. 7, p. 30. The data used to calculate availability is provided in Ex. STJ-6.

136. Mr. Smith used a 75% annual capacity factor. OCA St. No. 2, p. 21.

137. The availability of nuclear units has been steadily increasing and is projected to increase further. PP&L Exhibit STJ-30 shows historical availability factors for nuclear units in the United States from 1982 to 1995. In that period, the availability factor has improved steadily from about 65 percent to nearly 80 percent. Mounting experience in operating nuclear units has led to better management practices and fewer forced outages. Moreover, NERC forecasts show that this trend is expected to continue. PP&L Exhibit STJ-30 plots forecasted capacity factors to 2006 (actual capacity data are shown from 1991 to 1996). NERC forecasts suggest availability factors of at least 85 percent should be expected for the next decade. Thus, 78 percent is a somewhat conservative estimate of future nuclear availability. . PP&L St. No. 7-R, pp. 106-107.

138. The record fully supports a 78% nuclear capacity factor recommended by Dr. Jones.

139. Another element in projecting generating costs is the variable Operation and Maintenance expenses (O&M) of each unit. Variable O&M expenses are those associated with the production of energy as contrasted with fixed O&M which are costs associated with maintaining plants ready to operate.

140. Dr. Jones forecasted variable O&M expenses by escalating current variable O&M costs for each plant. Dr. Jones explained that the experience in industries that have moved from regulation to competition is that O&M expenses increase, for a period of time, at rates that are less than the rate of inflation. For this reason, Dr. Jones selected escalation rates for variable O&M expenses of 2% for 1997-2000, 1.5% for 2001-2005 and 2.5% for 2006-2016 (Ex. STJ-4).

141. Dr. Jones explained that his projection is based on an examination of the trends in O&M costs in capital intensive industries beginning with the 1980's, a review of the recent restructuring that has taken place in the natural gas pipeline industry, and evidence and opinion from various industry and academic publications. All of this evidence suggests that variable O&M costs in parts of the industry may by rising slower than inflation for some time. PP&L St. No. 7, pp. 41-42.

142. OCA's and PPLICA's witnesses simply applied the inflation forecasts contained in the DRI and EIA fuel price forecasts to current levels of variable O&M costs.

143. There are two problems with the OCA's and PPLICA's approach. First, DRI and EIA have consistently overestimated inflation. OCA's and PPLICA's witnesses provide no explanation or justification for these

groups continual, and never realized, projections of rising inflation. Second, neither witness has reflected the probable effects of competition on variable O&M costs. As explained by Dr. Jones and further illustrated in his rebuttal testimony (PP&L St. 7-R, pp. 22-25; Ex. No. STJ-9), competition in the rail, trucking, airline and natural gas industries has produced ". . . double digit decreases in prices and costs of production . . ." St. No. 7-R, p. 24.

144. Dr. Jones' projections of variable O&M costs are both reasonable and conservative in that they likely overstate costs given the proven effects of introducing competition in other industries.

145. Reserve requirements refer to the amount of capacity which is required above expected demand to serve unexpected contingencies such as an unplanned outage of a generating station.

146. PJM currently plans for a 20% reserve requirement. PP&L St. No. 7, p. 23. However, Dr. Jones concluded that competitive pressures will lower reserve requirements to 18%. PP&L St. No. 7, p. 24. Mr. Smith also assumed a going forward reserve requirement of 18% although he indicated that this might not be achieved by 2000. OCA St. No. 2, p. 18. PPLICA's witness did not address reserve requirements.

147. Reserve requirements affect energy prices by determining the timing of additions of new capacity. As new capacity is added marginal energy prices will generally decline because the new capacity is more efficient (less fuel or BTUs to produce each kWh). Thus, higher reserve requirements mean lower energy prices. Therefore, Dr. Jones' adoption of an 18% reserve requirement, as compared to the current 20%, increases energy prices and lowers stranded costs. If Dr. Jones had continued to employ a 20% requirement, it would have forced the model to add new efficient additions at an earlier date and energy prices would have been lowered. Accordingly, the 18% reserve requirement is conservative and properly and consistently reflects the future effects of competition.

148. In projecting energy prices it also is necessary to include certain environmental costs which will affect the cost of operating the marginal cost generating unit. As explained by Dr. Jones, the EGEAS model permits the input of costs of emission allowances as an adjustment to fuel price escalators.

149. Dr. Jones explained how EGEAS models SO_2 emission allowance as follows:

> The first step is to identify which units will be running when the region is not in compliance. EGEAS accomplishes this by checking the emission production rate against the annual emission limit input for each facility. Once the units are identified, then those units that are subject to emissions limits are assigned allowances sufficient to bring them into compliance. The cost of bringing those units into compliance is built into the fuel escalation rates for PJM. PP&L St. No. 7, p. 42.

150. To determine the emission allowances Dr. Jones reviewed the history of SO_2 allowance prices, which have steadily declined, and he reviewed forecasts of allowance prices. Dr. Jones adopted the ICF Kaiser low case estimates of allowance prices through 2000 and escalated those allowances by the 2.5% expected inflation rate which he applied to escalate other costs. PP&L St. No. 7, pp. 41-42.

151. Dr. Jones did not include NO_x allowances as a cost in developing energy prices because of the great uncertainties in the development of technology to reduce NO_x emissions, uncertainties as to the levels of controls required for NO_x, the fact that NO_x controls are applied only in the ozone period of May through September and the lack of a developed market for NO_x allowances. PP&L St. No. 7, pp. 43-44; PP&L St. No. 7-R, pp. 97-104.

152. OCA's witness, D. Smith, contended that NO_x emission allowances will increase energy prices by something less than $1/Mwh. He also argued that NO_x allowances would have a significant effect on PP&L's net revenues (OCA St. No. 2, p. 24) but he did not quantify such effect.

153. In rebuttal, Dr. Jones explained the history of declining SO_2 allowance prices and that the competitive market would similarly drive down NO_x compliance costs. Dr. Jones concluded that electricity prices would rise from about $.05/Mwh to $.30/Mwh as a result of NO_x emissions with the higher end of the range being experienced late in the transition period when NO_x standards tighten. Therefore, the combination of a minor price effect occurring late in the transition period has a very small effect due to the present value impact. PP&L St. No. 7-R, p. 102.

154. No party responded to Dr. Jones' rebuttal on NO_x emission costs. The evidence demonstrates that NO_x emission costs are not a relevant factor.

155. An additional input to energy price models is the output of Non Utility Generators (NUGs). There is a dispute among the parties concerning the capacity factor at which these units will operate. Dr. Jones used a 90% capacity factor based upon actual historic experience provided by Mr. Krall within PP&L's service territory. PP&L St. No. 7-R, p. 105.

156. OCA witness La Capra argues that PP&L has overstated NUG output by 10-15%. OCA St. No. 1, p. 10. However, as explained in Mr. Krall's rebuttal testimony, the NUG capacity factors used were those actually experienced for the 3-years 1994-1996 on PP&L's system. As Mr. Krall also explained, most NUGs have now been on line for some time and early operation and start up issues have been resolved. Because there are strong incentives for high output created by payments on the basis of kWh output, these units are, and will remain, well maintained.

157. Based on the record evidence, it is reasonable to conclude that future output levels will equal or exceed recent historic levels. PP&L St. No. 10-R, p. 40. OCA has provided no reasonable basis to reject use of these actual capacity factors for NUGs.

158. Another element which was considered by Dr. Jones in forecasting the market price of energy is ancillary services. As Dr. Jones explained, the only ancillary service that affects the market price of energy is spinning reserves.

159. Dr. Jones explained that spinning reserves were reflected in the EGEAS model. . PP&L St. 7-R, p. 90. By including the spinning reserve units as units dispatched, EGEAS includes the effects of a spinning reserve requirement in its determination of hourly energy prices.

160. The revenues received from spinning reserve operators are likely to cover only the variable costs (start up and no load costs). Accordingly, such revenues will not reduce PP&L's stranded costs of generation because they will recover only variable costs and can contribute nothing toward recovery of fixed costs. PP&L St. No. 7-R, p. 89.

161. Although there are potentially other sources of revenues from ancillary services, these revenues will not affect market clearing prices for energy. Furthermore, the amounts of these revenues are not significant. As noted by Dr. Jones, revenues derived from payments for non-spinning reserves should be very small given the large amount of capacity on PJM and the relatively small non-spinning reserve requirement. PP&L St. No. 7-R, p. 91. Similarly, frequency and voltage regulation will be provided at cost and would produce no contribution to fixed or stranded costs. PP&L St. No. 7-R, p. 92.

162. Dr. Jones demonstrated in rebuttal that the effects of ancillary services on market clearing energy prices have been properly reflected in the EGEAS model. OCA provided no response in surrebuttal. Therefore, there is no remaining issue.

163. One other issue raised by other parties concerns the effects on market clearing energy prices that would be created if there were an earlier than expected retirement of a generating plant.

164. Dr. Jones used projected retirement dates provided by Mr. Krall in PP&L St. No. 3-R. These dates reflect the retirement dates reflected in PP&L's last base-rate proceeding and are the dates reflected in PP&L's *current depreciation rates*. PP&L St. No. 7-R, p. 87.

165. OSBA's witness Mr. Knecht (OSBA St. No. 1, p. 30-31) and OCA's witness D. Smith (OCA St. No. 2, p. 19) argued that economic conditions could cause earlier retirements and that early retirements would raise energy prices.

166. Dr. Jones explained that Messrs. Knecht and Smith are incorrect because new, efficient CC units will tend to displace existing less efficient fossil units. This transition will lower rather than raise energy prices. PP&L St. 7-R, pp. 86-87.

167. PP&L also notes that Mr. Smith s application of ENPRO assumes that all plants will remain in service throughout the projection period. This neither reflects PP&L's projected retirements nor the proposal of OCA witness La Capra that the Commission should use PECO's projection of revised retirement dates of the Keystone and Conemaugh stations.

168. Dr. Jones' use of PP&L's current projected retirement dates as used in PP&L's last rate case is appropriate and conservative. Retirements dates of other PJM units is similarly supported. However, if these older plants are retired earlier than expected, the record supports the conclusion that Dr. Jones' energy prices are overstated with a resulting understatement of PP&L's stranded costs.

169. Dr. Jones' forecasted energy and capacity prices provide a consistent and reasonable basis to determine PP&L's stranded costs of generation. The record in this proceeding demonstrates that the EGEAS model is the most realistic and reliable model for projecting energy prices. While numerous issues have been raised by various parties concerning the appropriate inputs to the model, the record demonstrates that inputs selected by Dr. Jones are consistent and properly reflect expectations in a competitive market.

V. REVENUE UNDER REGULATION

170. In developing its PUC-jurisdictional allocation ratios, PP&L began with the cost allocation study presented in PP&L Exhibit JMK 1. That study complies fully with the Commission's Final Order in PP&L's most recent base rate case at Docket No. R-00943271, and forms the basis for existing retail customer tariff rates. PP&L St. 3-R, p. 13. The applicable ratios shown in PP&L Exhibit JMK 1 were then adjusted for known and measurable changes to PP&L's existing wholesale bulk power contracts, its contract with UGI Utilities, Inc. - Electric Division (a partial requirements wholesale customer), and its full requirements contracts with wholesale municipal customers, including Citizens' Electric Company and Allegheny Electric Cooperative, Inc. The adjusted PUC-jurisdictional allocation ratios used to determine PP&L's overall level of stranded costs are shown in PP&L Exhibit JRS 1.

171. OCA witness LaCapra recommends that the Commission reject these changes and utilize instead, without modification, the PUC jurisdictional allocation factors approved by the Commission in PP&L's most recent base rate proceeding. OCA St. 1, p. 9. Mr. LaCapra argues: (1) it is inconsistent with prior Commission practice; (2) the changes are "speculative"; and (3) the projected costs could be allocated to wholesale, not retail, customers. *Id.*[3]

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[3] Mr. La Capra's adjustment impacts each element of stranded costs. As shown on Table D, the net effect is to reduce stranded costs by $388.415 million. Environmentalist witness Schoengold argues that the proposed increasing retail allocation factor "has the effect of causing retail customers to subsidize PP&L's wholesale business." Environmentalists St. 1, p. 18. To address this alleged problem, Mr. Schoengold recommends that the Commission utilize a single, fixed allocation favor of 80% to determine the PUC-jurisdictional portion of each component of stranded costs. *Id.*

172. As explained by Mr. Krall, all Pennsylvania electric utilities, including PP&L, are required to demonstrate on an annual basis that they have adequate generating resources to meet the needs of their customers over a ten-year planning horizon. PP&L St. 10-R, p. 29. If PP&L failed to meet this requirement, it would have had to obtain the necessary resources either through a new generating facility or a power purchase agreement. *Id.*

173. In PP&L's case, the evidence plainly demonstrates that the Company will need additional capacity to meet future load growth. PP&L St. 10-R, pp. 30-31.

174. The capacity returning as a result of PP&L's expiring power supply contracts is needed to address its projected capacity deficiency and to maintain adequate reserves for reliability.

175. Even with this returning capacity, the evidence demonstrates that the Company's reserve levels will fall toward the low end of the Commission's acceptable range at the end of the 10-year planning period. PP&L St. 10-R, p. 32.

176. The parties' proposed adjustments to PP&L's jurisdictional allocators are inappropriate. The subject capacity is needed to adequately meet the needs of the Company's customers in the future.

177. Under traditional cost-of-service rate regulation, PP&L is entitled to an opportunity to earn a fair rate of return on its investment in facilities and assets dedicated to the service of the general public. Thus, in calculating the overall level of its stranded costs, PP&L appropriately included a return of and return on its unrecovered investments. The cost of equity is also relevant in determining the appropriate discount rate to be used in this proceeding.

178. The table below summarizes the Company's position regarding the rate of return that should be utilized to calculate stranded costs in this proceeding. The capital structure ratios and cost of long-term debt and preferred stock are the levels as of December 31, 1996, the end of the historic base period in this case.

	Balance Dec. 31, 1996	(1) Ratio	(2) Cost of Capital	(1) x (2) Weighted Cost of Capital	After Tax Rate
Long-term debt	$2,744,256	47.0%	7.89%	3.71%	2.17%
Preferred stock	454,911	7.8%	7.10%	0.55%	0.55%
Common equity	2,637,839	45.2%	11.50%*	5.20%	5.20%
	$5,837,006	100.0%		9.46%	7.92%

* Rate of return on common equity granted by the Commission in its Final Order at Docket No. R-00943271.

179. PP&L has reflected an 11.5% rate of return on common equity in its Restructuring Plan filing. PP&L St. 6, p. 2. The 11.5% rate of return is equal to the rate of return adopted by the Commission in its Final Order in PP&L's most recent base rate case at Docket No. R-00943271 (Order entered September 27, 1995). PP&L argues that an 11.5% rate of return on common equity is both reasonable and very conservative, as shown by the independent analysis performed by Mr. Paul R. Moul. PP&L's proposed 11.5% rate of return is 125 basis points *less* than the 12.75% rate of return recommended by Mr. Moul. PP&L St. 6, p. 2.

180. The cost of common equity does not lend itself to precise mathematical calculation. The computation necessarily requires the use of overly restrictive and, in certain respects, unrealistic assumptions. Thus, the use of more than one approach provides a range of results which adds reliability to Mr. Moul's analysis and better reflects the range of factors that motivate investors to commit capital to an enterprise. PP&L St. 6-R, p. 2.

181. As a check on the reasonableness of his primary results, Mr. Moul also analyzed the cost of equity for a Barometer Group. The Barometer Group consists of eight electric companies with risk characteristics similar to those of PP&L. PP&L St. 6, pp. 2-3.

182. Based on these results, Mr. Moul determined that the appropriate cost of common equity is at least 12.75%. PP&L St. 6, p. 3. On this basis, Mr. Moul concluded that the 11.5% rate of return on common equity reflected in PP&L's Restructuring Plan filing "is below that indicated by the market models." PP&L St. 6, p. 3. Moreover, this rate of return likely will underestimate the cost of equity over the next thirty years because it is based on a 1996 base period, during which interest rates were relatively low by historical standards. PP&L St. 6, p. 4. Mr. Moul subsequently updated his analysis to reflect market data through May 1997. PP&L St. 6-R, p. 3. This analysis confirmed Mr. Moul's 12.75% cost of equity recommendation. PP&L St. 6-R, p. 3.

183. OTS witness Mr. Deardorff recommends an alternative cost of equity allowance of 10.25% in this proceeding.[4] OTS St. SR-3, p. 2. Mr. Deardorff's recommendation is solely based on his application of the DCF model to PP&L and to a barometer group of thirteen electric companies. OTS St. 3, pp. 8-10.

184. Mr. Deardorff's proposed rate of return on common equity would produce earnings per share of only $1.77. PP&L St. 6-R, p. 6. This earnings level is lower than PP&L's earnings per share in any year since 1988 (with the exception of 1994 when several unusual occurrences artificially depressed earnings), and is significantly below the earnings per share of $2.00 to $2.10 forecasted for PP&L by Value Line. PP&L St. 6-R, p. 6.

185. Similarly, Mr. Deardorff's recommendation would fail to produce the necessary pre-tax interest coverage. Specifically, Mr. Deardorff's proposal will only result in 3.44 times pre-tax interest coverage. The Company's pre-tax interest coverage must be above the 3.5 times threshold for the A rating for an electric utility with an average business position. The Company's proposed 9.46% overall rate of return will meet this requirement because it will provide 3.65 times pre-tax interest coverage and thus will provide PP&L with reasonable credit quality to attract capital investment. PP&L St. 6-R, p. 8.

186. Mr. Deardorff's proposed 10.25% cost of equity allowance is inappropriate as it understates PP&L's cost of capital.

187. Mr. Gruber recommends that the Commission adopt a 6.6% return on common equity in calculating the WACC. In Mr. Gruber's view, the return on common equity should be reduced to reflect his belief that "the risk faced by the Company in recovering its stranded cost is near zero . . . ." OTS St. 1, p. 10. The OTS' proposed adjustment would result in a 7.25% pre-tax WACC and a 5.71% after-tax WACC, and would reduce PP&L's stranded cost claim to $3,671,499,000. OTS St. 1, p. 11.

188. Mr. Gruber's recommendation confuses the cost of common equity relevant to a calculation of PP&L's stranded costs on the one hand, with the carrying charge applicable to the CTC and the recovery of such stranded costs on the other. The Act defines stranded costs as costs that would have been recovered in a traditional regulatory environment *prior to the existence of a CTC.* 66 Pa.C.S. § 2804. Under traditional rate regulation, an accurate determination of a PP&L's revenue requirement requires that, at a minimum, the WACC reflect the Company's cost of common equity.

189. The record evidence shows that PP&L in fact faces significant risk in recovering its full stranded costs. This risk is attributable to: (1) the rate cap that will limit the Company's total charges to customers during the CTC collection period; (2) the many assumptions that necessarily were used to calculate the stranded

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4 Mr. Deardorff originally recommended a cost of equity of 10.50%. OTS St. 3, p. 6. Mr. Deardorff revised his initial recommendation on surrebuttal "to account for changes that have occurred in both analysts' growth forecasts and market data and to correct a computer programming error." OTS St. SR-3, p. 2.

costs upon which the CTC is based; (3) the lack of any true-up under the Act of actual costs against the estimated costs used to calculate stranded costs; (4) PP&L's estimated cost of capital at December 31, 1996, which may not reflect actual capital costs during the period 1999 to 2005; and (5) the Company's use of a lower rate of return on common equity than that required by investors. PP&L St. 6-R, p. 24. Each of these factors increases the risk that PP&L will not fully recover its stranded costs.

190. The effect of Mr. Gruber's proposal is shown in PP&L Exhibit LAG 6. As noted in that exhibit, Mr. Gruber's risk-adjusted cost of equity results in an after-tax WACC of 5.71%, which is 72.1% of PP&L's proposed 7.92% after-tax WACC. Similarly, Mr. Gruber's risk-adjusted after-tax WACC effectively reduces PP&L's relevant book value by 26.3%, which is roughly the same percent reduction recommended by Mr. Gruber for the Company's proposed after-tax WACC. PP&L St. 19-R, p. 26. Mr. Gruber's proposal fails to accurately determine the full measure of PP&L's stranded costs.

191. OCA witness La Capra recommends that the Commission utilize a 10% rate of return on common equity in lieu of the PP&L's cost of equity of 11.5% in calculating the appropriate discount rate to be applied in this case. Mr. La Capra's recommendation is based on the 10% return on common equity approved by the Commission in PECO Energy Company's Qualified Rate Order proceeding at Docket No. R-00973877. OCA St. 1, p. 8. The effect of Mr. La Capra's proposal is to reduce the overall level of PP&L's stranded costs by approximately $135 million. PP&L St. 19-R, p. 30-31.

192. There is no support for Mr. La Capra's proposal to use a lower cost of common equity in calculating the overall level of PP&L's stranded costs. Indeed, Mr. La Capra conceded in cross-examination that there is no evidentiary support for his proposal since he had not conduced a cost of equity analysis to support his recommendation. Tr. 1778-1779.

193. The Company's proposed cost rates for long-term debt and preferred stock are 7.89% and 7.10%, respectively. PP&L St. 2, Exh. PRM 2, Schedule 1. These figures are based on PP&L's actual cost of debt and preferred stock at December 31, 1996, the end of the base year in this proceeding. These embedded cost rates are not in dispute.

194. PP&L included in its calculation of stranded costs the present value (as of January 1, 1999) of its generation-related net regulatory assets. The Company initially claimed $383,911,000 for such assets in its Restructuring Plan filing. PP&L Exh. JRS 1, Tab B, p. 1 of 117. PP&L subsequently revised its claim during the course of this proceeding to $354,326,000, a reduction of $29,585,000. PP&L Exh. JRS 1A, p. 1 of 121.

195. On December 13, 1996, the Company filed an Application with the Commission requesting permission to roll its Energy Cost Rate ("ECR") and State Tax Adjustment Surcharge ("STAS") into base rates in response to Section 2804(4) of the Act, 66 Pa.C.S. § 2804(4), which establishes price caps on the Company's rates. The Company's Application requested Commission permission to defer as a regulatory asset: (1) unrecovered energy costs as of December 31, 1996; and (2) a normalized level of estimated future on-going energy costs. On December 19, 1996, the Commission issued a Tentative Order at Docket Nos. P-00961131 and R-00963842 approving PP&L's Application ("Tentative Order"). PP&L St. 3, pp. 9-11.

196. The Tentative Order created two regulatory assets, both of which are reflected in the Company's Restructuring Plan filing. First, PP&L is claiming the actual undercollection of $17.2 million in energy costs as of December 31, 1996. Second, the Company seeks to include in its stranded cost calculation approximately $31.2 million of normalized, on-going future energy costs on an annual basis. PP&L St. 3, p. 11; PP&L St. 3-R, p. 19.

197. OCA witnesses La Capra and Catlin, and PPLICA witness Kollen oppose the Company's claim of $31.2 million on an annual basis for future on-going energy costs. OCA St. 1, pp. 6-8; OCA St. 3, pp. 5-7; PPLICA St. 3, pp. 17-21.

198. PP&L Exhibit JMK 5 provides a calculation of the five-year average of actual energy costs incurred by the Company during the period 1992 through 1996. This five-year average amount demonstrates that PP&L's estimated future on-going energy costs will exceed the level of energy costs rolled into base rates on January 1, 1997 as a result of the Tentative Order by approximately $31.2 million annually. PP&L St. 3-R, Exh. JMK 5.

199. Based on actual energy costs for the period January 1, 1997 through June 30, 1997, the Company already has under-recovered $22.5 million of the energy costs included in its base rates. PP&L St. 3-R, pp. 19-20. The Company expects to underrecover its energy costs by approximately $36 million in 1997 and $67 million in 1998. PP&L St. 3-R, p. 19, Exh. JMK 6.

200. The Company's claimed stranded costs reflect estimated additional severance and pension costs that PP&L expects to incur between 1997 and 2001 as a result of its projected decline in the number of employees as the Company prepares for a competitive market. PP&L St. 8, pp. 25-26; PP&L Exh. JRS 1, Tab F, p. 40 of 117. The Company calculated a five-year amortization of the costs incurred in each year, and included in its calculation of stranded costs $17.106 million, the net present value of the recovery of these deferred costs that are allocable to the generation function. PP&L St. 8, pp. 25-26.

201. The OCA argues that the claimed employee transition costs for 1997 and 1998 should be excluded. OCA St. 3, p. 10. This adjustment would reduce the balance of regulatory asset for employee transition costs by $10.793 million. The OCA also contends that incremental pension benefits should be excluded because such benefits will not result in added out-of-pocket costs due to the overfunded position of the pension plan. This adjustment would further reduce the regulatory asset by $8.003 million. As a result of these two adjustments, the OCA recommends that the Commission allow only $3.483 million of future on-going employee transition costs as a regulatory asset. OCA St. 3, p. 11.

202. PPLICA asserts that PP&L's claimed future on-going employee transition costs are speculative, and that the Company failed to reflect normal employee attrition in its calculations. PPLICA St. 3, pp. 22-23. Even if the Commission "conceptually" adopts this regulatory asset, PPLICA argues that such asset should be valued at $5.502 million, the net present value of future cash outlays. PPLICA St. 3, p. 23.

203. The evidence shows that the additional severance and incremental pension costs that the Company is claiming and expects to incur are the result of PP&L's transition to a competitive market. These costs are explicitly identified in the definition of "transition or stranded costs" in Section 2802 of the Act. The cost savings attributable to the anticipated employee reductions are reflected in A&G expenses related to the generation function which are included in operation and maintenance expenses. PP&L projected that A&G expenses will decline between 1997 and 2001 as the Company prepares for competition, rather than increase at an annual inflation rate of 2.5 percent. PP&L St. 8-R, p. 50.

204. PP&L also fully reflected normal employee attrition for the period 1997 through 2001 in its calculations. The Company used a conservative estimate of employee attrition even though the actual historical rate of attrition has averaged approximately 2.5 percent. Indeed, PP&L expects the rate of "normal" attrition to be even lower than the historic rate because a large number of employees already have left PP&L as a result of its restructuring initiatives. Despite this anticipated downward trend, the Company elected to utilize a more conservative forecast in calculating employee transition costs, and assumed that as many as 5 percent of the projected 381 departing employees would leave as a result of "normal" attrition. PP&L St. 8-R, pp. 51-52.

205. The OCA's recommendation to exclude incremental pension benefit costs also is not supported by the record evidence. The OCA's argument rests on the fact that the Company's pension plan is currently "overfunded."

206. The value of future pension benefits earned by all participants during the current year is approximately $32 million per year for 1997. However, the stock market's performance has produced a substantial amortized, unrecognized net gain that reduces the amount included in expenses and used to project future costs to only $5.7 million for 1997. Any additional offset to reflect "excess" plan assets as a regulatory liability, including OCA's recommended disallowance would "double count" the unrecognized net gains unless the full $32 million of the annual value of benefits earned is used as the basis for charges to customers. PP&L St. 8-R, pp. 31-32.

207. Mr. Kollen recommends that the Commission recognize a regulatory liability of $253.832 million at December 31, 1998 associated with the Company's alleged "excess" pension fund assets. PPLICA St. 3, pp. 14-16. In Mr. Kollen's view, the purported overfunding may be "utilized by the Company either to offset future pension expense or to withdraw in some manner, albeit with certain limitations and penalties."

208. Mr. Kollen's proposed adjustment in inappropriate. As Mr. Schadt explained. PP&L St. 8-R, p. 33):

> Mr. Kollen's pension fund adjustment amounts to trying to pay two bills with one check. Mr. Kollen would not change the pension expense reflected in the filing, the amount of which is reduced substantially by actuarial calculations that take into account, on an ongoing basis, the total value of current plan assets and projected earnings on those assets. He then, having taken advantage of the projected long-term value of those assets to reduce pension costs already reflected in the filing, recommends that the same assets be used over again to reduce regulatory assets.

209. The evidence establishes that "the full amount of the plan's assets and obligations are already and appropriately being used to lower the amounts currently charged to ratepayers and to offset future pension expense, *which lowers the Company's estimate of stranded costs*." PP&L St. 8-R, p. 32.

210. In its Restructuring Plan filing, PP&L reflected $189 million for taxes recoverable in its calculation of stranded costs. The Company's claim was calculated using the regulatory method which reflects the recovery of these costs over a 30-year period. As explained by Mr. Schadt, that method permits a simple straightforward calculation of taxes recoverable:

> A comparison of future book depreciation with future tax depreciation identifies exactly the future period in which the taxes will become payable. This also is the period in which taxes recoverable should be collected from ratepayers, under traditional ratemaking. Note that this is true because the proper linkage exists between rate base, deferred taxes and taxes recoverable. As rate base is depreciated over time, deferred taxes become payable to the government and taxes recoverable become due from ratepayers. PP&L St. 8-R, p. 14.

211. The OCA and PPLICA recommend that the Commission adopt the asset value method to calculate PP&L's stranded costs. As all parties acknowledge, however, the asset value method cannot be used to calculate taxes recoverable. To address this problem, Mr. La Capra uses the regulatory method to calculate these costs. However, it is only appropriate to utilize the regulatory method to calculate stranded costs related to taxes recoverable if such method is used consistently with the regulatory model, i.e., the difference between book depreciation and tax depreciation "drives" taxes recoverable. PP&L St. 8-R, p. 16. As Mr. Schadt explained, "[i]f book depreciation is eliminated from the calculation of stranded costs, as it is in the asset value model, there is absolutely no theoretical justification for amortizing taxes recoverable on the basis of book depreciation, and alternative amortization logic must be developed . . . ." PP&L St. 8-R, p. 16.

212. Existing accounting rules will require PP&L to recognize that stranded generation costs will be recovered through the CTC over a seven-year period. Consequently, related unfunded deferred taxes also will

reverse over the same seven-year period, which in turn requires the reversal of taxes recoverable over the same seven-year interval. Thus, when properly calculated under the asset value method, stranded costs for taxes recoverable equal the present value of the Company's $548 million of taxes recoverable discounted over a seven-year period, or $419 million. PP&L St. 8-R, pp. 16-17. Mr. La Capra's hybrid approach fails to reach this result.

213. PP&L included Taxes Other Than Income in its calculation of stranded costs. The Company's claim includes two components: (1) capital stock taxes; and (2) Public Utility Realty Tax ("PURTA"). PP&L calculated the actual amount of capital stock and PURTA taxes in 1996 applicable to fossil and nuclear generation facilities. The Company then escalated the 1996 taxes at the rate of inflation (2.5 percent) over the life of each generating facility. PP&L St. 8-R, p. 35; PP&L Exh. JRS 1, pp. 4-5.

214. OTS, OCA and PPLICA each oppose the Company's claim. OTS and PPLICA argue that capital stock taxes should remain constant over the life of each generating facility, but that PURTA taxes should decline in relation to the decline over time in net plant balance resulting from depreciation. OTS St. 2, pp. 16-23; PPLICA St. 2, pp. 50-51. Adoption of OTS' adjustment would reduce PP&L's nuclear generation-related stranded costs by $280.7 million, and its fossil generation-related stranded costs by $66.1 million. OTS St. 2, pp. 22-23. OCA recalculated PP&L's stranded costs assuming that Taxes Other Than Income would remain constant over the life of the Company's nuclear and fossil generating facilities reducing PP&L's stranded costs by $182 million. OCA St. 1, p. 16.

215. Section 2810 of the Act states that the transition to retail competition shall be revenue neutral as to the Commonwealth. 66 Pa.C.S. §2810. To achieve revenue neutrality, PP&L's claim reflects two assumptions. First, PP&L assumed that, similar to the Company's costs, the cost of services provided by the Commonwealth would increase with inflation. Second, PP&L assumed that the various tax revenues collected by the Commonwealth would increase proportionally to fund the higher cost of goods and services.

216. PP&L's claim is fully consistent with the requirements of Section 2810 because it assures that the transition to competition will be revenue neutral with respect to the Commonwealth. The opposing parties' recommendation would freeze capital stock and PURTA tax revenues to the Commonwealth at 1996 levels. This recommendation is inconsistent with the revenue neutrality goal of the Act.

217. PP&L's calculation of stranded costs includes $315.867 million attributable to the costs of decommissioning its various fossil generating units. PP&L escalated each fossil plant's decommissioning costs at a 2.5 percent annual rate of inflation to the end of its book life. The Company assumed that it would incur decommissioning costs over a three-year period -- 40 percent in the year each plant is retired, 40 percent the following year, and 20 percent the next year. PP&L Exh. JRS 1, p. 8.

218. The OCA and PPLICA recommend that the Commission exclude the Company's claimed costs in their entirety. Generally, the parties offer four arguments. First, the OCA asserts that fossil decommissioning costs "simply do not fit the definition of stranded costs." OCA St. 1, p. 18. Second, PPLICA contends that the Company's claimed costs are speculative and unsupported. PPLICA St. 3, pp. 30-35. Third, PPLICA argues that recovery of such future costs consistently has been denied. Fourth, OCA and PPLICA contend that allowance of PP&L's claim would provide it with a competitive advantage over non-Pennsylvania utility fossil generation suppliers who must incur decommissioning costs without the prospect of recovering such expenses from customers through a CTC. OCA St. 1, p. 18; PPLICA St. 3-S, p. 31.

219. Section 2803 of the Act defines "transition or stranded costs" as including "retirement costs attributable to the utility's existing generating plants other than the costs defined in Paragraph (1)," which refers to the recovery of nuclear generating plant decommissioning costs. 66 Pa.C.S. § 2803. Thus, fossil decommissioning which are incurred to retire existing fossil generating facilities are defined by the Act as allowable "transition or stranded costs."

220. PPLICA argues that the Company's claimed fossil decommissioning costs are speculative and unsupported. Specifically, Mr. Kollen asserts that PP&L's claim derives from a fossil decommissioning study performed by TLG Services which is based on three erroneous and speculative assumptions: (1) PP&L's fossil generating facilities will be decommissioned while owned and controlled by the Company; (2) the facilities will be retired on the dates indicated in the study; and (3) the facility sites will be restored to "greenfield" conditions. PPLICA St. 3, pp. 31-32.

221. PP&L in fact has submitted substantial evidence in this proceeding which fully supports its estimated future fossil decommissioning costs. Indeed, past industry experience suggests that PP&L's claim may be understated, as decommissioning estimates generally have proven to be much lower than the actual costs incurred. PP&L St. 3-R, p. 34. The TLG study is very similar to other studies relied upon by the Commission to establish allowable levels of nuclear decommissioning expense. Tr. 1486. The nuclear decommissioning study performed by TLG and relied upon by the Commission in PP&L's last base rate proceeding contained the same types of assumptions that Mr. Kollen now attacks in the TLG fossil decommissioning study in this proceeding. Tr. 1486-1488.

222. PP&L's estimate of stranded generation-related capital and operating expenses was calculated utilizing the revenue requirements methodology contemplated by the Act. PP&L St. 3-R, pp. 31-32. Using this methodology, the Company included in its calculation the costs of decommissioning existing fossil generating facilities that would be recoverable under traditional rate regulation at the end of the lives of those facilities. Thus, PP&L's claim reflects its projected fossil decommissioning costs at the point in time when they actually would be incurred. PP&L St. 3-R, p. 32.

223. The OCA's and PPLICA's competitive advantage argument is inconsistent with the Act and, in fact, would place PP&L at a competitive disadvantage. The owners/operators of non-Pennsylvania utility fossil generation facilities can provide for the cost of decommissioning over the lives of their facilities. Pennsylvania utilities, however, must defer the recovery of fossil decommissioning costs until the costs are actually incurred. Pennsylvania electric utilities are required to seek and obtain stranded cost recovery of those costs or be placed at a significant competitive disadvantage. PP&L St. 3-R, pp. 32-33.

224. While OTS does not oppose PP&L's proposed stranded cost recovery of fossil decommissioning costs, Mr. Gruber recommends that the Commission require the Company to place all amounts recovered in a separate, non-qualified trust fund that would be accessible only as fossil decommissioning costs are actually incurred. OTS St. 1, p. 15.

225. Mr. Gruber's recommendation is inappropriate and inconsistent with Section 2806(A) of the Act that provided that "the generation of electricity shall no longer be regulated as a public utility service or function . . ."

226. Under the Act, PP&L is required to bear all of the risk associated with the estimate of its fossil decommissioning costs. Specifically, the Act permits the stranded cost recovery of the net present value of PP&L's projected fossil decommissioning costs. Thus, PP&L must bear the risk that its estimate understates such costs.

227. In recognition of this substantial risk, PP&L should not be required to place the amounts collected in a separate trust fund. PP&L St. 3-R, pp. 34-35.

228. In calculating the annual revenue requirement for nuclear generation, the Company included the amount it is recovering in annual nuclear decommissioning expense through existing retail and wholesale rates, adjusted to the appropriate PUC-jurisdictional amount. PP&L St. 8, p. 11. Currently, PP&L is recovering approximately $9.5 million per year in jurisdictional rates for nuclear decommissioning costs. PP&L St. 3, p. 15. PP&L's stranded cost claim reflects the net present value of after-tax future annual nuclear decommissioning expense accruals over the remaining life of the Company's nuclear facilities.

229. PP&L also proposes, as its preferred alternative, to recover its nuclear decommissioning costs over the remaining life of its nuclear generating facilities. PP&L St. 3, p. 14. Such costs would be recovered as part of distribution charges on a per kWh basis. PP&L St. 3-R, p. 28.

230. The Company's proposal is reasonable because it will ensure that it fully recovers its nuclear decommissioning costs over the remaining life of its facilities, and that it retains its exemption from burdensome NRC financial assurance requirements.

231. Two concerns underlie PP&L's proposal for recovery of nuclear decommissioning costs. First, there is some question as to whether the transition to full competition will ensure the adequate recovery of nuclear decommissioning costs. Section 2808 of the Act, 66 Pa.C.S. § 2808, provides electric utilities "an opportunity" to recover stranded costs through the CTC, including nuclear decommissioning costs that may not be recoverable in a competitive generation market. Thus, PP&L will have to fund a substantial amount of its nuclear decommissioning costs using revenue from market rates. There is no assurance, however, that such market rates will be sufficient to satisfy PP&L's nuclear decommissioning funding obligations. PP&L St. 3, p. 12.

232. Second, there is a risk that the transition to full competition could subject PP&L to substantial financial qualification requirements under Nuclear Regulatory Commission ("NRC") regulations. Specifically, NRC regulations exempt "electric utilities" to provide additional financial assurance for nuclear decommissioning (e.g., insurance or surety bond) beyond establishment of an external sinking fund. "Electric utilities" are defined as "any entity that generates or distributes electricity and which recovers the cost of electricity, either directly or indirectly, through rates established by the entity itself or by a separate regulatory authority." 10 C.F.R. § 50.2

233. Under traditional cost-of-service rate regulation, PP&L satisfies the NRC's definition of "electric utility" because its rates are set by the Commission. PP&L currently is authorized to recover its estimated future nuclear decommissioning costs in rates over the remaining life of its nuclear generating facilities, and all recovered amounts are placed in an external trust fund. However, the Act requires that all generation-related costs, including those related to PP&L's nuclear generating facilities, be removed from traditional rate regulation. PP&L's proposal to recover its claimed costs through a distribution charge is designed to address both of these concerns. PP&L St. 3, pp. 13-14. PP&L's proposal will ensure adequate nuclear decommissioning funding and will provide for the recovery of such costs through rates established by the Commission. PP&L St. 3, pp. 14-15.

234. PPLICA and the Environmentalists oppose the Company's proposal. PPLICA contends that PP&L's proposal to recover nuclear decommissioning costs on a per kWh basis is inconsistent with its treatment of such costs in its last base rate case. PPLICA St. 1, pp. 55-56.

235. Mr. Baron is in error. The Company unbundled costs in this case using the same demand allocators utilized in its last base rate proceeding. Thus, PP&L's proposed unbundled tariff rates reflect nuclear decommissioning costs allocated among customer classes on a demand basis. The Company proposes to recover these demand-allocated costs on a per kWh basis, which is the same method currently used to recover such costs through fully regulated rates. PP&L St. 3-R, pp. 28.

236. The Environmentalists oppose PP&L's proposal to extend the CTC, and recommend that the Commission consider "the benefits of an incentive framework for nuclear decommissioning costs, in which risks are shared between the Company and its customers." Environmentalists St. 2, p. 28.

237. PP&L's proposal is consistent with the Act, which clearly states that the PUC "shall" provide for recovery of nuclear decommissioning costs. 66 Pa.C.S. § 2808(c)(1). Moreover, adoption of this proposal would clearly jeopardize PP&L's NRC status as an "electric utility" and could result in a pre-funding requirement that would impose an additional burden on customers. See also PP&L St. 3-R, pp. 29-30.

238. PPLICA initially opposed the Company's proposal to recover nuclear decommissioning expenses as a distribution-related component of its delivery charges, claiming that PP&L would recover such expenses twice. PPLICA St. 3, p. 39. In rebuttal, PP&L explained that it would exclude nuclear decommissioning costs from those recovered through the CTC if the Commission adopts the Company's proposal. PP&L St. 3-R, p. 29. Based on this clarification, PPLICA agreed that PP&L's proposal would not result in the double recovery of nuclear decommissioning costs. PPLICA St. 3-S, p. 33.

239. The Energy Policy Act of 1992 ("Energy Act") establishes an assessment on utilities, including PP&L, with nuclear power operations to provide funds for the decontamination and decommissioning of the Department of Energy's ("DOE") uranium enrichment facilities. Under the Energy Act, this charge is assessed over a 15-year period, and is deemed a necessary and reasonable current cost of fuel that is fully recoverable in rates in the same manner as other fuel costs. PP&L St. 8, p. 24.

240. PP&L determined the amount of DOE assessment costs that would be recovered annually through existing rates, and included the present value of the PUC-jurisdictional portion of this amount in its calculation of stranded cost. PP&L St. 8, p. 24.

241. The OCA and PPLICA recommend that the Commission disallow the Company's claim in its entirety, noting that PP&L already reflected this assessment in its Restructuring Plan filing as a component of fuel expense. OCA St. 3, p. 7; PPLICA St. 3, pp. 24-25.

242. In response, the Company eliminated all DOE assessment amounts from the fuel expense component of its generation-related costs, which reduced PP&L's stranded costs by approximately $17 million. PP&L St. 8-R, pp. 56-57. This correction fully addresses the OCA's and PPLICA's concerns.

243. PP&L's stranded cost calculation includes a claimed regulatory asset for incremental maintenance costs incurred during refueling and inspection outages PP&L's Susquehanna Steam Electric Station ("SSES"). These costs are deferred and amortized from the end of the outage until the next scheduled refueling and inspection outage is completed. The Company determined the annual recovery that would occur through existing rates and included in its stranded cost calculation $7.996 million on a present value basis at December 31, 1998 for the PUC-jurisdictional portion of these costs. PP&L St. 8, p. 25.

244. OTS, OCA and PPLICA each oppose the Company's claim for deferred SSES refueling expenses, asserting that refueling expenses are typical, ongoing costs that properly should be normalized, not deferred and amortized for future recovery. OTS St. 2, p. 15.

245. The Company's claim is fully consistent with the manner in which PP&L historically has accounted for and recovered SSES refueling costs. PP&L did not claim costs associated with the first refueling outage of SSES Unit 1 in its 1983 SSES Unit 1 rate filing with the Commission (Docket No. R-822169). Instead, the Company requested and received permission to defer and amortize its incremental refueling costs over the period of time from the date of restart following the outage until the date of restart after the next outage. PP&L St. 8-R, p. 46.

246. PPLICA and OCA contend that PP&L's claimed costs are premised on a change in accounting caused by the Company's change to a 24-month refueling cycle for SSES Unit 1 in 1997 and for SSES Unit 2 in 1998. PPLICA St. 3, p. 36; OCA St. 3, p. 9. As a result of this change, PPLICA notes that SSES Units 1 and 2 will undergo refueling outages in alternate years, which will cause the Company to expense actual outage costs each year. PPLICA and OCA argue that, despite these changes, PP&L has failed to modify its accounting practices to eliminate deferrals and amortizations in 1997 and 1998, and instead "has assumed that it can defer the accounting recognition of those changes into the subsequent to 1999' period, although it had no accounting order from the Commission that authorized such a deferral." PPLICA St. 3, p. 37. PPLICA and OCA, therefore, recommend that the Commission disallow the Company's request.

247. PPLICA's and OCA's recommendation is in error. PP&L was authorized to accumulate and defer the first refueling outage costs for SSES Unit 1 over the subsequent fuel cycle. Thus, PP&L always has been one cycle behind in recovering refueling outage costs. The parties' recommendation would result in an improper matching of outage costs and revenues. PP&L St. 8-R, pp. 48-49.

248. In its Final Order at Docket No. R-00943271, the Commission authorized PP&L to recover the full PUC-jurisdictional portion of expenses attributable to the adoption of Statement of Financial Accounting Standards 106 ("SFAS 106"). SFAS 106 requires PP&L to record the liability associated with post-retirement benefits on an accrual basis (i.e., at present value), rather than on a pay-as-you-go or cash basis. The Company's current rates recover the full SFAS 106 costs applicable to PUC-jurisdictional customers, including approximately $11 million in excess of PP&L's current cash payment obligation for post-retirement benefit claims to recover the transition obligation or accrued liability that existed as of January 1, 1993, the date PP&L adopted SFAS 106. The transition obligation is being amortized over 20 years. PP&L St. 8, p. 22; PP&L St. 8-R, pp. 41-42.

249. The Company determined the annual recovery of SFAS 106 costs that would occur under existing rates and included the present value of the PUC-jurisdictional portion of the generation-related amount in its calculation of stranded costs. PP&L St. 8, p. 22.

250. PPLICA generally accepts the Company's claim, but recommends that the Commission recognize a regulatory liability for the interest earned by trust funds established by PP&L to fund post-retirement benefits other than pensions. PPLICA St. 3, pp. 26-29. In PPLICA's view, this regulatory liability should be used to offset PP&L's claimed regulatory asset.

251. PPLICA's proposed adjustment is inappropriate because the interest identified by Mr. Kollen already is utilized to offset or reduce the projected cost of post-retirement benefits other than pensions. PP&L St. 8-R, p. 40. PPLICA's proposal, if adopted, would increase PP&L's estimated generation-related stranded costs. PP&L St. 8-R, pp. 42-43.

252. With the change in Federal tax laws that allowed PP&L to take advantage of investment tax credits ("ITCs"), the Company elected to defer recognition of these credits as income by recording a liability for accumulated deferred ITCs. The amortization of accumulated ITC's, along with the related income tax effect, reduces the cost-of-service (and thus customer rates) over the lives of the assets that produced the ITCs. As a result of the adoption of Statement of Financial Accounting Standard No. 109 ("SFAS 109"), PP&L recorded a deferred tax asset to reflect the income tax effect of the accumulated deferred ITCs, and a regulatory liability (i.e., an amount owed to customers) to reflect the ratemaking treatment of the tax effect. This regulatory liability is equal to the reduction in income tax expense that will need to be recovered from customers as the balance of accumulated deferred ITCs is amortized to reduce the cost-of-service over the remaining lives of the underlying assets. PP&L St. 8, pp. 28-29.

253. In its Restructuring Plan filing, PP&L utilized the present value of the ITC regulatory liability to reduce or offset the present value of regulatory assets in calculating the level of its stranded costs. The methodology used by the Company to reflect the effect of the ITC regulatory liability is not opposed by any party in this proceeding.

254. In calculating its stranded cost claim, PP&L utilized the same deactivation dates for its generating facilities that were approved by the Commission in the Company's most recent base rate case at Docket No. R-00943271. Specifically, the Keystone and Conemaugh generating stations are scheduled to be deactivated in 2007 and 2010, respectively. These deactivation dates also are fully consistent with the depreciation schedules reflected in PP&L's retail customer rates as of January 1, 1997. PP&L St. 10-R, pp. 33-36.

255. The OCA and PPLICA recommend that the Commission extend the deactivation dates for both the Keystone and Conemaugh generating stations to match the dates utilized by PECO Energy Company

("PECO") for its share of these plants in its Restructuring Plan proceeding at Docket No. R-00973953. OCA St. 1, p. 16; PPLICA St. 3, pp. 31-32.

256. PP&L's proposed deactivation dates are consistent with the expected operating life for this type of generating unit. Specifically, the Keystone units began service in 1967 and 1968. Based on the deactivation date approved by the Commission in PP&L's last base rate case, i.e., 2007, these units have projected service lives of 40 and 39 years, respectively. Similarly, the Conemaugh generating units began operation in 1971 and 1972. Based on the deactivation date approved by the Commission in PP&L's last base rate case, i.e., 2010, these units have an expected operating life of 39 and 38 years. PP&L St. 10-R, pp. 35-36. As Mr. Krall explained, the Company's proposed deactivation dates properly reflect the design and operating limitations for these units. PP&L St. 10-R, p. 36.

257. The parties' reliance on PECO's proposed deactivation dates is misplaced. In fact, the various owners of Keystone and Conemaugh frequently have utilized different deactivation dates in establishing their respective rates. The Commission has reviewed and approved each of these dates.

258. Mr. Kollen is incorrect in asserting that PECO's deactivation dates should be utilized because PECO operates the Keystone and Conemaugh units. The record evidence demonstrates that these generating units are operated by GPU subject to oversight by the Keystone-Conemaugh Projects Office. PECO, like PP&L, is a joint owner, and no owner may unilaterally cause investments at these stations that would extend their lives. Such investment decisions require approval by 75% of all ownership shares. Because the Commission lacks jurisdiction over five of the owning companies whose ownership shares exceed 25%, the Commission is unable to require investments to extend the lives of these stations. PP&L St. 10-R, p. 37.

259. PP&L's proposed deactivation dates are appropriate. The proposed dates are identical to the dates approved by the Commission in the Company's last base rate case, and are fully consistent with the expected operating lives of the facilities.

260. The Company included in its calculation of stranded costs the present value of the generation-related portion the total annual recovery of rate case expenses that would occur through existing rates. The Commission authorized PP&L to recover rate case expenses associated with its base rate proceeding at Docket No. R-0094371 over a four-year period. PP&L St. 8, p. 26.

261. Raising the same argument used in opposition to PP&L's claim for deferred SSES refueling expenses, the OTS and OCA recommend that the Commission disallow the Company's claim. Specifically, Messrs. Reed and Catlin argue that the Commission previously approved normalization of PP&L's rate case expenses, not deferral and amortization of such costs. OTS St. 2, pp. 13-16; OCA St. 3, p. 12. Disallowance of the unamortized expenses would reduce the nominal balance of the Company's regulatory assets by $184,000. OCA St. 3, p. 12.

262. PP&L properly included the balance of its unamortized rate case expenses as a regulatory asset in its Restructuring Plan filing. SFAS 71 allows a regulated entity to match incurred costs with their associated revenues for accounting purposes using regulatory assets. Under SFAS 71, the recorded regulatory assets are charged, concurrently with the recovery of such amounts in rates, to the same account that would have been charged if included in income when incurred. Based on the Commission's Final Order in PP&L's last base rate proceeding, the Company appropriately created a regulatory asset in September 1995 for the 1994 Rate Case Expenses to be amortized over a four-year period. Consistent with the Act, PP&L reflected the present value of the post-1998 recovery of the generation-related costs in its calculation of stranded costs. PP&L St. 8-R, pp. 39-40.

263. On rebuttal, the Company corrected an error in its original stranded cost calculation related to the Safe Harbor facility. Specifically, PP&L's initial calculation did not include the energy revenues and the operating and maintenance expenses associated with this facility. The revenues related to Safe Harbor's

capacity inadvertently were included with the Holtwood Dam hydroelectric project's revenues for capacity. The effect of properly including the remaining revenues for energy from Safe Harbor and all of its operating and maintenance costs increases PP&L's stranded costs by $38 million. PP&L St. 8-R, pp. 55-56. These corrections are shown in PP&L Exhibit JRS 8.

264. PP&L's stranded claim included the generation-related portion of its Administrative and General ("A&G") expenses between generation and T&D using the same allocation factors approved by the PUC in PP&L's 1995 rate case. OCA witness La Capra recommends that the Commission exclude certain A&G expenses from the Company's going-forward generation-related costs. OCA St. 1, p. 16.

265. By excluding these costs from generation-related expenses and failing to reallocate them to the transmission and distribution function, Mr. La Capra effectively eliminates the claimed A&G expenses and precludes their recovery. Mr. La Capra's proposal is in error. The claimed A&G costs are necessary for PP&L to continue to provide safe and reliable service to its customers. These costs will not disappear following the transition to competition. If these costs are not recovered as generation-related stranded costs, they must be reallocated and recovered through regulated transmission and distribution rates.

266. OCA proposed a productivity factor of 0.2% to reduce projected future operation and maintenance expenses and alleges that PP&L failed to reflect possible future productivity gains. OCA St. 1, pp. 24-25.

267. Contrary to OCA's assertions, PP&L did use a productivity factor in its calculations of stranded costs. Instead of increasing administrative and general costs, a component of operation and maintenance expenses, by 2.5% annually, the inflation rate used in other portions of PP&L's calculation, PP&L reduced administration and general costs by an average of 2% annually for each year after 1997 through 2001. PP&L's method of reflecting increased productivity reduces PP&L's stranded costs even more than OCA's method. PP&L St. 8-R, pp. 54-55; Ex. JRS 7. The additional adjustment proposed by OCA is unjustified because it would "double count" PP&L's projected reductions in operation and maintenance and administrative and general expenses of $513 million. PP&L St. 2, p. 16. A portion of these expense reductions undoubtedly will come from increased efficiency of employees. There is no basis for the OCA's adjustment.

268. The OCA asserts that PP&L has failed to recognize the value of the real estate on which its generation units are located as a factor mitigating its overall level of stranded costs. OCA St. 1, pp. 28-29. In OCA's view, the minimum value of such real estate is $66 million. OCA Exh. RLC-6. The OCA's analysis is flawed and its adjustment is significantly overstated, and it should be rejected.

269. The OCA recommends that the Commission adopt the asset value methodology to determine the Company's stranded costs. OCA St. 1, pp. 14-15. In its calculations, the OCA treats capital additions as expenses in the year in which they are incurred. Similarly, the OCA reflects the full associated tax deductions in the year in which the underlying capital expenditure is incurred.

270. The OCA's treatment of capital additions is in error. The proper treatment of capital expenditures is to record depreciation expense ratably over the life of the investment and to provide for a return on the undepreciated balance, *i.e.*, rate base. OCA's asset value method cannot handle this complexity so Mr. La Capra makes the simplifying assumption that the entire expense was incurred in the year it was made. From an expense standpoint this is acceptable, as long as the discount rate is the same as the return which would have been allowed if the investment were depreciated under normal ratemaking practice.

271. The problem with OCA's analysis lies in its treatment of taxes. OCA assumes that the tax deduction for the entire capital expenditure can be taken in the year it was made. This, of course, is not true. The tax laws require that a deduction equal to the nominal value of the expenditure be spread over the life of the investment utilizing IRS tax depreciation guidelines. As a result of this error, OCA significantly understates the actual cost of capital additions and overstates net market revenue by overstating the tax

reducing effect of the expenditure. This error caused the OCA to understate PP&L's stranded costs by $165.318 million.

VI. DETERMINATION OF PRESENT VALUE

272. PP&L used the regulatory method to calculate its stranded costs. Under this method, the Company compared the revenue stream it could have received under traditional cost-of-service regulation with the stream of revenue it could receive in a competitive market. PP&L discounted the difference between these two amounts to January 1, 1999 using a discount rate of 7.92%, which is PP&L's after-tax weighted average cost of capital ("WACC"). PP&L St. 8-R, p. 5; PP&L Exh. JRS 1, p. 1.

273. OSBA witness Knecht argues that PP&L's proposal to use a 7.92% after-tax WACC "would provide a higher [net present value] return to equity holders under deregulation plus CTC than under continued regulation." OSBA St. 1, p. 21. To address this alleged problem, Mr. Knecht asserts that the Commission should adopt PP&L's proposed 11.5% after-tax cost of equity as the appropriate discount rate. OSBA St. 1, p. 16. Under Mr. Knecht's proposal, PP&L would underrecover less than $100 million of its total stranded costs. OSBA St. 1, p. 24. Mr. Knecht purports to support his adjustment both algebraically and with an example. OSBA St. 1, pp. 18-21; OSBA Exh. RDK-2, Schedules 1-3.

274. Mr. Knecht's proposal to use the after-tax cost of equity ignores the fact that PP&L has both equity *and* debt investors. Indeed, Mr. Knecht conceded this point during cross-examination. Tr. 804. As explained by Mr. Guth. PP&L St. 19-R, p. 23):

> a utility's earnings on capital invested consist of both earnings on equity and earnings on debt. Using the after-tax WACC takes into account the balance of earnings between equity and debt.

Under Mr. Knecht's proposal, however, a component of PP&L's total returns, i.e., interest paid to debt-holders, will be discounted at *equity* rates. PP&L St. 19-R, p. 24. This mismatch is inappropriate.

275. The OCA asserts that PP&L improperly applied an *after-tax* discount rate the calculate the present value of *pre-tax* revenue requirements and market prices. OCA St. 1, p. 13. As a result, the OCA claims that the Company overstates its stranded costs by $880 million. *Id.*

276. OCA's argument is in error. Stranded costs are analogous to economic damages because they represent a decrease in value caused by some act or event, in this case, the transition from regulated to market-based rates. PP&L St. 19-R, p. 20. As such, taxable stranded costs properly should be measured utilizing pre-tax cash flows and after-tax discount rates. PP&L St. 19-R, p. 21.

277. Messrs. La Capra and Falkenberg reflect income taxes in calculating the value of PP&L's generating assets, but fail to adjust stranded costs upward to account for the taxability of CTC revenues. PP&L St. 19-R, p. 21. As Mr. Guth explained, Messrs. La Capra and Falkenberg. PP&L St. 19-R, pp. 21-22:

> computed what they assert is the market value of PP&L's generating assets after taking into account income taxes. That procedure is all right, so long as measured stranded costs are then adjusted upward to take into account the taxability of CTC revenues that are based on stranded costs. Thus there really are two alternatives where the present value amount of future cash flows is taxable income:
>
> 1. use pre-tax cash flows, and after-tax discount rates to compute the present value of taxable income; or

2. use after-tax cash flows, and after-tax discount rates to compute the present value of after-tax income, then gross up the result for tax coverage.

The OCA's proposal is incorrect because it fails to adopt either of these approaches.

VII. RECOVERY OF STRANDED COSTS

278. Under Section 2808(a) of the Act, 66 Pa.C.S. § 2808(a), electric distribution companies will recover their stranded costs through "Competitive Transition Charges ("CTCs"). These charges will be applied to every customer of electric distribution companies.

279. Three statutory provisions influence the rate design of PP&L's CTCs. First, the CTCs are constrained by the rate caps. Under Section 2804(4)(ii) of the Act, there may be no increase in the generation component of rates, which includes the CTCs, for nine years from the Act's effective date, or through December 31, 2005. That is, throughout this period, the sum of each CTC and PP&L's charge for Basic Utility Supply ("BUS") Service may not exceed the generation component of rates charged to customers as of January 1, 1997. Second, Section 2808 of the Act mandates that the CTCs be designed "in a manner that does not shift interclass or intraclass costs and maintains consistency with the allocation methodology for utility production plant accepted by the Commission in the electric utility's most recent base rate proceeding." Third, PP&L's CTCs are designed in a manner to promote the overall purpose of the Act, which is to establish an active and viable retail market for electric generation.

280. In addition to these statutory considerations, PP&L has applied sound ratemaking principles in designing its CTCs. PP&L has sought to provide a more efficient marginal price signal to customers. PP&L St. 9, p. 20. Further, PP&L has simplified its delivery service rate design.

281. PP&L used a "bottom-up" approach to design its CTCs. PP&L St. 9, pp. 23-26. The starting point for this approach is presently-effective rates. The first step is to determine for each rate in each rate schedule, the portion of the rate that is related to delivery of electric energy. This was determined by application of allocation percentages based upon a test year ended December 30, 1995. These allocation percentages were accepted in the Commission's Order entered in PP&L's most recent base-rate case (Docket No. R-00943271, order entered on September 27, 1995, at 197).

282. PP&L's next step in determining the CTCs is to subtract from the generation portion of each rate the projected retail market price of electric energy. The remainder after this substraction is the portion of the rate that is available for use as the CTC under the rate cap.

283. PP&L has determined that, under the rate cap, the maximum CTC revenue that can be attained over the transition period through 2005 is only $4.0 billion. St. 10-R, p. 3. Thus, due to the rate caps, PP&L's projected CTC revenues will fall $500 million short of recovering all of PP&L's estimated $4.5 billion of stranded costs. Therefore, PP&L set its proposed CTCs at the maximum amounts available under the rate cap after allowing for the projected retail market price of electric energy and the portion of each rate that is for delivery services.

284. Although the rate cap does not change throughout the transition period, the projected retail market price of electric energy increases each year of the transition period. Therefore, for each rate, there is a different CTC for each year of the transition period through 2005. See, *e.g.*, Exhibit OGK 2, Tariff Electric-Pa. P.U.C. No. 201, pp. 20-21.

285. PP&L's rate design for its CTC meets each of the statutory and ratemaking principles identified above. First, it successfully meets the Act's rate cap requirements. There will be no increase in PP&L's rates for generation service at least through 2005. The applicable rate cap under the Act is the presently-effective generation portion of the total rate. By calculating the CTC as the residual remaining after subtracting the delivery portion of the rate and the projected retail market cost of electric generation during the transition

period (which is the maximum charge for PP&L's BUS Service) means that PP&L's proposed CTCs arithmetically cannot exceed the rate cap.

286. The evidence shows that PP&L's proposals will not cause shifting of costs between rate classes or within rate classes. The generation portion and the delivery portion of PP&L's present rates were determined by application of allocation percentages from the cost of service study used to design PP&L's present rates. St. No. 3, pp. 6-7; Exhibit JMK 1.

287. PP&L's CTCs have been designed to achieve simplicity in the delivery service rate design. The CTCs have declining blocks that follow PP&L's presently-effective rate design. The delivery charge includes the presently-effective customer charge and flat usage charges per kWh. Therefore, when the CTC is eliminated at the end of the transition period, the remaining charges of PP&L under rate schedules for most customers will be a customer charge combined with a flat energy charge for usage. Customers will understand this pricing structure and be able to work with it to obtain electric energy at the most favorable terms and conditions (St. 9, p. 21) .

288. Several intervenors suggest that, contrary to PP&L's proposal, the level of the CTC should be re-established periodically throughout the transition period based upon actual market prices. NEV St. No. 1, pp. 3-4, 7, 9; MAPSA St. 1, p. 2; Environmentalists St. 1, pp. 2, 8.

289. Recalculating CTCs periodically based upon ever changing market conditions would make effective competition extremely difficult. Without a known CTC, customers would not be able to compare the applicable rate cap for PP&L's BUS Service with proposals from alternative suppliers to determine whether using services of an alternative supplier would be more advantageous. PP&L St. 9-R, p. 11.

290. A CTC that is recalculated periodically could substantially defeat the benefits of competition for customers. If competition is effective and retail electric generation prices are lower than projected, PP&L's proposed CTCs would not provide for full recovery of its stranded costs. Thus, the result of a lower market price would be a higher CTC, not savings for customers. St. 9-R, pp. 18-19.

291. OCA, in its St. 4, pp. 9-14, and OSBA, in its St. 1, p. 12, recommend, based on an assumption that PP&L will be allowed to recover a much lower level of stranded costs than it has proposed, that recovery of stranded costs be spread over the transition period.

292. The OCA's and OSBA's proposal would delay recovery of the allowed level of stranded costs and would impose on PP&L an increased risk that it will be unable to recover all of its allowed stranded costs if market conditions change in the future. Moreover, the CTC should be set at the maximum level consistent with the rate cap until the allowed level of stranded costs is recovered because this approach will eliminate the distortions on the electric energy market prices caused by the CTCs at the earliest possible date. PP&L St. 9-R, pp. 22-25.

293. Various parties in this proceeding have proposed alternative methods for PP&L to recover its stranded costs. The proposals by other parties consist of "levelizing" or otherwise unnecessarily spreading recovery of stranded costs over time. These proposals are inappropriate. First, they are calculated on the unfounded assumption that a substantial portion of PP&L's stranded costs will be disallowed by the Commission. Second, levelizing recovery of stranded costs has the effect of shifting that recovery from the early years of the transition period to the later years. The result is a significantly adverse impact on PP&L's financial indicators in those early years, compounding the financial impact of any disallowance of stranded cost recovery.

294. AARP contends that costs should be reallocated so that a larger share of CTC revenues is derived from non-residential customers. AARP St. 1, pp. 28-29. In a similar vein, the Environmentalists contend that the Commission should take a fresh view of allocating stranded costs among the rate classes. Environmentalist St. 1, p. 26.

295. The AARP and Environmentalist proposals directly contravene the mandate of Section 2808(a) of the Act, which requires that the CTC be established in a manner that does not shift cost recovery either between classes of customers or within a customer class. The Act also specifies the manner in which this result is to be accomplished by requiring that stranded costs be allocated in the manner accepted by the Commission in each electric utility's most recent base-rate case. AARP and the Environmentalists ignore these statutory provisions.

296. The Act provides specific guidance concerning the reconciliation of CTC revenues and stranded costs. Section 2808(a) of the Act provides that annual CTC revenues shall be reconciled with the amortization of stranded costs authorized by the Commission for the same period.

297. PP&L proposes to implement this statutory mandate by following procedures, subject to one exception, similar to the annual Energy Cost Rate ("ECR") reconciliation procedures that had been in place in Pennsylvania for many years prior to the Act (St. 3, p. 17). PP&L proposes to track, on a system basis, its annual CTC revenues and compare those revenues with the annual amortization authorized by the Commission. PP&L would submit quarterly filings to the Commission reporting the results of the tracking process. However, in a departure from ECR practice, PP&L would not change its CTC annually to reflect overcollections or undercollections.

298. Because PP&L's rates will be at the rate caps throughout the transition period, PP&L would be precluded by the rate caps from recouping from customers any prior period undercollection. Accordingly, PP&L is proposing that the collection period be extended or contracted to permit reconciliation of overcollections or undercollections. That is, if CTC revenues exceed the authorized amortization, the CTC would be terminated at the appropriate time prior to December 31, 2005. Conversely, if CTC revenues were less than the amount authorized by the Commission, the CTC period would be extended beyond December 31, 2005.

299. Section 2808(b) of the Act provides that the CTC may be included in bills to customers for a period not to exceed nine years from the effective date of the Act, or December 31, 2005. The Act further provides, however, that the Commission "for good cause shown" may order an alternative payment period. This alternative period may be longer or shorter than the nine-year period. PP&L has shown good cause why the period for application of the CTC should be extended if CTC revenues during the period ending December 31, 2005, fall short of the level of stranded costs that PP&L is authorized by the Commission in this proceeding to recover from customers. St. 3, pp. 18-19.

300. PP&L's proposal to extend the period for reconciliation of stranded costs also protects the interests of customers. First, if the Commission approves PP&L's proposal to extend the period for recovery of stranded costs beyond December 31, 2005, PP&L will voluntarily extend the generation-related rate cap to coincide with the extension of the period for application of the CTC. St. 3-R, p. 26. Second, the CTC will be known and predictable throughout the transition period facilitating comparisons by customers of PP&L's BUS Service with offerings by alternative electric energy suppliers. Third, PP&L has kept the CTC mechanism as simple as possible, and has proposed that the reconciliation process not reflect any calculations of interest on overcollections or undercollections of the annual CTC amortization.. PP&L St. 3-R, p. 25.

301. OCA has recommended that the CTC be reconciled by rate class. OCA St. 4, pp. 17-18.

302. There is no support for OCA's proposal in the Act. Section 2808(f) is silent on the subject. Of greater importance, however, are the facts that OCA's proposal would not solve the perceived problem that it is intended to address and that OCA's proposal would create additional problems. The problem that OCA apparently seeks to address is that stranded cost recovery will be usage dependent, and different rate classes will pay more or less than allocated amounts depending on future levels of usage. However, under OCA's proposed reconciliation by rate class, this "problem" will remain unresolved for customers within a

rate class. Inevitably, customers using more energy in the transition period will pay more than they would under allocations based on historical usage. Similar problems arise from additions and losses of customers. These "problems" are unavoidable unless the CTC is to be an entirely fixed charge and based on historical levels of usage. No party has made such a proposal.

303. OCA's proposal also would have the potential to cause hardship. In rate schedules with few, large customers, hardships could be caused to remaining customers if one member of the rate class went out of business early in the transition period. Problems would be caused also by having the CTC terminate at different times for different rate schedules. Under these circumstances, some customers may be able to switch their service to a rate schedule without a CTC, thereby harming other customers or the Company.

304. A proper net present value determination must recognize also that PP&L's stranded costs will be recovered over seven years ending December 31, 2005. For the reasons that stranded costs are discounted to net present value, PP&L's recovery of stranded costs should be inflated to net present value.

305. Based on the Commission's Order in *PECO*, p. 108, the applicable rate to inflate PP&L's stranded costs to reflect the fact that recovery will take place over a seven-year period is PP&L's long term debt cost rate. *See also* PP&L St. 19-R, pp. 28-29. This rate, which is provided at PP&L Exhibit JRS 1, Tab A, Attachment 1, is 7.89%.

306. Regardless of the cost rate, however, a substantial portion of PP&L's assets, including stranded assets are financed with securities on which PP&L pays dividends that are subject to income taxes. For this reason, the portions of the amount to be inflated must be "grossed up" for income taxes. Exhibit JRS 1, Tab A, Attachment 1, provides PP&L's capital structure and cost rates. Exhibit JRS 1, Tab A, p. 4, provides its composite income tax rate of 41.4935%. Using these data, that have not been controversial in this proceeding, produces the appropriate rate to be applied to amounts to be recovered through the CTC over 7 years. Thus, the appropriate overall, pretax rate that should be used to inflate PP&L's CTC revenues, that will be received over a seven-year period, is 10.86%.

307. PP&L provides interruptible service under three rates schedules (IS-1, IS-P and IS-T). PP&L proposes to continue service under these rate schedules following transition to a competitive retail market for electric generation. Service, however, would be limited to premises presently receiving interruptible service and to customers who choose to purchase PP&L's BUS Service (See, *e.g.*, Exhibit OGK 2, Tariff Electric — Pa. P.U.C. No. 201, p. 30C).

308. The CTC for the interruptible rate schedules is calculated in the same manner as for all other rate schedules, *i.e.*, the remainder after the projected retail price of electric generation and the delivery component of the rate are subtracted from the fully-bundled rate. As a result, the CTCs applicable to the interruptible rate schedules are extremely small. For example, in 1999, the tailblock CTC under Rate Schedule IS-T is 0.257¢ per kWh, and this amount is reduced every year through 2005 when the tailblock CTC is a negative 0.006¢ per kWh.

309. These low CTC's result because the interruptible rates are deeply discounted. These discounts are generation-related.

310. Another benefit to PP&L's system of providing interruptible service is that PP&L can interrupt sales to interruptible customers when the cost to PP&L of generation service is exceptionally high. PP&L St. 11-R, pp. 3-4.

311. The benefits of providing interruptible service are available to any alternative supplier of electric energy. Interruptible service enables an alternative supplier to sell energy, during its non-peak periods, without the need to construct or purchase generating capacity that would be necessary to meet the additional load. Moreover, alternative suppliers that purchase electric energy to resell to their retail customers can interrupt sales to interruptible customers to avoid costs whenever the price for electric energy is high. However, if

an interruptible customer of PP&L purchases electric energy from competing suppliers, the interruptible nature of the service will benefit the competing supplier and possibly its customers, not PP&L and not PP&L's other delivery service customers.

312. Certain customers propose to continue to utilize interruptible rate schedules of PP&L while shopping for competing generation suppliers. This proposal is illogical. Under these circumstances, the interruptible customers would continue to receive from PP&L the benefit of a deeply discounted rate for interruptible delivery service while providing no reciprocal benefits to PP&L or its customers.

313. To date, PP&L has never interrupted service under the interruptible rate schedules due to load peaks on transmission or distribution facilities. To the contrary, all interruptions requested by PP&L have been the result of generation emergencies on the PJM interconnection, for emergency tests of interruptible service customers or for economic reasons. St. 11-R, p. 8. There is no basis for discounting any such service, and therefore, no reason for offering such a service.

314. The interruptible customers also object to the provisions of PP&L's proposed tariff, Exhibit OGK 2, p. 30E, which give PP&L more discretion in interrupting service for economic load control.

315. PP&L's proposed economic load control provision is appropriate to protect PP&L's other customers. Interruptible customers and all other customers using PP&L's residual BUS Service will receive bills for service that are based upon an annualized, average cost of such service, subject to the rate cap. Therefore, if interruptible customers use electric energy when prices are high, the cost that such customers cause PP&L to incur are shared with other customers if the price does not exceed the rate cap. PP&L's present tariff rule, which limits interruptions to 200 hours per year or 2.3 percent of the time (200 ÷ (24 x 365)) is not sufficient to protect the interest of other customers of PP&L receiving BUS Service.

316. Interruptible customers' concerns are misplaced because, during interruptions for economic load control, interruptible customers are not required to terminate use of electric energy. To the contrary, they are only required to make an economic choice. If an interruptible customer uses electricity during interruptions for economic load control, its only predicament is that it must play the charges under the interruptible rate schedule plus PP&L's estimated cost of replacement capacity and energy (Exhibit OGK 2, p. 30F).

VIII. RATE DESIGN

317. PP&L has proposed an innovative rate design for its CTC. PP&L's proposed CTC will be calculated for customers individually, that is, "customized," based upon their 1996 usage of electric energy. PP&L's customized rate design ("CRD") shifts one half of each customer's total CTCs from usage-based charges to fixed monthly CTC customer charges. PP&L St. 9, p. 5.

318. The effect of the CRD, in comparison with a more traditional usage-based (cents-per-kWh) charge are several. First, if each customer were to use during any year of the transition period ending December 31, 2005, the same amount of electric energy as it used during 1996, the customer would pay the same total amount of CTCs under both the CRD and the traditional, usage-based rate design. If, however, a customer were to use more electric energy per year during the transition period than in 1996, the customer would pay less under the CRD than under the traditional rate design. Conversely, if a customer were to use less electric energy annually during the transition period than in 1996, the customer would pay more under the CRD than under the traditional rate design.

319. PP&L's proposed CRD promotes a principal objective of the Act, which is to stimulate growth in the Pennsylvania economy. The CRD would produce rate reductions for incremental usage over 1996 levels which will likely be the case for most customers. For example, GS-1 customers will see a 16% reduction in their marginal rate; GS-3 will see a 5% reduction; LP-4 customers will experience a 6% reduction; LP-5 customers will experience a 8.5% reduction; GH-1 customers will experience an 11% reduction; and GH-2 customers will experience a 13.5% reduction on incremental usage. PP&L St. 9, p. 33.

320. The CRD will be calculated individually for each customer. First, each customer's usage during 1996 will be priced at rates established in this proceeding using a CTC calculated under traditional, usage based rates. This amount will then be divided by 12 to determine a monthly amount. One half of the monthly amount will be added to the customer charge. The remainder will be priced based on 1996 energy usage so that the annual cost of electric service will be unchanged from the annual cost for 1996. PP&L St. 10, pp. 11-12; PP&L St. 9, p. 33; PP&L Exhibit DAK 1.

321. The CRD, in addition to providing beneficial rate reductions for incremental usage, has other advantages. The CRD represents a movement toward marginal cost pricing, enabling customers to make better informed energy usage decisions. The CRD also reduces the distortive effects of stranded cost collection on energy use while maintaining some continuity with present rates by moving only half of transition charges into fixed customer charges. PP&L St. 9, p. 6.

322. OCA has opposed the CRD as causing a shift of costs from customers with increasing usage to customers with decreasing usage and as being a less efficient rate design. OCA's basis for this contention is that the marginal cost of transmission and distribution costs can exceed embedded costs. OCA St. 4, pp. 15-16.

323. Although PP&L's proposed CRD would recover less stranded cost from customers that increase energy usage, there is no prohibition against such a rate design in the Act.

324. OCA's contention, that the CRD shifts costs, is circular. It is correct only if one assumes that OCA's preferred traditional rate design is the only CTC rate design permitted under the Act; OCA's comparison of the CRD with the traditional rate design demonstrates the point that the traditional rate design and the CRD are different; it does not demonstrate that the traditional rate design is correct.

325. OCA's concern is substantially ameliorated by PP&L's third option under which all customers may choose the CTC rate design applicable to them. OCA's proposal would not promote the economy of PP&L's service territory.

326. OCA's second concern related to relative levels of incremental transmission costs and embedded costs is irrelevant. PP&L explained that it has no plans for substantial investments to expand its transmission system (Tr. 825-26).

327. PP&L presently offers a series of incentive rates that are designed, by various means, to promote economic growth in PP&L's service territory or to improve PP&L's load factor or both. These rates include riders and rate schedules and billing options. Riders include the economic development incentive ("EDI") rider, the industrial development incentive ("IDI") rider and the Competitive Rate Rider ("CRR"). Billing options available under certain rate schedules include demand free days and time of day ("TOD") billing options. Rate schedules include the Price Response Service, Rate Schedules PR-1 for firm service and PR-2 for interruptible service and Residential Thermal Storage ("RTS") service.

328. Many of the incentive rates in PP&L's presently-effective tariff are scheduled to terminate in the relatively near future. PP&L St. 11, pp. 8-13. Despite the fact that these incentive rates, as a result of prior proceedings before the Commission, are scheduled presently to terminate in the near future, PP&L has proposed to continue these rate schedules, under which certain customers receive substantial benefits. PP&L St. 11, p. 14. PP&L's proposal to continue these incentive rates is based upon its interpretation of the rate cap in Section 2804(4) of the Act. The practical effect of phasing out these incentive rates would be that affected customers would pay more for service than they would pay if the incentive rates were continued.

329. PP&L proposes to limit incentive rates to customers presently served under them and to limit the availability of incentive rates to customers who use PP&L's BUS Service for energy supplies because all of

these incentive rates were designed to increase utilization of PP&L's generation resources or improve the efficiency in use of PP&L's generation resources or both. St. 11-R, pp. 3-4, 8-9. The benefits of the incentive rates are not related to PP&L's delivery service. Instead, they are designed to benefit the provider of generation services. Any incentives or discounted rates should be offered by the energy suppliers, not the delivery service supplier. Discounting delivery service rates to improve utilization of generation facilities is a relic of vertically integrated utility service and bundled rates that makes no sense once a competitive retail electric energy market is established. PP&L proposes that the incentive rates be retained only for PP&L BUS Service customers. In this way, to the extent that customers improve the load profile and utilization of BUS Service, thereby creating benefits that can be shared with other BUS customers of PP&L, PP&L will continue to make incentive rates available. Otherwise, incentive rates are not proper and should not be included in delivery service rates.

330. The Act provides that any customer returning to BUS Service is to be treated as a new customer. Because new customers are not eligible for incentive rates, returning customers similarly are not eligible for these incentive rates under Section 2807(4) of the Act.

331. PP&L proposes the following changes to existing tariff rules:

> Rule 4 is changed to indicate that the Company may upon request supply services over and above those which the Company would normally provide, if the customer agrees to pay the Company a fair and non-discriminatory price for those related services.
>
> Rule 9E was changed to indicate that the Budget Billing interest rate is changed from the number 1% per month to 1-12 of the average of 1-year Treasury Bills for the months of September, October, and November of the previous year.

332. Tariff Rule 9E was changed to conform to the amendments to the Commission's regulation at 52 Pa. Code § 56.57.

> Rule 6A has been amended to exclude fuel supply disruption from qualifying for backup power supply.
>
> E(5)has been added to the tariff to indicate that a customer-specific, fixed, per month CTC developed by the Company, which will equal 100 percent of the customer's estimated CTC revenue, will be applied if the customer elects to install on-site generation on or after January 1, 1999.

333. Provision E(5) was based on Section 2808(a) of the Act, which permits recovery through a non-bypassable CTC of stranded costs from customers with new on-site generation facilities. Under Section 2808(a), the CTC for such customer should be fixed and recover the customer's fully allocated share of stranded costs.

334. None of the tariff changes have been controversial.

335. Section 2804(9) of the Act requires that:

> The commission shall ensure that universal service and energy conservation policies, activities and services are appropriately funded and available in each electric distribution territory. Policies, activities and services under this paragraph shall be funded in each electric distribution territory by nonbypassable, competitively neutral cost-recovery mechanisms that fully recover the costs of universal service and energy conservation services.

336. PP&L has allocated its universal service costs on a customer basis. PP&L St. 3R, p. 36. This is the manner in which such costs have been allocated in cost of service studies accepted previously by the Commission in PP&L's most recent base-rate proceeding at Docket No. R-00943271.

337. OCA, in its St. 6-S, pp. 15-23 and OTS, in its St. 2, pp. 2-8, have raised issues concerning the manner in which rates are to be designed to recover PP&L's costs of providing universal service activities and services. OTS and OCA have recommended the universal service charges be allocated on an energy, or per kWh, basis.

338. The Act expresses strong support for continuity of rates based on each electric distribution company's most recent base-rate proceeding. *See* 66 Pa.C.S. § 2808(a).

339. PP&L's stranded costs exceed maximum CTC revenues under the rate cap during the transition period. Therefore, it is not possible to reallocate universal service costs without violating the rate cap applicable to customers that would receive a greater portion of universal service costs than would be allocated to them under PP&L's proposal.

340. OCA also provides an alternative allocator using non-production revenue as the basis for allocating universal service charges. OCA St. 6-R, pp. 20-22.

341. The OCA's alternative proposal suffers from the same deficiencies as its original proposal to allocate universal service costs based upon energy or KWh usage.

342. Under FERC Order No. 888, PP&L has proposed, subject to approval of the Commission and FERC, that its facilities operating at voltage is of 69 kV and above are transmission facilities and that facilities operating at less than 69 kV are local distribution facilities. No party produced evidence contesting PP&L's analysis.

343. PP&L's proposed unbundling of delivery charges is summarized at pp. 5-7 of PP&L St. 9-R. PP&L is proposing to unbundle its delivery charges into two principal categories, transmission and distribution. It is appropriate for the delivery charge to be divided in this manner so that retail customers can perceive correct price signals resulting from taking power at different transmission voltages under alternative supply arrangements. Further, the unbundling of delivery charges into distribution and transmission charges is required under Section 2804(3) of the Act.

344. Transmission service, however, must be further unbundled. Retail access customers of PP&L will be required to utilize transmission services from PJM under the PJM Open Access Transmission Tariff. Customers will pay unbundled charges for transmission service and related ancillary services as specified in the PJM Open Access Transmission Tariff. The services will be identified and charges therefor established by FERC. St. 12-R, pp. 8-9.

345. OCA and OTS have contended that charges for universal service should be unbundled from distribution service charges as a separate line item on bills to customers. OCA St. 6, p. 45; OTS St. 3, p. 7.

346. The OTS and OCA proposal would cause customer confusion. Charges for universal service are "non-bypassable." Section 2804(9). Unbundling services on a customer's bill is appropriate only if the customer has some choice with regard to the unbundled expense. Customers cannot decline to pay charges for universal service; customers cannot obtain universal services from any other provider, at least through the end of the transition period. Consequently, there is no point to having charges for universal service unbundled into a separate billing line item. This is particularly true given the small amount of the per customer size of the universal service charge. It is far more appropriate to bring the universal service charges to customers' attention by means of a billing message rather than as an unbundled line item on each customer's bill. PP&L St. 10-R, p. 6.

IX. PHASE-IN ISSUES

347. The Act mandates the following phase-in schedule for retail access:

> [T]he following schedule for phased implementation of retail access shall be adhered to unless a determination is made by the commission under subsection (c) [which allows for an additional six month transition period under certain circumstances]:

(1) As of January 1, 1999, a maximum of 33% of the peak load of each customer class shall have the opportunity for direct access.

(2)As of January 1, 2000, a maximum of 66% of the peak load of each customer class shall have the opportunity for direct access.

(3) As of January 1, 2001, all customers of electric distribution companies in this Commonwealth shall have the opportunity for direct access.

66 Pa.C.S. § 2806(b). The Act gives the Commission specific instructions: "The time line for the transition to and phase-in of direct access to competitive electric generation shall be in accordance with section 2806." 66 Pa.C.S. § 2804(11).

348. PP&L's proposed phase-in schedule tracks that mandated by the Act. *PP&L St. 14-R*, p. 4.

349. Enron, OSBA and PPLICA witnesses believe that this methodology should not apply to the selection commercial and industrial customers, based on the possibility that non-participating customers may suffer a competitive disadvantage over participating customers. Enron St. 5.0, pp. 19-20; OSBA St. 1, pp. 51-52;. PPLICA St. 1, pp. 58-59.

350. PPLICA witness Stephen Baron asserts that the most appropriate methodology for selecting industrial customers is on a first-come, first-served basis, with the customer designating a desired level of load for *participation. PPLICA St. 1, pp. 58-59. If there is an over-subscription of load, Mr. Baron proposes a pro-*rata reduction to each subscriber's nominated load. To alleviate any remaining competitive disadvantages, Mr. Baron proposes that PP&L begin selection for the second phase and implement such a selection process by permitting retail access for up to 66% of peak load beginning January 2, 1999. PPLICA St. 1, p. 59.

351. Enron witness Mr. Bowen advocates a similar approach. Under Enron's proposal, Enron would be willing to accept the "first through the meter" approach, where Enron would supply the first portion of the customer's electricity received in a given hour and the EDC would supply the remainder. Enron would also be willing to "follow the customer's load" and provide a fixed percentage of its customers' load throughout the day. Enron St. 5.0, p. 20.

352. OSBA witness Robert Knecht suggests a variation on PPLICA's and Enron's approach to apply to commercial customers. He suggests that minimum levels of customer participation be set for the GS rate classes for each of two phase-in years. Under Mr. Knecht's proposal, if a rate class is over-subscribed and the random drawing produces too few customers, those few customers selected should be limited in the amount of their load that is subject to competition. OSBA St. 1, p. 53.

353. The phase-in schedule established under the Act is mandatory. The Act requires the Commission to establish regulations specifying that, within each customer class, the customers that are eligible for direct access during the phase-in period shall be determined by the Commission on a first-come, first-serve basis "unless otherwise determined by the commission . . . to prevent competitive disadvantages among similarly situated customers within a customer class." 66 Pa.C.S. § 2806(4). Neither Enron, OSBA nor

PPLICA has made a showing of specific competitive disadvantage sufficient to justify a departure from the statutory presumption that the phase-in period will occur in the three stages established in Section 2806 on a first-come, first-served basis. PP&L St. 14, p. 5.

354. Customers who are participating in the PP&L's pilot program can enroll in and will be selected for retail access as described above, with one exception. Customers who are participating in PP&L's pilot program, but which are not selected for the first or second phase of retail access can elect to be "grandfathered" into retail access. However, customers in the Primary and Transmission/Subtransmission groups who have load limits in the pilot program will be limited to that level of load when "grandfathered" into retail access. PP&L St. 14, pp. 4-5. No party has opposed these procedures. They are reasonable and should be approved.

X. CODE OF CONDUCT

355. The Commission is in the process of developing regulations concerning Customer Supplier Interaction at Docket No. M-00960890.F0011 and has opened a rulemaking to receive comments on the recommendations contained in the Final Report of the Competitive Safeguards Working Group ("CSWG").

356. PP&L proposes that the Code of Conduct set forth in the testimony of Robert M. Geneczko, PP&L St. 13-R, Exh. RMG-4, should govern the relationship between its EDC and EGS until regulations of general applicability are adopted.

357. The FERC required utilities in Order No. 889 to adopt standards of conduct designed to functionally separate transmission and generation functions and to prevent transmission providers from giving themselves an undue preference over their customers though the exchange of "insider" information between the company's system operators and employees of the public utility, or any affiliate, engaged in wholesale marketing functions. *See* 18 C.F.R. § 37.4. PP&L plans to extend its Order No. 889 Code of Conduct to its retail transmission operations. PP&L St. 13, p. 5.

358. PP&L's proposed Code of Conduct will govern the relationship between PP&L's Generation Supply Group and its the Electric Delivery Group.

359. PP&L's proposed Code of Conduct is set forth in PP&L Exhs. RMG 2 and RMG 4; it is discussed in PP&L St. 13-R. PP&L's proposed Code of Conduct tracks the principles adopted by the Competitive Safeguards Working Group. Specifically, the Retail Access Code of Conduct provides for:

* Open, Non-Discriminatory Access to and Pricing of Regulated Monopoly Services. PP&L Exh. RMG 2, pp. 4-5; PP&L Exh. RMG 4, pp. 1-2.

* Prohibitions on Conditioning (Tying) of Access to Monopoly Services on Purchase from Generation Supply. PP&L Exh. RMG 2, pp. 4-5; PP&L Exh. RMG 4, p. 2.

* Non-Discriminatory Dissemination of Disclosed Market and Competitively Sensitive Information. PP&L Exh. RMG 2, pp. 3-5.

* Confidentiality of Customer and Supplier Information. PP&L Exh. RMG 2, p. 4; PP&L Exh. RMG 4, p. 1.

* Segregation of Personnel and Information by Group. PP&L Exh. RMG 2, p. 1; PP&L Exh. RMG 4, p. 1.

* Restriction of Information Transfer Via Personnel Assignment. PP&L Exh. RMG 2, pp. 2-3; PP&L Exh. RMG 4, p. 1.

* Separate Cost Allocation, Books, and Records. PP&L Exh. RMG 2, p.5; PP&L Exh. RMG 3, p. 2.

* Enforcement of Employee Education in the Codes of Conduct. PP&L Exh. RMG 2, pp. 5-6; PP&L Exh. RMG 3, p. 2.

* Compliance Reporting, Auditing and Dispute Resolution. PP&L Exh. RMG 2, p. 6; PP&L Exh. RMG 3, p. 2.

360. Enron witness Mr. Dirmeier asserts that PP&L's proposed Code of Conduct would lead to customer confusion because it does not go far enough to prevent PP&L's non-regulated operations from using the name of the EDC in a manner in which customers could reasonably imply that the electric generation supply is being provided by PP&L as the EDC rather than PP&L as the electric generation supplier. Enron St. 6.0 , p. 31-33; *see also* Enron St. 6.1, pp. 1-2.

361. There will be no customer confusion under PP&L's proposal by the use of the name "PP&L Energy Plus" because as described by Mr. Geneczko, PP&L will clearly and explicitly distinguish delivery service and generation supply service as separate operations. Tr. 553.

362. The evidence shows that *prohibiting* PP&L's Generation Supply Group from using the PP&L name will lead to customer confusion and may deceive customers. Tr. 459 (8/18/97). Mandating the use of a different name would deprive consumers of the added assurance of quality and price derived from putting the parent's reputation at stake.

363. Enron witness Mr. Dirmeier asserts that if there is value in PP&L's name, then the name should not be conferred without compensation. Enron St. 6.0, pp. 28-29, Enron St. 6.1, pp. 10-11.

364. The payment of a royalty is inappropriate for several reasons. First the utility's name is not a ratepayer asset. The imposition of a royalty would constitute a requirement that a regulated company dedicate its intangible assets, for which ratepayers have never paid and do not own, to the ratepaying public. Second, a percentage royalty, which is one type of royalty that has been proposed in other jurisdictions, does not bear any relationship to costs or benefits from the association of the affiliate with the utility and would be difficult if not impossible to value.

365. PP&L's proposed Code of Conduct provides that the Electric Delivery Group will not favor the Generation Supply group in any marketing of energy supply products. In addition, PP&L witness Mr. Geneczko agreed during the hearing that PP&L's Generation Supply Group will have access to bill inserts on the same terms and conditions as other electric generation suppliers. Tr. 586.

366. As clarified by Mr. Geneczko at the hearing, PP&L's Electric Delivery group may engage in joint marketing of energy supply products with PP&L's Generation Supply group, but will only do so as long as comparable opportunities are available to other suppliers and the purpose of the joint effort is economic development. The Electric Delivery group still has an interest and community responsibility to facilitate economic development, but is indifferent, however, as to which alternate suppliers provide the energy part of the package. It will inform alternative suppliers of any such arrangements on a "rather immediate" basis, which may include posting such arrangements on OASIS. Tr. 583

367. Several intervenors suggested that PP&L should be required to offer any surplus power to Alternate Suppliers.

368. Such a requirement would be an intrusion into the competitive process that the Act has determined "will no longer be regulated..." 66 Pa. C.S. § 2802(14). Moreover, such a requirement would be beyond the Commission's jurisdiction. The sale of surplus power to Alternate Suppliers is a wholesale transaction that falls squarely within the FERC's exclusive jurisdiction under the Federal Power Act ("FPA"). Section 201

of the FPA gives the FERC plenary, exclusive and non-delegable jurisdiction over such sales. 16 U.S.C. § 824(b)(1).

369. Enron witness Mr. Dirmeier suggests the need for an internet bulletin board to document *all* information shared between the Electric Delivery Group and the Generation Supply Group.

370. This recommendation is far too broad and is not supported by any provision in the Act.

371. Enron has proposed that in the time before direct access begins to be phased in, PP&L should not be permitted to enter into "market priced" contracts unless PP&L first offers to competitive suppliers the opportunity to bid to provide service to the customer and that customers who entered into such contracts subsequent to the date on which the Act was passed to cancel such contract. Mr. Dirmeier admits that he has no information that would lead him to believe that PP&L is engaging in the behavior he would prohibit.

372. Enron's request that the Commission "open up" pre-existing market-based contract is a transparent attempt to gain Commission intervention in competitive market to favor PP&L's competitors. PP&L St. 1-R, pp. 51-52.

373. Until Commission standards for uniform, state-wide standards of conduct are adopted, PP&L's proposed Code of Conduct should govern the relationship between its Electric Delivery Group and Generation Supply Group.

374. Several intervenors have argued in this proceeding that customer metering and billing services should be unbundled from other EDC customer services in order to create an additional opportunity to provide value-added services to consumers. *See* Enron St. 4.0, p. 3.

375. The Commission concluded in the PECO Order that Section 2807 of the Act, which sets forth the duties of electric distribution companies, does not assume that any additional unbundling is required and that "EDC's continue to have the duty to provide all distribution services, including metering and billing, in compliance with existing Commission requirements." PECO Order at 138-39. The record established in this proceeding mandates the same conclusion.

376. Several intervenors have argued in this proceeding that customer metering and billing services should be unbundled from other EDC customer services in order to create an additional opportunity to provide value-added services to consumers. *See* Enron St. 4.0, p. 3. The Commission has addressed these issues through various working groups, rulemakings and Orders. Although section 2804(3) of the Act provides that "the Commission may require the unbundling of other services" in addition to basic unbundling of transmission, distribution, and generation services, the Commission concluded in the PECO Order that Section 2807 of the Act, which sets forth the duties of electric distribution companies, does not assume that any additional unbundling is required and that "EDC's continue to have the duty to provide all distribution services, including metering and billing, in compliance with existing Commission requirements." PECO Order at 138-39.

377. As indicated the Commission's rulemaking at Docket No. L-00970120, the Commission has decided that it is unnecessary to unbundle metering as a competitive service at this time. In that rulemaking, the Commission outlined the standards and procedures to ensure that customers have real options for competitive metering while retaining all physical work related to metering as a regulated EDC function.

378. The Commission decided in the PECO Order that all customers may, in conjunction with their EGS, request use of a "qualified meter" that has been approved by the Commission based on the recommendations of a working committee composed of interested parties. The Commission will ensure that the list of qualified meters includes all meters necessary to support market services such as two-way communication, remote readings, time-of-use capability, and net metering.

379. PP&L witness Anthony M. Osmanski indicated PP&L's support for open system architecture for all metering services hardware and software. PP&L St. 21-R, p. 3. PP&L advocates the use of the standards currently being developed by the IEEE SCC-31 Standards Coordinating Committee. PP&L St. 21-R, p. 12.

380. Enron witness Raymond W. Bowen, Jr. suggests that payments received from customers by PP&L should be applied to services provided by PP&L and services provided by the supplier on a pro rata basis. Enron St. 5.0, pp. 16-1.

381. As Mr. Bowen acknowledged at the hearing, however, if payments are provided to the supplier on a pro rata basis, the amount of the EDC's non-recovery will increase. Tr. 1339-40 (8/22/97). Despite this fact, Mr. Bowen asserts that an increase in the amount of the EDC's non-recovery would not increase the EDC's cost of providing service. *Id.*

382. The Commission has already considered and rejected the pro rata payment approach advocated by Enron. *See* Final Order Re: Guidelines for Maintaining Customer Services at the Same Level of Quality Pursuant to 66 Pa.C.S. § 2807(D), and Assuring Conformance with 52 Pa. Code Chapter 56 Pursuant to 66 Pa.C.S. § 2809(E) and (F) (entered July 11, 1997). Instead, the Commission decided that the "priority" method of applying partial payments is preferable to the "prorata" method, particularly in terms of administering the process and complying with applicable Chapter 56 provisions at 52 Pa. Code §§ 56.23 and 56.24. Order at 32-33.

383. Enron witness Richard D. Tabors urges the Commission to require PP&L to make its PJM-allocated intertie benefits available to either its former retail customers who choose an alternative generation supplier or to that customer's supplier. Enron St. 8.0, p. 3.

384. It is well-established that the rates, terms and conditions of wholesales sales of power by public utilities fall squarely within the FERC's exclusive jurisdiction under the Federal Power Act ("FPA"). Section 201 of the FPA gives the FERC plenary, exclusive and non-delegable jurisdiction over such sales. 16 U.S.C. § 824(b)(1). The relief sought by Enron is beyond the scope of the PUC's jurisdiction, power and authority.

385. The Commission issued a Proposed Rulemaking Order Establishing the Standards for Changing A Customer's Electric Supplier at Docket No. L-00970121 in April 1997, which provides that a change of a customer's supplier may be initiated once the EDC has received direct oral confirmation from the customer or written evidence of the customer's consent. Under the proposed rules, "written evidence of the customer's consent" is limited to a document signed by the customer, the sole purpose of which is to initiate a change of electric suppliers.

386. Enron witness Mr. Bowen believes that the "written evidence" requirement should not require "direct" written communications from the customer through a letter of authorization or an agency agreement, nor should it require that the customer execute the document submitted to the EDC. Rather, Enron believes that "written evidence of the customer's request" should include any document which evidences to the EDC that customer consent was received by the supplier.

387. PP&L's proposal accomplishes the same goal as the Commission's proposed regulations—to ensure that a customer consents to the switching of its generation supplier. Under PP&L's proposal, an alternative supplier may provide written notification to PP&L of a customer's decision to purchase electricity from that alternative supplier. The Company will then send the supplier's written notification to the customer and request that the customer inform the Company if any of the information is incorrect or inaccurate. If the customer does not respond, the Company will assume the supplier's notification information is correct. PP&L St. 14, p.6.

XI. Customer Education

388. As explained by PP&L's witness, Dawn G. Lennon, the key principles of PP&L's CCEP are:

* PP&L will provide clear, balanced and practical explanations of what customer choice is, how it works, what the risks and trade offs are, and how to select an electricity supplier. .

* PP&L will be recognized as a consistent, reliable and trustworthy source of information on customer choice.

* PP&L will separate customer choice education efforts from sales and marketing initiatives.

* PP&L will produce customer choice educational materials which are easy to read and understand and which meet high standards of objectivity.

* PP&L will pursue partnerships with the Commission and with educational, service, and consumer organizations in the development, implementation, dissemination, and evaluation of educational materials and programs on customer choice.

* PP&L will continue its customer choice education efforts to address new needs and changes, ensure understanding, and provide ongoing support for customers.

PP&L St. 17, pp. 4-5. PP&L's CCEP includes reliance on community based organizations ("CBOs") and other shareholder groups to assist PP&L in its education efforts.

389. PP&L's Customer Choice Handbook is the centerpiece of its CCEP. It will include an overview of restructuring of the electric utility industry, an explanation of customer choice and how it works, consumer protection tips, worksheets for determining the customer's choice of suppliers and answers to important questions about the retail access market place.

390. In addition to the Handbook, PP&L will offer interactive telephone technology and presentations by customer choice educators. PP&L will sponsor a Customer Choice Education Advisory Committee composed of leaders from consumer, education and community organizations to oversee the development of customer choice educational workshops for target groups. The group will develop the details of the consumer education plan, commission the development of materials, design the methods of dissemination, analyze evaluation research on the program and ensure that PP&L's consumer education program provides balanced and unbiased knowledge to customers.

391. PP&L's CCEP is designed to be implemented on a local level by PP&L and various community based organizations. Nevertheless, PP&L will support and actively participate in a statewide effort if the Commission ultimately determines that such an effort is appropriate. As Ms. Lennon emphasized, however, a statewide effort alone cannot effectively educate customers. PP&L St. 9-R, p. 48.

392. PP&L disagrees with Enron witness Mr. Bowen's recommendation that the Commission or an independent third party under the Commission's supervision prepare and distribute educational information on a centralized basis. Enron St. 5, p. 28-29. While a Commission-led customer education program can be part of a successful education campaign, it cannot substitute for local customer education programs, which are best developed and implemented on a service territory by service territory basis.

393. PP&L has an obligation under the Act to provide balanced unbiased information from which customers can make an informed decision to exercise choice. Specifically, Section 2807(d)(2) of the Act requires each EDC to provide adequate and accurate customer information to enable customers to make informed choices. Section 2807(d)(3) of the Act further directs the Commission and each electric distribution

company at to implement a consumer education program informing customers of the changes in the electric utility industry prior to the implementation of any restructuring plan.

394. The Commission recently initiated a proceeding regarding the Creation and Implementation of a Statewide Consumer Education Program for Electric Restructuring in the Commonwealth of Pennsylvania, Docket No. M-00981036 (entered Jan. 16, 1998). As the Commission recognized, "[p]articipation in a statewide media campaign or the use of CBOs on a local level does not eliminate the requirement that the EDCs actively participate in the comprehensive consumer education program at the local level." Order at 7.

395. The most useful tools to educate are reference materials (print, audio and website) that customers can access and revisit. While the use of mass media can be an effective tool to create customer awareness, it must be followed by information such as brochures, pamphlets, direct mail and other forms of communication to reinforce the "soundbite" messages of a media campaign. The best way to educate is to mobilize and equip people in the community using community-based organizations. Tr. 2009 (8/29/97).

396. PP&L provided the OCA with a five year preliminary budget for its CCEP. PP&L St. 17-R, Exh. DGL-2. This budget will allow PP&L to meet the stated objectives of its CCEP.

397. PP&L 's CCEP is based on extensive customer research. PP&L St. 17-R, p. 5-6. Based upon input from a variety of stakeholders, including the results of an independent customer research project, PP&L is revising its Customer Choice Handbook to provide education to consumers as the phase-in of full retail competition begins. Tr. 1974.

398. Evaluation of PP&L's overall education efforts will be ongoing throughout the transition to retail competition. PP&L St. 17, p. 7. PP&L's research will continue to focus on what customers know and understand about choice, the best vehicles for obtaining this information, the most credible sources of information, the usage profile and related demographics. Customers already surveyed will continue to be surveyed and compared to new customers. PP&L will share this information with the Commission.

399. Separation of PP&L's CCEP and its communications and marketing efforts is one of the key principles of PP&L's proposal. PP&L will not use its CCEP to market competitive business products. PP&L St. 15-R, p. 22. Its education efforts will not favor one supplier of energy or capacity over another. PP&L St. 17-R, p. 22-23. Customer choice education initiatives will be managed by the Company's Services department and customer information will be managed by Corporate Communications department. PP&L's marketing activities will seek to promote products and services through either its Delivery Services & Economic Development department or through its Generation Supply Group.

400. Enron witness Mr. Bowen suggests that PP&L's name should not appear on customer education communications. Enron St. 5, p. 31.

401. This proposal should be rejected. As stated by Ms. Lennon: "To develop and disseminate consumer education materials and not to put the Company name on them would be deceptive. Consumers are entitled to know where any materials come from so they can ascertain for themselves whether or not to accept the messages in them." PP&L St. 17-R, p. 23.

XII. Universal Service

402. PP&L has been among the industry leaders in implementing programs to address customer and community needs, especially those of low-income customers. In 1996, the Company's annual funding level for universal service programs and energy conservation programs was over $7 million. The Company has reviewed its existing programs and concluded that it must continue its leadership role in this area. As outlined in the testimony, of Timothy R. Dahl, PP&L plans to increase its annual funding for universal service programs and energy conservation programs from a current level of $7 million to approximately $14.3 million by the year 2002. PP&L St. 16, p. 4.

403. Section 2802(10) of the Act provides that "the commonwealth must at a minimum, continue the protections, policies and services that now assist customers who are low-income to afford electric service." Section 2802(17) specifies that the public purpose of the programs is to be "promoted by continuing *universal service and energy conservation policies, protection and services and full recovery of such costs* is to be permitted through a non-bypassable rate mechanism."

404. PP&L operates five programs that provide energy assistance to low-income customers. PP&L St. 16, pp. 8-13. These programs and their current level of funding are as follows:

Customer Assistance and Referral Evaluation Sercive ("CARES")		$ 260,000
Operation HELP		$ 795,000
Winter Relief Assistance Program (WRAP)		$3,023,300
Keep Warm Plan		$1,000,000
On Track Payment Program Pilot		$2,000,000
	Total	$7,078,300

405. The Company is proposing to move OnTrack from its pilot phase to a full-time program. The level of enrollment would be increased from 1,040 customers to about 10,000 customers by the year 2001. This "ramping up" of OnTrack anticipates an increase of 3,000 new participants annually. The expanded OnTrack program will target customers who have annual household income at or below 150 percent of poverty; are payment troubled; and have an overdue electric bill.

406. There are approximately 58,000 customers who may be eligible for OnTrack based on the above characteristics. PP&L St. 16, p. 19. As a result, PP&L plans to concentrate the program on low-income customers who have a demonstrated inability to pay and may be subject to service termination.

407. PP&L plans to increase its expenditures by over $7 million dollars above current funding levels. The annual level of funding for OnTrack will be expanded from $2 million to $9 million over a three-year period beginning January 1, 1999. Because PP&L will continue to solicit donations from its customers and employees, donations to Operation HELP are expected to increase annually. PP&L proposes to maintain the current level of annual funding for CARES, WRAP, and the Keep Warm Plan. PP&L St. 16, pp. 17-18.

408. In general, intervenor witnesses propose increases in funding levels for universal service and energy conservation programs, in some cases to over three times current levels, and expansion of the programs' eligibility criteria. *See, e.g.*, testimony of OCA witness Ms. Nancy Brockway; CEO witnesses Mr. Michael Karp, Mr. Craig Kuennen, and Mr. Geoffrey Crandall; and AARP witness Mr. Mark Cooper. These proposals are not supported by the Act or the evidentiary record in this case.

409. The primary intent of the universal service provisions of the Act is to ensure that current protections for low-income consumers are maintained in a competitive generation market. 66 Pa.C.S. § 2802(10).

The funding levels proposed by CEO, OCA and AARP simply were not envisioned by the Act. The intent of the Act is to restructure the electric utility industry to reflect competitive forces in the marketplace, not to implement a broad expansion of customer assistance programs.

410. As a basis for establishing the level of need for universal service and energy conservation programs, CEO's Mr. Kuennen presents information derived from the U. S. Census about poverty rates and the number of low-income households in PP&L's service area.

411. The 1990 U. S. Census data for the Company's service area show that approximately 177,000 PP&L customers are at or below 150 percent of the federal poverty guidelines. This guideline is the proposed eligibility standards for programs such as OnTrack and WRAP. However, most of these customers (approximately 70 percent) pay their electric bills and are not in arrears with PP&L. PP&L St. 16-R, p. 7. It would be counterintuitive for the Company to encourage customers who have been paying the full amount of their electric bills to join OnTrack and begin paying only a portion of their bills.

412. 48% of the capital expenditures necessary to operate PP&L's facilities for the period 1997 through 2001 will be incurred to ensure environmental compliance. Projected capital costs after 2001 include individual environmental compliance projects that likely will be required at each facility. PP&L St. 10-R, pp. 37-38. As Mr. Krall explained. PP&L St. 10-R, p. 38):

> A significant portion of these costs are to comply with provisions of the CAAA [Clean Air Act Amendments]. These costs include Selective Catalytic Reduction and Selective Non-Catalytic Reduction systems for NOx reductions beyond those already achieved with the installation of Reasonably Available Control Technology in order to comply with the likely requirements of Title I of the CCAAA [sic]. Other costs include scrubbers to remove air toxics and fine particulates to comply with Title III of CAAA. For the years 2003, 2004, and 2005, 54% of the $429 million of capital identified, or $230 million, will be for compliance with the CAAA, alone.

413. Mr. Schoengold offers no evidence to support his claim that existing plants enjoy a competitive advantage under the current environmental regulatory scheme. PP&L St. 10-R, pp. 39-40.

414. OCA witness Ms. Brockway recommends that PP&L's annual funding for OnTrack and weatherization (WRAP, Keep Warm Plan) should be $11.7 million and $4.7 million, respectively. OCA St. 6, pp. 23, 34. Ms. Brockway's proposal represents an increase in the funding levels suggested by PP&L of 30 percent (OnTrack) and 17.5 percent (WRAP and Keep Warm Plan). AARP witness Mr. Cooper has stated that deep discounts should be made available to all low-income households. AARP St. 1, pp. 25-26. The cost of extending OnTrack credits to all of PP&L's low-income customers would be prohibitive. The average OnTrack credit is $50 per month, or $600 annually. PP&L St. 16-R, p. 9. The cost of extending the credits, as Mr. Cooper suggests, would exceed $106 million annually (177,000 x $600).

415. CEO witness Mr. Kuennen recommends that PP&L target 40 percent of low-income households (specifically, 71,000 customers) for participation in OnTrack. CEO St. 1, p. 22. OCA witness Ms. Brockway suggests that PP&L should serve 18,500 customers in OnTrack. OCA St. 6, p. 30.

416. These proposals present three significant problems: 1) it would be impractical to effectively identify, interview, and enroll tens of thousands of customers; 2) the costs would be prohibitive; and 3) good-paying customers would be encouraged not to pay under the CEO's proposal.

417. Mr. Kuennan and Ms. Brockway also advocate increased funding levels for the baseload program under WRAP. As acknowledged by Ms. Brockway, each utility should tailor its energy conservation programs to address the conditions in its own service area. Tr. 2042.

418. Given that PP&L has the highest electric heat saturation rate of the eight major Pennsylvania electric utilities, PP&L Cr. Exam. Exh. 12, PP&L has properly chosen to focus its weatherization activities on electric heat customers.

419. CEO witness Mr. Kuennan and OCA witness Ms. Brockway suggest that PP&L's current level of write-offs and credit and collection expenses associated with non-OnTrack low-income customers could be "transferred" to fund an expanded OnTrack Program rather than booking write-offs and credit and

collection expenses associated with these amounts, in essence reducing its billings to these customers. CEO St. 1, p. 26; OCA St. 6, p. 26.

420. Ms. Brockway's proposal is inappropriate because it is based on the false assumption that low-income customers do not pay any portion of their bills. PP&L's experience shows that low-income customers, even those that are payment-troubled, do often pay some amount toward their bills. For example, PP&L evaluated approximately 1,000 very low-income customers (at or below 110% of the federal poverty guidelines) and determined that even those customers pay PP&L six or seven times per year. Tr. 1948.

421. PP&L supports the OCA's recommendation to allow OnTrack customers to choose Alternative Suppliers subject to three important conditions. First, OnTrack participants who select an Alternative Supplier would be required to receive a single bill from PP&L. Second, as a condition of serving OnTrack customers, Alternative Suppliers would agree to discount the energy portion of the supply bill by a percentage equal to the overall percentage reduction established pursuant to the OnTrack program. Third, the Alternative Suppliers would agree to absorb the supply portion of the revenue shortfall that is written off monthly for OnTrack customers.

422. A key objective of OnTrack is to encourage and develop good payment habits among customers. PP&L proposes to offer one bill to OnTrack customers who choose an Alternative Supplier. A combined bill would streamline administrative procedures for the OnTrack agencies and reduce confusion for customers.

423. PP&L's average monthly electric bill for low-income, payment-troubled customers is about $88, and the average monthly electric bill for OnTrack customers is $47. In other words, the Company provides a monthly bill reduction of $41, or 53 percent. This revenue shortfall is written off monthly. PP&L St. 16-R, p. 22. PP&L recommends that Alternative Suppliers provide a pro rata reduction in energy supply charges to those OnTrack customers who choose an Alternative Supplier. Without such a pro rata reduction, the evidence shows that the amount of the monthly bill reduction could reduce the transmission and distribution portion of the customer's bill to less than zero.

424. PP&L also believes that Alternative Suppliers should share in the costs of the revenue shortfall associated with OnTrack customers. Generation accounts for approximately 25 percent of the bill, and using the above example of the $41 revenue shortfall for the average OnTrack customer, an Alternative Supplier would be responsible for $10.25 of the write-off. The remaining $30.75 would be assigned to PP&L. Because the revenue shortfall includes some generation charges, it is fair for Alternative Suppliers to assume responsibility for the portion of their the revenue shortfall. PP&L's proposal would treat both PP&L and the Alternative Supplier on the same basis while satisfying the Act's objective of providing choice to all customers in Pennsylvania. It is reasonable and should be approved.

425. Environmentalists witness Bruce E. Biewald proposes that the Commission require all retail electricity suppliers selling in Pennsylvania to disclose their fuel mix and key air and other waste emissions to consumers in the form of a label and that the tracking of transactions to support disclosure and labeling should be done by the PJM Independent System Operator ("ISO"). Environmentalists' St. 2, p. 5. OCA witness Barbara Alexander also advocates fuel mix disclosure. OCA St. 5, pp. 29-30.

426. Mr. Biewald's proposal goes beyond the Commission's recently-proposed rules on Customer Information Disclosure for Electricity Providers (52 Pa. Code, Chapter 54, Subpart A), Docket No. L-00970126. Under those rules the source of supply mix must be provided to customers upon request, upon entering into a sales agreement and whenever a significant change occurs in the terms of service. The proposed rules do not require the disclosure of environmental attributes other than fuel mix. These parties' proposals should be rejected.

XIII. Environmental Issues

427. Environmentalists witness David Schoengold proposes that the Commission adopt a plan under which all power purchased in Pennsylvania would have to come from plants meeting the latest environmental standards, Environmentalists' St. 1, p. 37, and notes that other states have enacted similar regulations based on their right to protect the health and welfare of their citizens.

428. Although the Commission retains broad authority to regulate utility service, facility and rate issues, it is the Pennsylvania Department of Environmental Protection and the U.S. Environmental Protection Agency that have the broad authority to implement and administer programs for the protection of the environment, including rules relating to air emissions. It is well established that the Commission does not possess jurisdiction over environmental issues simply because a public utility may be involved.

429. The Environmentalists' proposal is well beyond the scope of this proceeding.

430. OCA witness Ms. Brockway's suggests that PP&L provide funding of $700,000 for photovoltaic and active solar water heating pilots.

431. Neither the Act nor the Commission's Final Guidelines for Universal Service mandate such pilot programs.[5]

432. Because the annual cost savings would be very low, in light of PP&L's relatively low electric rates, the payback periods would be significant. Most consumers would not be induced to buy a system that required well over a decade to provide benefits.

433. Developing, implementing, and evaluating the OCA's proposed pilots would be time consuming and expensive for the level of benefits received., and therefore should be rejected.

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5 The Commission's Final Guidelines for Universal Service expressly provide that: "Although we believe that research and development are important, we will not direct that universal service and energy conservation funds be spend for research and development. Unlike the California legislature that specifically provided funds for research and development, the Commonwealth's Act gives no direction for such expenditures." Final Guidelines at 6.

DISCUSSION

I. CONTEXT OF RESTRUCTURING

This proceeding raises issues of extreme significance not only to customers and investors of utilities, as ratepayers and investors, but as citizens of the Commonwealth. The decisions made here will affect the manner in which a service essential to modern life, electricity, will be provided within a significant portion of the Commonwealth for many years into the future. In reaching these decisions, the Commission must not only balance the interests of customers and investors, but must also balance the short and long term interests of current and future customers and investors.

Fortunately, the Commission is guided in this proceeding by the General Assembly as it has spoken through the Act. As will be explained in this Brief, the Act embodies a balance between interests of customers and investors that mirrors the balance drawn by many years of utility law and regulation. Therefore, it is important for the Commission to consider and interpret the Act in the context of the economic and legal background which led to its adoption.

A. Economic and Competitive Background

For most of this century, the provision of electric service in Pennsylvania has been extensively regulated by the PUC because the provision of that service has been considered a natural monopoly. A natural monopoly is a business which, by reasons of scale or scope, is provided more efficiently by one company than by competing companies.

There can be no dispute that electric utilities have been viewed as natural monopolies in Pennsylvania since the adoption of the Public Service Company Law of July 26, 1913, P.L. 1374 (repealed), as amended by section 4 of the Act of June 3, 1933, P.L. 1526, 66 P.S. §201-2 (repealed). The Public Service Law and its successors recognize that in exchange for a monopoly to provide service in an exclusive service territory, public utilities were both exempted from competition and obligated to provide service within that service territory. Regulation of rates and service was determined to be necessary to replace the lack of competition.

While there are many aspects to this regulation, an overriding theme has been described as the regulatory bargain or regulatory compact. The regulatory compact was described by Professor Kalt[6], as follows:

> In the pre-reform regulatory setting, utilities and the investors who provide utility capital accepted an obligation to serve all electric demand in their service territory. Pursuant to this obligation to serve, utilities accepted the obligation to incur the costs of sufficient generation and related capacity to ensure that expected demand could be satisfied, with these investment plans being subject to review and oversight by regulators and with their decisions reflected in just and reasonable rates regulators have allowed utilities to charge their customers. Investors in utility companies agreed to provide the capital necessary to make these investments under regulatory rules that subjected cost recovery to cost-of-service regulatory principles rather than market forces. PP&L St. 1, pp. 11-12.

Pursuant to this system of regulation, PP&L invested billions of dollars to construct generating stations to meet the reasonably projected needs of customers in its service territory. These investments have been reviewed by the Commission and have been determined to be prudent expenditures. Accordingly, under a continuation of regulated monopoly service, PP&L and its investors would have recovered both a return of, and a reasonable return on, such investments to provide service to customers. See 66 Pa.C.S. § 1301.

As explained by Professor Alfred Kahn,[7] the regulated monopoly system has served customers well for a long period of time. *See* PP&L St. 18-R, p. 21. However, changes in economic circumstances prompted a re-examination of this regulatory system:

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6 Professor Kalt is the Ford Foundation Professor of International Political Economy and the Chairman of the Economics and Quantitative methods section at the John F. Kennedy School of Government, Harvard University. He specializes in natural resources and energy policy and has published widely on matters relating to the regulation of natural gas, electricity, oil and coal markets. He has testified in numerous administrative, judicial and congressional proceedings concerning performance of the nation's energy markets.

7 Professor Kahn has been Chairman of the New York State Public Service Commission and the U.S. Civil Aeronautics Board. He is the author of the two-volume, *The Economics of Regulation*, reprinted, in 1988 by MIT Press and has written and testified extensively in the area of direct economic regulation and particularly of the public utilities.

> What has changed since then? Manifestly, the relationship between price and marginal cost, both short- and long-run: what other answer would you expect from an academic economist?
>
> The reasons for that dramatic change are familiar: First, the entry into service of long-lead-time base-load plants, constructed over a period of double-digit inflation of interest rates and construction costs and in anticipation of a continued expansion of demand at 6 to 7 percent annual rates. These developments and the abrupt deceleration of demand left utilities, particularly on the East and West coasts, with average generating costs in the range of perhaps 6 to 10 cents a kwh and, because of their excess capacity, short-run marginal costs of 1 to 2 cents. Second the collapse of fossil fuel prices in the middle 1980s, in combination with, third, the development of combined cycle gas turbine technology, which have made it possible to build 100-megawatt or smaller new plants with average costs on the order of 4 cents a kwh.
>
> Fourth, the nuclear fiasco. And, fifth, PURPA, with its legacy of multi-billion dollar contractual obligations of the electric companies to buy independently generated power at rates set at avoided costs estimated by regulators on the basis (among other consideration) of expectations that the price of oil would by now be nearing $100 a barrel.
>
> All these developments have combined to produce regulated rates in some regions of the country, far above both short- and long-run marginal costs. And that in turn has created irresistible temptations for sellers - including utility companies, *outside* their own franchise territories - to offer eager buyers an escape from those inflated rates. PP&L St. 18-R, pp. 21-22.

This significant metamorphosis in the economics of producing electric power led the General Assembly to conclude that generation of electricity can be provided more efficiently (at lower costs) under a competitive system.

B. Legal and Legislative Background

In adopting the Act, the General Assembly observed that "[o]ver the past 20 years, the Federal Government and State government have introduced competition in several industries that previously had been regulated as natural monopolies." 66 Pa.C.S. § 2802(1). The electric power industry did not escape this trend. In 1992, Congress passed the Energy Policy Act which specifically empowered the Federal Energy Regulatory Commission ("FERC") to order public and privately owned utilities to grant access to their transmission systems for qualified entities engaging in wholesale power transactions. 16 U.S.C. §§ 824(j),(k). The FERC dramatically expanded the availability of transmission in 1996 by issuing Order No. 888, requiring public utilities to unbundle wholesale contracts and offer open access non-discriminatory transmission service to all eligible customers — including retail customers in states implementing retail competition — while providing for the recovery of stranded costs incurred as a result of such open access. *See Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, 61 Fed. Reg. 21,540 (1996), FERC Stats. & Regs. ¶ 31,036 (1996), *order on reh'g*, Order No. 888-A, 78 FERC ¶ 61,220 (1997), *order on reh'g*, Order No. 888-B, 62 Fed. Reg. 64,688 (1997), 81 FERC ¶ 61,248 (1997) ("Order No. 888").

C. The Electricity Generation Customer Choice and Competition Act

The Act contains declarations of policy which set forth the reasons why the General Assembly directed the restructuring of the electric industry in Pennsylvania. 66 Pa.C.S. § 2802. The Act also contains specific standards for restructuring of the electric industry. 66 Pa.C.S. § 2804. These declarations and standards set the bounds within which the restructuring of the electric industry is to be conducted and within which the issues in this proceeding must be resolved.

1. Concerns Addressed by the Act

The purpose of the Act is to mandate competition and create a transition to a competitive market for the generation of electricity. 66 Pa.C.S. § 2802(12). Within this general purpose there are several other critical concerns expressed by the General Assembly which are relevant to this proceeding.[8] The most important of these concerns are summarized here and will be

8 Provisions of the Act which are not directly relevant to this proceeding, such as licensing requirements for suppliers to protect reliability, are not summarized here.

referenced as applicable to specific issues later in this Brief. First and foremost, the General Assembly recognized the need for a fair transition to a competitive retail electric generation market:

> In moving toward greater competition in the electricity generation market, the Commonwealth must resolve certain transitional issues in a manner that is fair to customers, electric utilities, investors, the employees of electric utilities, local communities, non utility generators of electricity and other affected parties. 66 Pa.C.S. § 2802(1).

The Act also recognizes that electric utilities and their investors have invested billions of dollars in generating facilities, that some of these costs may not be recovered under a competitive system and that electric utilities should be permitted to recover such costs during the transition period to the extent possible within the rate cap.

> In establishing the standards for the transition to and creation of a competitive electric market, heretofore, public utilities generally have had an obligation to serve customers within their defined service territories; consistent with that obligation, have undertaken long-term investments in generation, transmission and distribution facilities in order to meet the needs of their customers; and have entered into long-term power supply agreements as required by Federal law. In many instances, these investments and agreements have created costs which may not be recoverable in a competitive market. The commission is empowered under this chapter to determine the level of transition or stranded costs for each electric utility and to provide a mechanism, the competitive transition charge, for recovery of an appropriate amount of such costs in accordance with the standards established in this chapter. 66 Pa.C.S. § 2802(15).

These principles and standards must guide our resolution and recommendation to the Commission regarding the issues in this proceeding.

Another significant concern of the General Assembly as expressed in the Act is the manner in which competition will be conducted. In this regard the Act provides that:

> This chapter requires electric utilities to unbundle their rates and services and to provide open access over their transmission and distribution systems to allow competitive suppliers to generate and

> sell electricity directly to consumers in this Commonwealth. *The generation of electricity will no longer be regulated as a public utility function except as otherwise provided for in this chapter.* Electric generation suppliers will be required to obtain licenses, demonstrate financial responsibility and comply with such other requirements concerning service as the commission deems necessary for the protection of the public. 66 Pa.C.S. § 2802(14) (emphasis added).

To implement this open access requirement, the Act sets forth certain standards to which the Commission must adhere:

> The commission may permit, but shall not require, an electric utility to divest itself of facilities or to reorganize its corporate structure. 66 Pa.C.S. § 2804(5).

> Consistent with the provision of section 2806, the commission shall require that a public utility that owns or operates jurisdictional transmission and distribution facilities shall provide transmission and distribution service to all retail electric customers in their service territory and to electric cooperative corporations and electric generation suppliers, affiliated or nonaffiliated, on rates, terms of access and conditions that are comparable to the utility's own use of its system. 66 Pa.C.S. § 2804(6).

> The commission shall require that restructuring of the electric utility industry be implemented in a manner that does not unreasonably discriminate against one customer class to the benefit of another. 66 Pa.C.S. § 2804(7).

These standards are clear. Utilities are not prohibited from continuing to provide, or compete for, electric generating customers either through affiliates or divisions but "rates and terms" of access to the transmission and distribution systems by other suppliers must be "comparable to the utility's own use." Accordingly, the implementation of such standards in a manner that provides open access to other suppliers without handicapping PP&L's efforts to sell electricity from its generating stations to retail customers is another critical issue in this proceeding.

The General Assembly also was concerned that Pennsylvania's consumers of electric power be prepared to take advantage of the benefits of competition. In addition to providing for a retail access pilot, 66 Pa.C.S. § 2806(G), the General Assembly obligated each electric distribution company to implement, in conjunction with the Commission, a consumer education program that "shall provide consumers with information necessary to help them make appropriate choices as to their electric service." 66 Pa.C.S. § 2807(d)(3).

The final major concern expressed in the Act that is relevant to this proceeding concerns the protection of customers who do not or cannot obtain service from a competitive electric supplier. In this regard, the Act contains specific policy determinations requiring continuation of programs that currently assist low-income customers, 66 Pa.C.S. § 2802(10), and other public purpose programs. 66 Pa.C.S. § 2802(17). Finally, the Act also contains requirements applicable to electric companies that are intended to provide all customers with reliable transmission and distribution service and to provide all customers with a supplier of last resort. 66 Pa.C.S. § 2802(16).

These obligations are important safeguards for the transition to competitive generation service and continue the special obligations currently held by public utilities generally. These provisions require the Commission to resolve specific issues concerning universal service and supplier of last resort service. However, the special obligations of providing continued, regulated transmission and distribution service, as well as the requirement to provide supplier of last resort service, also must be considered as they relate to other issues in this proceeding. Specifically, the interests of ratepayers must always be balanced against the requirement that the Commission foster the development of a competitive supply market while maintaining the long-term viability of the electric distribution company so that it can continue to provide regulated transmission and distribution service throughout its service territory and provide supplier of last resort services in the future.

2. Post-Restructuring Electricity Market Under the Act

The Act envisions a transition from the provision of electric generation service by a single monopoly supplier to a system under which numerous suppliers compete to sell generation to customers. Open access transmission and distribution systems will provide non-discriminatory access to all qualified suppliers. The Act also recognizes that the generation currently owned by electric utilities is the backbone of electric service in Pennsylvania and is necessary for the continued service of customers in Pennsylvania. Accordingly, the Act specifically authorizes electric utilities to maintain these facilities and use them to provide competitive service as well as supplier of last resort service to customers.

The Act recognizes that the transition to competition will require recovery of generating costs that have become stranded as a result of that transition. The recovery of stranded costs is designed to enable electric utilities to participate on reasonable terms in a competitive market while maintaining a viable company to provide transmission and distribution services and supplier of last resort service. The Act also envisions a competitive market in which programs for low-income customers are maintained and the associated costs are recovered through a universal service fund.

Finally, the Act envisions the coordination of suppliers and the electric distribution company through an Independent System Operator ("ISO") in a manner that maintains the highly reliable service presently provided by PP&L and other electric utilities. 66 Pa.C.S. § 2802(19); 66 Pa.C.S. § 2804(1).

II. LEGAL AND POLICY FOUNDATIONS OF STRANDED COST RECOVERY

A. Legal Standards

1. Statutory Provisions

The Act addresses stranded costs in three different ways. First, the "Declaration of Policy," Section 2802(15), establishes the general need for and appropriateness of recovery by electric utility companies of their stranded costs.

Second, the Act provides a general definition of "stranded costs." Section 2803 defines "stranded costs" as:

> An electric utility's known and measurable net electric generation-related costs, determined on a net present value basis over the life of the asset or liability as part of its restructuring plan, which

> traditionally would be recoverable under a regulated environment but which may not be recoverable in a competitive electric generation market and which the commission determines will remain following mitigation by the electric utility.

The definition also provides a list of categories of potentially stranded costs. Third, Section 2804(14) of the Act mandates an "orderly" transition to competition designed to "provide the investors in Pennsylvania electric utilities with a fair opportunity to fully recover the amount of transition or stranded costs that the commission determines to be just and reasonable."

These provisions mandate that the Commission allow recovery of an appropriate level of stranded costs. In adopting these provisions, the General Assembly has balanced the interests of electric utilities and ratepayers in a proper manner. The Act seeks to attain, on one hand, the benefits for customers of low-cost electric generation. On the other hand, the Act permits electric utilities to collect their prudently-incurred costs which would be recoverable under the prior system of regulation but which may not be recoverable under a competitive regime.[9] This recovery of prudently-incurred stranded costs is fully consistent with general principles applicable to regulated utilities.

2. Regulatory Compact

There can be no doubt that the Commonwealth and its regulated utilities have operated for decades under a requirement of mutual obligations regardless of whether those obligations are referred to as a "regulatory compact," "regulatory bargain," "understanding," or something else. The essence of that mutuality of obligation was that utilities had a fair opportunity to recover their prudently-incurred investments in facilities used to meet their obligation to serve all customers. See PP&L St. 1, pp. 11-12

These conclusions were reinforced by the testimony of Professor Alfred Kahn, who stated:

> I emphatically assert that there has indeed been a general understanding, over many decades, under original cost or prudent investment regulation such as has been practiced in the great majority of our jurisdictions, that the utility companies, in

9 There is one exception to the principle that prudently-incurred stranded costs are recoverable. Recovery may be precluded by operation of the rate caps of Section 2804(4) of the Act.

> exchange for thoroughgoing regulation and the undertaking of costly public service responsibilities, were entitled to a reasonable opportunity to recover their prudently incurred costs . . . . PP&L St. 18-R, p. 10.

The General Assembly has expressly recognized the general principles of this bargain or understanding in the Declaration of Policy at Section 2802(15) of the Act. There, the General Assembly acknowledged the historic obligation of utilities to make substantial investments in facilities or contracts to provide safe and reliable service. The General Assembly also recognized its obligation to allow recovery of costs stranded by the change the electric generation portion of electric utilities' business from a regulated monopoly to an unregulated competitive service.

Contentions that these obligations do not exist deny the obvious. Clearly, utility investors relied on prior rules concerning the prudent investment standard and fair rates of return in forming their expectation concerning risks and returns. This conclusion is confirmed by the fact that the General Assembly believed it was necessary to adopt the Act in order to change the manner in which electric generation is regulated. Further, in the Act, the General Assembly mandated substantial proceedings, such as this one, in which a major issue is the amount of stranded costs to be recovered. PP&L St. 1-R, p. 57.[10]

3. Federal Constitutional Doctrines

The fundamental principles of the Commonwealth's obligations to its regulated utilities are consistent with federal constitutional "due process" principles applicable to takings of utility property. PP&L's stranded costs were incurred to meet its obligation to serve customers, but these costs may not be recoverable in the competitive market for electric generation which is being created by the Act. If the Act did not provide for recovery of stranded costs, or if the Act were applied in a manner that denied recovery of stranded costs, the change in regulatory policy would violate the Fifth and Fourteenth Amendments to the United States Constitution.

10 The Act, in this respect, is consistent with prior law. The Commonwealth Court has ruled that denying the recovery of costs caused by a change in regulatory requirements would be fundamentally unfair under the Public Utility Code. In *Columbia Gas of Pa., Inc. v. Pa. P.U.C*, 149 Pa. Comwlth. 247, 613 A.2d 74, 80 (1992), the Commonwealth Court reversed the Commission's denial of recovery of costs of customer arrearages (uncollectible accounts) that were created by the Commission's requiring utilities to continue to serve non-paying customers.

The United States Supreme Court has stated that fundamental changes in regulatory rules that prevent recovery of previously approved cost would violate the fundamental due process and "takings" clauses of the Fifth and Fourteenth Amendments to the United States Constitution:[11]

> The risks a utility faces are in large part defined by the rate methodology because utilities are virtually always public monopolies dealing in an essential service, and so relatively immune to the usual market risks. Consequently, a State's decision to arbitrarily switch back and forth between methodologies in a way which required investors to bear the risk of bad investments at some times while denying them the benefit of good investment at others would raise serious constitutional questions. *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 315 (1989).

See also United States v. Winstar Corp., __ U.S. __, 116 S. Ct. 2432 (1996) (Uncompensated taking caused by changes in regulatory accounting rules that reduced the book value of assets that the savings and loan company had relied upon to meet capital reserve requirements). In the Act, the General Assembly avoided these potential constitutional issues by providing for compensation to utility companies for investments stranded by the introduction of competition to the electric generation market.

There exist a constitutional right to fair compensation to PP&L for its reasonable and prudent investments in facilities that were used and useful in providing public service. That right to fair compensation cannot be discharged or avoided by a change in fundamental regulatory policy that destroys the value of such investments.

B. Effect on Regulated Activities

The Act will have four important effects on the regulated activities of electric utilities in Pennsylvania. First, utilities will unbundle their rates to show separately the charges for transmission, distribution and generation services, including recovery of stranded costs through the CTC. 66 Pa. C.S. § 2806(e). Second, utilities will offer open and non-discriminatory access to their transmission and distribution facilities for all qualified applicants. 66 Pa.C.S. §

11 Such an improper taking also would violate the Pennsylvania Constitution, Art. I, § 10.

2802(14). Third, utilities will continue their public purpose programs, including assistance to low-income customers. 66 Pa.C.S. § 2807(d). Fourth, utilities will offer "provider of last resort" service to any customer who elects not to choose an alternative supplier or who did not receive service from such a supplier. 66 Pa.C.S. § 2807(e).

C. Effect on Investors

The change in regulatory policy to a competitive market for electric generation reflects a fundamental change in the basic rules by which electric generation services have been provided and must allow electric utilities a fair opportunity to recover investments in facilities made uneconomic by the change in regulatory policy. Any breach of the Commonwealth's clear obligation to utility investors would be poor public policy, and would be contrary to sound economic principles, and therefore, contrary to the public's economic interest. As explained by Professor Kalt:

> Government is the promulgator and enforcer of the rules of the game. If it uses its power to alter those rules after other parties have sunk investments into the game, such action imposes costs on all of the citizens under its jurisdiction. As underdeveloped and unstable countries around the world have taught us, instability in the rules of the game by which investors must play is the recipe for failure. In a world of intense international competition and capital that can flee from policy instability, regulatory change in Pennsylvania's electric power sector that would have the effect of stranding utilities' previously incurred costs would be decidedly contrary to the public's interest in a healthy Pennsylvania economy. One immediate consequence of policy instability would be a higher cost of capital for firms investing in Pennsylvania, particularly transmission and distribution utilities. PP&L St. 1, pp. 13-14; *see also* PP&L St. 18-R, p. 11.

D. Mitigation

Under Section 2808(c)(4) of the Act, in determining the level of stranded costs to be recovered, the Commission is to consider the extent to which the electric utility has mitigated generation-related stranded costs. The ultimate proof of the effectiveness of PP&L's pre-restructuring mitigation is PP&L's success in controlling its rates, which the Act declares to be of "equal importance" with future efforts to mitigate stranded costs. *See* 66 Pa.C.S. § 2808(c)(5). The interplay between past efforts in controlling rates and stranded cost recover is clearly illustrated in this case. Because of PP&L's past efforts to keep rates low, the rate cap limits PP&L's ability to recover all of its stranded costs. It would, of course, be unjust and contrary to the Act to require PP&L to forego recovery of its stranded costs beyond that already denied it by application of the rate cap.

1. Pre-Restructuring Mitigation

a) PP&L's Pre-Restructuring Rates

Stranded costs related to electric generation facilities are driven by the difference between revenue requirements associated with these assets and the projected market price of electric generation. *See* Section 2803 of the Act (definition of "transition or stranded costs") and PP&L St. 2, p. 5. Consequently, a major determinant of an electric utility's stranded costs related to electric generation facilities is its level of rates for recovery of revenue requirements associated with its generation facilities.

PP&L, as a result of substantial efforts, has successfully maintained its rates at a low level. PP&L's success in keeping its rates at a low level is demonstrated from three different observations. First, as explained more fully below, PP&L's rates are low compared to rates of other electric utilities. Second, PP&L has filed relatively few base rate cases before this Commission in recent years, and those rate cases have been substantially separated in time. PP&L's two most recent base rate cases were filed on July 27, 1984 (Docket No. R-842651) and on December 30, 1994 (Docket No. R-00943271), more than a decade apart. Third, PP&L's actual, historical rates have been flat in terms of *nominal* dollars for the last ten years. PP&L Exh. SFT 3. In terms of real purchasing power, maintaining flat nominal rates for ten years is equivalent to a 25 percent rate reduction. PP&L Exh. SFT 4. By the end of the transition period, PP&L's total rates will have been flat, in nominal dollars, for 20 years. Flat nominal rates over 20 years is equivalent to a 50% reduction in rates in real terms. PP&L St. 9, p. 19, n.4.

Comparisons between PP&L's total rates and those of other electric utilities are provided at pages 16-19 of PP&L St. 9 and in PP&L Exh. SFT 2. As shown there, PECO's 1995 average rate is 9.91¢ per kWh and Duquesne Light Company's average rate is 8.92¢ per kWh. The Pennsylvania statewide average rate is 7.93¢ per kWh. PP&L's 1995 average rate of 7.21¢ per kWh is significantly lower than these other rates. In fact, PP&L's rates are now almost as low as the national average of 6.89¢ per kWh, while the spread between Pennsylvania's average rate and the national average rate has stayed relatively constant. PP&L Exh. SFT 4.

PP&L's efforts to control costs and rates have been beneficial to residential customers. PP&L's rates for residential service have dropped below the national average, while Pennsylvania's average residential rate has been well above the national average. PP&L Exh. SFT 5. These low rates have resulted from cost control efforts by PP&L. PP&L St. 2, p. 6.

b) Refinancings

PP&L has taken advantage of reductions in the cost of capital to refinance higher cost securities. These efforts are demonstrated by reference to its two most recent base rate case orders. In PP&L's 1984 rate case, *Pa. P.U.C. v. PP&L*, 59 Pa. PUC 332, 390 (1985), the Commission approved a long-term debt cost rate of 11.27 percent. In PP&L's 1994 rate case, in contrast, the Commission approved a long-term debt cost rate of 7.97 percent. *Pa. P.U.C. v. PP&L*, Docket No. R-00943271, p. 183 (September 27, 1995). During the 10½ years between rate cases, PP&L reduced its long-term debt cost rate by almost 30 percent.

PP&L was also able to reduce its cost rate of preferred stock. In its 1985 base rate case, the Commission approved a preferred stock cost rate of 9.89 percent. *Pa. P.U.C. v. PP&L*, 59 Pa. PUC at 390. By the 1994 base rate case, PP&L had reduced its preferred stock cost rate to 7.31 percent, a reduction of approximately 26 percent. *Pa. P.U.C. v. PP&L*, Docket No. R-00943271, p. 183 (September 27, 1995). These capital cost reductions reduced PP&L's revenue requirement in its 1994 base rate case by $100 million. PP&L St. 2, pp. 6-7.

c) Operation and Maintenance Cost Reductions

After its 1985 rate case, PP&L did not file another base rate case for over ten years. PP&L St. 2, pp. 7-8. The success of PP&L's efforts is shown by a comparison of PP&L's operation and maintenance production costs (excluding fuel) over time, both in terms of nominal dollars and as adjusted for inflation. PP&L M.B at 29, PP&L St. 2, p. 7.

As on that chart, PP&L's operation and maintenance production costs have increased by only 16 percent over 10 years and, adjusted for inflation, have actually declined by 15 percent.

d) Employee Reductions

PP&L continuously has reduced costs through efficient utilization of employees. PP&L St. 2, p. 8. A total of 604 employees accepted the offer of PP&L's early retirement in 1994 who would reach age 55 by December 31, 1994.

From 1985 through 1996, PP&L reduced its employee complement by 2,005 regular full-time employees, almost 24 percent of its 1985 work force. Most reductions have occured through normal attrition, early retirement programs and voluntary severance programs.

e) Inventory Reductions

In 1991, PP&L modified its accounting for spare parts at power plants. Contemporaneously, with the Commission's approval, PP&L changed its ratemaking treatment of spare parts. Consequently, PP&L was able to pass back $94 million to customers over 5 years through a rate credit mechanism. PP&L St. 2, pp. 8-9. PP&L also reviewed its spare parts inventories to identify obsolete or excessive items and was able to write off $35 million of inventory, further mitigating PP&L's stranded costs. PP&L St. 2, p. 9.

f) Cost Effective Nuclear and Fossil Plant Operations

(1) Containment of Nuclear Generation Facility Costs

Approximately 63 percent[12] of PP&L's stranded costs relate to the Susquehanna Steam Electric Station ("Susquehanna"). PP&L has undertaken significant measures that have reduced stranded costs associated with this facility. *See generally* PP&L St. 2, pp. 9-11.

PP&L completed Susquehanna as quickly as possible in order to minimize associated capital costs. Such efforts were particularly important because while Susquehanna was under construction, inflation, short-term interest rates, and consequently, rates for the allowance for

12 $2,852 million ÷ $4,499 million. See PP&L Exh. JRS 1A.

funds used during construction, were relatively high.[13] As a result of these and other measures, PP&L was able to complete construction of two large nuclear units at a total cost of approximately $3.6 billion for 1,890 megawatts of capacity or approximately $1,900 per kilowatt. Other plants in Pennsylvania and in the United States, which were constructed contemporaneously with Susquehanna, were completed at significantly higher costs per kilowatt. PP&L St. 2, p. 10.

Following completion of Susquehanna, PP&L pursued claims against the containment supplier, General Electric. PP&L settled its claims against General Electric in 1991. Because Susquehanna already was recognized in rate base and because PP&L was in the decade-long hiatus between rate cases, PP&L obtained Commission approval to refund the jurisdictional amount of the net settlement proceeds to customers through a special rate credit mechanism that returned $55 million to customers. PP&L St. 2, p. 10.

In addition, PP&L has operated Susquehanna at high a capacity factor. Because nuclear power plants have high capital costs, but low fuel costs, their efficiency depends upon a high capacity factor — the more a nuclear generating plant operates, the more fuel savings it can provide. Susquehanna's excellent operating record has reduced PP&L's energy costs and customers' rates. Further, because this historical operating record has been projected to continue in the future, it reduces PP&L's stranded costs in this proceeding. PP&L St. 2, pp. 10-11. More recently, between 1991 and 1995, PP&L spent $45 million to upgrade Susquehanna's capacity by 90 megawatts, or $500 per kilowatt, producing additional energy cost savings for customers.

13 Susquehanna Unit 1 commenced commercial operation on June 8, 1983, and Susquehanna Unit 2 commenced commercial operation on February 12, 1985. *Pa. P.U.C. v. PP&L*, 59 Pa. PUC 332, 337, n.1 (1985). For measures of inflation and short term interest rates, see, *e.g.*, OTS Exh. SR-3, Schedule 4.

(2) Savings in Fossil Plant Operations

PP&L has operated its fossil fuel generating plants efficiently and has made substantial expenditures to assure the continued viability of low cost, coal-fired generating stations. These generating stations benefit customers through low fuel costs and increased interchange sales, which both lower retail rates. PP&L St. 2, p. 11.

PP&L also has invested to improve the efficiency of other fossil fuel plants. For example, PP&L converted its Martins Creek Units 3 and 4 to gas/oil dual fuel capability. PP&L now can burn gas or oil, whichever costs less, at these units, which makes them more cost effective. PP&L St. 2, p. 11.

g) Non-Utility Generator Contract Cost Reductions

Under the Public Utility Regulatory Policies Act of 1978 ("PURPA"), PP&L was compelled to enter into long-term supply contracts with NUGs. Rates in these agreements were based upon future market prices of fuels, which were projected at the time the contracts were executed. At that time, the price of oil was expected by now to be nearing $100 a barrel. PP&L St. 18-R, p. 22. NUG contract prices have turned out to be greater than PP&L's avoided costs of replacement generation or purchased power. In order to reduce the level of stranded costs resulting from uneconomic NUG contracts, PP&L has undertaken several actions which have reduced stranded costs by $100 million.

h) Economic Development Initiatives

As explained previously, the essence of pre-restructuring mitigation is keeping pre-restructuring rates low. There are two sides to keeping rates low. One side is cost containment, which has been explained above. The other side is increasing sales and revenues so that fixed costs can be recovered over a greater number of billing units, thereby decreasing the average cost per unit.

On the sales side of the equation, PP&L has promoted economic development in order to retain existing and to attract new industrial load. PP&L has been "prospecting" nationally to attract businesses to its service territory. PP&L has worked with regional economical development organizations and has provided economic development loans in order to attract industrial load and jobs to its service territory. PP&L has adopted specific tariff provisions and rates, subject to the Commission's approval, to promote economic development, including the interruptible service rates, Economic Development Initiative ("EDI") credits, Industrial Development Initiative ("IDI") credits and Demand Free Days. PP&L St. 2, p. 13. These initiatives have helped PP&L avoid rate increases and have generated thousands of new jobs in PP&L's service territory. PP&L St. 2, p. 13-14.

2. Post-Restructuring Mitigation

a) Foregone Recovery Under the Rate Cap

PP&L has demonstrated, in this proceeding, stranded costs of $4.5 billion. PP&L St. 2, p. 18. PP&L has proposed in this proceeding, however, a CTC that will recover only $4.0 billion, resulting in a shortfall of $500 million. PP&L St. 10-R, p. 3. Under PP&L's proposal, its shareholders will bear an estimated $500 million of stranded costs.

Moreover, the CTC revenue shortfall is based upon projected future electric generation market prices. However, PP&L's filing assumes that most of its fixed costs will be recovered as a result of future electricity market price and sales increases. If PP&L's projections overstate actual future market prices, PP&L's total revenues will decrease and its unrecovered stranded costs will increase commensurately.

b) Depreciation Swap

Pursuant to Section 2808(c)(4)(iii) of the Act, one of the mitigation steps that electric utilities are to consider is reallocating depreciation reserves from transmission and distribution plant accounts to generation accounts. In its filing, PP&L has proposed to transfer $205 million of its depreciation reserve related to transmission and distribution plant to the accumulated reserve for depreciation associated with Susquehanna. The transfer of the depreciation reserve, together with the changes in the reserve for deferred income taxes, would reduce PP&L's stranded costs by $317 million. PP&L St. 2, p. 17.

This proposal arises from PP&L's 1994 base rate filing in which the Commission granted PP&L's request to extend the regulatory service lives of its transmission and distribution plant.

If PP&L had used these longer lives commencing at the time that present transmission and distribution facilities originally were placed into service, the accumulated depreciation reserve for these facilities would have been $205 million less than the level currently recorded on PP&L's books and records. It was this change in depreciation lives that made the $205 million of depreciation reserve available to be transferred to generation plant accounts.

Despite the fact that the "depreciation swap" would decrease stranded costs, OCA, the Department of Defense and the Environmentalists have opposed the proposed transfer of the depreciation reserves. They have raised four purported grounds for rejecting PP&L's proposal. None of these grounds have validity.

First, there is no cost shifting between rate classes at the retail jurisdictional level because PP&L's unbundled rates were derived from its cost of service study approved in the 1995 base rate case, which was not modified to reflect the swap of the depreciation reserve. PP&L St. 3-R, pp. 12-13. PP&L's proposal will not result in cost shifting between federal and state jurisdictions. Any possible cost shifting will be avoided by PP&L's creation of a regulatory asset applicable to the transmission and distribution functions which equals the allocated depreciation reserve to be transferred. Under this proposal, the net decrease to the depreciation reserve for the Pennsylvania jurisdictional portion of the transmission and distribution function will equal the Pennsylvania jurisdictional portion of the increase to the depreciation reserve for the nuclear generation function.

Second, it is difficult to imagine that the small change in rates resulting from the depreciation swap would affect customers' usage patterns. PP&L St. 8-R, p. 53. Further, one purpose of the Act is to achieve lower rates to improve the economy of Pennsylvania. *See generally*, Section 2802. The Act encourages mitigation of stranded costs for the purpose of reducing electric utilities' CTCs, thereby lowering rates. Arguments against reducing rates are contrary to the express purpose of the Act.

Third, customers are protected from overrecovery by electric distribution companies of transmission and distribution costs through the applicable rate cap. Consequently, customers cannot be harmed by a reduction in PP&L's stranded costs. Further, the "depreciation swap" is one of the mitigation procedures expressly contemplated in Section 2808(c)(4)(iii) of the Act. PP&L St. 8-R, p. 53.

PP&L's proposal to transfer a portion of the depreciation reserve applicable to its transmission and distribution facilities to nuclear generation facilities, in order to reduce stranded costs, should be recognized as appropriate mitigation.[14]

c) Operation and Maintenance and Administrative and General Cost Reductions

In computing stranded costs, PP&L has projected approximately $513 million in reductions to future operation and maintenance and administrative and general costs. PP&L St. 2, p. 16 These projections reflect a continued commitment to cost containment and an estimate of the reductions that PP&L expects to achieve. However, if PP&L is unable to achieve the projected $513 million of future cost reductions, PP&L and its investors will bear the costs that PP&L is unable to avoid.

d) Treatment of the 1999 Depreciation Change

In its most recent base rate case, PP&L proposed to modify the method by which it accrues depreciation on Susquehanna. PP&L had used a modified sinking fund method to moderate rate increases associated with placing these units into rate base. PP&L proposed, commencing January 1, 1999, to switch to a straight line method of depreciation, under which it would experience a reduction in its annual depreciation accrual of an estimated $70 million. In conjunction with its proposal to change the depreciation method, PP&L proposed also to reduce base rates effective January 1, 1999, to reflect the effects of this switch in depreciation method. The Commission approved PP&L's proposal. *Pa. P.U.C. v. PP&L*, Docket No. R-00943271, pp. 112-13 (September 27, 1995).

As a result of the fundamental changes in regulatory policy under the Act which imposes rate caps on PP&L from January 1, 1997 through 2005, such a rate reduction is no longer

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14 PP&L notes that the PUC rejected a proposed depreciation swap in PECO's Restructuring Proceeding. PECO Order, p. 97. That adjustment is *not* the same adjustment proposed by PP&L in this case. PP&L's excess transmission and distribution depreciation reserve resulted from a new study extending the lives of those assets which was reviewed and approved by the PUC in PP&L's 1995 base rate case. The reduced depreciation expense resulting from this study therefore has already been flowed through to customers through lower rates.

appropriate. PP&L St. 10, pp. 9-10. Under prior rate regulation, PP&L could have filed base rate cases in 1997, 1998 or anytime thereafter in order to recover increased costs of providing electric service. Therefore, it was reasonable to flow through to ratepayers the effects of the change in depreciation method. Under the Act, however, PP&L cannot increase base rates commencing January 1, 1997 and for nine years thereafter. Under these circumstances, it would be far more appropriate for the Commission to permit PP&L to use the reduction in annual Susquehanna depreciation expense to accelerate amortization of regulatory assets and post-transition NUG costs. PP&L St. 2, pp. 18-19. Pursuant to the Act's policy to mitigate stranded costs, the reduction in the annual depreciation accrual for Susquehanna should be used to mitigate stranded costs, as proposed by PP&L.

e) Reduction in Planned Capital Expenditures

In late 1995, PP&L announced plans to reduce capital expenditures over a 5-year period by $671 million. Of this total, $486 million represented reductions in plant expenditures for fossil generating units. Reductions in capital investment in generating facilities mitigates PP&L's stranded costs. PP&L St. 2, p. 9.

f) OCA's Criticisms of PP&L's Mitigation Efforts Are Meritless

Although OCA makes several vague criticisms of PP&L's mitigation of stranded costs, only two items are specific. OCA contends that PP&L has not recognized productivity gains in calculating stranded costs and that PP&L has not recognized the full value of its own assets. These specific adjustments are addressed in detail in Section V. D. As explained therein, these adjustments are without merit.

E. Allocation of Stranded Costs between PP&L and Ratepayers

Several parties in this proceeding have suggested that stranded costs should be "shared" between PP&L and its ratepayers by various artificial and arbitrary means. *See, e.g.,* OCA St. 1, pp. 29-32; OTS St. 1, pp. 20-21; PPLICA St. 1, pp. 15-22. In making these contentions, these parties misapply Section 2804(13) of the Act, which provides as follows:

> Consistent with Section 2808 (relating to competitive transition charges), the commission has the power and duty to approve a

> competitive transition charge for the recovery of transition or stranded costs it determines to be just and reasonable to recover from ratepayers.

It is clear that parties misconstrue and misapply the term "just and reasonable."

Virtually all of PP&L's plant investments have been reviewed by the Commission in prior base rate cases and included in rate base as prudently-incurred and used or useful in the public service. PP&L's most recent base rate case was based upon a future test year ended September 30, 1995. *Pa. P.U.C. v. PP&L*, Docket No. R-00943271, p. 1 (September 27, 1995). No generation units have been placed in service since this test year. Only the relatively minor plant additions placed into service since September 30, 1995, could have been the subject of prudence contentions in this proceeding, and no such contentions have been raised. Therefore, all of PP&L's rate base and operating expenses are "just and reasonable" as that term is used in Section 1301 of the Public Utility Code, 66 Pa.C.S. § 1301, to establish a utility's rates. It follows that PP&L's stranded costs arise from PP&L's present "just and reasonable" rates. The Act should be interpreted to allow recovery of such stranded costs arising from investments and expenses that were determined to be proper in setting present rates.

In the PECO Order, the Commission ruled that in determining a just and reasonable level of stranded cost recovery under Section 2808(c)(3), the Commission must consider whether "the utility's efforts to mitigate stranded investment have been "reasonable under all of the circumstances[.]" PECO Order, p. 67 (citing Section 2808(c)(4)). The Commission noted that Section 2808(c)(4) requires "equal consideration" of the utility's "efforts undertaken over time . . to reduce or moderate rate levels." As noted above, with some of the lowest rates in the state, PP&L has satisfied this standard. Indeed, it is application of the rate cap at these low rates that prevents PP&L from recovering up to $500 million in stranded costs.

Parties in prior utility base rate proceedings have contended that certain otherwise "just and reasonable" expenses of public utilities should be "shared" between ratepayers and the utility on policy grounds similar to contentions raised by various parties in this proceeding. Such contentions have been uniformly rejected by Pennsylvania appellate courts. *See, e.g., Butler Township Water Co. v. Pa. P.U.C.*, 81 Pa. Comwlth. 40, 473 A.2d 219, 221-22 (1984); *T.W.*

Phillips Gas & Oil Co. v. Pa. P.U.C., 81 Pa. Comwlth. 205, 474 A.2d 355, 366-67 (1984). Similarly, the sharing proposals should be rejected in this proceeding.

Significantly, when the General Assembly wishes to mandate "sharing" mechanisms, it knows how to do so. When considering electric generation units with excess capacity that is not used or useful in the public service or electric generating units which experience excessive outages, the General Assembly has set forth procedures for such determinations and specified the sharing mechanisms that the Commission is authorized to employ. *See* 66 Pa.C.S. § 1322 (as to excessive outages) and 66 Pa.C.S. § 1323 (as to excess capacity). The Act, in contrast, contains no such provisions.

Moreover, the OCA's proposed stranded cost proposal would have a devastating impact on PP&L. This analysis is provided in PP&L St. 8-R, pp. 18-29.[15]

OCA's proposed level of stranded costs is unjustified. Similarily that proposed by OTS in its Main Brief at pages 7-14 is unfounded

PP&L has proposed to recover 100% of its stranded costs through a CTC per Kwh from each customer. OTS witness Mr. Gruber testified that PP&L should not be allowed to recover 100% of its stranded costs, and has recommended that the Commission order the Company to share stranded costs associated with net generating plant between the ratepayer and the stockholder on a 90%/10% split.

OTS believes that there should be a sharing of the stranded costs between the ratepayers and the stockholders of the Company because of the "intent" of stranded costs. OTS contends that the Commission should provide some incentive for the utility to mitigate stranded costs through the use of a sharing mechanism. OTS argues, but we disagree that it is clear that the inclusion of a company's total stranded costs would reward those utilities who in the past have made less cost efficient judgments in their choices and construction of generation capacity. This is a separate issue.

15 In its surrebuttal testimony, OCA increased its stranded cost allowance to approximately $1.0 billion. OCA St. 1-S, p. 7. This small increase has no material effect on the financial results outlined below. Tr. 1543-45 (8/26/97).

We disagree with OTS witness Mr. Gruber's proposal that the Commission should order a sharing of stranded costs, "because if you do not share the costs, the Commission will be penalizing the efficient utility by allowing the inefficient utility to recover all of its inefficiencies in the Competitive Transition Charge (CTC)." The Act is not about micro-managing the competition.

For purposes of this restructuring filing, the OTS has proposed a 10% sharing for the stockholder of the Company to absorb.

OTS argues that the precedence for this 90%/10% (Ratepayer/Stockholder) Split from the instance when the natural gas local distribution companies (LDCs) were faced with having to pay "take or pay" buyout costs of long term gas supply contracts, and the Commission approved a 90%/10% sharing between ratepayer and stockholder as a reasonable solution. The "take or pay" issue is not a "stranded cost" issue. As stated above had the legislature wanted sharing it would have been provided.

We reject OTS' request that the Commission employ a 90%/10% (Ratepayer/Stockholder) Sharing of stranded costs. (See OTS Exhibit No. 1, Schedule 4)

III. STRANDED COST CALCULATION METHODOLOGY

INTRODUCTION

The Act generally identifies three categories of stranded costs: (1) regulatory assets and other deferred charges, the unfunded portion of nuclear plant decommissioning costs, and cost obligations under contracts with NUGs; (2) costs related to the cancellation, buyout, buydown or renegotiation of NUG power supply contracts; and (3) other generation-related expenses, principally plant and fossil decommissioning costs. 66 Pa.C.S. § 2803. As defined in the Act, stranded costs are the present value of net generation-related costs that would be recoverable under traditional cost-of-service regulation, but which may not be recoverable in a competitive market and which remain after mitigation efforts. 66 Pa.C.S. § 2803

A. PP&L's Calculation Of Stranded Costs

PP&L's Restructuring Plan filing includes expenses from each of the categories identified by the Act. PP&L St. 8, p. 3. For stranded cost calculation purposes, PP&L divided its claimed expenses into four categories: (1) nuclear generation; (2) fossil generation; (3) NUGs; and (4) generation-related regulatory assets. Utilizing a regulatory or revenue requirement methodology (the "regulatory method"), PP&L determined that it has approximately $4.5 billion in stranded costs after mitigation.[16] Table B to PP&L's M.B. provides a summary of PP&L's $4.5 billion stranded cost claim under the regulatory method

The OCA and PPLICA oppose the Company's method of calculating stranded costs related to generating plant, and recommend that the Commission adopt the asset value method proposed by PECO in its Restructuring Plan proceeding (Docket No. R-00973953). OCA St. 1, p. 14; PPLICA St. 2, p. 10 (Table C to PP&L's M.B. provides a calculation of stranded costs using the asset value method) We find PP&L's regulatory method is appropriate and fully consistent with the Act and recommmend its adoption.

B. The Regulatory Method vs. The Asset Value Method

The regulatory method of calculating nuclear and fossil generating plant stranded costs, proposed by PP&L, compares the annual cost-of-service revenue requirements for each generating plant to the projected annual revenues each plant would receive from the sale of its output using market-based prices for each year beginning January 1, 1999, to the end of its remaining service life. PP&L St. 8, p. 4. The Company applied a PUC-jurisdictional percentage to the annual excess or deficiency, and discounted the resulting stream of annual excesses or deficiencies to present value at January 1, 1999 using a discount rate of 7.92%, which is PP&L's after-tax weighted average cost of capital PP&L St. 8, p. 4; PP&L Exh. JRS 1, p. 1.

In contrast, the asset value method compares the present value of revenues, less cash expenses, that could be earned from generating facilities in a competitive market, with the sum of

16 In its initial filing, PP&L estimated that it had approximately $4.6 billion in stranded costs. PP&L Exh. JRS 1, p. 1. The Company subsequently revised its claim to reflect an error in its original calculation. The Company's final stranded cost claim is $4,499,922,000. *See* PP&L M.B., Tables B and C.

the current book value of generation and regulatory assets. PP&L St. 8-R, p. 7. Under the asset value method, the difference between this net market value and current book value equals stranded cost.

We favored the regulatory method for the following reasons:

> *First*, the regulatory method is simple to understand and to apply because it essentially uses a series of future test years; all revenues and expenses are reflected in the time period in which they occur.
>
> *Second*, a variety of conceptual issues arising under the regulatory method, previously have been resolved by the Commission under traditional cost-of-service regulation. Thus, allowing the Commission to apply existing rules and accepted assumptions in calculating stranded costs.
>
> *Third*, the regulatory method is fully consistent with the Act. Specifically, Section 2803 of the defines stranded costs as the "known and measurable net electric generation-related costs, determined on a net present value basis over the life of the asset or liability as part of its restructuring plan, *which traditionally would be recoverable* in a competitive generation market and which the commission determines will remain following mitigation by the electric utility." 66 Pa.C.S. § 2803 (emphasis added). Under traditional rate regulation, utilities are allowed a fair opportunity to recover their revenue requirement. Consequently, revenue requirement is the proper starting point for the determination of stranded costs of generating plants. The Act defines stranded costs based on a comparison of revenue requirements under traditional regulation with revenues projected in a competitive market.
>
> *Fourth*, the regulatory method prevents an electric utility from deriving an unfair benefit from the transition to competition..

At most, a utility may only receive the level of revenues that it would have received under current Commission-approved rates.

Fifth, the regulatory method takes into account the effects of book value on revenue requirements year by year.

PP&L St. 8-R, pp. 5-7; PP&L St. 19-R, pp. 15-16. See, PP&L M.B. at 44.

Application of the asset value approach presents numerous problems and complexities. The result is a mixed, hybrid approach which introduces substantial (and needless) complexity and causes serious errors in the OCA and PPLICA presentations.[17]

OCA and PPLICA rely on the Commission's recent Order in the PECO Restructuring proceeding to support their recommendation to use the asset value methodology in this case. PP&L respectfully submits and we agree that the PECO Order does not support the use of the asset value method in this case. First, it is important to note that, *when properly applied, both the regulatory and asset value methods should produce comparable results because they theoretically measure the same costs.* PP&L St. 19-R, pp. 9-14. As explained by Mr. Guth, the two methods use the same inputs, with one exception. The asset value method utilizes book value, while the regulatory method utilizes the sum of revenue related to annual return on capital and revenue requirements for income taxes.

Second, in our view, the PECO Order should not be interpreted as supporting the use of the asset value method over PP&L's proposed regulatory method. In fact, because none of the parties in the PECO Restructuring proceeding proposed the regulatory method to calculate stranded costs, the regulatory method simply was not at issue in the PECO Restructuring case.

Third, the OCA and PPLICA stranded cost models are not in the record in this case.

IV. MARKET PRICE OF ELECTRICITY

PP&L used the forecast of prospective market electricity prices to develop market revenues for each plant on an annual basis. The market revenues were then subtracted from

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17 Examples of such errors include the calculation of Taxes Recoverable. *See* PP&L M.B.Section V.D.6.

revenue under regulation to determine the stranded costs associated with PP&L's generating plants. See PP&L Main Brief pp. 48-87 ,pp. 87-129.

The prospective market prices for electricity are comprised of the price of capacity and the price of energy. Customers will pay for capacity (i.e. the right to draw upon PP&L's generating assets when needed) and for electric energy as they use it. Both energy and capacity prices are important in evaluating the competitive market value of PP&L's generating assets. However, energy prices are far more significant because they will represent approximately 90% of revenues received for electricity. PP&L Main Brief at 49.

In this proceeding there are three (3) estimates of prospective market prices for electricity (PP&L witness S. Jones, OCA witness D. Smith and PPLICA witness R. Falkenberg).[18] Each witness has provided an estimate of future capacity and energy prices. We find that PP&L's estimates reflect reasonable and consistent assumptions concerning future fuel prices and inflation as well as a tightening of the available capacity early in the next century.[19]

In general, witnesses for OCA and PPLICA estimate that market prices for electricity will rise sharply in the future. Their forecasts of increasing prices appear to be contrary to the actual results of deregulation in other areas. Simply stated, deregulation and competition produce lower prices. This is what was intended by the General Assembly. 66 Pa.C.S. §§ 2804(4) and (5). This is what has been experienced in deregulation of other industries such as airlines and trucking. PP&L St. 7-R, pp. 23-24; PP&L Exh. STJ 9. Overstated market prices ignore the fundamentals

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18 Mr. Smith and Mr. Falkenberg presented market price projections in the PECO Restructuring proceeding, along with three witnesses on behalf of PECO. Dr. Jones did not testify in that proceeding. The Commission concluded that Mr. Smith's analysis was ". . . the most reasonable determination of future market value in the record . . . ." It did note that it found no single proposal in that proceeding "completely convincing." PECO Order, p. 88. The Commission must make a determination of the market price projections based on the record in this case. As explained hereinafter, PP&L has raised numerous issues concerning Mr. Smith's presentation which were not presented, and, therefore, not resolved in the PECO Restructuring proceeding.

19 PP&L's estimates were prepared by Dr. Scott T. Jones, CEO of the Economics Resources Group. Unlike the other witnesses on this issue, Dr. Jones has extensive experience in the energy industry and in projecting energy and fossil fuel prices. He was Director of Energy Studies for Atlantic Richfield Company from 1980-1985 and has provided consulting services to the oil and gas industry for more than 10 years. He has studied projections of fuel prices and the relationship of various fossil fuel prices, published articles on such issues and testified in numerous proceedings on fuel prices. PP&L Exh. STJ 1.

of competition, grossly overstate the future market prices for electricity and understate PP&L's stranded costs of generation.

A. Relevant Market for Energy

In determining the capacity and energy prices that will be paid to PP&L, it is necessary to first determine the relevant market for sale of electricity and the likely sources of competition. PP&L witness Dr. Jones defined the supply side of the market as the generation sources in PJM and those available to serve customers in PJM. This definition includes both power sources in PJM as well as energy and capacity that can be delivered to PJM. PP&L St. 7, p. 9. The demand side of the market for generation includes all customers in PJM as well as those with access to electricity that can be delivered over lines within and connected to PJM. PP&L St. No. 7, p. 9.

B. Price of Capacity

1. Methodology

Dr. Jones estimated future capacity prices by beginning with current contracts for sale of capacity held by PP&L. PP&L currently makes short-term or spot capacity sales and makes sales in the forward market. PP&L St. 7, p. 45.

In forecasting future capacity prices Dr. Jones projected that capacity prices would rise sharply as PJM moved from the current state of capacity excess to a balance of demand for, and supply of, capacity which corresponds to an expected elimination of the capacity excess in PJM.. See, PP&L Exhibit STJ 8, PP&L St. No. 7, pp. 45-46.

In contrast, OCA witness Mr. Smith projects continually increasing capacity prices from 1999 to 2015 based upon the carrying cost of new "peaking" capacity in 2001. OCA St. 2, p. 18, OCA Exhs. DCS 7, DCS 10. PPLICA witness Mr. Falkenberg projects generally rising capacity prices with a two year reduction in prices following tightening of the capacity market in 2001. PPLICA St. No. 2, p. 63, PPLICA Exh. RJF 9b.

The main criticizism of Dr. Jones' estimates of market capacity prices are that they are insufficient to encourage investors to install new capacity when needed. PP&L argues that these allegations have been demonstrated to be based upon errors of analysis and incorrect assumptions. PP&L Main Brief pp. 51-55.

2. Sufficiency of Market Capacity Prices to Support Additions of New Capacity

OCA, PPLICA and OSBA challenged Dr. Jones' forecast of market capacity prices as insufficient to support addition of new capacity. OCA St. 2, pp. 12-17; PPLICA St. 2, pp. 35-40; OSBA St. 1, pp. 32-34.. Dr. Jones refuted such analysis in his rebuttal testimony. PP&L St. 7-R, pp. 68-85; PP&L Exhs. STJ 28 and 28a. OCA and PPLICA responded to Dr. Jones in their surrebuttal testimony. OCA St. 2-S, pp. 10-20; PPLICA St. 2-S, pp. 13-33. Dr. Jones responded in rejoinder. Tr. 1385-86, 1391-96 (8/25/97); PP&L Exhs. STJ 28R, STJ 28aR and STJ 28bR.

PP&L argues and we agree that this "issue" is a "tempest in a teapot".See, PP&L revised Exh. Nos. STJ 28 R, STJ 28aR and STJ 28bR wherein Dr. Jones addresses the cost of the new unit, costs of other facilities such as land and pipelines to serve the unit, and the heat rate (amount of BTUs needed to produce a Kwh of electric energy) at which the unit can be expected to operate. PP&L Main Brief pp. 52-54.

We find that the contentions of various parties that Dr. Jones' market capacity prices are "insufficient" to support additions of new capacity are unsupported by the record. PP&L's analysis demonstrates that its forecasted prices are sufficient to support such additions at even today's costs and heat rates. As unit costs decrease and/or heat rates improve (less fuel to produce each Kwh) the rates of return produced by new units will be even higher.[20] Accordingly we find that the market capacity prices forecasted by Dr. Jones are demonstrated to be reasonable.

OCA's and PPLICA's witnesses ignore the effects of competition in lowering prices and provide no real-world basis to support their projected capacity prices. In contrast, PP&L's prices are based upon current contracts and have been demonstrated to produce returns that are

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20 The calculations in PP&L Exhibit STJ 32 are based upon a heat rate of 7000 Btu/Kwh, which is very conservative. Mr. Smith estimated a future heat rate of 6700 Btu/Kwh which, if used in PP&L Exh. STJ 32, would increase rates of return even further because the unit would consume less fuel per Kwh produced. Tr. 1395 (8/25/97).

sufficient to install new generation. For these reasons, PP&L's capacity prices are the only capacity prices that are justified by the record in this proceeding, and are accepted. As shown in Table D to PP&L's Main Brief, the use of OCA's higher capacity prices would increase projected market value by $38.446 million and reduce PP&L's stranded costs by an equal amount.

C. Price of Energy

Three witnesses have projected energy prices in this proceeding. Each witness has used a model to estimate future energy prices. The principal inputs of these models are fuel prices, operation and maintenance expenses for each generating unit, inflation, efficiency of each generating unit, customer demands for energy and imports of energy from outside the PJM pool. Accordingly, one of the primary controversies in this proceeding is the appropriateness and reasonableness of the inputs to the models. Before addressing those inputs, issues concerning the appropriate model to employ must be resolved.

1. Choice and Use of Models

Each of the witnesses agrees that the model should be designed to determine the marginal cost of the last generating unit dispatched to PJM each hour. PP&L witness Dr. Jones explained the theory of his model as follows:

> Suppliers, like PP&L, seeking to supply load in the PJM-ISO region will bid prices into the regional capacity and hourly energy markets. These bids represent the prices at which generators are willing to supply electric generation services. If they are called upon in any hour, generators will behave as "price-takers", receiving a market price for electricity they generate. In competitive markets, where suppliers receive the market clearing price, producers will tend to bid their generation at its marginal cost. The variable costs of the last generation facility dispatched will determine price, rather than sunk investment costs. In such a system, competition is fostered through the activities of each generator, acting in its own self-interest, which together produce electricity at the lowest possible cost. PP&L St. 7, pp. 5-6.

It is to be noted that every generating unit operating in a given hour will receive the price paid for energy from the marginal or highest cost unit dispatched. In this way, all units which run in a given hour and have costs less than the marginal cost unit will receive a price which exceeds the variable costs of running such units. Accordingly, these units will recover a portion of their fixed costs.

The price of energy on an hourly basis is converted to hourly and annual revenues for each generating unit. The excess, if any, of revenues over variable costs is available to cover the fixed costs, including return, of such generation stations. To the extent that market prices are not sufficient to produce revenues to cover all fixed costs, there are stranded investments in generation.

While the theoretical approach to the models used by each witness is essentially the same, there are differences in the way that each model operates which create differences in the resulting market prices that are not accounted for by differing input assumptions. See PP&L Main Brief pp. 55-87.

a) PP&L's EGEAS Model Produces the Most Realistic and Reliable Results

Each of the witnesses testifying as to energy prices used a different model to project such prices. Dr. Jones, testifying for PP&L, used the EGEAS (Economic Generation Expansion Analysis System) model. Dr. Jones explained how the EGEAS model operates:

> EGEAS is an economic dispatch model designed primarily for long-term system planning. As its name implies, the primary purpose of the model is to find the best possible combination of generation resources for meeting system load in the short run and in the long run. In the short run, EGEAS is a production cost model, dispatching units to meet demand levels in each hour of the year. Over the long run, the model adds capacity to the existing system to meet reliability constraints. Depending upon the economics at that point in time a new unit will be added, either peaking or combined-cycle technology is added to minimize cost. PP&L St. 7, p. 25.

As noted in the above testimony, EGEAS determines the optimum mix of generation for each hourly load and, thereby, identifies the marginal cost unit. The cost of operating this unit determines the hourly market energy price.

It is noted that the EGEAS model has been used to dispatch units on the PJM system. It is not, therefore, a theoretical model but one which has been tested in the real world environment. Tr. 1685-86 (8/26/97). Furthermore, the EGEAS model is a publicly available model which can be acquired, used and tested by any party. PP&L St. 20-R, pp. 19-21.

The model employed by PPLICA witness Mr. Falkenberg is a theoretical model and is proprietary to his firm. PP&L's witness Mr. Falk identified deficiencies in the model. PP&L St. 20-R. The problem that is common to all of the defects was explained by Mr. Falk as follows:

> The entire raison d'etre for competitive markets is their ability to minimize costs to meet a given level of demand. . . Whenever a production costs simulation produces costs higher then those which are optimal, the result is to overstate what an efficient competitive market could have produced. PP&L St. No. 20-R, p. 7.
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> ***
>
> Mr. Falkenberg has cut many corners in his model. These cut corners generally produce results, as I shall demonstrate, which do not minimize costs to meet a given load. As a result, they produce higher aggregate prices than a competitive market would. PP&L St. 20-R, p. 8.

Mr. Falk identified five areas in which Mr. Falkenberg's model did not optimize costs. *See* Tr. 1683-84 (8/26/97).

The fact that Mr. Falkenberg's model is not tested in the real world of energy dispatch and is a proprietary model is important. The above-referenced over simplifications and the lack of independent real world application of the model make it unreliable for the purposes for which it was submitted in this proceeding. Indeed, if the Commission were to direct use of different inputs then those which, as explained later, were erroneously employed by Mr. Falkenberg, no party other than PPLICA could run the model. Accordingly, the model is simply not useful in examining the issue of forecasted market prices and the model, and we reject the resulting conclusions from it.

OCA witness D. Smith used the ENPRO model to forecast energy prices. This model is less problematic than the Falkenberg model for two reasons. First, it is an operational dispatch model like EGEAS, not a theoretical model like the Falkenberg model. Second, ENPRO is commercially available, and, therefore can be obtained and run by any participant in this proceeding.

PP&L witness Dr. Jones obtained and ran the ENPRO model to determine whether the results obtained by Mr. Smith were the result of differences in the model or differences between Mr. Smith's inputs to ENPRO and Dr. Jones' inputs to EGEAS. Dr. Jones determined that there were differences in the ENPRO model and Mr. Smith's application of the model which are unrelated to differences in inputs.

The primary deficiency of the ENPRO model is that it can model only 200 units. Tr. 1398 (8/25/97). In order to provide room for the addition of new units, Mr. Smith could model less than 200 of the 350 existing units in PJM. Tr. 1398, 1511 (8/25/97).[21] To accomplish this, Mr. Smith had to aggregate existing units or treat them as one unit. Tr. 1511 (8/25/97). The problem with aggregating units, in this fashion, is that it raises energy prices by using the average cost of the aggregate group rather than the lowest cost at all times.

Mr. Smith's application of ENPRO., as explained by Dr. Jones, assumes that units which can be fired with either oil or gas will use oil one half of the time and gas the other half of the time, regardless of competing fuel prices. Of course, such assumption is unrealistic and biases electricity prices upward since duel fuel units can be presumed to use the lower price fuel. Tr. 1397-98 (8/25/97). As shown in Table D to PP&L's Main Brief, the effect of this is to overstate market value by $159.298 million.

Mr. Smith also reduces the availability of imports from outside PJM after 2005, without explanation or justification. Tr. 1398 (8/25/97). Because imports from the west generally are at lower costs, Tr. 1510 (8/25/97), this increases the price of electricity in PJM just as the 7-year

21 *Mr. Smith did not indicate in his direct testimony that* ENPRO *requires aggregation of units.* This is the type of information, however, that can be discovered by other parties when a model is commercially available. There is also no indication in that the Commission was aware of this deficiency in the ENPRO model in the PECO Restructuring proceeding.

rate cap under the Act expires. The effect of this is to overstate market value be $226.296 million.

Dr. Jones presented Exh. STJ 33 to graphically illustrate the effects of the ENPRO model. Accordingly, the errors in the ENPRO model, and Mr. Smith's application of the model, are significant. Nevertheless, these errors are mostly correctable and, if those corrections are made, the model can provide the basis for a reasonable forecast of energy prices.[22] As shown on PP&L Exh. STJ 33, the remaining differences between the energy prices forecasted by Mr. Smith and those forecasted by Dr. Jones are the result of differences in inputs to the models. When Dr. Jones' inputs were put into the ENPRO model and ENPRO errors were corrected, ENPRO yields essentially the same prices as EGEAS. For this reason it is critically important that the ALJ address the appropriate inputs to the ENPRO and EGEAS models.

The EGEAS model, in contrast, does not contain the methodological problems that have been explained above with regard to the Falkenberg model and ENPRO.[23] Specifically, EGEAS is a dispatch model which has been used for many years in dispatching units on the PJM system. As noted by Mr. Falk:

> I've sold dispatch models commercially, and differences in dispatch and the price and the commitment of units that would be glossed over in two seconds in a regulatory proceeding lead to weeks of meetings [and] rewrites[,] your model against my model in the real world . . . I just don't think, with all due respect to the regulatory process, that it matches the crucible of competition . . . Tr. 1685-86 (8/26/97).

The EGEAS model can model all of the units in PJM as well as necessary additions, it schedules maintenance rather than spreading it arbitrarily throughout the non-summer months, it optimizes new capacity additions to produce the lowest energy costs by choosing between

22 The inability of the ENPRO model to reflect more than 200 units, however, cannot be corrected.

23 It also is noted that no witness employed the EGEAS model in the PECO Restructuring proceeding. Since the results of such model were not available for the Commission's consideration in the PECO Restructuring proceeding, the Commission relied upon Mr. Smith's use of ENPRO. Here, the EGEAS model, which is more robust, is the best available model.

combustion turbine and combined cycle units, it uses appropriate prices for unserved energy and it properly reflects different summer and winter capacity ratings. PP&L St. 20-R, p. 18.

b) Treatment at Start-Up and No Load Costs

The only criticism which other parties have directed at the use of the EGEAS model concerns the treatment of start up or no load costs. This is really not a criticism of the robustness of the model but, instead, its application to determine market clearing prices in this proceeding. Nevertheless, this criticism has been demonstrated by Dr. Jones as having a minimal effect on his forecasted energy prices and the resulting stranded costs of generation.

OCA witness Mr. Smith and PPLICA witness Mr. Falkenberg state that generators would not bid their incremental cost of generation because there are extra costs attributable to start-up that would not be recovered if they happen to be the unit that supplied the last kWh of energy at that point in time. In this way, intervenors argue that PP&L has understated the market clearing price of energy. OCA St. 2, p. 5. Their reasoning is that the incremental cost of some blocks of a unit is below the actual cost of operation at certain loads. Intervenors argue that the only way to account for this reluctance would be to assume that generators adjust upward their initial bids to the average cost of generation (supposing that the average costs of generation always exceeds the incremental cost of generation), because no generator would knowingly bid his incremental cost into the market for fear of losing money on an on-going basis. In the view of at least one of the intervenors, PPLICA St. 2, p. 18, the average full load heat rate would be bid by the generator assuming that the *single heat rate* for each unit was equal to the average full load heat rate.

There are two major flaws in intervenors contention about this "heat rate" issue. First, as Dr. Jones points out, PP&L St. 7-R, pp. 62-63, intervenors do not have a clear grasp of the incentives facing generators in a competitive market. Intervenors idea that no rational generator would knowingly bid his incremental cost for fear of having to forego some start-up costs incorrectly assumes that any individual generator subject to competition would somehow know, in advance and for any hour of the year, exactly when the market for energy would clear at the incremental cost of their unit. Only in this way would the potential cost of not offering capacity to the market offset the financial loss of foregoing the opportunity to earn a profit on that capacity because as long as the supply curve for energy has the usual upward slope, all generators but the last unit dispatched at any point in time will receive a price for that hour that is in excess of their incremental cost.

Second, Dr. Jones correctly notes that whether or not intervenors' allegations are valid (a) is an empirical question requiring proof and, (b) has to recognize that EGEAS does not dispatch an entire unit on the basis of a single heat rate. Rather, in a manner like the way PJM actually dispatches the system, EGEAS divides a generator's capacity into several blocks, each with a different heat rate. At some points in time, the incremental cost of energy based on heat rates is greater than and less than the average cost of generation as shown in PP&L Exh. STJ 22. Dr. Jones summarized his analysis of the issue raised by other parties and his empirical test of the significance of the issue as follows.

> . . . I have tested Mr. Falkenberg's hypothesis for him. Additional runs of EGEAS using Mr. Falkenberg's suggested average heat rate approach result in higher and lower market clearing prices during the year. On balance, PP&L's estimated stranded costs fell by 0.8% or $37 million. I conclude that Mr. Falkenberg's contention that PP&L systematically understated market-clearing prices by disregarding the effect of no-load costs and average heat-rates is without merit, apparently designed to alarm the Commission rather than raise a substantive concern. PP&L St. 7-R, pp. 14-15.

As noted in the above testimony, even if generators could know in advance that their bids to supply energy would represent the market clearing price and, therefore, adjusted such bids to cover so called "no load" costs, the effect on PP&L's generation revenues would be sufficient to reduce PP&L's stranded costs by only $37 million out of $4.5 billion[24] or about eight tenths of a percent. It is not at all clear that generators will act, as Mr. Falkenberg surmises in a competitive market where they are seeking to under bid others to sell energy, and are uncertain whether their bids will set the market clearing price. However, even if all generators were to include such

24 The issue of failure to cover so called "no load" costs was one of the bases used by the Commission to reject the testimony of PECO witness Heironymus. PECO Order, pp. 85-86. However, Mr. Heironymus did not recalculate the effect on market clearing prices if generators increased their bids to include such costs, as Dr. Jones did, but instead simply assumed there would be uplift payments to generators which would not affect the market clearing price. PECO Order, pp. 85-86.

costs, which is unlikely, the effect will be to reduce PP&L's $4.5 billion of stranded costs by no more than $37 million and leave such costs still well above the $4 billion recoverable under the rate cap.

For all the foregoing reasons, PP&L has demonstrated that the EGEAS model is the most realistic and robust model for determining energy prices and should be used to determine such prices, if any model is used, in this proceeding.

2. Inputs to Models

As explained in the PP&L M.B., the selection of an appropriate model is an important first step in forecasting energy prices. However, either the EGEAS model or the ENPRO model, with certain corrections, can be used to forecast energy prices. The correct inputs to the model are, by far, the most critical issues in forecasting energy prices and differences in the inputs selected by each witness account for the majority of the differences between the forecasts of the witnesses. This is illustrated by Dr. Jones' rejoinder Exh. STJ 33, which compares the results of OCA's inputs to the ENPRO model with PP&L's inputs to the EGEAS model.

It is, therefore, very important that the Commission carefully review the inputs that have been selected by the witnesses. OCA's and PPLICA's witnesses have used forecasts of fuel prices and inflation -- the two most critical inputs -- which are prepared by entities that have consistently overstated such variables in the past. For the reasons explained below, PP&L's inputs to the EGEAS model are reasonable.

a) Fuel Prices

(1) Projected Oil and Gas Prices

Perhaps the most critical and significant input to the models is the cost of fuel to operate each unit that generates electricity. Since the energy price for all units running in a given hour equals the cost of operating the marginal cost unit operating in that hour, the variable cost of operating the marginal cost unit is critical. Fuel price is the primary component of variable cost.

As explained by Dr. Jones, a forecast of fuel prices must reflect the fundamentals of fuel markets. In particular, two concepts are extremely important. The first concept is that increases in fuel prices should be separated into two components: increases in real fuel prices (exclusive of inflation) and increases in fuel prices due to inflation. The combination of the increase in the real fuel price and the effect of inflation on the fuel price produces the nominal fuel price at any point in time.

The second concept is that projected increases in one fuel price, such as natural gas, must be reviewed in the context of competing fuels such as oil and coal. Both common sense and experience demonstrate that prices of competing fuels move in tandem and forecasts which project different rates of increase for competing fuels are highly suspect. Application of these fundamental concepts to the fuel price forecasts of each of the witnesses demonstrates that Dr. Jones' forecast is, by far, the most reliable and most reasonable forecast.

Dr. Jones forecasted that 1996 real fuel prices would remain flat until 1999. Dr. Jones then forecasted that real fuel prices would remain flat and that nominal fuel prices would increase with inflation from 1999 forward. PP&L St. 7-R, p. 41.[25]

Dr. Jones projected that real fuel prices would remain flat after 1999 because history demonstrates that real fuel prices rise and fall but revert to a mean price of about $15.50 in 1996 dollars over the long term. PP&L St. 7-R, p. 47. As shown in Dr. Jones' Exh. No. STJ 16, oil prices averaged about $15.50 a barrel (in 1996 dollars) over the period 1900 to 1996 excluding the unusual period of 1979 to 1985 represented by the Iranian Revolution. It is noted, however, that other disturbances like the Gulf War are included in the experience period. Nevertheless, Dr. Jones adopted a real oil price of $18.00 per barrel, Exh. No. STJ 16, which corresponds to the average price of $17.90/Bbl over the last 10 years. PP&L St. 7-R, p. 54.

Only Mr. Knecht, on behalf of OSBA,[26] attempted to refute Dr. Jones' explanation that real prices are mean reverting, by calculating a .8% rate of increase in the price of oil from 1939 to 1996. OSBA St. 51, pp. 17-22; OSBA Exh. RDK-S-2. However, Dr. Jones explained in rejoinder that the choice of a particular starting year substantially effects this type of calculation.

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25 Fuel prices peaked in 1996 and began to decline in 1997. PP&L St. 7-R, p. 43. Therefore, the subsequent experience tends to confirm that Dr. Jones' use of the 1996 nominal prices as the starting point for 1999 is appropriate.

26 Mr. Knecht did not forecast energy prices in this proceeding.

If Mr. Knecht had chosen any of 24 differing starting points since 1900 there would have been real declines in oil prices and, if many other starting years were used, real oil prices would simply be flat. Tr. 1404-05 (8/25/97). As a result, simply choosing a starting point year near the end of a depression when oil prices were low proves nothing about the long term trend of real oil prices.

Finally, Dr. Jones explained that projections of rising real fuel prices are contrary to both the weight of historic evidence and the progress of technological developments in exploration for fuels. PP&L M.B. 66.

> Q. Are Mr. Knecht's conclusions then in error in concluding that real fuel prices will increase?
>
> A. Real fuel prices, there's absolutely no evidence that real fuel prices will increase over the long term. In fact, it's the very progress that energy companies have made with regard to technology innovation when it comes to locating and producing energy that suggests that technical progress will continue to overcome the apparent assumption that seems to drive forecasts like those used by Mr. Smith and Mr. Falkenberg.
>
> Their forecasts rely on the assumption that technology is losing ground to the idea that energy is a finite resource and there is only so much oil and gas and uranium in the ground, so prices must rise.
>
> Professor Morris Adelman, MIT's best known natural resource economist, addressed that issue head on in his book, "The Economics of Petroleum Supply."
>
> Professor Adelman states in Chapter 13 under a heading called, "Prices Should Rise and Do Not," he says, "The assumption of an initial fixed mineral stock is not only wrong but superfluous. All else being equal, the replacement cost of any mineral should constantly increase over time and the price with it, yet prices of minerals have not risen.
>
> Practically all have been flat or actually declining in the long run. The argument now among econometricians is whether we must reject or accept a long-term downward trend for minerals prices.

> Long-term increases is not even in question. All else has not been equal.
>
> Mineral depletion is in fact an endless tug of war, diminishing returns versus increasing knowledge, and so far the human race has won big. Tr. 1405-06 (8/25/97).

The evidence, therefore, supports only a conclusion of flat real fuel prices.

Messrs. Falkenberg (PPLICA) and Smith (OCA) rely on the forecasts prepared by DRI and EIA respectively. By increasing nominal fuel prices more than their projected increases in inflation, these forecasts effectively project both increases in real fuel prices and increases in fuel prices due to inflation. PP&L St. 7-R, p. 55; Tr. 1404 (8/25/97). Yet neither witness has presented any substantive basis for concluding that real fuel prices will rise. In this regard, it is to be noted that Dr. Jones real oil price of $18.00/Bbl is essentially equal to the $17.90/Bbl average price over the last 10 years and is significantly above the $15.50/Bbl average long-term price of oil in 1996 dollars excluding years affected by the Iranian Revolution. PP&L St. No. 7-R, p. 54. Accordingly, Dr. Jones' projection of real oil prices is on the high side of average historical prices. Furthermore, as shown on PP&L Exh. STJ 18, one standard deviation around this average price establishes a range of $12/Bbl to $19/Bbl. While oil prices may rise and fall above the average it is reasonable to conclude that they only rarely will move outside one standard deviation. As also shown on Exh. STJ 18, in contrast to Dr. Jones' real oil price of $18/Bbl, Mr. Falkenberg's (EIA's) real oil prices begins at about $19/Bbl and continually rises throughout the forecast period to prices of about $24/Bbl, well outside one standard deviation from the average price. The DRI forecast used by OCA produces similar results. PP&L Exh. STJ 19. Accordingly, the expectation of these forecasts -- that real oil prices will rise -- is simply not supportable given historic trends. Equally important, neither OCA's nor PPLICA's witnesses has presented any evidence to support such real price rises, they have simply accepted the DRI and EIA forecasts.

The witnesses' use of the DRI and EIA fuel prices is difficult to explain given that both entities have continually over-estimated fuel prices. As shown on PP&L Exhs. STJ 14a and 14b, each of EIA's 1986, 1987, 1989 and 1992 long term fuel price forecasts has consistently overstated fuel prices. DRI's fuel price forecasts closely matches EIA's over-estimates.

PP&L Exh. STJ 19. As shown on PP&L Exh. STJ 35, DRI's 1994 and 1995 forecasts also overstated inflation and, thereby fuel prices. Dr. Jones explained that the EIA and DRI fuel price forecasts are based upon macro economic models which forecast ever increasing growth without recession. This creates an upward bias to both real fuel prices and inflation. Further, these forecasts assume increased energy demand without technological innovation. PP&L St. 7-R, pp. 57-58. Regardless of the reason, the record demonstrates that these forecasts have consistently overstated fuel prices and are proven to be unreliable to forecast fuel prices and, ultimately, energy prices in this proceeding.

As noted above, the projection of fuel prices is affected by both the projection of real fuel price change, if any, and changes in fuel prices due to inflation.

As explained more completely in the inflation section of this brief, Dr. Jones projected a constant inflation rate of 2.5% and applied that inflation rate to fuel prices commencing in 1999. OCA witness Mr. Smith did not separately project real fuel prices and the effect of inflation on such prices. Instead, Mr. Smith simply adopted the DRI 1996 forecast of fuel prices.

As shown in PP&L Exh. STJ 21, the DRI 96 forecast begins with average inflation rates of 2.3% for 1997-2000, but then increases inflation rates to a level of 3.5%, on average, for the period 2005-2015. OCA's Mr. Smith revised his forecast to reflect the updated DRI Spring 1997 Outlook, Tr. 1516-17 (8/25/97), and to correct a "starting point" problem Dr. Jones noted in his testimony. PP&L Exh. STJ 12. Even so, the updated Spring 1997 Outlook continues to use the much higher 3.5% average annual inflation rate for the period 2005-2010.

Mr. Falkenberg used the EIA forecast for 1997. As also shown in Exhibit STJ 21, the EIA forecast starts with inflation at 2.5% and raises it to 3.4 % on average for 2005-2010 and 3.6% on average for the period 2010-2015. As shown on PP&L Exh. STJ 35, DRI has consistently over-estimated inflation in past forecasts. EIA forecasts match DRI's forecasts closely. PP&L Exh. STJ 19.[27]

Neither Mr. Smith nor Mr. Falkenberg has offered any explanation why the inflation rates built into the DRI and EIA fuel forecasts escalate over time. Tr. 1403 (8/25/97). These inflation

27 Although EIA reduced its short term fuel forecast downward, Mr. Falkenberg made no adjustment to reflect lower fuel prices. Tr. 1751-52 (8/25/97).

forecasts are from the DRI and EIA fuel price forecasts. Despite reliance on these forecasts neither witness even obtained the full source documents for these forecasts or analyzed the bases used in these forecasts to estimate *inflation*. Tr. 1517-18, 1750 (8/25/97). Accordingly, they have not examined the bases for these forecasts and have blindly accepted them as reasonable. As explained by Dr. Jones, forecasts of inflation which rise over time are simply inconsistent with federal reserve policies observed over the last decade. Tr. 1400 (8/25/97). These witnesses have provided no bases to justify the use of the EIA and DRI inflation estimates and the record demonstrates that their forecasts have consistently overstated inflation.

The rising rates of inflation combined with rising real oil prices projected by these parties create what Dr. Jones referred to as the "dog leg" problem. The DRI and EIA forecasts initially project gradual rises in fuel prices but as the higher inflation rates and increases in real fuel prices "kick in," nominal fuel prices rise sharply. As shown graphically in PP&L Exhs. STJ 14a and 14b, the fuel price curve slopes upward in the shape of a dog leg. As explained by Dr. Jones there is no precedent in history for such an effect, PP&L St. No. 7-R, p. 42, and, in past forecasts, this phenomenon accounts, in part, for DRI's and EIA's confirmed over-forecast of fuel prices. PP&L Exhs. STJ 14a and 14b.

In PECO's Restructuring proceeding, OCA witness Smith as well as the three PECO witnesses relied in their final testimony on the Spring 1997 DRI forecast (Revised DRI)[28] and witness Falkenberg relied, as he did here, on the EIA forecast. As a result, the reasonableness of the Revised DRI forecast and the EIA forecast were not at issue in the PECO Restructuring proceeding. As explained above, the weight of the evidence in <u>this</u> proceeding is that these forecasts are unreliable. Accordingly, the record in <u>this</u> proceeding compels rejection of such forecasts.

(2) Relationship of Fossil Fuel Prices - The Divergence Issue

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28 PECO witnesses Heironymus and Bustard used the 1996 DRI forecast initially and updated to the Spring 1997 DRI forecast. PECO witness Venkateshivara initially used his firm's ICF forecast but was replaced by witness Rose who used the Spring 1997 DRI forecast. *PECO* Order, p. 87. The Commission found troublesome these forecast changes. *PECO* Order, p. 87. Dr. Jones did not change his fuel price forecast in this proceeding. OCA witness Mr. Smith changed from the Fall 1996 DRI forecast to the Spring 1997 DRI forecast. OCA St. 2-S, p. 2.

There is yet another significant problem with use of DRI and EIA fuel price forecasts in this proceeding. In addition to the errors of improperly rising real fuel prices and increasing inflation rates, these forecasts project a divergence between the real prices of oil and gas versus the real price of coal. This is illustrated graphically on Dr. Jones' PP&L Exh. STJ 10, which shows the difference in rates of escalation in gas and oil prices relative to escalation in coal prices in the DRI forecast.

The divergence of gas and oil prices from coal and uranium prices is both illogical and unprecedented for competing fuels. As demonstrated by Dr. Jones in PP&L Exh. STJ 16a, real prices of competing fuels are highly correlated over the 15 year period of 1981-1995. In other words, the prices of these fuels move up and down together. This history also makes sense. If the price of one competing fuel rose sharply and others did not move upward, there would be fuel switching in many applications. PP&L St. 7-R, pp. 47-49. This is particularly the case for gas and oil versus coal. As also shown in PP&L Exh. STJ-16a, Dr. Jones's forecasts of the prices of each type of fuel are highly correlated. On the other hand, the fuel price projections of DRI and EIA show a significant, and historically unprecedented, divergence of oil and gas prices from the price of coal.

The "divergence" problem is particularly critical to the issues of stranded costs in this proceeding. The marginal cost units operating on PJM will normally be gas and oil fuel units, and these units will set the price for all units operating in the same hour. OCA and PPLICA understate the costs of operating PP&L's coal generating units by assuming coal prices that are inconsistent with oil and gas prices used in their models. The result is an understatement of stranded costs associated with these units.

The divergence of coal prices and oil and gas prices was not an issue in the PECO Restructuring proceeding for several reasons. First, as noted previously, all parties in that proceeding employed either the Spring 1997 DRI forecast or the EIA forecast. Accordingly, no party in the PECO proceeding challenged the divergence of oil and gas prices versus coal prices. Second, PECO's coal fired generating plants account for a relatively small portion of PECO's generation. *See* PECO Exh. 2, Sched. G-7, App. A-25, at R-00973953. In stark contrast, PP&L's coal fired generating plants account for 38% of its generation. *See* PP&L Hrg. Exh. 2, Filing Requirement RP-G.6, Attach. 2. Accordingly, the historically unprecedented divergence of coal prices from oil and gas prices predicted by DRI and EIA has a disparate effect on the calculation of PP&L's stranded costs as compared to PECO.

As illustrated by PP&L's table, at page 72 of its M.B., the coal prices paid to operate PP&L's coal-fired generating plants, would be significantly higher if coal prices are escalated at the same rates assumed by DRI for gas prices. Therefore, even if the DRI gas and oil prices were accepted, despite all of the evidence in this proceeding that they are overstated, the Commission must, *at a minimum*, adjust upward the coal prices assumed by DRI. To do otherwise is not only contrary to the record but would punish PP&L for owning and operating coal plants that have produced low cost electricity for many years.

In order to further illustrate the effect of correcting the divergence of oil and gas prices from coal prices on PP&L in light of the PECO Order, PP&L has submitted a recalculation of its stranded costs which, among other things, uses prices for coal that escalate in a manner that is consistent with DRI's escalation of oil and gas prices. Correction of this divergence problem alone would create an increase in stranded costs of $230.157 million. See Table D to PP&L M.B..

For all the reasons noted above, the DRI and EIA fuel price forecasts are overstated. These overstated fuel prices result in a significant overstatement of energy prices forecasted in Mr. Smith's (OCA) ENPRO model and Mr. Falkenberg's (PPLICA) model. We reject these fuel price forecasts as unreliable inputs to any model and direct use of fuel price forecasts developed by Dr. Jones. The effect of the different fuel price forecasts pervades the market price analysis and is difficult to isolate. The parties differ in both their forecast of real price changes and inflation. The total effect of the different inflation assumptions is $198.563 million as shown on Table D. This includes both effects of inflation on fuel and non-fuel costs and the effect on inflation on market prices.

b) Inflation

The forecast of inflation is significant both as it affects fuel prices, as explained in the previous section of this Brief, but also because inflation is used to escalate other costs that are used in each of the models to derive market prices of electricity. In particular, variable O&M

costs must be projected for each of the units that will be operated. Each of the witnesses applies an expected inflation rate to current levels of variable O&M costs to derive future O&M costs.

There are two issues with regard to the projection of inflation. The first is what measure of inflation should be used. The second is the year by year amount of inflation.

With regard to the proper measure of inflation, Dr. Jones explained that the Consumer Price Index (CPI) is clearly overstated as to costs faced by PP&L because it relates to consumer products and not to items that affect PP&L's generating costs. While the Gross Domestic Product (GDP) deflator is a better indicator of the effect of inflation on such costs, this measure includes long-lived assets as if they were purchased monthly. Dr. Jones, therefore, concluded that the Producer Price Index (PPI), which measures prices received by industrial firms for goods they produce is the best indicator of costs to be incurred by PP&L. PP&L St. 7-R, pp. 60-61. Noting that long-term forecasts of the PPI, even by DRI, averaged less than 2.5% per year, Dr. Jones estimated average future inflation at 2.5%. PP&L St. 7, p. 40; PP&L St. 7-R, p. 61.

OCA's and PPLICA's witnesses did not evaluate the proper measure of inflation or attempt to estimate inflation. As explained previously in conjunction with fuel price projections, OCA and PPLICA simply adopted the rising inflation rates contained in the DRI and EIA forecasts. Tr. 1401-02 (8/25/97). OCA and PPLICA cannot explain the basis for these increasing inflation estimates because they blindly accepted the numbers in the fuel price forecasts. Dr. Jones explained the unreasonableness of the continually rising inflation scenario as follows:

> [F]or inflation to be sustained at an increasing rate over time, which is the assumption embedded in the intervenors' forecasts, it has to be the federal government with the cooperation of the Federal Reserve Board that has embarked on an expansionary policy supported by increases in the money supply.
>
> This is absolutely opposite from the policies and the Fed activity that has been going on since the Reagan years. My estimate for inflation reflects a continuation of that current policy. Hence, I set inflation at its long-term trend of 2.5 percent and held it there. I have no evidence that anything to the contrary will prevail.

Q. Have other forecasters made similar projections?

A. The Federal Reserve Bank of Philadelphia released its survey of professional forecasters just earlier this month, showing that the expected change in the GNP deflator, which is a measure of overall inflation in the economy that was adopted by Mr. Falkenberg and Mr. Smith for this proceeding, would grow at 2.3 to 2.5 percent over the next two years.

This same group of forecasters expects the Consumer Price Index, which as I'm sure you're familiar with is a measure of inflation based on consumer goods, they expect the CPI to grow 2.7 percent over the next ten years.

Now, I'd like to point out that historically the difference between the CPI and the GNP deflator has been about minus 4/10th percent, suggesting that the forecasters would set a ten year outlook for the GNP deflator below my 2.5 percent inflation rate.

On top of that, I would add that what is important is what people think or expect inflation to do over the long term.

As you can see from Exhibit STJ-34 which I passed out earlier this morning, and that I actually have had blown up for purposes of this proceeding today, that the inflation fears of Americans have been fading rapidly since the start of this decade and are now well below 3 percent.

And Alan Blinder, who [was] vice chairman of the Fed during the period when a lot of this activity to reduce inflation was going on, has been quoted as saying, "When I was on the Fed, we said our goal was to cap inflation at 3 percent and then bring it down. Now, that view is being taken as much too pessimistic." Tr. 1400-01 (8/25/97).

PP&L M.B. pp.75-77.

For all of the foregoing reasons, including those explained in the fuel price section of this decision, OCA's and PPLICA's "adoption" of DRI's and EIA's unexplained rising inflation scenario is rejected. A steady 2.5% inflation rate is consistent with current experience and modern monetary policy.

c) Load Growth and Electricity Demand

PP&L forecasted electricity demand for PJM by adopting the most recent forecast of demand compiled by PJM. Updates for demand on PP&L's system through December 1996 were reflected. PP&L St. 7, p. 44. PP&L estimated demand growth of about 1.5% annually. No party has raised any issue with regard to forecasted demand.

d) Efficiency of New Capacity

Efficiency of new capacity is principally an issue with regard to the development of capacity prices and whether capacity prices, in combination with energy prices, are sufficient to provide a return that will support the addition of new units when they are needed. As explained previously with regard to capacity prices, Dr. Jones' projected market prices for capacity and energy are sufficient to support installation of new units.

The efficiency of new units also effects energy prices. In the EGEAS model, Dr. Jones made a very conservative estimate of the fuel consumption of new combined cycle and combustion turbine units. He assumed that a combined cycle unit would require 7000 BTUs of energy to produce a kWh and that a combustion turbine would require 10,200 BTUs to produce a kWh. PP&L Exh. STJ 5. These assumptions are conservative. For example, many existing combined cycle units already can produce one kWh at lower BTU levels (i.e. lower heat rates). PP&L Exh. STJ 28R. Reflection of these lower actual heat rates in EGEAS would have resulted in lower energy prices and higher stranded costs because it would take less fuel to produce each kWh of energy from new units. For this reason, no party has challenged the reasonableness of the efficiency assumptions used in EGEAS to project energy prices. Tr. 1392 (8/25/97).

e) Other Inputs

There are several other inputs to the energy price models which, while less critical than the inputs explained above, have a relatively significant effect on the resulting energy prices produced by the models. These inputs are explained briefly.

(1) Nuclear Capacity Factor

Nuclear capacity factor refers to the percentage of the time that base load nuclear units will be operating. The use of a nuclear capacity factor that is too low in the models raises marginal energy prices by requiring other units with higher variable costs to operate. If actual nuclear capacity factors turn out to be higher than reflected in the models, actual energy costs will be lower than projected by the models.

Dr. Jones employed a forecasted 78% nuclear capacity factor in the EGEAS model based upon a study of actual unit availability factors in PJM and other systems. PP&L St. 7, p. 30. The data used to calculate availability is provided in PP&L Exh. STJ 6. Mr. Smith, without any support or explanation, "assumed . . . a 75% annual capacity factor . . ." OCA St. 2, p. 21.[29]

Dr. Jones explained in rebuttal testimony that the availability of nuclear units has been steadily increasing and is projected to increase further:

> Nuclear unit availability of 78 percent is conservative. Nuclear unit availability has improved considerably in the United States in the last 10-15 years and is expected to continue to improve. Exhibit STJ-30 shows historical availability factors for nuclear units in the United States from 1982 to 1995. In that period, availability factor has improved steadily from about 65 percent to nearly 80 percent. Mounting experience in operating nuclear units has led to better management practices and fewer forced outages. For example, units experienced nearly 900 hours of forced outage in 1991. This number dropped to below 700 hours in 1995.
>
> Moreover, NERC forecasts show that this trend is expected to continue. Exhibit STJ-30 plots forecasted capacity factors to 2006 (actual capacity data are shown from 1991 to 1996). Because nuclear units are typically run at full load whenever they are available, anticipated capacity factors should closely mirror, though by slightly lower than, anticipated availability. NERC forecasts suggest availability factors of at least 85 percent should be expected for the next decade. Thus, 78 percent is a somewhat conservative estimate of future nuclear availability. PP&L St. 7-R, pp. 106-107.

29 In the PECO Restructuring proceeding, both PECO and OCA used a 75% nuclear capacity factor. As a result, use of a higher factor was not an issue in that proceeding. However, the Commission observed that PECO's actual nuclear capacity factor was below this level and, as a result, use of 75% was favorable to PECO. PECO Order, p. 89. In contrast, use of the industry average here would penalize PP&L and deprive PP&L of the benefit of its higher nuclear capacity factor.

Mr. Smith did not respond, in surrebuttal testimony, to Dr. Jones above quoted explanation. Mr. Smith has not provided any basis to employ a 75% nuclear capacity factor for PP&L. Accordingly, the record supports only the 78% nuclear capacity factor recommended and employed by Dr. Jones.

(2) Variable O&M Costs

Another element in projecting generating costs is the variable Operation and Maintenance expenses (O&M) of each unit. Variable O&M expenses are those associated with the production of energy as contrasted with fixed O&M which are costs associated with maintaining plants ready to operate.

Dr. Jones forecasted variable O&M expenses by escalating current variable O&M costs for each plant. Dr. Jones explained that the experience in industries that have moved from regulation to competition is that O&M expenses increase, for a period of time, at rates that are less than the rate of inflation. For this reason, Dr. Jones selected escalation rates for variable O&M expenses of 2% for 1997-2000, 1.5% for 2001-2005 and 2.5% for 2006-2016. PP&L Exh. STJ 4.

Dr. Jones explained his projection as follows:

> My view of future changes in variable O&M costs, as shown in Exhibit STJ 4, stems from three sources of data. First, an examination of the trends in O&M costs in capital intensive industries beginning with the 1980's suggests that periods of competitive change often cause internal cost escalation rates in variable O&M to decline, at least in real terms. For example, a recent article on the highly-competitive (and partially regulated) oil refining industry, cited data showing O&M costs declining as much as 10-15 percent per year over the last several years[30].
>
> Second, the recent restructuring that has taken place in the natural gas pipeline industry caused variable O&M costs to trail inflation. Following FERC Order No. 636, pipeline company restructuring produced firms that were encouraged to respond to competitive pressures, and firms that encouraged the introduction of cost-

30 Anne Rhodes, "Hostile Operating Climate Augurs Further Closures for U.S. Refiners," *Journal*, March 10, 1997, 21-23.

> saving technology. Third, evidence and opinion from various industry and academic publications suggest that variable O&M costs in parts of the industry may by rising slower than inflation for some time. PP&L St. 7, p. 41-42.

PP&L M.B. pp. 79-80.

OCA's and PPLICA's witnesses simply applied the inflation forecasts contained in the DRI and EIA fuel price forecasts to current levels of variable O&M costs.. As explained by Dr. Jones, and as further illustrated in his rebuttal testimony, PP&L St. 7-R, pp. 22-25 and PP&L Exh. STJ 9, competition in the rail, trucking, airline and natural gas industries has produced ". . . double digit decreases in prices and costs of production . . ." PP&L St. 7-R, p. 24.

For these reasons, Dr. Jones' projections of variable O&M costs are both reasonable and conservative in that they likely overstate costs given the proven effects of introducing competition in other industries.

(3) Reserve Requirements

Reserve requirements refer to the amount of capacity which is required above expected demand to serve unexpected contingencies such as an unplanned outage of a generating station. PJM currently plans for a 20% reserve requirement. PP&L St. 7, p. 23. However, Dr. Jones concluded that competitive pressures will lower reserve requirements to 18%. PP&L St. 7, p. 24. Mr. Smith also assumed a going forward reserve requirement of 18% although he indicated that this might not be achieved by 2000. OCA St. 2, p. 18. PPLICA's witness did not address reserve requirements.

It is noted that reserve requirements affect energy prices by determining the timing of additions of new capacity. As new capacity is added marginal energy prices will generally decline because the new capacity is more efficient (less fuel or BTUs to produce each kWh). Thus, perhaps counterintuitively, higher reserve requirements mean lower energy prices. Therefore, Dr. Jones adoption of an 18% reserve requirement, as compared to the current 20%, increases energy prices and lowers stranded costs. If Dr. Jones had continued to employ a 20% requirement, it would have forced the model to add new efficient additions at an earlier date and energy prices would have been lowered. Accordingly, the 18% reserve requirement is conservative and again properly and consistently reflects the future effects of competition.

(4) Environmental Costs

In projecting energy prices it also is necessary to include certain environmental costs which will affect the cost of operating the marginal cost generating unit. As explained by Dr. Jones, the EGEAS model permits input costs of emission allowances as an adjustment to fuel price escalators. Dr. Jones explained how EGEAS models SO_2 emission allowance as follows:

> The first step is to identify which units will be running when the region is not in compliance. EGEAS accomplishes this by checking the emission production rate against the annual emission limit input for each facility. Once the units are identified, then those units that are subject to emissions limits are assigned allowances sufficient to bring them into compliance. The cost of bringing those units into compliance is built into the fuel escalation rates for PJM. PP&L St. 7, p. 42.

To determine the emission allowances Dr. Jones reviewed the history of SO_2 allowance prices, which have steadily declined, and he reviewed forecasts of allowance prices. Dr. Jones adopted the ICF Kaiser low case estimates of allowance prices through 2000 and escalated those allowances by the 2.5% expected inflation rate which he applied to escalate other costs. PP&L St. 7, pp. 41-42.

Dr. Jones did not include NO_x allowances as a cost in developing energy prices because of the great uncertainties in the development of technology to reduce NO_x emissions, uncertainties as to the levels of controls required for NO_x , the fact that NO_x controls are applied only in the ozone period of May through September and the lack of a developed market for NO_x allowances. PP&L St. 7, pp. 43-44; PP&L St. 7-R, pp. 97-104.

OCA witness D. Smith contended that NO_x emission allowances will increase energy prices by something less than $1/Mwh. He also argued that NO_x allowances would have a significant effect on PP&L's net revenues, but he did not quantify such effect. OCA St. 2, p. 24.

In rebuttal, Dr. Jones explained the history of declining SO_2 allowance prices and that the competitive market would similarly drive down NO_x compliance costs. Dr. Jones concluded that electricity prices would rise from about $.05/Mwh to $.30/Mwh as a result of NO_x emissions with the higher end of the range being experienced late in the transition period when

NO_x standards tighten. Therefore, the combination of a minor price effect occurring late in the transition period has a very small effect due to the present value impact. PP&L St. 7-R, p. 102.

No party responded to Dr. Jones' rebuttal on NO_x emission costs. The evidence demonstrates that NO_x emission costs are not a relevant factor.

(5) NUG Output

An additional input to energy price models is the output of NUGs. While there is no dispute that the output of energy from these sources must be included in modeling energy prices, there is a dispute concerning the capacity factor at which these units will operate. Dr. Jones used a 90% capacity factor based upon actual historic experience provided by PP&L witness Mr. Krall within PP&L's service territory. PP&L St. 7-R, p. 105.[31]

OCA witness Mr. La Capra argues that PP&L has overstated NUG output by 10-15%. OCA St. 1, p. 10. However, as explained in Mr. Krall's rebuttal testimony, the NUG capacity factors used by PP&L were those actually experienced for the 3 years 1994-1996 on PP&L's system. As Mr. Krall also explained, most NUGs have now been on line for some time and early operation and start up issues have been resolved. Because there are strong incentives for high output created by payments on the basis of kWh output, these units are, and will remain, well maintained. It is, therefore, reasonable to conclude that future output levels will equal or exceed recent historic levels. PP&L St. 10-R, p. 40.

OCA has provided no reasonable basis to reject use of these actual capacity factors for NUGs. As shown in Table D, OCA's use of a lower capacity factor for NUGs understates stranded costs by $56.911 million.

(6) Revenues from Ancillary Services

Another element which was considered in forecasting the market price of energy is ancillary services. As explained, the only ancillary service that affects the market price of energy is spinning reserves. How spinning reserves were reflected in the EGEAS model was explained as follows:

31 The capacity factor is relevant because, all other things being equal, higher levels of output by the NUGs will reduce energy prices by displacing the dispatch of a higher cost marginal unit.

> I specified in EGEAS a spinning reserve requirement. As a result, EGEAS ensures that sufficient spinning reserves exist for every hour. In order to meet this requirement, EGEAS adjusts its energy dispatch so that sufficient units capable of providing spinning reserves are on line. PP&L St. 7-R, p. 90.

PP&L M.B. 83-84.

By including the spinning reserve units as units dispatched, EGEAS includes the effects of a spinning reserve requirement in its determination of hourly energy prices.[32]

It is also noted that the revenues received from spinning reserve operators are likely to cover only the variable costs (start up and no load costs). Accordingly, such revenues will not reduce PP&L's stranded costs of generation because they will recover only variable costs and can contribute nothing toward the recovery of fixed costs. PP&L St. 7-R, p. 89.

Although there are potentially other sources of revenues from ancillary services, these revenues will not affect market clearing prices for energy. Furthermore, the amounts of these revenues are not significant. As noted by Dr. Jones, revenues derived from payments for non-spinning reserves should be very small given the large amount of capacity in PJM and the relatively small non-spinning reserve requirement. PP&L St. 7-R, p. 91. Similarly, frequency and voltage regulation will be provided at cost and would produce no contribution to fixed or stranded costs. PP&L St. 7-R, p. 92.

While other parties raised questions about ancillary services, OCA St. 2, pp. 8 and 30, rebuttal has demonstrated that the effects of ancillary services on market clearing energy prices have been properly reflected in the EGEAS model. OCA provided no response in surrebuttal. Therefore, there is no remaining issue.

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32 To further demonstrate that the effects of including a spinning reserve requirement are reflected in the EGEAS market energy prices, Dr. Jones reran EGEAS without a spinning reserve requirement and showed that his projected energy prices would be $.20/Mwh lower without the spinning reserve requirement. PP&L St. 7-R, p. 90.

(7) Other Inputs and Factors Affecting Energy Prices

One other issue raised by other parties concerns the effects on market clearing energy prices that would be created if there were an earlier than expected retirement of a generating plant.

Dr. Jones used projected retirement dates provided by Mr. Krall in PP&L St. 10-R. These dates reflect the retirement dates reflected in PP&L's last base-rate proceeding and are the dates reflected in PP&L's current depreciation rates. PP&L St. 7-R, p. 87.

OSBA's witness Mr. Knecht, OSBA St. 1, pp. 30-31, and OCA's witness D. Smith, OCA St. 2, p. 19, argued that economic conditions could cause earlier retirements and that early retirements would raise energy prices. Dr. Jones, however, explained the error of such unsupported contentions as follows:

> As noted earlier when demonstrating the results of OCA's requested rerun of EGEAS, new CC units will tend to displace existing fossil units. Adding efficient CC capacity in place of less efficient generation lowers, rather than raises energy prices as intervenors seem to suggest. PP&L St. 7-R, pp. 86-87.

PP&L also notes that Mr. Smith's application of ENPRO assumes that all plants will remain in service throughout the projection period. It neither reflects PP&L's projected retirements nor the proposal of OCA witness La Capra who accepted PP&L's book retirement dates, with the exception of the Keystone and Conemaugh stations. OCA St.1, p. 16.

Dr. Jones' use of PP&L's current projected retirement dates as used in PP&L's last rate case is appropriate and conservative. Retirements dates of other PJM units is similarly supported. PP&L St. 7-R, p. 87. The effect of using PP&L's retirement lives in Mr. Smith's market price analysis and replacing the retired units with combined cycle units decreases market prices as a result of installation of more efficient units and increases stranded costs by $144.181 million as shown in Table D attached to PP&L's M.B.

D. Conclusion

Dr. Jones' forecasted energy and capacity prices provide a consistent and reasonable basis to determine PP&L's stranded costs of generation. The record in this proceeding demonstrates that the EGEAS model is, the most realistic and reliable model for projecting energy prices. While numerous issues have been raised by various parties concerning the appropriate inputs to the model, the record demonstrates that inputs selected by Dr. Jones are consistent and properly reflect expectations in a competitive market.

If the Commission concludes that a change to one or more of these inputs is supported by the weight of evidence, it must see to it that the remaining inputs are consistent[33] and reflect competitive conditions to be faced by PP&L.

V. REVENUE UNDER REGULATION

A. Jurisdictional allocation

As explained in Section III, *supra*, we set forth PP&L's determination of its total stranded costs which was calculated using the applicable revenue requirements over the term or life of its generation-related assets or liabilities, and then compared those amounts to the estimated annual generation-related revenues that PP&L would receive in a competitive environment. The Company's stranded cost claim reflects the applicable PUC-jurisdictional revenue requirements associated with those generation-related assets and liabilities that would be recoverable from customers under traditional rate regulation.

PP&L submitted extensive evidence in this proceeding regarding its proposed PUC-jurisdictional allocation and its generation-related revenue requirement under traditional rate regulation. The parties raised numerous objections to different aspects of the Company's filing.

B. *Cost Of Capital*

The calculation of the appropriate rate of return, particularly the determination of the common equity element, was a major issue in this proceeding. Although the quantification of

33 For example, the inflation rates embedded in fuel cost escalations should match the inflation rates assigned to other inputs.

rate of return is subject to various methodologies and interpretations of financial data, the definition of rate of return is not disputed. As explained in P. Garfield and W. Lovejoy, Public Utility Economics 116 (1964),

> [t]he rate of return is the amount of money a utility earns, over and above operating expenses, depreciation expense and taxes, expressed as a percentage of the legally established net valuation of utility property, the rate base. Included in the 'return' are interest on long-term debt, dividends on preferred stock, and earnings on common stock equity. In other words, the return is that money earned from operations which is available for distribution among the capital. In the case of common stockholders, part of their share may be retained as surplus. The rate-of-return concept merely converts the dollars earned on the rate base into a percentage figure, thus making the item more easily comparable with that in other companies or industries.

(Emphasis in original).

A public utility, whose facilities and assets have been dedicated to public service, is entitled to an opportunity to earn a fair rate of return on its investment. The standards to be used by the Commission in determining what is a fair rate of return are well established and were set forth more than seven decades ago by the United States Supreme Court in Bluefield Water Works and Improvement Co. v. Public Service Commission of West Virginia (Bluefield), 262 U.S. 679, 690-93 (1923):

> Rates which are not sufficient to yield a reasonable return on the value of the property used at the time it is being used to render the service are unjust, unreasonable and confiscatory, and their enforcement deprives the public utility of its property in violation of the Fourteenth Amendment. . . .
>
> . . . .
>
> . . . The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.

These principles have been adopted and applied by Pennsylvania's appellate courts in numerous circumstances. See, e.g., Lower Paxton Township v. Pennsylvania Public Utility Commission, 13 Pa. Commonwealth Ct. 135, 317 A.2d 917 (1974); Riverton Consolidated Water Co. v. Pennsylvania Public Utility Commission, 186 Pa. Superior Ct. 1, 140 A.2d 114 (1958).

As the United States Supreme Court stated in three landmark opinions, the return allowed to investors must be commensurate with the risk assumed. The Bluefield decision requires that the rate of return reflect "a return on the value of the [utility's] property which it employs for the convenience of the public equal to that generally being made at the same time on investments in other business undertakings which are attended by corresponding risk and uncertainties" (Id. at 692). The decision in Federal Power Commission v. Hope Natural Gas Co. (Hope), 320 U.S. 591 (1944) states:

> From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and attract capital.

(Id. at 603). In reaffirming its Hope analysis, the United States Supreme Court observed in Duquesne Light Co. v. Barasch (Duquesne Light Co. II), 488 U.S. 299, 314 (1989) that "[o]ne of the elements always relevant to setting the rate under Hope is the return investors expect given the risk of the enterprise."

The determination of a fair rate of return thus requires the review of many factors, including: (1) the earnings which are necessary to assure confidence in the financial integrity of the utility and to maintain its credit standing; (2) the need to pay dividends and interest; and (3) the amount of the investment, the size and nature of the utility, its business and financial risks, and the circumstances attending its origin, development and operation. Lower Paxton Township. Moreover, the Commission's findings must be based upon substantial and competent evidence on the record before it, not upon speculation or hypotheses. Ohio Bell Telephone Co. v. Public Utilities Commission of Ohio, 301 U.S. 292 (1937); Octoraro Water Co. v. Pennsylvania Public Utility Commission, 38 Pa. Commonwealth Ct. 83, 391 A.2d 1129 (1978);

United States Steel Corp. v. Pennsylvania Public Utility Commission, 37 Pa. Commonwealth Ct. 195, 390 A.2d 849 (1978).

Two parties, PP&L and OTS, actively contested the rate of return question. The OCA and AARP stated cost of common equity positions and/or cost of capital positions without actively addressing the subject.

The following table summarizes PP&L's capital structure, cost of debt and preferred stock cost rate position (PP&L Ex. PRM 2, Sch. 1):

Capital Structure	Rate	Cost Rate
	%	%
Long-Term Debt	47.01	7.89
Preferred Stock	7.79	7.10
Common Equity	45.20	
	100.00	

The OTS and OCA state that they accept PP&L's proposed capital structure, debt cost and preferred stock cost rates (OTS St. 3 p. 6; OCA M.B. p. 60).

AARP contends that PP&L's proposal that the utility be made whole robs ratepayers of the benefits of the Act (AARP St. 1 pp. 63-64). Further, AARP states that PP&L's proposal absolves its management and stockholders of responsibility for above market costs (AARP St. 1 p. 64). AARP contends that PP&L wants to get full return of and on capital (AARP St. 1 p. 65). AARP does not set forth a clear picture of its position on PP&L's proposed capital structure, debt cost and preferred stock cost rates. AARP does, however, state that the common equity cost rate granted to PP&L in its last rate case is excessive (AARP M.B. p. 5). Primarily, AARP's position is to permit PP&L to get its capital out, without any return, and then all parties would be on equal footing (AARP St. 1 p. 76).

This recommendation finds PP&L's proposed capital structure and debt and preferred stock cost rates to be reasonable and are accepted by this recommendation. AARP does not set forth specific recommendations for PP&L's capital structure and debt and preferred stock cost rates.

1. Common Equity

The following table summarizes the common equity methodologies and claims of the parties:

Methodology	PP&L[1]	OCA[2]	OTS[3]	AARP[4]
	%	%	%	%
Discounted Cash Flow (DCF)	11.09		10.25	
Risk Premium	12.50			
Capital Asset Pricing Model (CAPM)	12.44			
Comparable Earnings (CE)	15.05			
Claim	12.75	10.00	10.25	00.00

1. PP&L M.B. p. 92. PP&L used its barometer group as a reasonableness check on PP&L Witness Moul's primary results based on PP&L Resources (PP&L M.B. p. 92).
2. OCA St. 1 p. 8.
3. OTS St. 3 pp. 6-10; OTS M.B. p. 25.
4. AARP M.B. pp. 5-7. AARP does not recommend a specific cost of common equity but rather states that the 11.5% proposed by PP&L's last case is excessive.

This Commission has in numerous recent decisions determined the cost of common equity primarily upon the DCF method and informed judgment. In countless proceedings, this Commission has upheld the validity of the DCF model as a primary tool for determining a fixed utility's cost of equity. See, e.g., Pennsylvania Public Utility Commission v. Western Pennsylvania Water Company, 68 Pa. PUC 343, 95 PUR4th 470 (1988); Pennsylvania Public Utility Commission v. Equitable Gas Company, 73 Pa. PUC 301 (1990); Pennsylvania Public Utility Commission v. West Penn Power Company, 73 Pa. PUC 454, 119 PUR4th 110 (1990); Pennsylvania Public Utility Commission v. Philadelphia Suburban Water Company, 75 Pa. PUC 391 (1991); Pennsylvania Public Utility Commission v. York Water Company, 75 Pa. PUC 134 (1991); Pennsylvania Public Utility Commission v. Metropolitan Edison Company, 78 Pa. PUC 128 (1993). Most recently, the Commission provided additional insight into its opinion regarding relying primarily on the DCF in its Qualified Rate Order for PECO Energy (Docket No. R-00973877), in pertinent part as follows:

> Regarding PECO's argument that the OTS' cost of equity *determination is deficient because it relies solely upon the* DCF method, the OTS contends that the ALJ appropriately found that, in numerous cases since 1988, the Commission has utilized the DCF *method and informed judgment, citing* Pennsylvania Public Utility Commission v. Philadelphia Suburban Water Company, 71 Pa. PUC 593, 623-632 (1989) and Pennsylvania Public Utility Commission v. Western Pennsylvania Water Company, 67 Pa. PUC 529, 559-570 (1988).
>
> In considering this matter, we note that, in numerous recent proceedings, we have determined a utility's cost of common equity using primarily the DCF (Discounted Cash Flow) method and informed judgment. Pennsylvania Public Utility Commission v. Roaring Creek Water Company, Docket No. R-00943177 (Order entered on May 31, 1995); Pennsylvania Public Utility Commission v. Philadelphia Suburban Water Company, supra. Regardless of the procedure employed in determining the fair rate of return for a utility, we exercise informed judgment. Pennsylvania Public Utility Commission v. West Penn Power Company, supra. Therefore, we reject PECO's argument that the OTS' reliance solely on the DCF methodology is improper in this proceeding (emphasis added).

Pennsylvania Public Utility Commission v. PECO Energy Company, R-00973877, slip op. at 56 (May 22, 1997).

OTS submits and we agree that the Pennsylvania Public Utility Commission precedent clearly supports a return on equity allowance based upon the DCF methodology. Most notably, on May 22, 1997, the Commission approved a DCF-determined common equity cost rate of 10 percent for PECO Energy Company, an electric utility. Pennsylvania Public Utility Commission v. PECO Energy Company, supra. (N.T. 1921-1922, August 28, 1997).

Pennsylvania Public Utility Commission, et al. v. Pennsylvania Power and Light Company, (Order entered September 27, 1995), the Commission quoted from Administrative Law Judge Christianson's Recommended Decision in rejecting Risk Premium and CAPM analyses as follows:

> [F[irst, we [i.e., the Commission] cannot accept that historic experienced earnings reflect the cost of capital. We know of no *reputable analyst who would seriously argue that experienced* earnings represent the cost of equity, except by pure happenstance. But, such is the inherent assumption of each methodology [Risk Premium and CAPM]. Second, we cannot accept, even assuming that historic experience earnings represented the cost of capital that the average premium of an equity investment over a fixed income investment over a period as long as 50 years, represents the investor required premium in today's and tomorrow's market.
>
> Accordingly, we conclude that we can place little credence in the results of these methodologies.

Further, Administrative Law Judge Christianson noted in his Recommended Decision in Pennsylvania Public Utility Commission v. Duquesne Light Company, 66 Pa. PUC 518 (1988), that the Commission declared "that the economic environment over lengthy time frames are not representative of current economic conditions and therefore does not produce realistic risk premium results." See, Pennsylvania Public Utility Commission v. Pennsylvania Power & Light Company, R-00943271 (Recommended Decision) at 163. Based upon the record evidence in PP&L's last base rate case, the Administrative Law Judge based his equity return recommendation in that proceeding primarily upon the DCF method and judgment (Id., at 163). In that proceeding, PP&L filed Exceptions to Administrative Law Judge Christianson's equity recommendation. The Commission ruled upon PP&L's Exceptions to the equity recommendation, in pertinent part, as follows:

> In its Exceptions, PP&L notes that the Commission in recent years based its rate of return allowances on the DCF Method. PP&L urges the Commission to "keep an open mind" on the various methods of calculating an equity return allowance. (PP&L Exceptions at 29).
>
> . . . . . .
>
> On the basis of the record before us herein, we conclude that there is no reason for us to divert from our practice of considering the DCF method exclusively for equity rate of return determination. Accordingly, PP&L Exceptions regarding this issue are denied (emphasis added).

(Mimeo at 184).

The Commission has rejected RP and CAPM results in general. we see nothing in this record that causes us to find differently. The comparable earnings method is rejected. The Commission uses the DCF method solely and we see nothing in PP&L's comparable earnings evidence to persuade us to find differently.

In Pennsylvania Public Utility Commission v. Pennsylvania Power & Light Company, 85 Pa. PUC 387 (1995), the Commission stated that PP&L market related data should not be used on a stand alone basis. This recommendation recognizes the need to review PP&L Resource's market data and the market data of similar risk barometer groups. We believe that deregulation and its pressure on PP&L's common stock prices indicates that PP&L's market data should be considered in this proceeding.

No two utilities are ever complete replications of each other with the result that no barometer group of companies is ever universally comparable to the subject utility. Understanding this truth, we will consider data for PP&L and all proposed utility groups. Since no one barometer group is totally comparable to PP&L, we have not given primary weight to any one barometer group. Each of the barometer groups consists of utilities which the sponsoring party argues are as similar to PP&L in terms of risk as it is possible to be.

The OCA's 10% common equity cost rate is based upon the Commission's initially adopted position in its May 22, 1997 Qualified Rate Order at Pa. PUC v. PECO Energy Company, R-00973877 (May 22, 1997), Slip. Op. at 59. OCA further contends that the Commission used 10% equity return in its discount rate of 7.6% for the purpose of calculating stranded costs (PECO Energy Restructuring Order p. 90; OCA M.B. p. 60). OCA Witness LaCapra states that there is no evidentiary support for his proposal since he had not conducted a cost of equity analysis to support his recommendations (N.T. 1778-1779).

AARP contended that PP&L's 11.5% common equity recommendation is excessive (AARP M.B. p. 5). Based upon our review of the record, AARP did not do a cost of common equity analysis.

This recommendation's cost of common equity is based upon the DCF method. In this proceeding only PP&L and OTS provided on-the-record DCF evidence. The OCA did not do an analysis and did not prove that a cost rate from a PECO Energy proceeding had any validation in this proceeding. Therefore, OCA's 10% common equity cost rate is dismissed. The AARP position is simply that the 11.5% common equity cost rate is excessive. AARP does not make a cost of common equity recommendation. Therefore, AARP adds nothing positive to the cost of common equity question.

The following table summarizes the dividend yield and growth rate recommendations of the parties:

DCF	PP&L[1]	OTS[2]
	%	%
Dividend Yield	6.97 - 7.59	6.86 - 8.35
Preferred Stock	3.50	2.50 - 3.50

1. PP&L Ex. PRM 1 pp. 2-4.
2. OTS Ex. 3, Sch. 5 p. 1 and 2; OTS Ex. SR-3, Sch. 5 pp. 1 & 2.

The DCF methodologies will not be detailed in the body of this recommendation, but those interested can find PP&L's DCF methodology at PP&L Exhibit PRM 1 pages 2-4, and OTS' at OTS Statement 3 pages 17-23.

PP&L considers OTS' common equity cost rate to be inadequate for two reasons (PP&L M.B. pp. 93-94):

1. OTS' 10.25% cost of common equity rate significantly understates PP&L's cost of capital.
2. OTS' recommendation fails to produce an appropriate pre-tax interest coverage.

OTS considers PP&L's common equity cost rate to be inadequate for four reasons (OTS M.B. pp. 40-47):

1. PP&L employed three cost of common equity methods which are RP, CAPM and CE that this Commission has historically rejected.
2. PP&L's DCF result was inflated by making ex-dividend adjustments to dividend yields.
3. PP&L's DCF result was inflated by an 0.5 upward adjustment to the growth rate to reflect "market factors".

4. PP&L sole reliance upon PP&L's data during this time period is inappropriate.

It is obvious that no cost of common equity is without flaws. The DCF method generally accepted by this Commission is not perfect and is, in fact, flawed. Therefore, we will employ the DCF method analysis in this recommendation with full knowledge of its various flaws but adjusted to mitigate the effects of those flaws.

This recommendation finds an unadjusted dividend yield of 8.24%. The 8.24% unadjusted dividend yield is premised primarily upon OTS' spot dividend yields for PP&L.

PP&L Witness Moul states the following concerning his ex-dividend yield recommendation:

> Although the DCF model contains a variety of restrictive assumptions which severely limit its usefulness in the ratesetting context, the model has been employed with data for PP&L Resources and the Barometer Group using a dividend yield of 7.40% and 6.80%, respectively, based upon consideration of the 12-month average (i.e., 7.24% for PP&L Resources and 6.74% for the Barometer Group), 6-month average (7.44% for PP&L Resources and 6.81% for the Barometer Group), and 3-month average (7.31% for PP&L Resources and 6.75% for the Barometer Group) dividend yields shown on Schedule 5 pages 1 and 2. The dividend yields shown on the schedule reflect an ex-dividend adjustment. While the 7.40% and 6.80% dividend yields are not intended to represent a specific historical average, they are similar to the six-month averages. Using three different but generally acceptable formulas, the 7.40% and 6.80% dividend yields have been positioned in a forward-looking manner to arrive at the 7.59% adjusted dividend yield for PP&L Resources and 6.97% adjusted dividend yield for the Barometer Group.

We have not used PP&L's ex-dividend yield recommendation for the OTS reasons set forth at OTS Main Brief pages 45-46 and OTS Statement 3 pages 34 and 35. OTS contends the following:

1. No academic support for an ex-dividend adjustment to the dividend yield.
2. No financial publication provide ex-dividend adjusted dividend yields to investors.

Historically, we have averaged spot market data with market data of longer periods. The longer periods have usually been of 12 months and 6 months. We did this to offset any spot aberrations that may have occurred and to give some weight to the current market trends indicated by the spot price.

In this proceeding the OTS contends that PP&L's spot price is being overly influenced by the uncertainty surrounding the current filings (OTS St. 3 p. 20). PP&L's spot price dividend yield is 8.35% adjusted and 8.24% unadjusted (OTS Ex. 3, Sch. 5 p. 1).

Historic data and regulatory thinking are not relevant in the context of this proceeding's cost of capital. The future risks faced by PP&L in a deregulated market must, in my opinion, be greater than historic risk levels. Therefore, in this proceeding, we believe spot data is the best indication of PP&L's future capital costs. Further, the large difference between the spot data of PP&L and the barometer groups indicates that investors are requiring a higher cost of capital for PP&L because of the increased risk of deregulation.

We have considered the OTS spot adjusted dividend yields of 8.35% and 8.15% and we believe the May 30, 1997 spot dividend is more representative of the capital costs that PP&L may experience. We accept PP&L's argument that capital costs have moved upward during 1997 (PP&L St. 6-R pp. 3-5). Although OTS' August 1, 1997 spot dividend yield data is lower at 8.15%, we believe that the upward trend in 1997 indicates that the August 1, 1997 data may be an aberration. We recommend the use of 8.24% (8.35% spot dividend yields less half the growth adjustment).

The 8.24% unadjusted dividend yield adjusted for next period growth is 8.37% (unadjusted dividend yield of 8.24% times half the growth adjustment or 1.01565% equals 8.37%).

This recommendation finds a growth rate of 3.13%. We do not find the growth rate evidence of any party to be persuasive.

PP&L Witness Moul states the following concerning his adjusted growth rate recommendation:

> The growth component for PP&L Resources and the Barometer Group consists of 3.00% growth attributed to company-specific factors and 0.50% attributed to market-wide factors. The support for the company-specific growth rates may be found on Schedules

6 and 7. The elements considered were growth in earnings per share, dividend per share, book value per share, cash flow per share, and internal growth for PP&L Resources and the Barometer Group using historical and projected data typically considered by investors. While some DCF devotees would advocate that mathematical precision should be followed when selecting a growth rate (i.e., precise input variables often considered within the confines of retention growth), the fact is that investors, when establishing the market prices for a firm, do not behave in the same manner assumed by the constant growth rate models using accounting values. Rather, investors consider both company-specific variables and overall market sentiment (i.e., level of inflation rates, interest rates, economic conditions, etc.) when balancing their capital gains expectations with their current dividend yield requirements.

To the company-specific growth rate of 3.00%, market-wide factors add 0.50% to the growth rate. Market-wide factors would include overall business conditions, monetary policy, fiscal and tax policy, the value of the dollar in foreign exchange, the balance of trade, all of which would comprise qualitative influences on investors' total return expectations. Qualitative factors must be considered because the fundamental analysis employed in reaching a growth rate forecast -- see Schedules 6 and 7 -- will not fully account for all market-wide factors because the quantitative growth analysis is company-specific. It is also not known to what extent securities' analysts incorporate market-wide factors into their estimates, or that analysts do this uniformly. In addition, as the electric industry adjusts to the new business environment, additional opportunities and risk will surely develop beyond the five-year horizon typically considered by the analysts' forecasts. the combination of both quantitative factors, as shown by company-specific variables, and qualitative factors, as shown by general investor sentiment, together form the foundation for the capital appreciation (i.e., capital gains yield) that investors expect from owning a common stock..

As noted above, there are a wide variety of factors that influence investor expected returns which are not linked to company-specific performance. In an article in Standard & Poor's The Outlook (February 21, 1996), the relative valuation of common stocks was explained in part by qualitative factors (i.e., favorable psychology). Recognition of market-wide factors is needed to synchronize the growth rate in the DCF with the stock price which includes both

> company-specific factors and general market sentiment which includes relative P/Es, dividend yields, interest rates, the supply of stocks, etc. Therefore, for the purpose of this case, a modest 0.5% growth rate for market-wide factors has been added to the growth rate shown by company-specific variables. By considering both company-specific and market-wide factors, a 3.50% growth rate is warranted for PP&L Resources and the Barometer Group. Recognition of market-wide qualitative factors represents a reasonable adjustment to the DCF growth rate. It has been demonstrated by the Goldman Sachs study that 38% of the rise in stock prices in the 1980s occurred due to unknown factors. As to the proposition that such qualitative factors are already reflected in stock prices under the efficient market hypothesis, it is the need to synchronize the growth rate employed in the DCF with the growth rate reflected in stock prices that necessitates recognition of qualitative factors. That is to say, while stock prices may reflect all information concerning both market-specific growth. To make the DCF model at all useful, the growth rate component combined with the dividend yield must provide a result that conforms with the mix of current returns from dividends and long-term returns from capital gains.

(PP&L Ex. PRM 1 pp. 3-4).

Concerning PP&L Witness Moul's upward adjustment of 0.50% to his 3.00% growth ratio, OTS contends that Witness Moul's growth rate estimate of 3.00% accounts for "market factors" (OTS St. 3 p. 35). OTS states that an examination of the Company's exhibits in this proceeding demonstrates that Witness Moul has relied upon "analysts projections" as they appear on Schedule 7 of PP&L Exhibit PRM 2. Most important is the fact that "analysts projections" are based upon "market factors" listed on page 3 of PP&L Exhibit PRM 1 (Id., at 35). Consequently, any additional and independent recognition of "market factors" by Mr. Moul in addition to the "analysts projections" is a double count. Further, OTS Witness Deardorff notes that PP&L Witness Moul failed to provide evidence that market factors result in positive impact on the growth rate for the electric companies (OTS St. p. 35). OTS contends that Witness Moul concedes that market factors could possibly result in negative growth (PP&L St. 6-R pp. 17-18). OTS states that Witness Moul, without any support, suggests that such negative growth "only adds to investor expectation of higher stock prices in an exuberant "bull" market (PP&L St. 6-R

p. 18). We agree with OTS that the growth rates do consider market factors and that no adjustment for market factors is required.

We have judgmentally decided upon the midpoint of the proposed growth rate range or 3.13%. The growth rate range of 2.75% to 3.50% is based on OTS' proposed growth rates (OTS Ex. 3, Sch. 5 pp. 1 & 2; OTS Ex. SR-3, Sch. pp. 1 & 2).

The growth rate range is based upon OTS' data for the period ending May 30, 1997. As indicated in my dividend yield discussion, we believe the May 30, 1997 data is the best indicator of the capital cost PP&L will face in the future. The range includes PP&L's growth rate claim with and without PP&L's "market factor" adjustment. The use of the midpoint of the range should mitigate the market aberrations and bias of the witnesses.

Therefore, this recommendation finds a DCF common equity cost rate based on our previous discussion of 11.50% (adjusted dividend yield of 8.37% plus a growth rate of 3.13% which equals a DCF cost rate of 11.50%).

Summary of Recommendation

Capital Structure	Ratio %	Cost Rate %	Weight Cost %	Tax Savings On Debt %	After Tax Weighted Avg. Cost of Capital %
Long-Term Debt	47.01	7.89	3.71	1.54	2.17
Preferred Stock	7.79	7.10	.55		.55
Common Equity	45.20	11.50	5.20		5.20
	100.00		9.46		7.92

Under this recommendation's 9.46% overall rate of return, interest coverage levels, a rate of return testing technique, on an after income tax basis is 2.5 times. PP&L's proposed after income tax interest coverage level is 2.5 times.

C. Regulatory Assets And Liabilities

PP&L included in its calculation of stranded costs the present value (as of January 1, 1999) of its generation-related net regulatory assets. The Company initially claimed $383,911,000 for such assets in its Restructuring Plan filing. PP&L Exh. JRS 1, Tab B, p. 1 of 117. PP&L subsequently revised its claim during the course of this proceeding to $354,326,000, a reduction of $29,585,000. PP&L Exh. JRS 1A, p. 1. As explained in detail below, PP&L's claim is supported by extensive record evidence. Several parties, however, propose adjustments to various elements of the Company's claim. The parties' recommendations have been considered and are substaintially rejected. See PP&L M.B. pp. 98-122, OTS M.B. pp. 49-63.

1. Unrecovered Energy Costs

On December 13, 1996, the Company filed an Application with the Commission to roll its Energy Cost Rate ("ECR") and State Tax Adjustment Surcharge ("STAS") into base rates, in response to Section 2804(4) of the Act, 66 Pa.C.S. § 2804(4), which establishes price caps on the Company's rates. The Company's Application requested Commission permission to defer as a regulatory asset: (1) unrecovered energy costs as of December 31, 1996; and (2) a normalized level of estimated future on-going energy costs. On December 19, 1996, the Commission issued a Tentative Order at Docket Nos. P-00961131 and R-00963842 approving PP&L's Application ("Tentative Order"). PP&L St. 3, pp. 9-11.

The Tentative Order created two regulatory assets, both of which are reflected in the Company's Restructuring Plan filing. First, PP&L is claiming the actual undercollection of $17.2 million in energy costs as of December 31, 1996. Second, the Company seeks to include in its stranded cost calculation approximately $31.2 million of normalized, on-going future energy costs on an annual basis. PP&L St. 3, p. 11; PP&L St. 3-R, p. 19.[34]

OCA witnesses La Capra and Catlin, and PPLICA witness Kollen argue that PP&L has failed to support its claim of $31.2 million on an annual basis for future on-going energy costs. OCA St. 1, pp. 6-8; OCA St. 3, pp. 5-7; PPLICA St. 3, pp. 17-21. In fact, PP&L Exhibit JMK 5

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34 PP&L originally estimated that its normalized, future on-going energy costs would equal approximately $31.5 million on an annual basis. PP&L St. 3, p. 11. The Company subsequently reduced this estimate to $31.2 million based on updated information. PP&L St. 3-R, p. 19.

provides a calculation of the five-year average of actual energy costs incurred by the Company during the period 1992 through 1996. This five-year average amount demonstrates that PP&L's estimated future on-going energy costs will exceed the level of energy costs rolled into base rates on January 1, 1997 as a result of the Commission's December 19, 1996 Order by approximately $31.2 million annually. PP&L Exh. JMK 5.

Based on actual energy costs for the period January 1, 1997, through June 30, 1997, the Company already has under-recovered $22.5 million of the energy costs included in its base rates. PP&L St. 3-R, pp. 19-20.[35] The Company expects to underrecover its energy costs by approximately $36 million in 1997 and $67 million in 1998. PP&L St. 3-R, p. 19, PP&L Exh. JMK 6.

Mr. La Capra contends that PP&L overstates its under-recovery of future on-going energy costs for the years 1997 and 1998 because the Company's claim is not based on a mills per-kilowatt-hour basis. OCA St. 1, p. 7. Mr. La Capra is completely in error. As explained by Mr. Kleha, the calculations supporting the Company's claim (Exhibits JMK 5 and 6) in fact reflect a mills per-kilowatt-hour energy cost determination. PP&L St. 3-R, pp. 20-21.

Mr. Catlin also suggests that PP&L's claimed underrecovery of on-going energy costs is overstated because PP&L is earning more than its required return on common equity. OCA St. 3, pp. 6-7. Mr. Catlin is incorrect. PP&L's pro forma rate of return on common equity was 11.42% for the year ended December 31, 1996, below the 11.50% allowed by the Commission in PP&L's most recent base rate case in 1995. PP&L St. 3-R, p. 22.[36]

PP&L notes that PECO's claim for future understated projected energy costs in its Restructuring Plan proceeding was denied by the Commission. PECO Order, p. 71; Order on

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35 In its Restructuring Plan proceeding, PECO claimed $22 million for annual deferred fuel expense through December 31, 1998, and $22.7 million annually through December 31, 2005, to recover the amount by which its average energy costs rolled into base rates understate its estimated going-forward energy costs.

36 The calculation and data submitted by the Company in support of its claim are similar to the information PP&L consistently provided to the Commission to support its energy cost rate filings. Tr. 1108 (8/20/97). Thus, Messrs. Kollen and Catlin are incorrect in stating that the Company failed to reflect revenues in its calculation of future under-recovered energy costs. PPLICA St. 3-S, p. 21; OCA St. 3-S, p. 4.

Reconsideration, p. 11. Nonetheless, PP&L respectfully submits and we agree that the Commission's resolution of this issue in the PECO proceeding should not be dispositive of its claim in this case. These costs are "known and measurable" under traditional PUC practice, were deferred and properly recorded as a regulatory asset pursuant to PUC Order. We find them to be properly recoverable under the Act.

2. *Employee Transition Costs And Pension Plan*

The Company's claimed stranded costs reflect estimated additional severance and pension costs that PP&L expects to incur between 1997 and 2001 as a result of its projected decline in the number of employees as the Company prepares for a competitive market. PP&L St. 8, pp. 25-26. PP&L's estimated severance and pension expenses are as follows: 1997: $5,014,000 1998: $6,782,000; 1999: $4,157,000; 2000: $3,118,000; 2001: $4,211,000. PP&L Exh. JRS 1, Tab F, p. 40. The Company calculated a five-year amortization of the costs incurred in each year, and included in its calculation of stranded costs, the net present value of the recovery of these deferred costs that are allocable to the generation function ($17.106 million). PP&L St. 8, pp. 25-26.

The OCA argues that the claimed employee transition costs for 1997 and 1998 should be excluded. OCA St. 3, p. 10. This adjustment would reduce the balance of regulatory asset for employee transition costs by $10.793 million. The OCA also contends that incremental pension benefits should be excluded because such benefits will not result in added out-of-pocket costs due to the overfunded position of PP&L's pension plan. This adjustment would further reduce the regulatory asset by $8.003 million. As a result of these two adjustments, the OCA recommends that the Commission allow only $3.483 million of future on-going employee transition costs as a regulatory asset. OCA St. 3, p. 11.

Similarly, PPLICA asserts that PP&L's claimed future on-going employee transition costs are speculative, and that the Company failed to reflect normal employee attrition in its calculations. PPLICA St. 3, pp. 22-23. Even if the Commission "conceptually" adopts this regulatory asset, PPLICA argues that such asset should be valued at $5.502 million, the net present value of future cash outlays. PPLICA St. 3, p. 23.

The OCA and PPLICA adjustments are inappropriate and are rejected. See PP&L M.B., pp 102-104.

3. Taxes Other Than Income

PP&L included Taxes Other Than Income in its calculation of stranded costs. The Company's claim includes two components: (1) capital stock taxes; and (2) Public Utility Realty Tax ("PURTA").[37] PP&L calculated the actual amount of capital stock and PURTA taxes in 1996 applicable to fossil and nuclear generation facilities. The Company then escalated the 1996 taxes at the rate of inflation (2.5 percent) over the life of each generating facility. PP&L St. 8-R, p. 35; PP&L Exh. JRS 1, pp. 4-5.

OTS, OCA and PPLICA each oppose the Company's claim. OTS and PPLICA argue that capital stock taxes should remain constant over the life of each generating facility, but that PURTA taxes should decline in relation to the decline over time in net plant balance resulting from depreciation. OTS St. 2, pp. 16-23; PPLICA St. 2, pp. 50-51. We adopt the OTS' adjustment which reduces PP&L's nuclear generation-related stranded costs by $280.7 million, and its fossil generation-related stranded costs by $66.1 million. OTS St. 2, pp. 22-23, OTS M.B. 49-54.

4. Fossil Plant Decommissioning

PP&L's calculation of stranded costs includes $315.867 million attributable to the costs of decommissioning its various fossil generating units.[38] PP&L escalated each fossil plant's decommissioning costs at a 2.5 percent annual rate of inflation to the end of its book life. The Company assumed that it would incur decommissioning costs over a three-year period -- 40 percent in the year each plant is retired, 40 percent the following year, and 20 percent the next year. PP&L Exh. JRS 1, p. 8.

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37 This item is not a regulatory asset. It is a cost of operation included in the calculation of revenue under regulation in PP&L's regulatory model and as an offset to market revenue in the asset value model.

38 This item is not a regulatory asset. It is an operating cost included in revenue order regulation in PP&L's regulatory model and as an offset to market revenue in the asset value model.

The OCA and PPLICA recommend that the Commission exclude the Company's claimed costs in their entirety (OCA St. 1, p. 18, PPLICA St. 3, pp. 30-35, PPLICA St. 3-S, p. 31).

In its recent Order in the PECO Restructuring Plan proceeding, the Commission denied a similar claim by PECO for $126.6 million for costs associated with the decommissioning of its fossil generating facilities. The Commission concluded that PECO's claimed expenses were unsupported and speculative and are prohibited by Pennsylvania law. PECO Order, pp. 49-50. We turn to the Act for guidance

First, Section 2803 of the Act clearly defines "transition or stranded costs" as including "retirement costs attributable to the utility's existing generating plants other than the costs defined in Paragraph (1)," which refers to the recovery of nuclear generating plant decommissioning costs. 66 Pa.C.S. § 2803. Thus, fossil decommissioning costs which are incurred to retire existing fossil generating facilities are defined by the Act as allowable "transition or stranded costs" and must be included.

Second, PPLICA argues that the Company's claimed costs are speculative and unsupported. Specifically, Mr. Kollen asserts that PP&L's claim derives from a fossil decommissioning study performed by TLG Services which is based on three erroneous and speculative assumptions: (1) PP&L's fossil generating facilities will be decommissioned while owned and controlled by the Company; (2) the facilities will be retired on the dates indicated in the study; and (3) the facility sites will be restored to "greenfield" conditions. PPLICA St. 3, pp. 31-32. Similarly, in denying PECO's claim for fossil decommissioning costs, the Commission concluded that there was no evidence "that any particular fossil plant will in fact have to be decommissioned at all, when such decommissioning might occur, the extent of decommissioning that will be required, the future use of the plant and its site, or the cost of the decommissioning found to be needed." See also PECO Order, p. 92.

The concerns held by PPLICA and the Commission with respect to this issue are misplaced in this case. PP&L in fact has submitted substantial evidence in this proceeding which fully supports its estimated future fossil decommissioning costs. Indeed, past industry experience suggests that PP&L's claim may be understated, as decommissioning estimates generally have proven to be much lower than the actual costs incurred. PP&L St. 3-R, p. 34. Mr. Kollen conceded on cross-examination that the TLG study is very similar to other studies relied upon by the Commission to establish allowable levels of nuclear decommissioning expense. Tr. 1486 (8/25/97). Moreover, Mr. Kollen agreed on cross-examination that the nuclear decommissioning study performed by TLG and relied upon by the Commission in PP&L's last base rate proceeding contained the same types of assumptions that Mr. Kollen now attacks in the TLG fossil decommissioning study in this proceeding. Tr. 1486-88 (8/25/97). PP&L submits that the record evidence fully supports its claimed level of fossil decommissioning expenses.

Finally we believe that the Superior Court's decision in *Penn Sheraton Hotel v. Pa. P.U.C.*, 198 Pa. Super. 618, 184 A.2d 324 (1962), does not prohibit recovery of projected fossil decommissioning costs. PPLICA St. 3, pp. 33-34; PECO Order, pp. 91-92. *Penn Sheraton* fully supports the recovery of fossil decommissioning costs; the only point at issue was the timing of that recovery.

Penn Sheraton prohibited advance recovery of retirement costs but permitted recovery of actual retirement costs.[39] As explained by Mr. Kleha, PP&L's estimate of stranded generation-related capital and operating expenses was calculated utilizing the revenue requirements methodology contemplated by the Act. PP&L St. 3-R, pp. 31-32. Using this methodology, the Company included in its calculation the costs of decommissioning existing fossil generating facilities that would be recoverable under traditional rate regulation at the end of the lives of those facilities. Thus, consistent with *Penn Sheraton*, PP&L's claim reflects its projected fossil decommissioning costs at the point in time when they actually would be incurred. PP&L St. 3-R, p. 32.

Finally, while OTS does not oppose PP&L's proposed stranded cost recovery of fossil decommissioning costs, Mr. Gruber recommends that the Commission require the Company to place all amounts recovered in a separate, non-qualified trust fund that would be accessible only as fossil decommissioning costs are actually incurred. OTS St. 1, p. 15.

As set forth by PP&L in this matter, they are claiming a net present value of decommissioning expenses for fossil fuel generation plant of $1,074,961,000. This number is the

39 Moreover, to the extent *Penn Sheraton* is read to prevent stranded cost recovery of retirement costs it is patently inconsistent with the Act, which clearly permits recovery of these retirement costs.

sum of the Company's fossil decommissioning found on Pages 20-23 of Schedule 117 in PP&L Exhibit JRS - 1.

The Company has included the cost of decommissioning each of its fossil fuel power stations in the stranded cost analysis as a necessary future revenue stream. These dollars have been valued to 1999 dollars and their recovery has been included in the Competitive Transition Charge (CTC).

OTS has made no adjustment to the level of the Company's fossil fuel decommissioning claim. OTS does have a position concerning the treatment of the decommissioning claim after the money has been collected.

With regard to the Company's claim for fossil fuel decommissioning, OTS witness Mr. Gruber has testified that if the Commission allows the Company to include the fossil fuel decommissioning claim in its stranded cost analysis, then OTS recommends that the Company be ordered to segregate the money collected for fossil fuel decommissioning in a separate non-qualified trust fund. This fund would not be accessible to the Company until it actually decommissions a fossil fueled power plant. (See OTS M.B. pp. 49-54, OTS Statement No. 1, Pages 15-16)

Mr. Gruber further testified that if the Company sold a fossil fuel power station in the future, the fund would remain in the custody of the Company. When the power station that has been sold is decommissioned, the Company would disburse the appropriate amount of funds from its decommissioning fund to the entity responsible for the decommissioning. Mr. Gruber also testified that the Company would only be responsible for the amount of decommissioning expense it had collected while associated with that power plant, to the extent that the cost is greater than the amount in the fund, the Company who owns the station would be responsible to make up the difference.

Mr. Gruber's recommendation is appropriate and we will recommend the adjustment.

5. Nuclear Plant Decommissioning

In calculating the annual revenue requirement for nuclear generation, the Company included the amount it is recovering in annual nuclear decommissioning expense through existing retail and wholesale rates, adjusted to the appropriate PUC-jurisdictional amount. PP&L

St. 8, p. 11.[40] Currently, PP&L is recovering approximately $9.5 million per year in jurisdictional rates for nuclear decommissioning costs. PP&L St. 3, p. 15. PP&L's stranded cost claim reflects the net present value of after-tax future annual nuclear decommissioning expense accruals over the remaining life of the Company's nuclear facilities. As a preferred alternative, however, PP&L proposes to recover its nuclear decommissioning costs over the remaining life of its nuclear generating facilities, through distribution charges on a per kWh basis. PP&L St. 3, p. 14; PP&L St. 3-R, p. 28.

Two concerns underlie PP&L's proposal. First, there is some question as to whether the transition to full competition will ensure the adequate recovery of nuclear decommissioning costs. Section 2808 of the Act, 66 Pa.C.S. § 2808, provides electric utilities "an opportunity" to recover stranded costs through the CTC, including nuclear decommissioning costs that may not be recoverable in a competitive generation market. Thus, PP&L will have to fund a substantial amount of its nuclear decommissioning costs using revenue from market rates. There is no assurance, however, that such market rates will be sufficient to satisfy PP&L's nuclear decommissioning funding obligations. PP&L St. 3, p. 12.

Second, there is a risk that the transition to full competition could subject PP&L to substantial financial qualification requirements under Nuclear Regulatory Commission ("NRC") regulations. Specifically, NRC regulations exempt "electric utilities" from the requirement to provide additional financial assurance for nuclear decommissioning (e.g., insurance or surety bond) beyond establishment of an external sinking fund. "electric utilities" are defined as "any entity that generates or distributes electricity and which recovers the cost of electricity, either directly or indirectly, through rates established by the entity itself or by a separate regulatory authority." 10 C.F.R. § 50.2

Under traditional cost-of-service rate regulation, PP&L plainly satisfies the NCR's definition of "electric utility" because its rates are set by the Commission. PP&L currently is authorized to recover its estimated future nuclear decommissioning costs in rates over the remaining life of its nuclear generating facilities, and all recovered amounts are placed in an

40 This item is not a regulatory asset. It is an operating cost included in the calculation of revenue under regulation in PP&L's regulatory model and as an offset to market revenue in the asset value model.

external trust fund. However, the Act requires that all generation-related costs, including those related to PP&L's nuclear generating facilities, be removed from traditional rate regulation. The Company's proposal to recover its claimed costs through a distribution charge is designed to address both of these concerns. PP&L's proposal will ensure adequate nuclear decommissioning funding and will provide for the recovery of such costs through rates established by the Commission. PP&L St. 3, pp. 14-15.[41]

PPLICA and the Environmentalists oppose the Company's proposal. First, PPLICA contends that PP&L's proposal to recover nuclear decommissioning costs on a per kWh basis is inconsistent with its treatment of such costs in its last base rate case. PPLICA St. 1, pp. 55-56. The record evidence plainly shows that the Company unbundled costs in this case using the same demand allocators utilized in its last base rate proceeding. Thus, PP&L's proposed unbundled tariff rates reflect nuclear decommissioning costs allocated among customer classes on a demand basis. The Company proposes to recover these demand-allocated costs on a per kWh basis, which is the same method currently used to recover such costs through fully regulated rates. PP&L St. 3-R, pp. 28.

The Environmentalists oppose PP&L's proposal to extend the CTC, and recommend that the Commission consider "the benefits of an incentive framework for nuclear decommissioning costs, in which risks are shared between the Company and its customers." Environmentalists St. 2, p. 28. This proposal is inconsistent with the Act, which clearly states that the PUC "shall" provide for recovery of nuclear decommissioning costs. 66 Pa.C.S. § 2808(c)(1). See also PP&L St. 3-R, pp. 29-30.

Finally, it should be noted that PPLICA initially opposed the Company's proposal to recover nuclear decommissioning expenses as a distribution-related component of its delivery charges, claiming that PP&L would recover such expenses twice. PPLICA St. 3, p. 39. In rebuttal, PP&L explained that it would exclude nuclear decommissioning costs from those

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41 The charge that would result from PP&L's proposal would be extremely small and would have a minimal impact on customers. For example, the Company currently collects approximately $9.5 million per year in rates for nuclear decommissioning costs. For the average residential customer using 500 kWh per month, this equals approximately $0.03/kWh, which is approximately $0.15 per month and less than $2.00 per year.

recovered through the CTC if the Commission adopts the Company's proposal. PP&L St. 3-R, p. 29. Based on this clarification, PPLICA agreed that PP&L's proposal would not result in the double recovery of nuclear decommissioning costs. PPLICA St. 3-S, p. 33.

The Commission already has approved a similar proposal for the recovery of nuclear decommissioning costs in the PECO case. PECO's post-1998 decommissioning costs were reflected in its calculation of stranded costs as a future operating expense affecting the market value of its facilities. With respect to its claimed underrecovered costs, PECO proposed two collection methods. PECO first suggested recovering its costs through the CTC as a stranded cost. In the alternative, PECO proposed to recover its claimed costs as an annuity through regulated transmission and distribution rates. The Commission adopted PECO's second proposal, finding that it would ensure that the amounts recovered would continue to qualify for favorable IRS and NRC treatment. PECO Order, p. 78-80.

In the instant case, PP&L's proposed distribution charge for the recovery of its estimated nuclear decommissioning costs is similar to the mechanism approved by the Commission in the PECO proceeding. As explained above, the Company's proposal will ensure that it fully recovers its nuclear decommissioning costs over the remaining life of its facilities, and that it retains its exemption from burdensome NRC financial assurance requirements. PP&L's proposal is consistent with the Commission's decision in the PECO case and we recommend that it be adopted.

6. Department Of Energy Assessments

The Energy Policy Act of 1992 ("Energy Act") establishes an assessment on utilities, including PP&L, owning nuclear power operations to provide funds for the decontamination and decommissioning of the Department of Energy's ("DOE") uranium enrichment facilities. Under the Energy Act, this charge is assessed over a 15-year period, and is deemed a necessary and reasonable current cost of fuel that is fully recoverable in rates in the same manner as other fuel costs. PP&L St. 8, p. 24.

PP&L determined the amount of DOE assessment costs that would be recovered annually through existing rates, and included the present value of the PUC-jurisdictional portion of this amount in its calculation of stranded cost. PP&L St. 8, p. 24. The OCA and PPLICA recommend that the Commission disallow the Company's claim in its entirety, noting that PP&L already reflected this assessment in its Restructuring Plan filing as a component of fuel expense. OCA St. 3, p. 7; PPLICA St. 3, pp. 24-25. In response, the Company eliminated all DOE assessment amounts from the fuel expense component of its generation-related costs, which reduced PP&L's stranded costs by approximately $17 million. PP&L St. 8-R, pp. 56-57. This correction fully addresses the OCA's and PPLICA's concerns.[42] PP&L's proposed recovery of DOE assessment costs as a regulatory asset, therefore, is appropriate and we recommend it be approved.

7. Susquehanna Deferred Refueling Expenses

PP&L's stranded cost calculation includes a claimed regulatory asset for incremental maintenance costs incurred during refueling and inspection outage at PP&L's Susquehanna Steam Electric Station ("SSES"). These costs are deferred and amortized from the end of the outage until the next scheduled refueling and inspection outage is completed. The Company determined the annual recovery that would occur through existing rates and included in its stranded cost calculation $7.996 million on a present value basis at December 31, 1998 for the PUC-jurisdictional portion of these costs. PP&L St. 8, p. 25.

In its filing, the Company has claimed SSES Deferred Refueling Costs as an individual item in its claim for regulatory assets. By way of further discussion, the deferred refueling costs represents incremental maintenance costs incurred during refueling and inspection outages which are deferred and subsequently amortized from the end of the outage until the next scheduled refueling and inspection outage is complete. PP&L Exh. JRS-1, at 12-13; OTS St. 2 at 13-14.

The basis for the Company's claim is its annual PaPUC jurisdictional amortization for both costs for 1999; however, OTS witness Reed has recommended that the Company's claim for stranded costs relating to Regulatory Assets exclude the amounts associated with deferred refueling costs. OTS St. 2 at 14. As Mr. Reed explained, deferred refueling costs are not

42 On surrebuttal, Mr. Kollen argued that PP&L failed to correct the double-counting error. PPLICA St. 3-S, p. 26. As explained by Mr. Schadt, the DOE assessment was removed from the generation-related stranded cost calculation, and was retained as a regulatory asset. Tr. 1545-46 (8/26/97). The error clearly was corrected; Mr. Kollen is mistaken.

regulatory assets that are recoverable through a traditional amortization, but are typical ongoing expenses that, in a regulatory environment, are recoverable in base rates at normalized levels. Id., at 14.

In rebuttal, PP&L suggests that since the Company did propose to recover deferred refueling outage costs in a period after they were incurred, it was necessary to accumulate and defer the actual costs of the first refueling outage on the Company's books and amortize this amount over the period it was to be recovered in rates. PP&L St. 8-R at 46. The Company supports its argument by claiming that an Administrative Law Judge approved PP&L's request to defer its refueling costs on the Company's book and amortize them for book purpose. Additionally, according to PP&L witness Schadt, the Commission at Docket No. R-822169, agreed with the Administrative Law Judge and approved the Company's request to defer refueling outages on the Company's books of account. Id., at 46. Consequently, according to the Company on rebuttal, PP&L has been utilizing this deferral method for both SESS units since 1983.

Since the Company, in its rebuttal, has relied upon a Commission's Opinion and Order at Docket No. R-822169, which is Pennsylvania Public Utility Commission v. Pennsylvania Power & Light Company, 55 PUR4th 185, 228-229 (1983), there is a critical need to review this case carefully and in its entirety. Upon reviewing this case in question, OTS submits and we agree that the Commission in its Order approved PP&L's request to accrue and defer first refueling costs of Unit 1. However, that approval was specifically addressed to the costs of the first Unit 1 outage in 1984 and was for book purposes only. OTS St. SR-2 at 7. Accordingly, no allowance was made for their recovery in rates. The Commission's Opinion and Order simply preserved the Company's right to claim the first Unit 1 outage costs in a future rate proceeding. Id., at 7. PP&L's argument suggesting that the case at Docket No. R-822169, supporting the recovery of Susquehanna deferred refueling costs, in this instant proceeding is incorrect. Moreover, the Commission's Opinion and Order in PP&L's most recent base rate case at Docket No. R-00943271, clearly did not institute an annual amortization for which the Company would be entitled to full recovery, but establish a normalized annual level of expense applicable to the deferred refueling costs that would be included in rates. Simply put, there is not support in Commission Opinions and Orders for the position articulated by PP&L regarding claiming deferred refueling costs as regulatory assets for stranded costs purposes.

On cross-examination, PP&L witness Schadt acknowledged that he, as the Company's expert witness in this area, did not understand for ratemaking purposes, the difference between amortization and normalization. (Tr. 1588-August 26, 1997). This admission is key as to why the Company has made a mistake in claiming deferred refueling costs as a regulatory asset. OTS submits that in order to fully comprehend the issue of whether it is proper for the Company to claim SESS Deferred Refueling Costs as stranded regulatory assets, the expert witness must understand the difference between normalization and amortization for ratemaking purposes. Obviously, by Mr. Schadt's own admission, he did not understand the difference between normalization and amortization. Interestingly, after OTS witness Reed had provided definitions of amortization and normalization in his direct testimony, Mr. Schadt continued not to understand the difference between the two, yet he appeared as the Company's expert witness on whether PP&L should recover SESS Deferred Refueling Costs as stranded regulatory assets.[43]

As Mr. Reed explained, normalization is a ratemaking concept that describes the transformation of an operating expense that recurs at irregular intervals and in irregular amounts into a "normal" annual test year expense allowance. OTS St. 2 at 15. Amortization is an accounting concept that extinguishes an atypical, nonrecurring expense over a pre-determined number of years by charging to operations a pro rata share based on the selected amortization period. Id., at 15. OTS *submits that it is critical to understand that recovery of normalization* expenses do not extend over a period of years and therefore claims for unrecovered normalized expenses in subsequent proceedings cannot exist and must be disallowed. Id ., at 15. In contrast, an amortization allowance could be claimed in succeeding proceedings as long as there is a remaining unamortized balance. Id., at 15. In applying the definition of normalization and amortization to the issue of deferred refueling costs, OTS submits, and the Commission's Order supports, the conclusion that the Commission did not allow PP&L to amortize the full amount of deferred refueling costs in the Company's last base rate proceeding. The Commission allowed PP&L to reflect a claim for deferred refueling expenses in annual O & M at a normalized level,

43 Mr. Schadt also appeared on behalf of the Company as to whether PP&L should recover its 1994 Rate Case Expense as a stranded regulatory asset.

therefore PP&L's attempt to claim deferred refueling costs as a regulatory asset in this proceeding violates the definition of normalization and should not be allowed.

Accordingly, the effect of disallowing deferred fuel, along with the associated rate case expense reduces the net present value relative to regulatory assets from $383,911,000 to $375,384,000, which results in a reduction of $8,527,000.

8. Earnings On Recovered SFAS 106 Costs

In its Final Order at Docket No. R-00943271, the Commission authorized PP&L to recover the full PUC-jurisdictional portion of expenses attributable to the adoption of Statement of Financial Accounting Standards 106 ("SFAS 106"). SFAS 106 requires PP&L to record the liability associated with post-retirement benefits on an accrual basis (i.e., at present value), rather than on a pay-as-you-go or cash basis. The Company's current rates recover the full SFAS 106 costs applicable to PUC-jurisdictional customers, including approximately $11 million in excess of PP&L's current cash payment obligation for post-retirement benefit claims to recover the transition obligation or accrued liability that existed as of January 1, 1993, the date PP&L adopted SFAS 106. The transition obligation is being amortized over 20 years. PP&L St. 8, p. 22; PP&L St. 8-R, pp. 41-42.

The Company determined the annual recovery of SFAS 106 costs that would occur under existing rates and included the present value of the PUC-jurisdictional portion of the generation-related amount in its calculation of stranded costs. PP&L St. 8, p. 22. PPLICA generally accepts the Company's claim, but recommends that the Commission recognize a regulatory liability for the interest earned by trust funds established by PP&L to fund post-retirement benefits other than pensions. PPLICA St. 3, pp. 26-29. In PPLICA's view, this regulatory liability should be used. to offset PP&L's claimed regulatory asset.

> PPLICA's proposed adjustment should be rejected. The interest identified by Mr. Kollen already is utilized to offset or reduce the projected cost of post-retirement benefits other than pensions. PP&L St. 8-R, p. 40.

PPLICA relies on the Commission's recent Order in the PECO Restructuring proceeding to support its recommendation in this case. In that proceeding, the Commission adopted PAIEUG witness Kollen's proposed regulatory liability for SFAS 106 trust fund earnings. The Commission stated:

> Under traditional ratemaking, consumers would receive [a] credit against future expenses for these earnings. As such, they should be treated as a regulatory liability at this time. Since generation will no longer be under traditional cost-based regulation, customers would lose these credits if we did not allow them in this proceeding. PECO Order, p. 77.

As a result of this adjustment, the Commission reduced PECO's total stranded costs by $150.861 million. *Id.* See Order on Reconsideration, pp. 13-14.

The Commission's decision in the PECO proceeding is not dispositive in this case. In calculating its claimed SFAS 106 costs, PECO apparently did not credit customers with the earnings on its SFAS 106 trust fund. Instead, PECO argued that "it should be permitted to retain trust fund earnings in order to account for future inflation and cost escalation . . . ." Order on Restructuring, p. 13. In this case, PP&L has fully reflected its SFAS 106 trust fund earnings in its calculation of stranded costs. As explained above, those earnings were utilized to reduce PP&L's claimed SFAS 106 expenses. The Company's claim, therefore, is clearly distinguishable from that addressed by the Commission in the PECO proceeding.

9. SFAS 109 (Investment Tax Credit)

With the change in Federal tax laws that allowed PP&L to take advantage of investment tax credits ("ITCs"), the Company elected to defer recognition of these credits as income by recording a liability for accumulated deferred ITCs. The amortization of accumulated ITC's, along with the related income tax effect, reduces the cost-of-service (and thus customer rates) over the lives of the assets that produced the ITCs. As a result of the adoption of Statement of Financial Accounting Standard No. 109 ("SFAS 109"), PP&L recorded a deferred tax asset to reflect the income tax effect of the accumulated deferred ITCs, and a regulatory liability (i.e., an amount owed to customers) to reflect the ratemaking treatment of the tax effect. This regulatory liability is equal to the reduction in income tax expense that will need to be recovered from customers as the balance of accumulated deferred ITCs is amortized to reduce the cost-of-service over the remaining lives of the underlying assets. PP&L St. 8, pp. 28-29.

In its Restructuring Plan filing, PP&L utilized the present value of the ITC regulatory liability to reduce or offset the present value of regulatory assets in calculating the level of its stranded costs. The methodology used by the Company to reflect the effect of the ITC regulatory liability is not opposed by any party in this proceeding.[44]

10. Retirement Of Generating Plant

In calculating its stranded cost claim, PP&L utilized the same deactivation dates for its generating facilities that were approved by the Commission in the Company's most recent base rate case at Docket No. R-00943271.[45] Specifically, the Keystone and Conemaugh generating stations are scheduled to be deactivated in 2007 and 2010, respectively. These deactivation dates also are fully consistent with the depreciation schedules reflected in PP&L's retail customer rates as of January 1, 1997. PP&L St. 10-R, pp. 33-36.

The OCA and PPLICA recommend that the Commission extend the deactivation dates for both the Keystone and Conemaugh generating stations to match the dates utilized by PECO for its share of these plants in its Restructuring Plan proceeding at Docket No. R-00973953. OCA St. 1, p. 16; PPLICA St. 3, pp. 31-32. In support of his argument, Mr. Kollen asserts that these generating stations are operated by PECO, and concludes that PECO's deactivation dates therefore are correct. PPLICA St. 3, p. 31. The opposing parties' recommendation is rejected for several reasons.

First, PP&L's proposed deactivation dates are consistent with the expected operating life for this type of generating unit. Specifically, the Keystone units began service in 1967 and 1968. Based on the deactivation date approved by the Commission in PP&L's last base rate case, i.e.,

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44 In fact, PPLICA took the somewhat unusual step of submitting detailed testimony in support of PP&L's claim. PPLICA St. 3, pp. 9-13.

45 This item is not a regulatory asset.

2007, these units have projected service lives of 40 and 39 years, respectively. Similarly, the Conemaugh generating units began operation in 1971 and 1972. Based on the deactivation date approved by the Commission in PP&L's last base rate case, i.e., 2010, these units have an expected operating life of 39 and 38 years. PP&L St. 10-R, pp. 35-36. As Mr. Krall explained, the Company's proposed deactivation dates properly reflect the design and operating limitations for these units:

> Lives of 35 to 40 years are appropriate for 1970-vintage 800 MW-class once-through super-critical pressure generating units. This class of units "stretched the envelope" on certain mechanical designs and materials selections and have, in fact, seen certain stress-related problems occurring at 15 to 20 years of age which would normally not occur in lower temperature and pressure units until 30 to 40 years of age. The current lives assigned by PP&L, and approved by the Commission, reflect these issues and also are consistent with commitments made to comply with the requirements of the 1990 Clean Air Act Amendments. Any extension of these lives is speculation. PP&L St. 10-R, p. 36.

Second, the parties' reliance on PECO's proposed deactivation dates is misplaced. In fact, the various owners of Keystone and Conemaugh frequently have utilized different deactivation dates in establishing their respective rates. The Commission has reviewed and approved each of these dates.

Third, Mr. Kollen is incorrect in asserting that PECO's deactivation dates should be utilized because PECO operates the Keystone and Conemaugh units. The record evidence demonstrates that these generating units are operated by GPU subject to oversight by the Keystone-Conemaugh Projects Office. PECO, like PP&L, is a joint owner, and no owner may unilaterally cause investments at these stations that would extend their lives. Such investment decisions require approval by 75% of all ownership shares. Because the Commission lacks jurisdiction over five of the owning companies whose ownership shares exceed 25%, the Commission is unable to require investments to extend the lives of these stations. PP&L St. 10-R, p. 37.

In sum, PP&L's proposed deactivation dates are appropriate and should be approved. The proposed dates are identical to the dates approved by the Commission in the Company's last base rate case, and are fully consistent with the expected operating lives of the facilities.

11. Rate Case Expenses

The Company included in its calculation of stranded costs the present value of the generation-related portion the total annual recovery of rate case expenses that would occur through existing rates. The Commission authorized PP&L to recover rate case expenses associated with its base rate proceeding at Docket No. R-0094371 over a four-year period. PP&L St. 8, p. 26.

Raising the same argument used in opposition to PP&L's claim for deferred SSES refueling expenses, the OTS and OCA recommend that the Commission disallow the Company's claim. Like SESS Deferred Refueling Costs, PP&L is attempting to claim its 1994 Rate Case Expense as a stranded regulatory asset. The Company's claim for Rate Case Expense represents the cost incurred relative to generation as a result of the Company's most recent base rate case. OTS St. 2 at 13. Like SESS Deferred Refueling Costs, OTS disagrees with PP&L's recovery of 1994 Rate Case Expense as stranded regulatory assets. The reasons for OTS' recommendation are in many aspects similar to the reasons set forth above regarding SSES Deferred Refueling Costs

In rebuttal, PP&L witness Schadt defended the Company's claim for Rate Case expense as a stranded regulatory asset, based on the Company's belief that for accounting purposes, PP&L properly established a regulatory asset in accordance with SFAS 71 . Furthermore, it is this regulatory asset which the Company is recognizing as a stranded cost in this proceeding. PP&L St. 8-R at 39. OTS argues and we agree that while Mr. Schadt's arguments may be proper for accounting purposes, they are not proper for ratemaking purposes, where certain expenses are normalized. From a ratemaking viewpoint, PP&L is only entitled to include in rates an amount that represents what would normally be incurred in a year for litigating a base rate case. OTS St. SR-2 at 6. As previously discussed, contrary to Mr. Schadt's argument, for ratemaking purposes, the total rate case expenses has no significance beyond the determination of a normal year's expense. Id., at 6. Simply put, as Mr. Reed explained, PP&L is not entitled to recovery of its unamortized rate case expense in this proceeding than it would be in a base rate proceeding in a regulated environment. Id., at 6.

The Act, at 66 Pa. C.S. Section 2803, defines stranded costs in pertinent part as that "which traditionally would be recoverable under a regulated environment but which may not be recoverable in a competitive electric generation market." Consequently, there is no basis for the Company's position to recover its 1994 Rate Case Expense as stranded regulatory assets. Since the manner in which PP&L is seeking to recover these costs, the same costs could not be recovered in that manner in a regulated environment. The effect of Mr. Reed's disallowance of the rate case expense and the deferred fuel results in reduction of $8,527,000 to the Company's net present value relative to regulatory assets.

Specifically, Messrs. Reed and Catlin argue that the Commission previously approved normalization of PP&L's rate case expenses, not deferral and amortization of such costs. OTS St. 2, pp. 13-16; OCA St. 3, p. 12. Disallowance of the unamortized expenses would reduce the nominal balance of the Company's regulatory assets by $184,000. OCA St. 3, p. 12. The parties' recommendation is well taken.

12. Safe Harbor

On rebuttal, the Company corrected an error in its original stranded cost calculation related to the Safe Harbor facility. Specifically, PP&L's initial calculation did not include the energy revenues and the operating and maintenance expenses associated with this facility. The revenues related to Safe Harbor's capacity inadvertently were included with the Holtwood Dam hydroelectric project's revenues for capacity. The effect of properly including the remaining revenues for energy from Safe Harbor and all of its operating and maintenance costs increases PP&L's stranded costs by $38 million. PP&L St. 8-R, pp. 55-56. These corrections are shown in PP&L Exhibit JRS 8.

13. Other Regulatory Assets

PP&L notes that it has not presented a claim for stranded costs associated with its Pilot Retail Competition Program because the amounts are not known. PP&L reserves the right to claim these costs in its Compliance Filing or other appropriate point in the process. See Opinion and Order on Pilot Program Initiatives, Docket No. P-00971183, p. 26. Also, PP&L has proposed to offset this pilot program regulatory asset with a regulatory liability reflecting the refund to customers arising out of the Commonwealth Court's decision in *Popowsky v. Pa. P.U.C.*, 695 A.2d 448 (Pa. Comwlth. 1997), dealing with gross receipts tax on uncollectible accounts.

VI. DETERMINATION OF PRESENT VALUE

A. Appropriate Discount Rate

As explained in Section III, above, PP&L used the regulatory method to calculate its stranded costs. Under this method, the Company compared the revenue stream it could have received under traditional cost-of-service regulation with the stream of revenue it could receive in a competitive market. PP&L discounted the difference between these two amounts to January 1, 1999 using a discount rate of 7.92%, which is PP&L's after-tax weighted average cost of capital ("WACC"). PP&L St. 8-R, p. 5; PP&L Exh. JRS 1, p. 1. The OTS, OCA and OSBA oppose both the Company's proposed discount rate and the application of such rate. As explained in PP&L's M.B. at pp. 131-134, each of the arguments raised by the parties is without merit and we reject them.

We adopt PP&L's discount rate of 7.92 percent.

B. Application of Discount Rate

1. Income Taxes

The OCA asserts that PP&L improperly applied an after-tax discount rate to calculate the present value of pre-tax revenue requirements and market prices. OCA St. 1, p. 13. As a result, the OCA claims that the Company overstates its stranded costs by $880 million.

As explained by Mr. Guth, stranded costs are analogous to economic damages because they represent a decrease in value caused by some act or event, in this case, the transition from regulated rates to market-based rates. PP&L St. 19-R, p. 20. As such, taxable stranded costs properly should be measured utilizing pre-tax cash flows and after-tax discount rates:

> In computing economic damages, we want to compensate the owner of damaged assets just enough to restore her to her prior

> position. Since future cash flows -- as well as the subsequent return earned on those cash flows -- are taxable, we must discount to present value taking into account tax effects by using an after-tax discount rate. But, since damage awards are ordinarily taxable, we must adjust the cash flows to pre-tax levels so that the owner is made whole after taxes on damages are paid. PP&L St. 19-R, p. 21.

Although Mr. La Capra and Mr. Falkenberg utilize an after-tax discount rate to calculate stranded costs, they err by computing PP&L's stranded costs based on *after-tax* revenue requirements and market prices. Specifically, these witnesses reflect income taxes in calculating the value of PP&L's generating assets, but fail to adjust stranded costs upward to account for the taxability of CTC revenues. PP&L St. 19-R, p. 21. As Mr. Guth explained, Messrs. La Capra and Falkenberg:

> computed what they assert is the market value of PP&L's generating assets after taking into account income taxes. That procedure is all right, so long as measured stranded costs are then adjusted upward to take into account the taxability of CTC revenues that are based on stranded costs. Thus there really are two alternatives where the present value amount of future cash flows is taxable income:
>
> 1. use pre-tax cash flows, and after-tax discount rates to compute the present value of taxable income; or
> 2. use after-tax cash flows, and after-tax discount rates to compute the present value of after-tax income, then gross up the result for tax coverage. PP&L St. 19-R, pp. 21-22.

The OCA's proposal is incorrect because it fails to adopt either of these approaches and effectively disallows the recovery of income taxes. The OCA's recommendation regarding application of the discount rate therefore is rejected.

2. Discount Rate Method

PP&L discounted its revenue requirements on a monthly basis. The OCA discounted on a semi-annual basis. A monthly calculation is more accurate, is consistent with PUC, practice in calculating ECRs and was approved in the PECO Restructuring proceeding (Order on Compliance Filing, p. 6). As shown in Table D of PP&L's M.B., the OCA's method understates stranded costs by $48.374 million ($71.072 for Market Value, less $5.815 million for

Regulatory Assets, less $8.982 million for NUG Contracts and $7.899 million for Nuclear Decommissioning).

VII. RECOVERY OF STRANDED COSTS

A. Design of the Competitive Transition Charge

Under Section 2808(a) of the Act, electric distribution companies will recover their stranded costs through CTCs. These charges will be applied to every customer of electric distribution companies. The rate design for PP&L's CTC is based upon principles derived from two different sources. First, the Act contains a set of principles that are to be followed in designing CTCs. Second, PP&L has followed fundamental principles of rate design that are widely accepted and applied in utility ratemaking.

Three statutory provisions influence the rate design of PP&L's CTC. First, the CTCs are constrained by the rate caps. Under Section 2804(4)(ii) of the Act, there may be no increase in the generation component of rates, which includes the CTC, for nine years from the Act's effective date, January 1, 1997, through December 31, 2005. Second, Section 2808(a) of the Act mandates that the CTC be designed "in a manner that does not shift interclass or intraclass costs and maintains consistency with the allocation methodology for utility production plant accepted by the Commission in the electric utility's most recent base rate proceeding." Third, PP&L's CTCs are designed in a manner to promote the overall purpose of the Act, which is to establish an active and viable retail market for electric generation.

In addition to these statutory considerations, PP&L has applied sound ratemaking principles in designing its CTC. PP&L has sought to provide a more efficient marginal price signal to customers. PP&L St. 9, p. 20. Further, PP&L has simplified its delivery service rate design.

PP&L used a "bottom-up" approach to design its CTC, PP&L St. 9, pp. 23-26; starting with its present rates. The first step was to determine for each rate in each rate schedule, the portion of the rate related to delivery of electric energy. The portion of revenues under each rate schedule attributable to distribution service was determined by application of allocation percentages based upon a test year ended December 30, 1995.[46] Since customer costs are not generation-related, 100% of customer charges were determined to be for delivery service. The remaining amount of delivery costs under each rate schedule is to be recovered under a uniform amount per kWh for each rate schedule. The delivery portion of each rate was then subtracted from the total rate; the remainder is the generation portion of the rate.

The next step is to subtract from the generation portion of each rate the projected retail market price of electric energy. The remainder after this subtraction is the portion of the rate under the rate cap that is available for use as the CTC.

As explained above, PP&L's total stranded costs are approximately $4.5 billion.[47] PP&L has determined that, under the rate cap, the maximum CTC revenue that can be attained over the transition period through 2005 is only $4.0 billion. PP&L St. 10-R, p. 3. Thus, due to the rate caps, PP&L's projected CTC revenues will fall $500 million short of recovering all of PP&L's stranded costs. Therefore, PP&L set its proposed CTCs at the maximum amounts available under the rate cap after allowing for the projected retail market price of electric energy and the portion of each rate for delivery services.

Although the rate cap does not change throughout the transition period, the projected retail market price of electric energy increases each year of the transition period. Therefore, for each rate, there is a different energy and capacity credit and a different CTC for each year of the transition period through 2005. See, e.g., Exh. OGK 2, pp. 20-21.

PP&L's rate design for its CTC meets each of the statutory and ratemaking principles identified above. First, it successfully meets the Act's rate cap requirements. By calculating the CTC as the residual remaining after subtracting the delivery portion of the rate and the projected cost of electric generation during the transition period (which is the maximum charge for PP&L's Basic Utility Service ("BUS")) to last resort customers means that PP&L's proposed CTCs cannot exceed the rate cap.

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46 These allocation percentages were accepted in the Commission's Order entered in PP&L's most recent base-rate case (Docket No. R-00943271, order entered on September 27, 1995, at 197).

47 This figure includes, of course, GRT and is subject to income tax. PP&L's actual recovery of stranded cost will be less than $2.25 billion after taxes. See Table E.

Second, PP&L's rate design will not cause shifting of costs between rate classes or within rate classes. The generation portion and the delivery portion of PP&L's present rates were determined by application of allocation percentages from the cost of service study used to design PP&L's present rates. PP&L St. No. 3, pp. 6-7; Exh. JMK 1. Use of the cost of service allocation percentages from the electric distribution company's most recent base-rate case to unbundle rates has been approved by the Commission. PECO Order, pp. 109-10.

Third, CTCs have been designed to achieve simplicity in the delivery service rate design. The CTCs have declining block rate designs that follow PP&L's presently-effective rate design. The delivery charge includes the presently-effective customer charge and flat usage charges per kWh.[48] Therefore, when the CTC is eliminated at the end of the transition period, the remaining charges of PP&L under PP&L's rate schedules for most customers will be a customer charge combined with a flat energy charge for usage. Customers can understand this pricing structure and will be able to work with it to obtain electric energy under the most favorable terms and conditions. PP&L St. 9, p. 21 .

OCA and OSBA recommend, based on an assumption that PP&L will be allowed to recover a much lower level of stranded costs than it has proposed, that recovery of stranded costs be spread over the full transition period even if a substantial portion of stranded costs are disallowed. OCA St. 4, pp. 9-14; OSBA St. 1, p. 12. These recommendations should be rejected. Such an unnecessary delay in recovery of stranded costs would impose on PP&L an increased risk that it will be unable to recover all of its allowed stranded costs if market conditions change in the future. Moreover, the CTC should be set at the maximum level consistent with the rate cap until the allowed level of stranded costs is recovered because this approach will eliminate the distortions in electric energy market prices caused by the CTCs at the earliest possible date. PP&L St. 9-R, pp. 22-25.

Various parties in this proceeding have proposed alternative methods for PP&L to recover its stranded costs. The proposals by other parties consist of "levelizing" or otherwise unnecessarily spreading recovery of stranded costs over time. For a summary of various alternatives, see, e.g., OCA St. 4-S, pp. 2-3, OCA Exh. LS-10. These proposals should be

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48 There will also be demand charges for rate schedules presently containing demand charges.

rejected. First, they are based on the assumption that a substantial portion of PP&L's stranded costs will be disallowed by the Commission. For the reasons explained previously such assumption is unfounded. Second, levelizing recovery of stranded costs has the effect of shifting that recovery from the early years of the transition period to the later years. The result is a significantly adverse impact on PP&L's financial indicators in those early years, compounding the financial impact of any disallowance of stranded cost recovery.

B. Prohibition on Inter and Intra Class Cost Shifting

Certain intervenors contend that PP&L's methodology for establishing its CTCs is inappropriate. Specifically, AARP contends that costs should be reallocated so that a larger share of CTC revenues is derived from non-residential customers. AARP St. 1, pp. 28-29. The Environmentalists contend that the Commission should take a fresh view of allocating stranded costs among the rate classes. Environmentalist St. 1, p. 26. These proposals should be rejected because they directly contravene the mandates of Section 2808(a) of the Act, which requires that the CTC be established in a manner that does not shift cost recovery either between classes of customers or within a customer class, and in a manner that maintains consistency with the allocation methodology accepted by the Commission in the utility's most recent base rate case.

C. CTC Reconciliation and Tracking

Section 2808(f) of the Act provides that annual CTC revenues shall be reconciled with the amortization of stranded costs authorized by the Commission for the same period. PP&L proposes to implement this statutory mandate by following procedures, subject to one exception, similar to the annual Energy Cost Rate ("ECR") reconciliation procedures that had been in place in Pennsylvania for many years prior to passage of the Act. PP&L St. 3, p. 17. PP&L proposes to track, on a system basis, its annual CTC revenues and compare those revenues with the annual amortization authorized by the Commission. PP&L would submit quarterly filings to the Commission reporting the results of the tracking process. However, in a departure from ECR practice, *PP&L would not change its CTC annually to reflect overcollections or undercollections.*

PP&L argues that because its rates will be set at the rate caps throughout the transition period, PP&L would be precluded by the rate caps from recouping from customers any prior period undercollection. Accordingly, PP&L is proposing that the CTC application period be extended or contracted to permit a net reconciliation of overcollections or undercollections. That is, if CTC revenues were more than the amount authorized by the PUC, the CTC would be terminated at the appropriate time prior to December 31, 2005. Conversely, if CTC revenues were less than the amount authorized by the PUC, the CTC period would be extended beyond December 31, 2005.

Section 2808(b) of the Act permits the Commission, "for good cause shown," to order an alternative CTC payment period which may be longer or shorter than the nine-year period. PP&L states that it has shown good cause why the period for application of the CTC should be extended if CTC revenues during the period ending December 31, 2005, fall short of the level of stranded costs that PP&L is authorized by the Commission to recover from customers. PP&L St. 3, pp. 18-19.

PP&L's asserts that its proposal to adjust the CTC application period for reconciliation of stranded costs also protects the interests of customers. First, if the Commission approves PP&L's proposal to extend the period for recovery of stranded costs beyond December 31, 2005, PP&L voluntarily will extend the generation-related rate cap to coincide with the extension of the period for application of the CTC. PP&L St. 3-R, p. 26. Second, the CTC will be known and predictable throughout the transition period enhancing the ability of customers to compare offerings by alternative electric energy suppliers and calculate potential savings. Third, PP&L has kept the CTC mechanism as simple as possible by not reflecting any calculations of interest on overcollections or undercollections of the annual CTC amortization in the reconciliation process. PP&L St. 3-R, p. 25.

In the PECO case, the Commission rejected a similar CTC reconciliation proposal, concluding that Section 1307(e) of the Code, 66 Pa.C.S. § 1307(e), requires a dollar adjustment over an appropriate 12-month period. PECO, p. 113. However, Section 1307(e) begins with the phase "[a]bsent good reason being shown to the contrary," which grants broad discretion to the Commission in this area. In its PECO order, the Commission appears to conclude that this discretion can be exercised only after hearings on the reconciliation adjustments. *Id.* Unlike PECO, however, PP&L has not proposed extending the CTC application period to recover allowed stranded costs, rather the only extension proposed would be for the collection of reconciliation amounts. PP&L argues that the Commission should be able to exercise its discretion at any time; the hearing requirement only limits the time when it can enter a reconciliation order. PP&L submits that it has provided good reason for modifying the requirements of Section 1307(e) and that the Commission should approve its proposed CTC reconciliation mechanism.

Certain parties contend that PP&L should not be permitted to extend the period for application of the CTC to customers' bills unless PP&L applies to the Commission for specific permission for such an extension near the end of the transition period. PPLICA St. 1, p. 6; OSBA St. 1, p. 36. Apparently, such an application would allow the Commission to determine in a future proceeding whether stranded costs in fact had turned out to be equal to or less than the amount projected in this proceeding or whether further recovery should be denied for any number of unspecified reasons. PP&L contendes that although other parties' testimony on this subject is vague, their proposals suggest an unfair, one-sided review in which stranded cost recovery could only be decreased, even if stranded costs turned out to be greater than the level authorized by the Commission.

PP&L asserts that under Section 2808(f) of the Act, the reconciliation process consists solely of comparing CTC revenues with levels of stranded costs authorized by the Commission to be recovered. No provision of the Act indicates that the reconciliation process should provide an opportunity for all parties to relitigate the stranded costs issues being decided in this proceeding. Moreover, such relitigation for reconciliation purposes would impose unnecessary administrative burdens on the Commission and all parties.

PP&L argues that for these reasons, other parties' proposals that an extension of the CTC application period beyond December 31, 2005, be made conditional upon future Commission approval should be rejected. We disagree.

OCA has recommended that the CTC be reconciled by rate class. OCA St. 4, pp. 17-18.[49] This proposal should be rejected for several reasons. First, there is no support for the proposal in

49 It is noted that the Commission required PECO to reconcile CTC revenues and costs by class. PECO Order, p. 112. In that Order, however, the Commission did not address PP&L's explanations, provided above, that class reconciliation is not required by the Act or customers' interests. Therefore, this issues should be given fresh consideration by the Commission in this proceeding.

the Act. Section 2808(f) is silent on the subject. Second, and of greater importance, OCA's proposal would not solve the perceived problem that it is intended to address. Instead, it would create additional problems. Under OCA's proposed reconciliation by rate class, this "problem" will remain unresolved for customers within a rate class. Inevitably, customers using more energy in the transition period will pay more stranded costs than they would pay under allocations based on historical usage.

OCA's proposal for CTC reconciliation by rate class is rejected.

D. CTC and Rate Cap Extension

For the purpose of this proceeding, the Competitive Transition Charge ("CTC") is defined in 66 Pa. C.S. Section 2808 as follows:

> "A nonbypassable charge applied to the bill of every customer accessing the transmission or distribution network which (charge) is designed to recover an electric utility's transition or stranded costs as determined by the Commission under Section 2804 (relating to standards) and 2808 (relating to competitive transition charge)."

Consequently, the amount recovered as a CTC is subject to an annual reconciliation. The reconciliation occurs after the Commission has determined the appropriate amount of stranded costs and the total Kwh sales over which it is to be recovered. The electric utilities will reconcile the actual annual Kwh sales to Kwh sales projected in the final order. OTS St. 2 at 8. Any over/underrecovery of stranded costs based on a variation in annual sales will be reflected as an adjustment to the subsequent years CTC. Id., at 9.

In the instant proceeding, PP&L's filing does not include an annual adjustment to its CTC. As explained by OTS witness Reed, it is the position of PP&L that the rate cap imposed by the Act prohibits the Company from fully recovering its full level of stranded costs. OTS St 2 at 9. Consequently, any annual reconciliation that resulted in an increase to the CTC would be prohibited by the rate cap. Id., at 9. As an alternative to reconciliation, the Company has proposed to track the annual collections pursuant to the

CTC and compare them to the level authorized by the Commission, however, the actual CTC will not be adjusted to reflect any resulting differences. PP&L St. 3 at 17-19. Additionally, PP&L is proposing that near the end of the stranded cost recovery period, the CTC would be adjusted to reflect the net amount of over/undercollections that occurred throughout the stranded cost recovery period. Id., at 9. Based upon PP&L's alternative proposal, depending on whether the amount is net over or underrecovery, the CTC will either be terminated early or extended beyond the maximum nine years specified in the Act. OTS St. 2 at 9-10.

OTS submits that PP&L's alternative to the reconciliation provision of the Act is inappropriate. First of all, PP&L's alternative is premised on the "unlikely" fact that the Commission will allow the Company to recover the full requested amount of its stranded costs. Consequently, if the Commission disallows a portion of PP&L's stranded costs, PP&L's CTC will be below the cap, which will allow PP&L to make annual adjustments to its CTC. OTS St. 2 at 10. Moreover, Section 2808 of the Act requires annual reconciliation of CTC revenues in order to ensure that CTC revenues are no less than, nor greater than, the authorized amount.

In the event that PP&L's CTC allowance does not permit an upward adjustment on an annual basis, OTS is recommending that the CTC should be tracked and the CTC be extended beyond nine years, if necessary. Id., at 10. The difference between the recommendations of OTS and PP&L is that OTS is recommending that any reconciliation of CTC overrecovery revenues that does not violate the rate cap imposed by the Act be made in the subsequent recovery year. Id., at 10. OTS is concerned that under the Company's proposal, a miscalculation or change in Kwh demand could result in overrecovered revenues that would be denied the customers/ratepayers without the benefit of receiving any accrued interest on the overrecovery. Id., at 10. An additional benefit of OTS' recommendation is that recognizing overrecoveries when they occur will provide rate cap relief so that the CTC can be adjusted to recoup any future underrecoveries.

Accordingly, the recommendation of OTS should be adopted by the Commission as being in the public interest.

E. Return on Unamortized CTC Balances

Pursuant to the Act, electric generation-related stranded costs are to be "determined on a net present value basis over the life of the asset or liability as part of its restructuring plan . . . ." See Section 2803, definition of "transition or stranded costs." In Section VI of the PP&L M.B. Brief, PP&L explained the proper rate for discounting the value of future stranded costs to January 1, 1999.

Similarly, a proper net present value determination also must recognize that PP&L's stranded costs will be recovered over a seven-year period ending December 31, 2005. For the reasons that stranded costs are discounted to net present value, PP&L's recovery of stranded costs must reflect an appropriate return on uncollected CTC balances.

In the PECO Order, the Commission set the applicable rate of return on unamortized CTC balances at PECO's long term debt cost rate. PECO Order, p. 108; *see also* PP&L St. 19-R, pp. 28-29. PP&L's long-term debt cost is 7.89%. PP&L Exh. JRS 1, Tab A, Attach. 1.

Regardless of the cost rate, however, a substantial portion of PP&L's assets, including stranded assets, are financed with securities on which PP&L pays dividends that are subject to income taxes. For this reason, the portions of the amount to be inflated must be "grossed up" for income taxes. Exhibit JRS 1, Tab A, Attachment 1, provides PP&L's capital structure and cost rates. Exhibit JRS 1, Tab A, p. 4, provides its composite income tax rate of 41.4935%. Using these data, that have not been controversial in this proceeding, produces the appropriate rate to be applied to amounts to be recovered through the CTC over seven years. See Table F PP&L M.B.

Thus, the appropriate overall, pretax rate of return allowed on PP&L's unamortized CTC revenues, during the seven-year period, is 10.86% using PP&L's average long-term debt cost as the return to all classes of PP&L securities. If PP&L's actual cost of capital were used, the figure would be 13.54%. PP&L M.B. Table F.

Failure to allow any return on unamortized CTC balances, as suggested by several parties, would amount to an unlawful taking of PP&L property without just compensation. Unamortized CTC balances represent the very same costs upon which the Commission was required to allow a reasonable return. See 66 Pa.C.S. § 1301; *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 315 (1989). Converting the manner in which those costs are recovered from traditional rates to a CTC charge does nothing to change PP&L entitlement to a reasonable return on its investment.

VIII. RATE DESIGN AND TARIFFS

A. Customized Rate Design

As an alternative to collecting its CTC on a strict usage (kWh) basis, PP&L has also proposed what it refers to as a customized rate design (CRD). According to this design, one half of a customer's CTC will be recovered through usage-based charges, while the remainder will be recovered through a fixed customer charge. PP&L M.B., p. 147. PP&L describes the calculation of the CRD as follows:

> The CRD will be calculated individually for each customer. First, each customer's usage during 1996 will be priced at rates established in this proceeding using a CTC calculated under traditional, usage based rates. This amount will then be divided by 12 to determine a monthly amount. One half of the monthly amount will be added to the customer charge. The remainder will be priced on the basis of 1996 energy usage so that the annual cost of electric service will be unchanged from the annual cost for 1996. PP&L St. 10, pp. 11-12; PP&L St. 9, p, 33; PP&L Exh. DAK 1.

PP&L M.B, pp. 148-149.

PP&L states that the CRD will result in rate reductions for customers with incremental usage over 1996 levels:

> The effect of the CRD, in comparison with a more traditional usage-based (cents-per-kWh) charge are several. First, if each customer were to use during any year of the transition period, the same amount of electric energy as it used during 1996, the customer would pay the same total amount of CTC under both the CRD and the traditional, usage-based rate design. If, however, a customer were to use more electric energy per year during the transition period than in 1996, the customer would pay less under the CRD than under the traditional rate design. Conversely, if a customer were to use less electricity during the transition period than in 1996, the customer would pay more under the CRD than under the traditional rate design.

PP&L M.B, pp. 148-149.

PP&L asserts that the CRD will stimulate growth in the Pennsylvania economy by providing rate reductions for incremental usage, and will effect a movement toward marginal cost pricing. Id., pp. 148-149.

PP&L originally proposed that the CRD method of recovering CTC revenues be optional for residential customers, but mandatory for non-residential customers served on major rate schedules. However, PP&L now proposes that the CRD be optional for all customer classes. Id., p. 148.

A number of parties have opposed PP&L's proposed CRD. The OCA argues that it is inefficient because the marginal cost of transmission and distribution is higher than the embedded revenue requirement. Thus, a flat transmission and distribution charge and a fixed CTC may not send the proper price signals to customers with regard to marginal usage. OCA M.B., pp. 83-85. The OCA also contends that the CRD is a promotional rate design which inappropriately encourages energy use by shifting CTC responsibility from customers who increase usage to customers who conserve energy. Id., p. 85-86.

PPLICA argues that the CRD violates the rate cap and cost shifting prohibitions contained in Chapter 28, and amounts to a take-or-pay charge for 50% of PP&L's recoverable stranded costs. Large Customers M.B., pp. 77-80. However, PPLICA is willing to accept the proposed CRD if it is to be optional to all customer classes. Large Customers M.B., p. 80; R.B., p. 48.

The Public Interest Parties and PPA/PAPHCC also object to the proposed CRD for reasons similar to those of the OCA and PPLICA. Public Interest Parties M.B., p. 45; PPA/PAPHCC M.B., 8-9. The OSBA opposes the CRD as being detrimental to small business customers, but is willing to accept it if it is optional for all classes. OSBA M.B., pp. 35-37.

PP&L's proposed CRD appears to be an attempt by the Company to shield itself from some of the uncertainty involved in having the recovery of the CTC totally dependent on customer usage, which cannot be predicted with 100% accuracy. We find this rate design to be questionable for the reasons set forth by the OCA. Therefore, we recommend that it be rejected, and that the Company be required to design its CTC according to its original $/kWh format.

B. Small Business Customer Rates

The OSBA raised concerns regarding two aspects of PP&L's rate unbundling proposal which it believes will adversely affect small business customers. The first of these relates to the demand charge in Rate Schedule GS-1. As the OSBA explains:

> When PP&L backed out the transmission and distribution costs for the GS classes, it opted to assign customer charge and unblocked energy charge revenues to the transmission/distribution costs, which left a blocked energy charge and a demand charge. Further, in backing out the market price, PP&L deducted market energy rates from the residual energy charges and deducted market capacity charges from the demand charge, which left a blocked energy structure and demand charge for the CTC tariff. OSBA Stmt. No. 1 at 44.

OSBA M.B., pp. 37-38.

The OSBA asserts that since the demand charge under this rate schedule only applies to billing demand above 5 kW, customers with billing demands less than this amount will see no reduction in their transmission/distribution service bill relating to the market rate demand credit because they pay no demand charge. Also, the OSBA argues that smaller GS-1 customers will face rates that are below PP&L's forecast market rates. Id., p. 38. To resolve this problem, the OSBA proposes that the existing demand charge remain in the component of the rates designated for transmission and distribution, and that market demand charge revenues be backed out of the first and possibly second block energy rates. Id.

PP&L, through its witness Mr. Kasper, indicated that the OSBA proposal would adequately recover delivery service revenue requirements approved in the Company's last base rate case. Thus, PP&L is willing to accept this proposal. Tr. 1051-1052; 1099. We therefore recommend that it be approved.

The second of the OSBA's concerns relates to PP&L's proposal to recover all transmission and distribution costs through a flat energy charge and a fixed customer charge in Rate Schedules GS-1 and GS-3. The OSBA contends that PP&L's elimination of the declining block rate design for the recovery of these cost components may result in larger customers with higher load factors subsidizing very small customers because small customers will provide less in revenue than their allocated costs. The OSBA recommends that PP&L's current declining block rate design be maintained for these rate schedules until further examination of this issue can be conducted in a future rate proceeding. Id., pp. 38-39.

As PP&L notes, the elimination of the declining block structure from its delivery service rates results in a highly simplified rate structure. The declining block structure remains only in the design of the CTC, which is a temporary rate that will disappear at the end of the transition period. PP&L M.B., p. 137; PP&L St. No. 11-R, p. 12. With respect to the OSBA's concerns regarding large customers subsidizing small ones, these concerns appear to be unfounded since, theoretically, all customers would be supplying the same amount of revenues under the proposed rate structure as they would under the current one. The only difference is that the declining block structure under the proposed rate design will be confined solely to the CTC component of the unbundled rates. Tr. 1102. We find no evidence to suggest that delivery charges are such a significant component of the current blocked rate structure for the GS-1 and GS-3 rates that the shifting of this structure from delivery service rates to the CTC will have the detrimental affect which the OSBA alleges. For these reasons, I find it inappropriate to discard the Company's simplified rate design in favor of the OSBA's proposal, and We therefore recommend the OSBA's proposal be rejected.

C. Provider of Last Resort Service

A number of parties in this proceeding debate the issue of the proper generation rate for PP&L to charge its provider of last resort (PLR) customers--those customers who either are unable to find an alternative supplier to serve them, return to PP&L after choosing an alternative supplier, or simply choose to remain with PP&L as their energy supplier. PP&L proposes to serve its PLR customers under its Basic Utility Supply Service (BUSS), which would consist of a generation charge, a delivery charge, and the CTC as discussed above. The generation charge would be the projected market price of energy. After the completion of the phase-in period, PP&L intends to recover the cost of providing generation service to its PLR customers through a mechanism called the Purchased Generation Cost Rate (PGCR). The PGCR, which would apply to customers without hourly meters,[50] is explained by the Company as follows:

50 PP&L witness Kleha stated that the Company has not yet developed a proposal for recovering generation service costs from customers with hourly meters, but is continuing to study the issues involved and will submit a proposed mechanism as soon as it has been developed. PP&L St. No. 3-R, p. 39.

> . . . [The PGCR] would be patterned after the ECR; would be established on an annual basis; would be collected on a KWH basis; and would be reconciled for overcollections and undercollections. PP&L St. 3-R, pp. 39-41; PP&L Exh. JMK 7. The PGCR would include the market price of electricity purchased for last resort service customers and the costs of administering the Company's electricity procurement program. PP&L's proposal is fully consistent with Section 2807 (e)(3), which provides that the provider of last resort service shall acquire energy at "prevailing market prices" and recover "all reasonable costs."
>
> The PGCR would not become effective until the end of the phase-in period. Unil [sic] that time, PP&L would continue to charge non-shopping customers its Commission-approved, tariffed rates. This approach is consistent with the Commission's orders in the PECO case. PECO Order, pp. 132-134; Order on Reconsideration, pp. 20-21.

PP&L M.B., pp. 158-159.

The OCA opines that the generation rates charged to PLR customers should not exceed prevailing market rates, including all reasonable costs. In this regard, the OCA submits that PP&L's market price should be adjusted to account for line losses, differences in class load shapes, and differences between residential and average retail market prices. OCA M.B., p. 80. In addition, the OCA contends that this market price must be further adjusted to include "certain administrative and general costs that will be required to market, aggregate load, reconcile load and supply, deal with PJM, write contracts, etc." Id., p. 78. With these adjustments, the OCA appears to support the use of PP&L's proposed market price as the generation component of the Company's BUSS rates for PLR customers.

It is the OCA's position that whatever difference exists between the rate cap and the sum of the unbundled rate elements (delivery charge, adjusted market price, CTC) should represent a rate reduction for the Company's PLR customers. The OCA argues that under this proposal, "all customers will receive rate savings, and alternate suppliers will have to compete based upon their ability to provide favorably priced electric generation when compared to the market-based retail generation price reflected in the Company's rates." Id., p. 81. The OCA believes that PLR customers should have the same opportunity to receive electric energy at market-based prices as those customers who choose to shop for and receive energy from alternative suppliers. Id., pp. 81-83.

The Competitive Intervenors object to PP&L's proposals with regard to the generation rates for PLR customers. They note that these rates as proposed by the Company will basically be wholesale prices which will be passed through to customers without a markup. Competitive Intervenors M.B., p. 17. They contend that PP&L's proposals are not consistent with Section 2807(e) of the Act. The Competitive Intervenors explain their position in this regard as follows:

> PP&L's proposed scheme in its restructuring plan is completely inconsistent with the Commission's stated interpretation of Section 2807(e) and is noncompliant with the Act for a whole array of reasons. First, PP&L is improperly attempting to implement Section 2807(e)(3) through this restructuring proceeding. Subsection (e)(2) expressly mandates that the provisions of Subsection (e)(3) pertaining to the connection, delivery and acquisition of electricity for default customers be implemented through the promulgation of regulations. No other authority is provided to the Commission as to implementation of this portion of the statute. Furthermore, Subsection (e)(2) dictates that the mandatory rulemaking to implement Subsection (e)(3) establish the ECD's "obligations that will exist at the end of the phase-in period" as ordered by the Commission in this proceeding. Subsection (e)(3) sets the standard governing the Commission's promulgation of regulations and states that, under the regulations, the PLR is required to "acquire electric energy at prevailing market prices to that customer and shall recover fully all reasonable costs." Read together, the two subsections require the Commission to promulgate rules following restructuring which define the EDC's obligation to serve including the terms and conditions under which it will acquire and sell power to default customers. Until such regulations are finalized, the EDC must charge default customers current unbundled tariff rates unless the Commission finds that rate reductions are warranted under Chapter 13 procedures.

Id., pp. 19-20, footnotes omitted.

The Competitive Intervenors also assert that Section 2807(e)(3) requires an EDC to acquire, not sell, energy at prevailing market prices, and requires full recovery of all reasonable costs. They state that "[p]resently, EDCs recover all reasonable costs associated with providing generation supply to customers through regulated rates and should continue to do so in the rates they charge default customers until such time as the Commission finds justification for reducing those rates through ratemaking activity or until the Commission promulgates regulations which establish an alternative methodology for computing market based rates for default customers." Id., p. 20. The Competitive Intervenors further contend that "[e]ven if the Commission could implement a market based pricing scheme without a rulemaking, PP&L has not met its burden of demonstrating that its proposed default prices for 1999 and 2000 recover all reasonable costs." Id.

In addition to the Competitive Intervenors' position as set forth in its briefs, MAPSA, a member of the Competitive Intervenors, also contends in its own supplemental brief that PP&L's wholesale market price projections are too low to foster competition. MAPSA Sup. B., pp. 2-3. MAPSA asserts that PP&L's generation rates should be based on the long run cost of energy added to the long run cost of capacity, plus a credit for the additional services which suppliers are required to provide. Id., pp. 4, 9.

Finally, SER/Gilberton provide arguments similar to The Competitive Intervenors and MAPSA. SER/Gilberton M.B., pp. 6-11. They contend that, "[s]hould PP&L fail to add to the wholesale acquisition cost of each unit of electricity all expenses reasonably incurred in performing the supplier-of-last-resort service (including, for example, a 'buying group' service charge or commission), it would be guilty of predatory pricing that would impede fair competition." Id. p. 10. SER/Gilberton conclude as follows:

> To avoid the anomaly of rewarding the least adventurous consumers (i.e., those for whom PP&L is the default service provider) with arguably the lowest priced electricity available in the marketplace, the commission should require that at no time may the BUSS energy price be set *below* the standard offer price for the same class of service marketed by PP&L's unregulated Generation Supply Group. This will ensure that the BUSS rate is a representative surrogate for retail energy prices set by free market forces rather than an unfairly subsidized artifact of cost of service rate making. In the alternative, the commission should specifically define which operating costs (in addition to direct bulk energy acquisition cost) must be factored into the BUSS energy price to achieve parity with prices set through competition. This would allow the legitimacy of the rate to be confirmed by audit.

Id., p. 11.

We agree with the OCA that in a competitive market, PLR customers should be afforded the same opportunity to receive market-based generation rates as those customers who choose to go elsewhere for their electric energy. However, we also agree generally with all the parties who contend that the Company's generation rates for these customers should not be priced so low as to undercut the market and thwart competition in the first place. Such rates should be genuine market-based retail rates that include all reasonable costs incurred to obtain the energy. Therefore, we recommend that during the phase-in period, PP&L's generation rates for its PLR customers be based on its projected market price of generation as adjusted in the manner set forth by OCA. However, we also recommend adoption of the SER/Gilberton position that these rates should at no time be set below the standard offer price for the same class of service marketed by PP&L's unregulated Generation Supply Group. In this way, the development of reasonably competitive generation rates for PLR customers should be ensured.

With regard to the proper generation rates to be charged after the phase-in period, it appears that the Company must await the promulgation of regulations by the Commission, as required under Section 2807(e)(2) of the Act, before the provisions of Section 2807(e)(3) can be fully implemented. Thus, we find PP&L's proposed PGCR mechanism to be premature, and we recommend that it be rejected at this time.

D. Availability of Tariff Rates

PPLICA objects to PP&L proposals to make its interruptible and price response rate schedules, as well as Rate Schedules RTD and RTS, available only to those customers who currently take service under these schedules and elect to remain bundled sales customers of PP&L. SER/Gilberton objects to these proposals as well. Both of these parties object mainly to the fact that under these proposals, customers of the affected rate schedules who choose to buy energy from a competitive provider would be charged a CTC based on the firm rate schedule applicable to their level of load, rather than on their current rate schedule. Large Customers M.B., pp. 71-77, SER/Gilberton M.B., pp. 3-4.

PPLICA asserts that an interruptible customer's CTC liability is based on embedded stranded costs, and is naturally smaller than that of a firm customer. PPLICA argues that such liability for an interruptible customer should not change simply because that customer chooses to access the competitive market. Large Customers M.B., pp. 72-74. PPLICA contends that PP&L's proposals are in violation of the cost shifting prohibitions of Chapter 28 because they cause interruptible customers who exercise their right of access to pay higher rates. Also, PPLICA asserts that they will result in the collection of greater CTC revenues from interruptible customers than would otherwise occur, leading to an earlier termination of the CTC which would, in turn, result in all other customers on the PP&L system paying a lower CTC than they otherwise would. Id., p. 74. PPLICA also contends that PP&L's proposals with regard to the rate schedules in question violate the pro-competition and pro-business growth goals of Chapter 28 of the Act by producing higher prices for electric service, and restricting access to the competitive market for those customers affected. Id., pp. 75-77, 82-83.

In response, PP&L argues that the benefits of interruptible service provided to the Company and its customers are related totally to generation service. PP&L asserts that there is never a need for interruptions of delivery service on its system because the Company never experiences any local transmission or distribution emergencies that would require such interruptions. Therefore, PP&L concludes that customers who purchase energy from a competitive provider and receive only delivery service from PP&L should not receive the discounts offered under interruptible service rates, but should be served under rate schedules for firm service. PP&L M.B., pp. 144-146; R.B., p. 56-58. PP&L makes a similar argument with regard to its Residential Thermal Storage (RTS) rates. PP&L R.B., p. 59.

We find PP&L's arguments to be persuasive with regard to this issue. Interruptible service customers who choose to purchase energy from competitive providers will no longer provide the benefits to the Company and its remaining ratepayers that they did as fully bundled service customers of PP&L. For all practical purposes they will no longer be interruptible service customers since they will no longer face the prospect of being interrupted by PP&L for generation related emergencies. This applies also to customers of other rate schedules who, in changing generation service providers, would no longer supply the benefits to the Company that they would as full service customers. Under circumstances such as these, we do not find that the shifting of customers from one rate schedule to another violates the rate cap since no tariffed rates are actually being changed. Customers who wish to enjoy the benefits of a competitive market for electric energy must be willing to forfeit some of the benefits they received as bundled service customers of a monopoly provider, when such benefits are no longer applicable. For these reasons, we recommend that PP&L's proposals with regard to these rate schedules be approved, and that the positions of the opposing parties be rejected.

E. Economic Incentive Rates

PP&L offers a number of incentive rates in the form of riders, rate schedules and billing options which are designed to promote economic growth and/or improve the Company's load factor. PP&L M.B., p. 150. Although many of these incentive rates are scheduled to terminate in the relatively near future, PP&L is proposing to extend their availability through the end of the CTC application period so as not to violate the rate cap required by Section 2804(4) of the Act. However, PP&L is proposing to limit the availability of incentive rates to customers presently being served under them, and using PP&L's BUSS service for their energy supplies. Also, customers who temporarily use alternative competitive energy suppliers and return to PP&L's BUSS service will not be eligible to receive service under the incentive rates.[51] According to PP&L, the reason for these proposals is that the incentive rates were designed to benefit the Company and its customers from a generation standpoint, and have no relation to delivery service. Thus, customers who do not utilize PP&L for their generation supply services would provide no benefit to the Company under the terms and conditions of the incentive rates. Therefore, PP&L argues, the rates should not be made available to these customers. Id., pp. 151-153.

The OCA objects to PP&L's proposals as they relate specifically to the Competitive Rate Rider (CRR). Since the discounts offered under the CRR would apply to the CTC (as well as the delivery charges), the OCA contends that such discounts could result in cost shifting through the CTC reconciliation process, in violation of the Act. The OCA argues that the Act requires the CTC to be nonbypassable, and therefore, prohibits the discounting of the CTC on behalf of any customer. OCA M.B. pp. 86-87.

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51 PP&L notes that there is one exception to the requirement to use BUS service. Unlike the other incentive rates, the Competitive Rate Rider (CRR) does not require the use of BUS service. However, PP&L states that discounts under the CRR are limited to delivery charges and the CTC. PP&L M.B., p. 152, Footnote 75.

The Competitive Intervenors also appear to object to PP&L's proposals, and advocate the necessity for the Company to eliminate its incentive rates as originally scheduled. The Competitive Intervenors cite the Commission's rulings in the PECO Restructuring Proceeding in support of their claim. Competitive Intervenors M.B., pp. 56-58.

SER/Gilberton also oppose PP&L's proposal with regard to the economic incentive rates. SER/Gilberton argue that such a proposal is anti-competitive because it discourages customers from choosing an alternative power supplier, and because such incentive rates would allow PP&L's regulated Electricity Delivery Group to undercut the future retail market. SER/Gilberton M.B., pp. 4-5. SER/Gilberton also argue, as does the OCA, that PP&L's proposal with regard to the CRR violates the requirement that the CTC be nonbypassable. Id., pp. 5-6.

PPLICA supports PP&L's proposal to extend the availability of incentive rates, and objects to the OCA's opposition to this proposal. PPLICA argues that it is the OCA's proposal to eliminate the incentive rates as originally planned that is contrary the Act. This is so, according to PPLICA, because the elimination of these rates would violate the rate cap, and would cause cost shifting since PP&L would then have extra resources available which must necessarily benefit either other rate classes or the Company's shareholders. Large Customers M.B., pp. 80-82. PPLICA also rejects the argument of The Competitive Intervenors that the Commission's PECO decision requires the elimination of the economic incentive rates. PPLICA contends that the PECO decision requires that all competitively priced services such as interruptible service, economic development rates and special contracts must be continued throughout the transition period. PPLICA R.B., p. 50.

As discussed above, we agree with the proposition that customers who switch to alternative energy providers and thus, no longer provide any benefits to the Company or its other ratepayers under the terms and conditions of certain rate schedules, should no longer be considered eligible to receive service under those rate schedules. Thus, we agree with the Company that any customer who chooses an energy provider other than PP&L should not be eligible for the benefits provided under the incentive rates in question. However, we find no reason to recommend that the termination dates of these incentive rates be extended as the Company proposes. PP&L's only reason in support of its proposal appears to be its fear that to terminate the incentive rates before the end of the transition period would violate the rate cap. However, as discussed above, we do not believe that the shifting of customers from one rate schedule to another for eligibility reasons represents a violation of the rate cap since no actual rates are being changed. Therefore, although we would advocate limiting the applicability of the various incentive rates to only BUSS customers of PP&L, we do not support the Company's proposal to extend the applicability of these rates beyond their original termination dates. Thus, we recommend that this proposal be rejected.

F. Interruptible Service Tariff Provisions

PPLICA objects to two PP&L proposals relating to interruptible service. The first of these concerns the Company's proposal to remove the limitations on the frequency and duration of economic interruptions that exist in its currently effective tariff. PPLICA contends that such a change diminishes the value of interruptible service without providing any compensatory decrease in rates. PPLICA argues that this effectively raises the cost for interruptible customers over and above the level of rates as of January 1, 1997, in violation of the Act's rate cap. Large Customers M.B., pp. 84-85.

In response to PPLICA's complaint, PP&L asserts that the limitations existing under the current tariff are not sufficient to protect other BUSS customers from the increasing average cost of service resulting from interruptible customers using energy when prices are high. PP&L M.B., pp. 146-147.

We agree with PPLICA that PP&L is attempting to decrease the value of its interruptible service in this proceeding without a reduction in rates. We do not find sufficient evidence to justify this change. Therefore, we recommend that PP&L's proposal to remove the limitations regarding the frequency and duration of economic interruptions be rejected.

The second proposal to which PPLICA objects relates to a change in the price charged to a customer who chooses to "buy through" an interruption. The current charge is the sum of the charges normally incurred under the rate plus the PJM billing rate for the buy-through period. The proposed charge is the otherwise applicable charge plus the estimated spot price of replacement capacity and energy. PPLICA contends that this proposed change should be rejected because 1) it was unsupported in Company testimony; 2) it provides customers with no certainty as to what the actual buy-through charge will be, nor does it provide a procedure to reconcile actual spot prices with the Company's estimates; and 3) it violates the Act's rate cap because if the Company's estimate is incorrect, the customer may pay more to buy through an interruption than it would under rates in effect on January 1, 1997. Id., pp. 86-87.

With regard to this objection, PP&L contends that its proposed estimated spot price more accurately reflects actual circumstances than a pre-established rate. It also states that the PJM tariff is currently being reviewed by FERC, and final provisions regarding sales and purchases relating to usage by interruptible customers during economic interruptions have not been determined. PP&L R.B., pp. 60-61. PP&L argues that its proposal cannot be said to violate the rate cap since it is not known whether or not a presently unknown spot price exceeds a presently unknown PJM billing rate. Furthermore, PP&L asserts that there is no reason to conclude that any errors it may make in estimating the spot price would be substantial, or would be detrimental to the interruptible service customer. Id., p. 61. PP&L states that the only alternative to its proposal "would be to wait until actual spot prices are known which may be long after the transaction has taken place, thereby defeating the ability of large customers to weigh the 'buy through' option against an interruption." Id.

Once again, we find the arguments of PPLICA to be persuasive. The Company is attempting to make changes to the terms and conditions of its interruptible service in this proceeding without providing sufficient evidence for such changes. Moreover, these changes do not appear to have any direct relationship to the main purpose of this proceeding, which is to restructure the Company's rates and services to promote a more competitive market for the provision of electric energy. Therefore,we recommend that PP&L's proposed change in its buy-through charge for interruptible service be rejected.

G. Transmission and Distribution Unbundling

In its proposed tariff, PP&L unbundled its rates into three components, namely, the delivery charge, the market price of energy, and the CTC. However, both PP&L and PPLICA agree that the delivery charge must be further unbundled into transmission and distribution components. This is so because customers who arrange to receive transmission service from PJM under its Open Access Transmission Tariff should not have to pay PP&L a rate that includes charges for transmission service that it is not providing. These customers should only be required to pay a distribution charge to PP&L. Thus, the unbundling of the delivery charge is necessary. PP&L M.B., pp. 157-158; Large Customers M.B., pp. 92-93. PPLICA's witness Baron provided worksheets detailing such an unbundling. PPLICA St. No. 1, Exhs. SJB-7-13. PP&L appears to accept PPLICA's proposed unbundling method. PP&L St. No. 12-R, p. 8.

Because this proposed unbundling of delivery service appears to be necessary and reasonable, and because there is no objection to it, we recommend that it be adopted.

H. Federal/State Jurisdictional Determination

FERC has determined that it has jurisdiction over the transmission of electric energy in interstate commerce by a public utility. Thus, there is a need to distinguish between facilities used for transmission and those used for distribution. PP&L further explains this need as follows:

> In Order No. 888, FERC found that once retail service was unbundled, there would be a need to draw a distinction between facilities that are used for transmission and those used for local distribution because, in determining the extend and scope of its exclusive jurisdiction, FERC has concluded that it has jurisdiction of retail transmission in interstate commerce to the point of local distribution. Order No. 888, 61 Fed. Reg. at 21,627. FERC also stated that it would defer to state recommendations on where to draw the jurisdictional line, provided that state regulators specifically evaluate seven specific indicators and any other relevant facts and make recommendations consistent with the essential elements of Order No. 888.

PP&L M.B. p. 156.

The seven indicators to which PP&L refers are as follows:

1. Local distribution facilities are normally in close proximity to retail customers.
2. Local distribution facilities are primarily radial in character.
3. Power flows into local distribution systems; it rarely, if ever, flows out.
4. When power enters a local distribution system, it is not recognized or transported to some other market.
5. Power entering a local distribution system is consumed in a comparatively restricted geographical area.
6. Meters are based at the transmission/local distribution interface to measure flows into the local distribution system.

7. Local distribution systems will be reduced voltage. PP&L St. 12, pp. 17-18. Id., pp. 156-157

PP&L states that in applying these tests, it has concluded, subject to Commission and FERC approval, that its facilities operating at voltages of 69 kV and above are transmission facilities, and facilities operating at less than 69 kV are local distribution facilities. Id., p. 157.

No party has opposed the Company's analysis and proposal with regard to this issue. We also find the proposal to be reasonable and recommend that it be adopted.

I. Modifications to Terms and Conditions of Existing Tariffs

PP&L has proposed various modifications to existing tariff rules, which it explains as follows:

- Rule 4 is changed to indicate that the Company may upon request supply services over and above those which the Company would normally provide, if the customer agrees to pay the Company a fair and non-discriminatory price for those related services.

- Rule 9E was changed to indicate that the Budget Billing interest rate is changed from the number 1% per month to one-twelfth of the average of 1-year Treasury Bills for the months of September, October, and November of the previous year.

In Tariff 210, changes include the following:

- Rule A has been amended to exclude fuel supply disruption from qualifying for backup power supply.

- Paragraph E(5) has been added to Rule 6A to indicate that a customer-specific, fixed, per month CTC developed by the Company, which will equal 100 percent of the customer's estimated CTC revenue, will be applied if the customer elects to install on-site generation on or after January 1, 1999.

> Paragraph E(5) was based on Section 2808(a) of the Act, which permits recovery through a non-bypassable CTC of stranded costs from customers that install new on-site generation facilities. Under Section 2808(a), the CTC for such customer should be fixed and recover the customer's fully allocated share of stranded costs.

PP&L M.B., pp. 153-154.

Because these proposed changes to the Company's tariff provisions appear to be reasonable, and have not be opposed by any party in this proceeding, we recommend that they be adopted.

IX. PHASE-IN ISSUES

The Act mandates the following phase-in schedule for retail access:

[T]he following schedule for phased implementation of retail access shall be adhered to unless a determination is made by the commission under subsection (c) [which allows for an additional six month transition period under certain circumstances]:

(1) As of January 1, 1999, a maximum of 33% of the peak load of each customer class shall have the opportunity for direct access.

(2) As of January 1, 2000, a maximum of 66% of the peak load of each customer class shall have the opportunity for direct access.

(3) As of January 1, 2001, all customers of electric distribution companies in this Commonwealth shall have the opportunity for direct access.

66 Pa.C.S. § 2806(b).

The Act gives the Commission specific instructions:

The time line for the transition to and phase-in of direct access to competitive electric generation shall be in accordance with section 2806. 66 Pa.C.S. § 2804(11).

A. Phase-in Selection Method

PP&L's proposed phase-in schedule tracks that mandated by the Act. As described in the testimony of Mr. Henry W. Baumann, PP&L Sts. 14 and 14-R, PP&L proposes an initial sign-up period for each phase-in period during which all customers interested in participating in competition can notify the Company. If any rate classes are over-subscribed, PP&L will conduct a random selection among customers seeking to participate. PP&L St. 14-R, p. 4. Enron, OSBA and PPLICA witnesses believe that this methodology should not apply to the selection of commercial and industrial customers, based on the possibility that non-participating customers may suffer a competitive disadvantage over participating customers. *See* Enron St. 5.0, pp. 19-20; OSBA St. 1, pp. 51-52;. PPLICA St. 1, pp. 58-59.

PPLICA witness Stephen Baron asserts that the most appropriate methodology for selecting industrial customers is on a first-come, first-served basis, with the customer designating a desired level of load for participation. PPLICA St. 1, pp. 58-59. If there is an over-subscription of load, Mr. Baron proposes a pro-rata reduction to each subscriber's nominated load. To alleviate any remaining competitive disadvantages, Mr. Baron proposes that PP&L begin selection for the second phase and implement such a selection process by permitting retail access for up to 66% of peak load beginning January 2, 1999. PPLICA St. 1, p. 59.

Enron witness Mr. Bowen advocates a similar approach. Under Enron's proposal, Enron would be willing to accept the "first through the meter" approach, where Enron would supply the first portion of the customer's electricity received in a given hour and the EDC would supply the remainder. Enron would also be willing to "follow the customer's load" and provide a fixed percentage of its customers' load throughout the day. Enron St. 5.0, p. 20.

OSBA witness Robert Knecht suggests a variation on PPLICA's and Enron's approach to apply to commercial customers. He suggests that minimum levels of customer participation be set for the GS rate classes for each of two phase-in years. Under Mr. Knecht's proposal, if a rate class is over-subscribed and the random drawing produces too few customers, those few customers selected should be limited in the amount of their load that is subject to competition. OSBA St. 1, p. 53.

We reject these arguments. As discussed above, the phase-in schedule established under the Act is mandatory. The Act requires the Commission to establish regulations specifying that, within each customer class, the customers that are eligible for direct access during the phase-in period shall be determined by the Commission on a first-come, first-serve basis "unless otherwise determined by the commission . . . to prevent competitive disadvantages among similarly situated customers within a customer class." 66 Pa.C.S. § 2806(4). Neither Enron, OSBA nor PPLICA has made a showing of specific competitive disadvantage sufficient to justify a departure from the statutory presumption that the phase-in period will occur in the three stages established in Section 2806 on a first-come, first-served basis.[52] We reject the efforts of these intervenors to disrupt the "orderly" transition to a competitive generation market envisioned under Section 2806(14) of the Act, particularly in light of PP&L's express commitment to address any competitive problems on a case-by-case basis. PP&L St. 14, p. 5.

We also reject the various complex proposals for phasing in choice that would require customers to receive part of their service from their Alternative Supplier and part from their EDC. In the words of PP&L witness Dr. Tierney: "As a former regulator, I cannot imagine a phase-in proposal that would create more confusion among the public and more administrative difficulty for PP&L and the suppliers." PP&L St. 9-R, p. 50.

B. Grandfathering of Pilot Customers

Customers who are participating in the PP&L's pilot program can enroll in and will be selected for retail access as described above, with one exception. Customers who are participating in PP&L's pilot program, but which are not selected for the first or second phase of retail access can elect to be "grandfathered" into retail access. However, customers in the Primary and Transmission/Subtransmission groups who have load limits in the pilot program will be limited to that level of load when "grandfathered" into retail access. PP&L St. 14, pp. 4-5. As discussed above, the intervenors have failed to provide record support that would justify a departure from this proposal.

X. CODE OF CONDUCT AND COMPETITION ISSUES

In its Restructuring Plan filing, PP&L announced a voluntary restructuring of its retail electric business and a Retail Access Code of Conduct. *See* PP&L St. 13-R, Exh. RMG-4. PP&L implemented it Retail Access Code of Conduct contemporaneously with the filing of its Restructuring Plan, as another manifestation of PP&L's strong support for the development of a

52 Although the Commission found otherwise in *PECO*, PECO had already agreed to an accelerated phase-in schedule in its Partial Settlement. There is no settlement proposal in this case, nor does the record support a finding of competitive disadvantage, particularly for residential customers, who do not compete with each other.

healthy competitive market for retail electricity. However, several intervenors have submitted separate proposals. We view these proposals as being designed to micromanage the competitive marketplace, handicap PP&L's efforts to compete in retail markets, and shield the new entrants from the very market pressures the General Assembly sought to invoke in adopting the Act. Such handicaps have no function in a truly competitive retail electric power market, and we reject them.

A. Purpose and Goal of Codes of Conduct and Competitive Access Rules

The Commission is charged under the Act with overseeing the development of a competitive retail electric generation market in a manner that treats both shareholders and customers fairly. Establishing standards of conduct to govern the relationship between electric distribution companies and their affiliated electric generation suppliers is an important part of ensuring that the competitive retail electric generation market will function in a way that fulfills the Act's directive to allow "electric generation suppliers and end-use customers to utilize and interconnect with the transmission and distribution system on a non-discriminatory basis at rates, terms, and conditions of service comparable to the transmission and distribution company's own use of the system to transport electricity from any generator of electricity to any end-use customer." 66 Pa.C.S.§ 2803.

The Commission is in the process of developing regulations concerning Customer Supplier Interaction at Docket No. M-00960890.F0011 and has opened a rulemaking to receive comments on the recommendations contained in the Final Report of the Competitive Safeguards Working Group ("CSWG").[53] PP&L proposes that the Code of Conduct set forth in the testimony of Robert M. Geneczko, PP&L St. 13-R, Exh. RMG-4, should govern the relationship between its EDC and EGS until regulations of general applicability are adopted.

As Dr. Kalt explained at the hearing, in addressing competitive safeguards the Commission has at least three options: (1) prevent extension of remaining monopoly power; (2)

53 The CSWG was formed in early 1997 to address the role and scope of competitive safeguards in a restructured retail electric generation market. The CSWG issued its Final Report to the Commission on October 6, 1997, which contains ten principles adopted by the working group. PP&L was a member of the CSWG and indicated its support for the ten principles by signing the Final Report.

handicap utility affiliates; or (3) affirmatively support or subsidize rivals. PP&L St. 1-R, pp. 9-12. Only the first option, however, truly promotes and protects competition. As Dr. Kalt confirmed, "actions and advantages of the unregulated affiliates of an incumbent utility that should be regulated or eliminated are solely those that derive from leveraging of continued ownership and control of monopoly functions (i.e., transmission and distribution). Actions and advantages not so derived represent the tools of competition that the unregulated affiliates bring to non-monopoly marketplaces, and the consumer will be harmed if denied access to these." PP&L St. 1-R, pp. 9-10.

The second option, handicapping utility affiliates, will benefit competitors, but will harm consumer interests. Such handicaps would subject utility affiliates to complex and cumbersome reporting, operational, and compliance specifications not shared by their rivals and would result in the Commission promoting the interests of certain competitors, rather than competition itself. See, PP&L witness Dr. Kahn at PP&L St. 18-R, p. 6; also PP&L M.B. at pp. 162-165.

The third alternative, supporting or subsidizing PP&L affiliate rivals is, again, not in the best interests of consumers. For example, "marketing restrictions that raise the costs of the incumbent or deny the incumbent the use of assets that consumers value (such as brand name) are the functional equivalent of a subsidy to rivals, who do not have to bear such costs or build up such assets to remain competitive in the marketplace. This policy strategy is consistent with the interests of PP&L's rivals, but not the interests of consumers." PP&L St. 1-R, pp. 11-12.

Enron witness Mr. Dirmeier is incorrect when he argues that: "My position does not handicap anyone; rather it is intended to place all competitors on the same initial footing, recognizing that, in reality, PP&L has a decided initial advantage that it seeks to prolong." Enron St. 6.1, p. 8. To make all competitors equal at the outset, the Commission would have to take into account the numerous inherent advantages and disadvantages of competitors, some based on efficiency and some based on basic cost differences. Such solutions would deprive customers of the benefits of more efficient producers. Instead, the Commission should adopt standards of conduct narrowly tailored to fulfill the purposes of the Act. If PP&L provides non-discriminatory access to regulated facilities, and does not engage in cross-subsidization or improper exchange of customer data, then any advantages it has in the marketplace derive from its ability to give consumers something they want.[54]

B. Existing Prohibitions on Anticompetitive or Discriminatory Behavior

Any additional protections required by the Commission should be considered in light of the pervasive safety net of competition protection that already exists. Existing antitrust laws, the Federal Power Act and the FERC's Order Nos. 888 and 889 contain numerous prohibitions on and protections against anticompetitive or discriminatory behavior. Moreover, Section 2811 of the Act gives the Commission the authority to monitor competitive conditions and conduct investigations.

1. Antitrust Laws

The Commission need not rewrite the antitrust laws in order to fulfill its mandate under the Act. The sole objective of the federal antitrust laws is to ensure a competitive economy. *United States v. South-Eastern Underwriters Ass'n*, 322 U.S. 533 (1944). The federal antitrust laws have, for over a century, focused on protecting fair competition in open markets.

The antitrust laws cover a wide variety of competitive injuries normally associated with the transition to competitive markets. These include among others, prohibitions against tying, monopolizations, denial of reasonable access, monopoly leveraging and price fixing. Most importantly, however, antitrust enforcement agencies and the courts have extensive experience in balancing the procompetitive benefits of efficient operation against potential harm to competitors. *See Tenneco Gas v. F.E.R.C.*, 969 F.2d 1187, 1204 (D.C. Cir. 1992) ("[T]he Commission 'must also consider the extent to which various remedies would interfere with any efficiencies that may stem from pipeline integration into marketing.' . . . 'The selection of a remedy . . . is thus a delicate balancing process involving the degree of competitive harm, the effectiveness of the remedy, and the competitive and administrative costs of the proposed remedy'").[55]

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54 Neither the antitrust laws nor a workably competitive market require such a radical approach designed to handicap incumbents and subsidize new entrants. *See, e.g., Brown Shoe v. United States*, 370 U.S. 294, 320 (1962).

55 The Court quoted approvingly from the comments of the United States Department of Justice and

2. Federal Power Act

The Supreme Court has held that the FERC's regulatory mandate "clearly carries with it the responsibility to consider, in appropriate circumstances, the anticompetitive effects of regulated aspects of interstate utility operations." *Gulf States Utilities Co. v. F.P.C.*, 411 U.S. 747, 758-60 (1973) (*"Gulf States"*); *see also F.P.C. v. Conway Corp.*, 426 U.S. 271, 279 (1976). This mandate has been held to include advancing the "fundamental national economic policy" of competition and economic efficiency expressed in the antitrust laws. *Gulf States*, 411 U.S. at 759.[56]

In a case frequently cited by the courts and the FERC for this proposition, *Northern Natural Gas Company v. F.P.C.*, the Court of Appeals held that "the basic goal of direct governmental regulation through administrative bodies and the goal of the indirect governmental regulation in the form of antitrust law is the same — to achieve the most efficient allocation of resources possible." 399 F.2d 953, 959 (D.C. Cir. 1968). Indeed, the Supreme Court has observed:

> Consideration of antitrust and anticompetitive issues by the Commission, moreover, serves the important function of establishing a first line of defense against those competitive practices that might later be the subject of antitrust proceedings.

3. FERC Order Nos. 888 and 889

In Order No. 888, the FERC required all public utilities that own, control or operate transmission facilities to file open access transmission tariffs, to take transmission service for their own new wholesale sales and purchases under those tariffs, to develop and maintain a same-time information system to give all transmission users the same access to transmission

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the Federal Trade Commission submitted in Response to the Notice of Inquiry into Anticompetitive Practices Related to Marketing Affiliates of Interstate Pipelines, F.E.R.C. Stats. and Regs, Regulations Preambles 1986-1990 ¶ 35,520 (1986).

56 Under the Federal Power Act, the obligation of utilities not to discriminate exceeds the burdens imposed by the antitrust laws on firms acting unilaterally. Thus, under Section 205 of the FPA, public utilities have an affirmative obligation not to "make or grant any undue preference or advantage" or to "maintain any unreasonable difference" in rates, practices, or facilities. 16 U.S.C. § 824c(b). Similarly, under Section 212, rates, charges, terms, and conditions for transmission ordered under Section 211 shall not be "unduly discriminatory or preferential." 16 U.S.C. § 824k(a) (Supp. 1995).

information that the public utility enjoys and to separate transmission from wholesale merchant functions and communication. The FERC required utilities in Order No. 889 to adopt standards of conduct designed to functionally separate transmission and wholesale merchant functions and to prevent transmission providers from giving their wholesale merchant counterparts within the public utility an undue preference over their customers though the exchange of "insider" information between the company's system operators and employees of the public utility, or any affiliate, engaged in wholesale merchant functions. *See* 18 C.F.R. § 37.4. PP&L plans to extend its Order No. 889 Code of Conduct to its retail transmission operations. PP&L St. 13, p. 5.

C. Basis and Extent of PP&L's Proposed Code of Conduct

PP&L's proposed Code of Conduct will govern the relationship between PP&L's Generation Supply Group and its the Electric Delivery Group.[57] The Code of Conduct is intended to control dissemination of confidential customer information; restrict access to competitive information; prevent cross-subsidies between regulated and unregulated operations; and prevent discriminatory practices. It is designed to ensure that employees of the Electric Delivery Group engaged in transmission system operations function independently of the Generation Supply Group employees who are engaged in the purchase and sale of electric energy, in order to ensure that the Electric Delivery Group does not use its access to information about transmission to benefit unfairly its own or the Electric Generation Group's sales.

PP&L's proposed Code of Conduct is set forth in PP&L Exhs. RMG 2 and RMG 4; it is discussed in PP&L St. 13-R. PP&L envisions that this Code of Conduct will remain in effect until such time as the Commission adopts regulations establishing permanent standards of conduct. PP&L's proposed Code of Conduct tracks the principles adopted by the Competitive Safeguards Working Group. Specifically, the Retail Access Code of Conduct provides for:

- Open, Non-Discriminatory Access to and Pricing of Regulated Monopoly Services (PP&L Exh. RMG 2, pp. 4-5; PP&L Exh. RMG 4, pp. 1-2).

57 At the time of the hearing, PP&L had not yet determined the names under which its Electric Delivery Group and Generation Supply Group will do business. PP&L's Electric Delivery Group is now doing business as "PP&L Access," and PP&L's Generation Supply Group is marketing energy to wholesale and retail customers under the name "PP&L Energy Plus."

- Prohibitions on Conditioning (Tying) of Access to Monopoly Services on Purchase from Generation Supply (PP&L Exh. RMG 2, pp. 4-5; PP&L Exh. RMG 4, p. 2).
- Non-Discriminatory Dissemination of Disclosed Market and Competitively Sensitive Information (PP&L Exh. RMG 2, pp. 3-5).
- Confidentiality of Customer and Supplier Information (PP&L Exh. RMG 2, p. 4; PP&L Exh. RMG 4, p. 1).
- Segregation of Personnel and Information by Group (PP&L Exh. RMG 2, p. 1; PP&L Exh. RMG 4, p. 1).
- Restriction of Information Transfer Via Personnel Assignment (PP&L Exh. RMG 2, pp. 2-3; PP&L Exh. RMG 4, p. 1).
- Separate Cost Allocation, Books, and Records (PP&L Exh. RMG 2, p.5; PP&L Exh. RMG 3, p. 2).
- Enforcement of Employee Education in the Codes of Conduct (PP&L Exh. RMG 2, pp. 5-6; PP&L Exh. RMG 3, p. 2).
- Compliance Reporting, Auditing and Dispute Resolution (PP&L Exh. RMG 2, p. 6; PP&L Exh. RMG 3, p. 2).

These rules and protections will assure a fair and open market without unfairly handicapping PP&L as a competitor.[58]

D. Additional Competitive Restrictions Proposed

1. Prohibit Use of "PP&L" Name

Mr. Dirmeier would have the Commission believe that Enron faces a Herculean task overcoming the single brand of PP&L. Enron St. 6.1, p. 2. Similarly, Mr. Dirmeier claims that although it is possible that some entrants will find advantages of their own, overcoming the name and goodwill advantages of the incumbent EDCs will be daunting at best. Enron St. 6.1, p. 9.

58 PP&L has chosen not to include Subsections (1) - (6) as listed in the "Code of Conduct" section of the common briefing outline adopted in this case. The relevant provisions of PP&L's Code of Conduct are referenced in the bullet points above and throughout the remainder of this section.

This argument simply is not correct. Enron and many other potential competitors have a strong market presence and have the resources to overcome the single brand name of PP&L.[59] To date, [more than thirty] firms are licensed to be alternate retail suppliers under the Act.[60] The list of licensed generation suppliers includes companies with considerable experience and success in unregulated markets or in markets with partial deregulation. PP&L's potential competitors include numerous other vertically integrated utilities based in other jurisdictions, independent power producers and marketers, energy service firms such as Enron, and retailing companies such as American Express that have expressed interest in entering electricity markets[61].

a) The use of the name "PP&L" by the Generation Supply Group will not lead to customer confusion.

Enron witness Mr. Dirmeier asserts that PP&L's proposed Code of Conduct would lead to customer confusion because it does not go far enough to prevent PP&L's non-regulated operations from using the name of the EDC in a manner in which customers could reasonably imply that the electric generation supply is being provided by PP&L as the EDC rather than PP&L as the electric generation supplier. Enron St. 6.0 , p. 31-33; *see also* Enron St. 6.1, pp. 1-4 .

Mr. Dirmeier is incorrect. There will be no customer confusion under PP&L's proposal by the use of the name "PP&L Energy Plus" because as described above, by Mr. Geneczko,

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59 Enron has a significant, national market presence. Enron advertised during the Super Bowl telecast in January 1997 and has been advertising its brand name heavily throughout the country. Enron witness Mr. Shapiro stated that one of Enron express corporate objectives is to become the premier seller of electric energy at retail in the United States. Tr. 1605 (8/26/97). Mr. Shapiro agreed at the hearing that Enron is taking steps that any competitor would in trying to break into new market. Tr. 1605-06 (8/26/97). For example, Mr. Shapiro admitted that "It is very likely that one of the products that we will try to bring into the marketplace is a lower priced product than our other competitors." Tr. 1607 (8/26/97).

60 In addition, 89 firms have registered as members of PJM, with the reasonable presumption being that most of them have intentions of participating in the marketplace in which PP&L will operate.

61 The Commission in the PECO Order did not prohibit PECO's competitive affiliates from using PECO's name. PECO at 131.

PP&L will clearly and explicitly distinguish delivery service and generation supply service as separate operations. Tr. 553 (8/18/97).

Moreover, *prohibiting* PP&L's Generation Supply Group from using the PP&L name will lead to customer confusion and may deceive customers. Dr. Kalt put this succinctly at the hearing:

> It is inappropriate to in any way deceive consumers and imply that they are not getting service from some company. Taking information out of a market is not plausibly a sound public policy. The reason for that, as I have said, is that information to consumers is valuable because they value such things as peace of mind, assurance, et cetera, reputation.

Tr. 459 (8/18/97). Enron witness Mr. Dirmeier acknowledged that it would be wrong to mislead customers as to who is providing their power. Tr. 687 (8/19/97). As recognized by Mr. Dirmeier, a name benefits consumers by providing information and assurance. Tr. 439 (8/18/97). Mandating the use of a different name would deprive consumers of the added assurance of quality and price derived from putting the parent's reputation at stake.

b) PP&L's Name is a Shareholder Asset.

The name PP&L and the good reputation associated with the name are shareholder assets, and, as such, are not included in the ratebase. The name and reputation of a utility therefore are not assets to which ratepayers have a claim. Ratepayers have never had to pay through rates a return on the value of goodwill or for enhancement of the utility's name, and name and reputation are cost free to PP&L's customers. Thus, there is no ratepayer harm in allowing PP&L to continue to use its name, or in allowing its affiliate to use the name.

PP&L's name <u>and</u> reputation do not, as Mr. Dirmeier claims, "result [from] its providing regulated monopoly service under the quality service guidelines established, in this jurisdiction, by the Pennsylvania Public Utility Commission[.]" Enron St. 6.1, p. 10. Indeed, whether a utility's brand name is a good one or a bad one is not a function of utility assets. If that were true, all regulated utilities in the United States would have good reputations.[62] As Dr. Kalt stated:

62 Mr. Dirmeier agreed that some utilities do not have good reputations with their customers. Tr.

We're all aware that some utilities around the country have good brand names, some of them have real bad brand names. And that fact suggests, of course, that it's not a function of their ownership of essential facilities, T & D, the natural monopoly function that's generating the brand name. Otherwise they'd all have great brand names. . . . I think you cannot conclude that the good brand name's a function of the natural monopoly attributes or just a fact of regulation over the last 75 years. Tr. 518 (8/18/97).

c) Prohibiting the Use of the PP&L Name is Anti-Competitive and Will Harm Consumers.

The various ways in which firms distinguish themselves and the advantages that certain firms have over others in a competitive market benefit consumers because they allow the firm which possesses them to deliver something that consumers want, or to deliver what consumers want on better terms. These advantages and distinctions may arise through luck, savvy, or history. Firms' distinguishing characteristics may include brand names that are well-respected, convenient locations that reduce transportation costs or a base of potential customers encountered in related markets. The process of rivals each trying to find their own advantages and overcome the advantages of their competitors is what allows consumers to "win." PP&L St. 1-R, p. 14. The Act, like the antitrust laws, does not mandate that all such advantages and disadvantages be leveled. It was not designed to be an assistance program for disadvantaged competitors. *See, e.g., United States v. Syufy*, 903 F.2d 659, 668 (9th Cir. 1990); *Olympia Equip. Leasing Co. v. Western Union Tel. Co.*, 797 F.2d 370, 374 (7th Cir. 1986).

d) It is Not Appropriate For the Electric Generation Supply Group to Have to Pay a Royalty or Fee to Use Its Name.

Enron witness Mr. Dirmeier asserts that if there is value in PP&L's name, then the name should not be conferred without compensation. Enron St. 6.0, pp. 28-29, Enron St. 6.1, pp. 10-

688 (8/19/97).

11. The payment of a royalty is inappropriate for several reasons. First the utility's name is not a ratepayer asset, as discussed above. Requiring PP&L's Generation Supply Group to pay a royalty for the use of the PP&L name would constitute a taking without just compensation. The imposition of a royalty would constitute a requirement that a regulated company dedicate its intangible assets, for which ratepayers have never paid and do not own, to the ratepaying public. Second, a percentage royalty, which is one type of royalty that has been proposed in other jurisdictions, does not bear any relationship to costs or benefits from the association of the affiliate with the utility and would be difficult if not impossible to value. It is also questionable whether the Commission has the authority to require an unregulated, private business to pay a royalty to affiliated utilities' ratepayers. Such an order may be an improper extension of ratemaking authority. Absent a showing that ratepayers will be charged an unreasonable cost for service as a result of a transaction between a regulated company and its affiliate, the Commission does not have the authority to order a regulated company to charge its affiliate for benefits allegedly conferred on the affiliate as a result of its relationship with the regulated company.

2. Ancillary Services

Several parties, including Enron, *See* Enron St. 3.0,contend that in addition to revenue cycle services, ancillary services also should be unbundled. These proposals are not only beyond the intent of the Act, they are beyond the Commission's jurisdiction as well. Ancillary services are services offered in connection with the transmission of electric power. They are clearly transmission-related not distribution-related services. As such, they are within the exclusive jurisdiction of the FERC. *See* Section X.D.4. Indeed, the FERC unbundled anciallary services in Order No. 888.

3. Prohibit Joint Marketing

PP&L's proposed Code of Conduct provides that the Electric Delivery Group will not favor the Generation Supply group in any marketing of energy supply products. In addition, PP&L witness Mr. Geneczko agreed during the hearing that PP&L's Generation Supply Group will have access to bill inserts on the same terms and conditions as other electric generation suppliers. *Tr. 586 (8/18/97).*

As clarified by Mr. Geneczko at the hearing, PP&L's Electric Delivery group may engage in joint marketing of energy supply products with PP&L's Generation Supply group, but will only do so as long as comparable opportunities are available to other suppliers and the purpose of the joint effort is economic development. Tr. 554 (8/18/97). The Electric Delivery group still has an interest and community responsibility to facilitate economic development, but is indifferent, however, as to which alternate suppliers provide the energy part of the package. PP&L St. 13-R, p. 24. It will inform alternative suppliers of any such arrangements on a "rather immediate" basis, which may include posting such arrangements on OASIS. Tr. 583 (8/18/97).

4. Require that Surplus Power Be Offered to Alternate Suppliers

Several intervenors suggested that PP&L should be required to offer any surplus power to Alternate Suppliers. Enron St. 6.0, p. 37. Such a requirement would be a drastic intrusion into the competitive process that the Act has determined "will no longer be regulated . . ." 66 Pa.C.S. § 2802(14). Moreover, such a requirement would clearly be beyond the Commission's jurisdiction. The sale of surplus power to Alternate Suppliers is a wholesale transaction that falls squarely within the FERC's exclusive jurisdiction under the Federal Power Act ("FPA"). Section 201 of the FPA gives the FERC plenary, exclusive and non-delegable jurisdiction over such sales. 16 U.S.C. § 824(b)(1). *Federal Power Comm'n. v. Southern California Edison Co.*, 376 U.S. 205, 216 (1964) (FERC jurisdiction is plenary and extends to all wholesale sales in interstate commerce except those which Congress has made explicitly subject to regulation by the States). *See also Nantahala Power & Light Co. v. Thornburg*, 476 U.S. 53 (1986); *Mississippi Power & Light Co. v. Mississippi*, 487 U.S. 354, 374 (1988). The fact that power will ultimately be used to serve retail customers does not change the wholesale nature of the transaction. *Pacific Gas and Elec. Co.*, 77 FERC ¶ 61,265 at 62,088 n.43 (1996).

5. Require the Delivery Group to Make Non-Delivery System Information Available to All Alternate Suppliers

Enron witness Mr. Dirmeier suggests the need for an internet bulletin board to document *all* information shared between the Electric Delivery Group and the Generation Supply Group. This recommendation is far too broad and is not supported by any provision in the Act. As explained in Mr. Geneczko's rebuttal testimony, Company personnel necessarily will meet from time to time to discuss matters of a corporate nature, such as personnel, or matters relating to joint work outside of the Electric Delivery group's service territory. Much of the information discussed in these meetings is confidential in nature, the sharing of which is not necessary to achieve a competitive retail electric generation market. PP&L St. 13-R, p. 15. Thus there is no reason or authority for the Commission to address such non-delivery information in this proceeding.

6. Prohibit Market-Driven Contracts Before Choice is *Implemented*

Enron has proposed that in the time before direct access begins to be phased in, PP&L should not be permitted to enter into "market priced" contracts unless PP&L first offers to competitive suppliers the opportunity to bid to provide service to the customer and that customers who entered into such contracts subsequent to the date on which the Act was passed to cancel such contract. Enron St. 6.0, p. 46. Mr. Dirmeier admits that he has no information that would lead him to believe that PP&L is engaging in the behavior he would prohibit.

As discussed by Mr. Kalt in his rebuttal testimony, requesting the Commission to "open up" pre-existing market-based contracts is a transparent attempt to gain Commission intervention in a competitive market to favor PP&L's competitors. As explained by Dr. Kalt,

> long term contracting is a mechanism by which customers -- particularly the relatively large and sophisticated kinds of customers commonly seeking long term contracts -- can visit the force of impending competition on a utility's electricity sales even before the commencement of choice. The reason is obvious: the pending opening of choice can enhance the bargaining position of a utility's customers regarding price, length of contract, and other terms and conditions. The presence of choice on the near horizon enables customers to credibly threaten *to take only standard tariffed service and/or insist on near-term termination rights* that would enable them to depart for other suppliers upon the start of choice.
>
> In short, customers are better off having the option of signing long term purchase contracts with a utility in the face of pending open access than they would be if

their only option were to stay with a utility's standard tariffed service and exercise choice upon a future date. It is understandable that rivals would like to expand the number of customers they can chase upon the opening of access, but it is not in customers' interests nor does competition require that customers be required to wait for access in order to realize some of its benefits. PP&L St. 1-R, pp. 51-52.

7. Require a Uniform State-Wide Code of Conduct

The Commission intendes to adopt uniform, state-wide standards of conduct. Until those standards are adopted, however, we agree with PP&L that its proposed Code of Conduct should govern the relationship between its Electric Delivery Group and Generation Supply Group.

8. Require PP&L to Permit Alternate Suppliers to Bill for Distribution Services and Be the Sole Contact for Customer Service

The Commission currently permits two billing options: (1) the EDC will provide a bill for all basic services to customers who have not chosen a generation supplier and those who have chosen a generation supplier but asked to receive a single bill; and (2) the EDC will provide a bill for all basic services except generation to customers who have chosen a generation supplier but asked to receive separate bills from the supplier. As explained below, consideration of a "third" billing option, permitting alternate suppliers to bill for distribution services should await the forthcoming Commission rulemaking.

9. Limitations on the Provision of Non-Utility Services

Several intervenors have raised concerns over the plan of PP&L's Electric Delivery Group to continue marketing products such as electronic thermostats, Power Watch™ devices and Heat Comfort™ controls. *See* Enron St. 6.0, p. 18; Tr. 570 (8/18/97). These concerns are misplaced. Prohibiting the EDC from providing these services is not required under the Act, and is by no means a prerequisite to carrying out the primary purpose of the Act – "to permit retail customers to have access to a competitive *generation* market as long as safe and affordable transmission and distribution service is available" at current levels of reliability. 66 Pa.C.S. § 2802(3). There is no indication that the General Assembly had a concern with utility involvement in non-generation products and services, as long as customers have fair and non-discriminatory access to a competitive generation market and competitive suppliers of electricity.

E. Further Unbundling of Distribution Rates or Services

1. Metering, Billing and Collection Services

Several intervenors have argued in this proceeding that customer metering and billing services should be unbundled from other EDC customer services in order to create an additional opportunity to provide value-added services to consumers. *See* Enron St. 4.0, p. 3. As noted by the Commission in the PECO Order, the Commission has addressed these issues through various working groups, rulemakings and Orders. Although section 2804(3) of the Act provides that "the Commission may require the unbundling of other services" in addition to basic unbundling of transmission, distribution, and generation services, the Commission concluded in the PECO Order that Section 2807 of the Act, which sets forth the duties of electric distribution companies, does not assume that any additional unbundling is required and that "EDC's continue to have the duty to provide all distribution services, including metering and billing, in compliance with existing Commission requirements." PECO Order at 138-39. The record established in this proceeding mandates the same conclusion.

a) Customer Billing

Several of the intervenors have argued that a customer should be able to receive a single bill from its EGS that includes EDC charges. *See* Enron St. 5.0, pp. 6-7. Section 2807(c) of the Act provides that the EDC may be responsible for billing customers for all electric services but grants the customer the right to choose to receive a separate bill from its generation supplier. The Act itself explicitly specifies a presumption that the EDC shall have the duty to provide a single bill, including competitive generation services, to all customers unless the customer chooses to receive a separate bill directly from its EGS. The Commission has initiated a rulemaking to address the manner and details of the interaction between customers, suppliers, and EDCs at Docket No. M-00960890.F0011.

The Commission recognized in the PECO Order that there may be potential benefits of such proposals but concluded that it is inappropriate to unbundle billing based on the record presented in that proceeding. The Commission directed PECO to provide all billing services, including billing for generation services, unless a customer indicates a preference to receive a separate bill directly from the supplier for generation services. PECO Order at 139. The record in this proceeding mandates the same conclusion.

b) Metering

As indicated in the Commission's rulemaking at Docket No. L-00970120, the Commission has decided that it is unnecessary to unbundle metering as a competitive service at this time. In that rulemaking, the Commission outlined the standards and procedures to ensure that customers have real options for competitive metering while retaining all physical work related to metering as a regulated EDC function.

The Commission decided in the PECO Order that all customers may, in conjunction with their EGS, request use of a "qualified meter" that has been approved by the Commission based on the recommendations of a working committee composed of interested parties. The Commission will ensure that the list of qualified meters includes all meters necessary to support market services such as two-way communication, remote readings, time-of-use capability, and net metering.

2. Require Delivery Group to Supply Customers Not Eligible to Choose Alternate Suppliers During the Phase-In.

Various parties asserted that PP&L had decided that customers not yet eligilble to choose would be served by its competitive generation supplier during the phase-in period. However, as PP&L explained, customers not yet eligible to choose would be served under traditional regulated rates. Tr. 743 (8/19/97). This treatment is consistent wiht the PECO Order, pp. 132-134; Order on Reconsideration, pp. 20-21.

F. "Open Architecture" Standards for Metering and Other Distribution Services

PP&L witness Anthony M. Osmanski indicated PP&L's support for open system architecture for all metering services hardware and software. PP&L St. 21-R, p. 3. PP&L advocates the use of the standards currently being developed by the IEEE SCC-31 Standards Coordinating Committee. *Id.* PP&L believes that the installation of the actual metering hardware should remain part of the regulated distribution services. The energy information exchange would be provided as a "Standardized and Open Architecture" data stream to a customer interface. This interface gateway should be the marketable product open to competition, providing a receptacle for data and a gateway to communication and information services. The market may be driven to provide this information service with no initial cost to the customer. PP&L St. 21-R, p. 12.

G. Treatment of Partial Payments by Customers

Enron witness Raymond W. Bowen, Jr. suggests that payments received from customers by PP&L should be applied to services provided by PP&L and services provided by the supplier on a pro rata basis. Enron St. 5.0, pp. 16-17.

As Mr. Bowen acknowledged at the hearing, however, if payments are provided to the supplier on a pro rata basis, the amount of the EDC's non-recovery will increase. Tr. 1339-40 (8/22/97). Despite this fact, Mr. Bowen asserts, without foundation, that an increase in the amount of the EDC's non-recovery would not increase the EDC's cost of providing service. *Id.*

The Commission has already considered and rejected the pro rata payment approach advocated by Enron. *See* Final Order Re: Guidelines for Maintaining Customer Services at the Same Level of Quality Pursuant to 66 Pa. C.S. § 2807(D), and Assuring Conformance with 52 Pa. Code Chapter 56 Pursuant to 66 Pa. C.S. § 2809(E) and (F) (entered July 11, 1997). Instead, the Commission decided that the "priority" method of applying partial payments is preferable to the "prorata" method, particularly in terms of administering the process and complying with applicable Chapter 56 provisions at 52 Pa. Code §§ 56.23 and 56.24. Order at 32-33.

H. Allocation of PJM Intertie Capacity

Enron witness Richard D. Tabors urges the Commission to require PP&L to make its PJM-allocated intertie benefits available to either its former retail customers who choose an alternative generation supplier or to that customer's supplier. Enron St. 8.0, p. 3. The relief requested by Enron, however, is beyond the scope of the Commission's jurisdiction, power and authority.

It is well-established that the rates, terms and conditions of wholesale sales of power by public utilities fall squarely within the FERC's exclusive jurisdiction under the Federal Power Act ("FPA"). Section 201 of the FPA gives the FERC plenary, exclusive and non-delegable jurisdiction over such sales. 16 U.S.C. § 824(b)(1). *See, e.g., Mississippi Power & Light Co. v. Mississippi*, 487 U.S. at 374. Indeed the FERC considered the very issue in its recent order on the restructuring of the PJM Interconnection. *See Pennsylvania-New Jersey-Maryland Interconnection*, 81 FERC ¶ 61,257 (1997).

I. Customer "Slamming"

Section 2807(d) of the Act requires the Commission to promulgate regulations to ensure that customer consent is obtained prior to a change of electric suppliers. The Act allows an authorized change to be initiated once an EDC has received direct oral confirmation from the customer or written evidence of the customer's consent. The Commission issued a Proposed Rulemaking Order Establishing the Standards for Changing A Customer's Electric Supplier at Docket No. L-00970121 in April 1997, which provides that a change of a customer's supplier may be initiated once the EDC has received direct oral confirmation from the customer or written evidence of the customer's consent. Under the proposed rules, "written evidence of the customer's consent" is limited to a document signed by the customer, the sole purpose of which is to initiate a change of electric suppliers.

Enron witness Mr. Bowen believes that the "written evidence" requirement should not require "direct" written communications from the customer through a letter of authorization or an agency agreement, nor should it require that the customer execute the document submitted to the EDC. Rather, Enron believes that "written evidence of the customer's request" should include any document which evidences to the EDC that customer consent was received by the supplier. Enron St. 5.0, p.24.

PP&L disagrees with this approach and argues that incidences of slamming will be minimized if the customer is directly involved in the process. Tr. 1236 (8/21/97). PP&L's proposal accomplishes the same goal as the Commission's proposed regulations—to ensure that a customer consents to the switching of its generation supplier. Under PP&L's proposal, an alternative supplier may provide written notification to PP&L of a customer's decision to purchase electricity from that alternative supplier. The Company will then send the supplier's written notification to the customer and request that the customer inform the Company if any of the information is incorrect or inaccurate. If the customer does not respond, the Company will assume the supplier's notification information is correct. PP&L St. 14, p.6.

XI. CUSTOMER EDUCATION

PP&L's Customer Choice Education Program ("CCEP") is clearly focused on carefully developing and providing customers with educational information that will give them the information they need to make informed choices. As explained by PP&L's witness, Dawn G. Lennon, the key principles of PP&L's CCEP are:

- PP&L will provide clear, balanced and practical explanations of what customer choice is, how it works, what the risks and trade offs are, and how to select an electricity supplier.
- PP&L will be recognized as a consistent, reliable and trustworthy source of information on customer choice.
- PP&L will separate customer choice education efforts from sales and marketing initiatives.
- PP&L will produce customer choice educational materials which are easy to read and understand and which meet high standards of objectivity.
- PP&L will pursue partnerships with the Commission and with educational, service, and consumer organizations in the development, implementation, dissemination, and evaluation of educational materials and programs on customer choice.
- PP&L will continue its customer choice education efforts to address new needs and changes, ensure understanding, and provide ongoing support for customers.

PP&L St. 17, pp. 4-5. PP&L's CCEP includes reliance on community based organizations ("CBOs") and other stakeholder groups to assist PP&L in its education efforts.

PP&L's Customer Choice Handbook is the centerpiece of its CCEP. It will include an overview of the restructuring of the electric utility industry, an explanation of customer choice and how it works, consumer protection tips, worksheets for determining the customer's choice of suppliers and answers to important questions about the retail access market place.

In addition to the Handbook, PP&L will offer interactive telephone technology and presentations by customer choice educators. PP&L will sponsor a Customer Choice Education Advisory Committee composed of leaders from consumer, education and community organizations to oversee the development of customer choice educational workshops for target groups. The group will develop the details of the consumer education plan, commission the development of materials, design the methods of dissemination, analyze evaluation research on the program and ensure that PP&L's consumer education program provides balanced and unbiased knowledge to customers.

A. Statewide Customer Education Program

PP&L's CCEP is designed to be implemented on a local level by PP&L and various community based organizations. Nevertheless, PP&L will support and actively participate in a statewide effort if the Commission ultimately determines that such an effort is appropriate. As Ms. Lennon emphasized, however, a statewide effort alone cannot effectively educate customers. PP&L St. 9-R, p. 48.

As suggested by OCA witness Barbara Alexander, individual market participants should supplement any statewide effort with their own customer education activities. OCA St. 5, p. 17. It is not only appropriate to allow and encourage the various market participants to play a role in informing consumers, but it is also not realistic to bar PP&L — or others — from distributing information to their existing and potential customers. PP&L strongly disagrees with Enron witness Mr. Bowen's recommendation that the Commission or an independent third party under the Commission's supervision prepare and distribute educational information on a centralized basis. Enron St. 5, p. 28-29. While a Commission-led customer education program can be part of a successful education campaign, it cannot substitute for local customer education programs, which are best developed and implemented on a service territory by service territory basis.

Moreover, PP&L has an obligation under the Act to provide balanced unbiased information from which customers can make an informed decision to exercise choice. Specifically, Section 2807(d)(2) of the Act requires each EDC to provide adequate and accurate customer information to enable customers to make informed choices. Section 2807(d)(3) of the Act further directs the Commission and each electric distribution company to implement a consumer education program informing customers of the changes in the electric utility industry prior to the implementation of any restructuring plan.

The Commission recently initiated a proceeding regarding the Creation and Implementation of a Statewide Consumer Education Program for Electric Restructuring in the Commonwealth of Pennsylvania, Docket No. M-00981036 (entered Jan. 16, 1998). In its Order, the Commission solicited comments on a comprehensive consumer education program which will include a statewide media campaign and a local community initiative. As the Commission recognized, "[p]articipation in a statewide media campaign or the use of CBOs on a local level does not eliminate the requirement that the EDCs actively participate in the comprehensive consumer education program at the local level." Order at 7.

PP&L continues to believe that the most useful tools to educate are reference materials (print, audio and website) that customers can access and revisit. While the use of mass media can be an effective tool to create customer awareness, it must be followed by information such as brochures, pamphlets, direct mail and other forms of communication to expand the "soundbite" messages of a media campaign. The best way to educate is to mobilize and equip people in the community using community-based organizations. Tr. 2009 (8/29/97).

B. Specific Milestones and Budgets

PP&L provided the OCA with a five year preliminary budget for its CCEP. PP&L St. 17-R, Exh. DGL-2. This budget will allow PP&L to meet the stated objectives of its CCEP. Any statewide consumer education program should be developed in an orderly and logical manner. Specifically, the program details and components should be designed before the budget for statewide activities is established, not vice versa. It simply does not make sense to set a budget and then develop programs to utilize the allocated funds.

C. Customer Research

PP&L 's CCEP is based on extensive customer research. PP&L St. 17-R, p. 5-6. Based upon input from a variety of stakeholders, including the results of an independent customer research project, PP&L is revising its Customer Choice Handbook to provide education to consumers as the phase-in of full retail competition begins. Tr. 1974 (8/29/97).

D. Evaluation of Customer Education Efforts

PP&L is committed to conducting a full evaluation of its CCEP. Evaluation of PP&L's overall education efforts will be ongoing throughout the transition to retail competition. PP&L St. 17, p. 7. PP&L's research will continue to focus on what customers know and understand about choice, the best vehicles for obtaining this information, the most credible sources of information, the usage profile and related demographics. Customers already surveyed will continue to be surveyed and compared to new customers. PP&L will share this information with the Commission.

E. Separation of Education from Marketing Activities

Separation of PP&L's CCEP and its communications and marketing efforts is one of the key principles of PP&L's proposal. PP&L will not use its CCEP to market competitive business products. PP&L St. 15-R, p. 22. Its education efforts will not favor one supplier of energy or capacity over another. PP&L St. 17-R, p. 22-23. Customer choice education initiatives will be managed by the Company's Customer Services department and customer information will be managed by its Corporate Communications department. PP&L's marketing activities will seek to promote products and services through either its Delivery Services & Economic Development department or through its Generation Supply Group.

Enron witness Mr. Bowen suggests that PP&L's name should not appear on customer education communications. Enron St. 5, p. 31. As stated by Ms. Lennon: "To develop and disseminate consumer education materials and not to put the Company name on them would be deceptive. Consumers are entitled to know where any materials come from so they can ascertain for themselves whether or not to accept the messages in them." PP&L St. 17-R, p. 23.[63]

XII. Universal Service and Customer Assistance Programs

PP&L has been among the industry leaders in implementing programs to address customer and community needs, especially those of low-income customers. In 1996, the Company's annual funding level for universal service programs and energy conservation

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63 *See* Section X.D of PP&L M.B., which responds in detail to intervenors' arguments that PP&L's Generation Supply Group should not be permitted to use the "PP&L" name.

programs was over $7 million. The Company has reviewed its existing programs and concluded that it must continue its leadership role in this area. As outlined in the testimony, of Timothy R. Dahl, PP&L plans to increase its annual funding for universal service programs and energy conservation programs from a current level of $7 million to approximately $14.3 million by the year 2002. PP&L St. 16, p. 4.

Section 2802(10) of the Act provides that "the commonwealth must at a minimum, continue the protections, policies and services that now assist customers who are low-income to afford electric service." Section 2802(17) specifies that the public purpose of the programs is to be "promoted by continuing universal service and energy conservation policies, protection and services and full recovery of such costs is to be permitted through a non-bypassable rate mechanism."

PP&L witness Dahl explained that PP&L plans to build upon its existing universal service and energy conservation programs. PP&L operates five programs that provide energy assistance to low-income customers.[64] These programs and their current level of funding are as follows:

Customer Assistance and Referral Evaluation Service ("CARES")		$260,000
Operation HELP		$795,000
Winter Relief Assistance Program (WRAP)		$3,023,300
Keep Warm Plan		$1,000,000
On Track Payment Program Pilot		$2,000,000
	Total	$7,078,300

The Company is proposing to move OnTrack from its pilot phase to a full-time program. The level of enrollment would be increased from 1,040 customers to about 10,000 customers by the year 2001. This "ramping up" of OnTrack anticipates an increase of 3,000 new participants annually. The expanded OnTrack program will target customers who have annual household

64 Mr. Dahl describes each of these programs in his direct testimony. PP&L St. 16, pp. 8-13.

income at or below 150 percent of poverty; are payment troubled[65]; and have an overdue electric bill.

There are approximately 58,000 customers who may be eligible for OnTrack based on the above characteristics. PP&L St. 16, p. 19. As a result, PP&L plans to concentrate the program on low-income customers who have a demonstrated inability to pay and may be subject to service termination. However, PP&L desires the flexibility to enroll customers who have mitigating circumstances as long as their annual household incomes do not exceed 175 percent of the federal poverty level.

A. Increased Funding

As the Commission has recognized, the challenge for the EDCs, the parties and the Commission is to set appropriate spending levels for universal service and energy conservation, in light of other spending priorities and the rate cap provisions of the Act, while maintaining funding for other aspects of safe and reliable local distribution services at least at current levels. Final Order Re: Guidelines for Universal Service and Energy Conservation Programs Made Pursuant to 66 Pa. C.S. § 2803, § 2807(17), 2804(8) and 2804(9) (entered July 11, 1997) at 3 ("Final Guidelines for Universal Service").

Although neither the Act nor the Commission's Final Guidelines for Universal Service specify a particular funding level or mandate an increase in total expenditures for universal service and energy conservation programs,[66] PP&L plans to increase its expenditures by over $7 million dollars above current funding levels. The annual level of funding for OnTrack will be expanded from $2 million to $9 million over a three-year period beginning January 1, 1999. Because PP&L will continue to solicit donations from its customers and employees, donations to Operation HELP are expected to increase annually. PP&L proposes to maintain the current level of annual funding for CARES, WRAP, and the Keep Warm Plan. PP&L St. 16, pp. 17-18.

65 A payment troubled customer is a customer who has missed a payment, who has contacted PP&L to negotiate a payment plan and with whom PP&L has negotiated a payment plan. Tr. 1942 (8/29/97).

66 *See* Final Guidelines for Universal Service at 14 ("[W]e must emphasize that nothing in these guidelines mandates an increase in total expenditures directed to meet universal service and energy conservation goals. To the contrary, these guidelines emphasize improving the cost effectiveness of existing efforts by shifting expenditures from less productive efforts to more effective programs.")

In general, we believe the intervenor witnesses propose an unreasonable and unwarranted increase in funding levels for universal service and energy conservation programs, in some cases to over three times current levels, and expansion of the programs' eligibility criteria. *See, e.g.*, testimony of OCA witness Ms. Nancy Brockway; CEO witnesses Mr. Michael Karp, Mr. Craig Kuennen, and Mr. Geoffrey Crandall; and AARP witness Mr. Mark Cooper. These proposals are not supported by the Act or the evidentiary record in this case.

The Act has a focused purpose; that is, promoting effective competition in the area of generation. Section 2802(3) of the Act provides that " . . . it is now in the public interest to permit retail customers to obtain direct access to a competitive generation market . . ." Providing cost-effective programs for low-income customers is an important component of the Act, but certainly it is not the *raison d'être* of the legislation. The primary intent of the universal service provisions of the Act is to ensure that current protections for low-income consumers are maintained in a competitive generation market: "The Commonwealth must, at a minimum, continue protections, policies and services that now assist customers who are low-income to afford electric service." 66 Pa. C.S. § 2802(10). The funding levels proposed by CEO, OCA and AARP simply were not envisioned by the Act. The intent of the Act is to restructure the electric utility industry to reflect competitive forces in the marketplace, not to implement a broad expansion of customer assistance programs.

As a basis for establishing the level of need for universal service and energy conservation programs, CEO's Mr. Kuennen presents information derived from the U. S. Census about poverty rates and the number of low-income households in PP&L's service area. However, Mr. Kuennan has erred in his conclusion about the need for utility-sponsored customer assistance programs.

The 1990 U. S. Census data for the Company's service area show that approximately 177,000 PP&L customers are at or below 150 percent of the federal poverty guidelines. This guideline is the proposed eligibility standards for programs such as OnTrack and WRAP. However, most of these customers (approximately 70 percent) pay their electric bills and are not in arrears with PP&L. PP&L St. 16-R, p. 7. It would be counterintuitive for the Company to encourage customers who have been paying the full amount of their electric bills to join OnTrack and begin paying only a portion of their bills.

The Commission urged regulated utilities to implement Customer Assistance Programs ("CAPs") such as OnTrack as an adjunct to collection activities for low-income customers. OnTrack has been an effective alternative for some low-income, payment-troubled customers who are confronted with termination of service. The program has improved customers' payment patterns and has helped PP&L to avoid the costs associated with collections and regulatory intervention. It was never intended, however, to be a broad social welfare program.

OCA witness Ms. Brockway recommends that PP&L's annual funding for OnTrack and weatherization (WRAP, Keep Warm Plan) should be $11.7 million and $4.7 million, respectively. OCA St. 6, pp. 23, 34. Ms. Brockway's proposal represents an increase in the funding levels suggested by PP&L of 30 percent (OnTrack) and 17.5 percent (WRAP and Keep Warm Plan). AARP witness Mr. Cooper has stated that deep discounts should be made available to all low-income households. AARP St. 1, pp. 25-26. The cost of extending OnTrack credits to all of PP&L's low-income customers would be prohibitive. The average OnTrack credit is $50 per month, or $600 annually. PP&L St. 16-R, p. 9. The cost of extending the credits, as Mr. Cooper suggests, would exceed $106 million annually (177,000 x $600). For the reasons described above, the increased funding levels recommended by these parties should be rejected.

B. Availability of Universal Service and Customer Assistance Programs

CEO witness Mr. Kuennen recommends that PP&L target 40 percent of low-income households (specifically, 71,000 customers) for participation in OnTrack.[67] CEO St. 1, p. 22. OCA witness Ms. Brockway suggests that PP&L should serve 18,500 customers in OnTrack. OCA St. 6, p. 30. These proposals present three significant problems: 1) it would be impractical to effectively identify, interview, and enroll tens of thousands of customers; 2) the costs would be prohibitive; and 3) good-paying customers would be encouraged not to pay under the CEO's proposal.

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67 Mr. Kuennen projects that 71,000 customers could be enrolled in OnTrack at an annual cost of about $23 million. This is a gross underestimation of the annual cost, which the Company estimates would be at least $53 million annually. The cost may even be higher because some of these customers would enter the program with overdue balances that would be forgiven if they made their monthly payments. The average revenue shortfall (i.e., the difference between the actual bill and the required OnTrack payment) for an OnTrack customer is $600. If 71,000 customers were enrolled in OnTrack, the annual revenue shortfall cost alone would be approximately $42.6 million (71,000 x $600).

Mr. Kuennan and Ms. Brockway also advocate increased funding levels for the baseload program under WRAP. As acknowledged by Ms. Brockway, each utility should tailor its energy conservation programs to address the conditions in its own service area. Tr. 2042 (8/29/97). Given that PP&L has the highest electric heat saturation rate of the eight major Pennsylvania electric utilities, PP&L Cr. Exam. Exh. 12, PP&L has properly chosen to focus its weatherization activities on electric heat customers.[68]

C. Allocation of Universal Service Program Costs

A number of intervenors recommend a kWh assessment of universal service program costs on all customer classes. As explained more fully in Section IX.D of PP&L's M.B., PP&L instead proposes to allocate its universal service charges on a per customer basis. PP&L's approach is consistent with the Commission's Final Guidelines for Universal Service, in which the Commission found that a kWh assessment would place a disproportionate responsibility for funding universal service and energy conservation programs on high volume users and is inconsistent with rate treatments for these programs in recent base rate cases. Final Guidelines at 20.

D. Other Universal Service and Customer Assistance Program Recommendations

1. "Transfer" of Uncollectible Accounts

CEO witness Mr. Kuennan and OCA witness Ms. Brockway suggest that PP&L's current level of write-offs and credit and collection expenses associated with non-OnTrack low-income customers could be "transferred" to fund an expanded OnTrack Program rather than booking write-offs and credit and collection expenses associated with these amounts, in essence reducing its billings to these customers. CEO St. 1, p, 26; OCA St. 6, p. 26. Ms. Brockway acknowledges that this approach would not improve PP&L's bottom line, yet she asserts that even if no

68 This focus is also consistent with the Commission's low income usage reduction regulations, 69 Pa. Code § 58.10, which require utilities to place the highest priority on those eligible customers with the largest usage and greatest opportunities for bill reductions relative to the cost of providing program services.

associated benefits of lowered collection costs or improved dollar payment amounts were realized by PP&L, the customer would benefit from this transfer from a delinquent debt posture to one of a reasonable opportunity to make complete payments.

As Mr. Dahl pointed out, Ms. Brockway's proposal should be rejected because it is based on the key false assumption that low-income customers do not pay any portion of their bills. To the contrary, however, PP&L's experience shows that low-income customers, even those that are payment-troubled, do often pay some amount toward their bills. For example, PP&L evaluated approximately 1,000 very low-income customers (at or below 110% of the federal poverty guidelines) and determined that even those customers pay PP&L six or seven times per year. Tr. 1948 (8/29/97).

2. Customer Choice for OnTrack Customers

PP&L supports the OCA's recommendation to allow OnTrack customers to choose Alternative Suppliers; however, this participation must be subject to three important conditions. First, OnTrack participants who select an Alternative Supplier would be required to receive a single bill from PP&L. Second, as a condition of serving OnTrack customers, Alternative Suppliers would agree to discount the energy portion of the supply bill by a percentage equal to the overall percentage reduction established pursuant to the OnTrack program. Third, the Alternative Suppliers would agree to absorb the supply portion of the revenue shortfall that is written off monthly for OnTrack customers.

A key objective of OnTrack is to encourage and develop good payment habits among customers. This objective could be best accomplished by offering one bill to OnTrack customers who choose an Alternative Supplier. PP&L believes so strongly in this concept that it greatly simplified the OnTrack bill to encourage regular payments. A combined bill would streamline administrative procedures for the OnTrack agencies and reduce confusion for customers who may have questions. Requiring these customers to write two checks monthly -- one to PP&L and one to the Alternative Supplier -- would add unnecessary complexity to the program.

PP&L's average monthly electric bill for low-income, payment-troubled customers is about $88, and the average monthly electric bill for OnTrack customers is $47. In other words, the Company provides a monthly bill reduction of $41, or 53 percent. This revenue shortfall is written off monthly. PP&L St. 16-R, p. 22. PP&L recommends that Alternative Suppliers provide a pro rata reduction in energy supply charges to those OnTrack customers who choose an Alternative Supplier. Without such a pro rata reduction, the amount of the monthly bill reduction could reduce the transmission and distribution portion of the customer's bill to less than zero.

PP&L also believes that Alternative Suppliers should share in the costs of the revenue shortfall associated with OnTrack customers. Generation accounts for approximately 25 percent of the bill, and using the above example of the $41 revenue shortfall for the average OnTrack customer, an Alternative Supplier would be responsible for $10.25 of the write-off. The remaining $30.75 would be assigned to PP&L. Because the revenue shortfall includes some generation charges, it is fair for Alternative Suppliers to assume responsibility for the portion of their the revenue shortfall. PP&L's proposal would treat both PP&L and the Alternative Supplier on the same basis while satisfying the Act's objective of providing choice to all customers in Pennsylvania.

XIII. ENVIRONMENTAL ISSUES

A. Disclosure of Fuel Mix and Waste Discharge Information

Environmentalists witness Bruce E. Biewald proposes that the Commission require all retail electricity suppliers selling in Pennsylvania to disclose their fuel mix and key air and other waste emissions to consumers in the form of a label and that the tracking of transactions to support disclosure and labeling should be done by the PJM Independent System Operator ("ISO"). Environmentalists' St. 2, p. 5. OCA witness Barbara Alexander also advocates fuel mix disclosure. OCA St. 5, pp. 29-30.

Mr. Biewald's proposal goes beyond the Commission's recently-proposed rules on Customer Information Disclosure for Electricity Providers Docket No. L-00970126, which propose that suppliers provide a written disclosure statement of energy sources, and, if the *supplier cannot identify the energy source of its supply (if, for example, the supply is purchased* from a power pool), disclosure of the average energy mix from the relevant market, including an identification of that market by name. The source of supply mix must be provided to customers upon request, upon entering into a sales agreement and whenever a significant change occurs in the terms of service. The proposed rules do not require the disclosure of environmental attributes other than fuel mix. The Commission's rulemaking is a more workable system than the one proposed by Mr. Biewald that satisfies the needs of responsible disclosure. *See* PP&L St.10-R, p. 20 Moreover, we believe as argued by PP&L, that this Commission lacks the power to require the PJM ISO to adopt Mr. Biewald's proposal.

The Environmentalists witness Mr. Schoengold asserts that PP&L has not proposed to improve significantly the environmental performance of its existing generating plants. Environmentalists' St. 1, p. 36. Therefore Schoengold argues, PP&L's generating plants will be able to compete unfairly in a competitive market where builders of new power plants will be required to meet stringent emissions standards.

Consequently Schoengold recommends that the Commission require that all power purchased in Pennsylvania come from plants meeting the latest environmental standards, Environmentalists' St. 1, p. 37. Mr. Schoengold notes that other states have enacted similar regulations based on their right to protect the health and welfare of their citizens. We recommend that this proposal be rejected for the following reasons.

First, although the Commission retains broad authority to regulate utility service, facility and rate issues, it is the Pennsylvania Department of Environmental Protection and the U.S. Environmental Protection Agency that have the broad authority to implement and administer programs for the protection of the environment, including rules relating to air emissions.[69] *See, e.g., Country Place Waste Treatment Co., Inc. v. Pa. P.U.C.*, 654 A.2d 72, 75-76 (Pa. Commonwealth Ct. 1995) (the Pennsylvania Utility Code fails to directly or indirectly grant the Commission the authority to regulate air pollution produced by public utilities); *Rovin v. Pa. P.U.C.*, 502 A.2d 785 (Pa. Commonwealth Ct. 1986) (Department of Environmental Protection, not the Commission, has jurisdiction over complaint alleging water quality issues).

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69 For example, EPA has proposed a rule requiring certain Northeast and Midwest states to revise their air pollution control plans to mitigate the transport of ozone across state lines. *Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone*, 62 Fed. Reg. 60318 (Nov. 7, 1997). EPA hopes to issue a final rule in September 1998. The DEP administers the EPA's air quality regulations through the Pennsylvania State Implementation Plan and has concurrent authority to impose penalties for noncompliance.

Although § 2802(21) of the Act authorizes the Commission to work with state environmental regulators and to support certain changes to federal law and regulation on the issue of air emissions, the Act does not extend rate regulation authority for emission policy above and beyond compliance with current law and regulation from environmental regulators. Tr. 830 (8/19/97).

Second, 48% of the capital expenditures necessary to operate PP&L's facilities for the period 1997 through 2001 will be incurred to ensure environmental compliance. PP&L St. 10-R, pp. 37-38.

Third, there is no evidence to support the claim that existing plants enjoy a competitive advantage under the current environmental regulatory scheme. PP&L St. 10-R, pp. 39-40.

B. Renewables Pilot Program

OCA witness Ms. Brockway's suggests that PP&L provide funding of $700,000 for photovoltaic and active solar water heating pilots. Neither the Act nor the Commission's Final Guidelines for Universal Service mandate such pilot programs.[70]

Developing, implementing, and evaluating these pilots would be time consuming and expensive for the level of benefits received. As described in PP&L witness Mr. Dahl's testimony, because of the long payback period, the complexity of the systems, the difficulty of installation and maintenance, the likely resistance from landlords, and the Commission's direction in its final order, we recommend that the OCA's recommendation to fund renewable energy pilots be rejected.

XIV. PUBLIC INPUT HEARING CONCERNS

As we stated earlier, thirteen (13) public input hearings were held during the weeks of May 30, 1997 and September 2, 1997. Public input hearings were held in Allentown (June 2),

70 The Commission's Final Guidelines for Universal Service expressly provide that: "Although we believe that research and development are important, we will not direct that universal service and energy conservation funds be spent for research and development. Unlike the California legislature that specifically provided funds for research and development, the Commonwealth's Act gives no direction for such expenditures." Final Guidelines for Universal Service at 6.

Bethlehem (June 2 and September 3), Harrisburg (May 30 and September 3), Hazleton (June 4), Lancaster (May 30 and September 2), Pottsville (June 4), Scranton (June 3 and September 4), Williamsport (June 5), and Wilkes-Barre (June 3). A total of 75 persons testified at the public input hearings.

It is difficult to recapitulate all the concerns voiced by the customers of PP&L throughout its territory. However, at the hearing in Bethlehem there was one witness who expressed volumes in one quiet statement. We believe her statement expresses the concerns of many.

Nancy Tate, 23 Riegelsville, Pennsylvania, Post Office Box 344, an organizer and peace worker since 1965, summed up the range of issues which we heard at the majority of public input hearings. Here concern about a whole range of "justice" issues. Ms. Tate spoke as a PP&L customer representing many of over 600 members of LEPOCO, which stands for the Lehigh Pocono Committee of Concern (also customers) and has worked locally in the Lehigh Valley for peace and justice for over 30 years.

"Unfortunately, the issues around deregulation and competition and electric generation have not received adequate public attention and debate. That was true as the enabling law was rushed through the Pennsylvania Legislature, and is again true as public opinion is being sought for PP&L's restructuring proposal. Most of us have only a few clues about what this will mean, and many probably have no idea that drastic changes are coming in the way electricity is provided in this state. While many of the powerful in our country currently sing unquestioning praises for competition and no government interference in business, there are also some of us who believe that the regulations that have been placed on businesses like electric utilities came about to provide fair and equitable access to this service and to protect the average consumer. Indeed, that system has not always served that average consumer. Just witness the development of nuclear power, in my opinion. But moving to a system that serves mainly large businesses cannot be seen as an improvement. Dare I say, more public control, not less, is the direction we should be moving. But given our current situation, I have several questions and concerns that I hope the Pennsylvania Public Utility Commission will address as they review the PP&L proposal. What protections will there be to prevent customers from harassing calls and solicitations that have accompanied the deregulation of telephone service? There are many of us who feel there should be much more to life than shopping, whether that be at a mall or through the phone calls offering you the best deal on long distance rates or electric rates. What unbiased review will be available to the consumer to assist in making an intelligent, wise choice in electric service? For starters, such information should weigh environmental benefits or hazards of such service, how fair the service will be to the poorest in our community, what special deals are being cut for the richest. Are the workers of the provider being paid a living wage? Do they have union representation? Are their rates fair and comparable? There are probably many other issues that will be important for the consumer to make a truly intelligent choice. Many of us feel deregulation and competition in telephone service has really meant higher rates for the average consumer. What will be done to prevent this eventuality as electric providers establish duplicate marketing and production networks? What protections will be given for adequate, affordable service to the poor in our communities? What protection will be given to assure that heat is available to everyone during the winter months and is not cut off unfairly? What will you do to assure that the workers and employees of other electric providers besides PP&L have union representation and protection like the present workers at PP&L? How will you prevent the profits of *competing* providers from being made at the expense of lower wages for the workers? How will you prevent PP&L's profits from being made from layoffs of their workers? What protection will you give to assure that the small and environmentally friendly producer of power has a good opportunity to be among the electric generators? What measures will be taken to guarantee that this new system encourages rather than discourages energy conservation? And what protection is there that large powercustomers don't get savings at the expense of the average electric consumer? Finally, I believe it is grossly unfair to the average consumer to be asked to pay for the decision by PP&L management and stockholders to build the nuclear power plants that are located near Berwick, Pennsylvania. It was an unsafe and uneconomical decision at the time it was made, and remains so. Indeed, to allow them to bill the average consumer for this expense while these plants continue operating, producing ever more nuclear waste, is doubly hazardous. These stranded costs should be borne by those who were the advocates of nuclear power, as I have said, management and the stockholders.These are the many points that I want to raise, and thank you for the opportunity to do so." *TR.* 176-184 (June 2, 1997).

XV. CONCLUSIONS OF LAW

1. That the Pennsylvania Public Utility Commission properly has jurisdiction over PP&L, Inc.'s ("PP&L") Restructuring Plan filing at Docket No. R-00973954;

2. That PP&L's Restructuring Plan as modified herein is fully consistent with the requirements and standards of Section 2804 of the Electricity Generation Customer Choice and Competition Act ("Act"), 66 Pa. C.S. §2804, in that it, inter alia:

   a. Will ensure the continuation of safe and reliable electric service to PP&L's customers;

   b. Is consistent with the implementation schedule set forth in Section 2806 of the Act, 66 Pa. C.S. §2806;

   c. Complies with the rate caps set forth in Section 2804(4) of the Act, 66 Pa. C.S. §2804(4);

   d. Ensures that PP&L will provide transmission and distribution service to all retail electric customers in its service territory and to all alternative generation suppliers, either affiliated or nonaffiliated, on rates, terms of access and conditions that are comparable to PP&L's own use of its system;

   e. Ensures that PP&L's restructuring does not unreasonably discriminate against one customer class to the benefit of another;

   f. Ensures that universal service and energy conservation policies, activities and services are appropriately funded and available in PP&L's territory;

   g. Provides for a competitive transition charge for the recovery of transition or stranded costs in accordance with Section 2808 of the Act, 66 Pa. C.S. §2808;

   h. Ensures an orderly transition to a competitive generation market that protects electric system reliability, is fair to customers and provides PP&L and its investors with a fair opportunity to fully recover its just and reasonable stranded costs;

3. That PP&L's Restructuring Plan as modified herein is fully consistent with the requirements of Section 2807 of the Act, 66 Pa. C.S. §2807, regarding the obligations applicable to electric distribution companies;

4. That PP&L's claimed stranded or transition costs are not known, measurable, just and reasonable in accordance with all requirements of the Act, including Sections 2803 and 2808 (66 Pa. C.S. §§2803, 2808); and

5. That PP&L's Restructuring Plan does not fully comply with the requirements of Section 2810 of the Act, 66 Pa. C.S. §2810, regarding revenue-neutral reconciliation.

XVI. RECOMMENDED ORDER

THEREFORE,

IT IS ORDERED:

1. That the Application of Pennsylvania Power & Light Company for approval of its restructuring plan pursuant to Section 2806(d) of the Public Utility Code, 66 Pa. C.S. 2 806(d), filed on April 1, 1997 and docketed with the Pennsylvania Public Utility Commission at No. R-00973954, is hereby adopted as herein modified.

2. That Pennsylvania Power & Light Company shall remain the provider of last resort consistent with the determinations made herein and the requirements of 66 Pa. C.S. 2802(16).

3. That Pennsylvania Power & Light Company shall phase-in direct access to alternative generation suppliers in the manner specified in this decision, pursuant to the following schedule:

   a. 33 % of the peak load of each customer class shall have the opportunity for direct access as of January 1, 1999;

   b. 66% of the peak load of each customer class shall have direct access as of January 1, 2000;

   c. All customers shall have direct access as of January 1, 2001.

4. That the competitive transition charge may be collected from January 1, 1999 until December 31, 2005 or for a shorter period of time as the Commission deems appropriate.

5. That the competitive transition charge authorized in the preceding ordering paragraph is subject to the following requirements:

a. The competitive transition charge may be collected from January 1, 1999 until December 31, 2005.

b. The competitive transition charge shall be calculated and applied consistent with the directives contained herein.

c. The competitive transition charge shall be reconciled and may be modified on an annual basis as required by 66 Pa. C.S. 2808(f).

d.. The competitive transition charge shall be calculated in a manner recognizing monthly receipt of competitive transition charges revenues.

6. That Pennsylvania Power & Light Company shall modify its transmission and distribution revenue requirement and rate structure to incorporate the adjustments, including cost allocation method, as directed herein.

7. That Pennsylvania Power & Light Company continue to provide service to existing customers through existing tariffs throughout the transition period, and all special contracts shall remain in force, except as modified herein.

8. That Pennsylvania Power & Light Company comply with the determinations contained herein relating to customer billing and metering and that Pennsylvania Power & Light Company reflect this action in its compliance filing.

9. That, pending the outcome of the Commission's rulemaking proceeding on a generic Code of Conduct, Pennsylvania Power & Light Company shall modify its proposed Code of Conduct as herein directed.

10. That Pennsylvania Power & Light Company's proposed Universal Service and Energy Conservation Programs are approved as modified herein.

11. That Pennsylvania Power & Light Company participate in the state-wide consumer education initiative,which the Commission established in its decision in the Application of PECO Energy Company at Docket No. P-00973953 (Opinion and Order entered December 23, 1997); that in its compliance filing, Pennsylvania Power & Light Company include a comprehensive plan for consumer education with an associated budget for both mass media and local educational efforts and set forth its proposals for its role in consumer education; and that Pennsylvania Power & Light Company recover the costs of its consumer education program from its ratepayers.

12. That Pennsylvania Power & Light Company shall, within twenty (20) days of entry of the Commission's final Opinion and Order at this docket, submit a compliance filing that incorporates all of the conclusions and directives contained in this Recommended Decision, including, but not limited to:

a. For each tariff class or schedule, the compliance filing shall:

i identify the unbundled chargesfor generation, transmission and distribution service;

ii. identify the CTC, calculated to recover the authorized principal amount, consistent with the allocation methodology, collection period, monthly amortization, total sales, and return adopted herein; and

iii identify all other adjustments necessary to the terms and conditions of service to reflect a competitive generation market as provided herein.

b. Each tariff class or schedule shall reallocate Administrative and General expense as provided herein.

13. That Pennsylvania Power & Light Company serve a copy of its compliance filing on all parties to this proceeding on the same date that it is filed with the Commission.

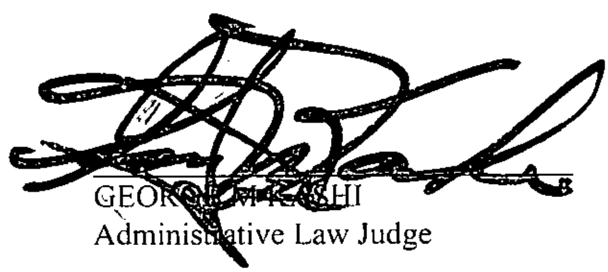
14. That all parties to this proceeding may file written comments concerning non-compliance with the Commission's Opinion and Order within seven (7) days after the filing of Pennsylvania Power & Light Company's compliance filing.

15. That, in addition to the specific requirements contained in the foregoing ordering paragraphs,Pennsylvania Power & Light Company shall comply with all other directives contained in this Recommended Decision.

16. That the complaints filed by the Office of Consumer Advocate (OCA) , PP&L Industrial Customer Alliance (PPLICA), Office of Small Business Advocate (OSBA), Office of Trial Staff (OTS), Allegheny Power, American Association of Retired Persons (AARP), Commission on Economic Opportunity (CEO), Delmarva Power & Light, Enron Power Marketing Inc.(Enron), Environmentalists, Local 1600, International Brotherhood of Electric Workers (IBEW), Eric Epstein, Gilberton Power, Mid-Atlantic Power Supply Association (MAPSA), New Energy Ventures (NEV), Pennsylvania Petroleum Association (PPA),), Schuylkill Energy Resources (SER), and United States Department of Defense;Together with, the interventions of the following are inactive

parties in Docket No R-00973954: Allegheny Electric Cooperative, American Energy Solutions, Anthracite Regional Power Producers (ARIPPA), Bethlehem Steel, Center for Energy and Economic Development (CEED), Duke Energy Trading Marketing, Dupont Power Marketing, Electric Clearinghouse Inc., ERI Services Inc., GPU Energy, Kraft Foods, Noram Energy Management, PECO Energy Company, Pennsylvania Association of Plumbing Heating & Cooling Contractors (PAPHCC), Pennsylvania Electric Consumers Council, PP&L Rate Payers Association, and Pennsylvania Retailers Association, Vastar Power Marketing. be and are hereby granted or denied to the extent set forth in this Recommended Decision.

Dated: April 1, 1998



GEORGE M. KASHI
Administrative Law Judge

ACKNOWLEDGEMENT OF RECEIPT & ACCEPTANCE OF SERVICE

AND NOW, to wit, this _______ day of_____________, 19__ ,

the undersigned, as evidenced by execution hereof, acknowledges receipt, and accepts service of Recommended Decision a special Commission document entered, issued, or otherwise promulgated under date of April 7, 1998 at Docket No.R-00973954 on behalf of:

Office of Small Business Advocate

OFFICE OF SMALL BUSINESS ADVOCATE

APR 7

KJR

C. U. Dalrymple
Signature

Kindly sign and date this acceptance of service and acknowledgement of receipt, and, return the same for filing to:

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LAW BUREAU

ACKNOWLEDGEMENT OF RECEIPT & ACCEPTANCE OF SERVICE

AND NOW, to wit, this 8 day of April, 1998,

the undersigned, as evidenced by execution hereof, acknowledges receipt, and accepts service of Recommended Decision an official Commission document entered, issued, or otherwise promulgated under date of April 7, 1998 at Docket No. R-00973954 on behalf of:

LAW BUREAU - B R PANKIW

B R Pankiw
Signature

Kindly sign and date this acceptance of service and acknowledgement of receipt, and, return the same for filing to:

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ACKNOWLEDGEMENT OF RECEIPT & ACCEPTANCE OF SERVICE

AND NOW, to wit, this 8th day of April, 1998,

the undersigned, as evidenced by execution hereof, acknowledges receipt, and accepts service of Recommended Decision an official Commission document entered, issued, or otherwise promulgated under date of April 7, 1998 at Docket No. R-00973954 on behalf of:

LOU SAUERS - BCS

Lou Sauers

Signature

Kindly sign and date this acceptance of service and acknowledgement of receipt, and, return the same for filing to:

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AND NOW, to wit, this _______ day of_________, 199__ ,

the undersigned, as evidenced by execution hereof, acknowledges receipt, and accepts service of Recommended Decision an official Commission document entered, issued, or otherwise promulgated under date of April 7, 1998 at Docket No. R-00973954 on behalf of:

GLENN BARTON - BUREAU OF AUDITS

Mario A. Scott
Signature for GWB

Kindly sign and date this acceptance of service and acknowledgement of receipt, and, return the same for filing to:

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ACKNOWLEDGEMENT OF RECEIPT & ACCEPTANCE OF SERVICE

AND NOW, to wit, this 7th day of April, 1998,

the undersigned, as evidenced by execution hereof, acknowledges receipt, and accepts service of Recommended Decision an official Commission document entered, issued, or otherwise promulgated under date of April 7, 1998 at Docket No. R-00973954 on behalf of:

Z AHMED KALOKO - BUREAU OF CEEP

Ahmed Kaloko (jw)
Signature

Kindly sign and date this acceptance of service and acknowledgement of receipt, and, return the same for filing to:

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AND NOW, to wit, this 7th day of April 1998,

the undersigned, as evidenced by execution hereof, acknowledges receipt, and accepts service of Recommended Decision an official Commission document entered, issued, or otherwise promulgated under date of April 7, 1998 at Docket No. R-00973954 on behalf of:

DONALD MUTH - BUR OF FIXED UTILITIES

Signature

Kindly sign and date this acceptance of service and acknowledgement of receipt, and, return the same for filing to:

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ACKNOWLEDGEMENT OF RECEIPT & ACCEPTANCE OF SERVICE

AND NOW, to wit, this 7th day of April, 1998,

the undersigned, as evidenced by execution hereof, acknowledges receipt, and accepts service of RECOMMENDED DECISION an official Commission document entered, issued, or otherwise promulgated under date of APRIL 7, 1998 at Docket No. R-00973954 on behalf of:

JOHNNIE SIMMS, SCOTT DEBROFF, CAROL PENNINGTON ESQS

OFFICE OF TRIAL STAFF

Mari Jo Rudy
Signature

Kindly sign and date this acceptance of service and acknowledgement of receipt, and, return the same for filing to:

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ACKNOWLEDGEMENT OF RECEIPT & ACCEPTANCE OF SERVICE

AND NOW, to wit, this 7th day of April, 1998,

the undersigned, as evidenced by execution hereof, acknowledges receipt, and accepts service of Recommended Decision an official Commission document entered, issued, or otherwise promulgated under date of April 7, 1998 at Docket No. R-00973954 on behalf of:

ADMINISTRATIVE LAW JUDGES

[signature]

Signature

Kindly sign and date this acceptance of service and acknowledgement of receipt, and, return the same for filing to:

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