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BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Pennsylvania Power & Light Company For Approval of Its Restructuring Plan Under Section 2806 of the Public Utility Code	Docket No. R-00973954

TESTIMONY OF

OF

DR. MARK N. COOPER

ON BEHALF OF

AMERICAN ASSOCIATION OF RETIRED PERSONS

JULY 2, 1997

I. BACKGROUND AND OVERVIEW

A. QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.

A. Dr. Mark N. Cooper, President, Citizens Research, 504 Highgate Terrace, Silver Spring Maryland 20904. I am also Director of Research of the Consumer Federation of America (CFA). My testimony reflects my personal views and not those of CFA.

Q. PLEASE BRIEFLY SUMMARIZE YOUR RELEVANT EMPLOYMENT EXPERIENCE AND RESEARCH INTERESTS.

A. Prior to founding Citizens Research, a consulting firm specializing in economic, regulatory and policy analysis, I spent four years as Director of Research at the Consumer Energy Council of America. Prior to that I was an Assistant Professor at Northeastern University teaching courses in Business and Society in the College of Arts and Sciences and the School of Business. I have also been a Lecturer at the Washington College of Law of the American University co-teaching a course in Public Utility Regulation.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE PUBLIC UTILITY COMMISSIONS?

A. I have testified on various aspects of telephone and electricity rate making

before the Public Service Commissions of Arkansas, California, Colorado, Connecticut, Delaware, the District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kentucky, Manitoba, Maryland, Missouri, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Vermont, Virginia, and Washington, as well as the Federal Communications Commission (FCC), the Canadian Radio-Television, Telephone Commission (CRTC) and a number of state legislatures.

For a decade and a half I have specialized in analyzing regulatory reform and market structure issues in a variety of industries including railroads, airlines, natural gas, electricity, medical services and cable television, in addition to telecommunications. This includes approximately 125 pieces of testimony split fairly evenly among state regulatory bodies, federal legislative bodies, and federal administrative bodies.

Q. HAVE YOU TESTIFIED ON UNIVERSAL SERVICE ISSUES?

A. With respect to universal service and lifeline issues, I have presented testimony in Connecticut, Florida, Hawaii, Illinois, Manitoba, Mississippi, New York, North Carolina, Ohio, Oklahoma, South Carolina and Texas as well as before the FCC and CRTC.

I have conducted several major studies of universal services including Universal Service: An Historical Perspective and Policies for the 21st Century (The Benton Foundation and the Consumer Federation of America, 1996),

Protecting the Public Interest in the Transition to Competition in Network Industries in (The Electric Utility Industry in Transition (Public Utilities Reports and the New York State Energy Research Development Authority, 1994), Consumers with Disabilities in the Information Age: Public Policy for a Dynamic Market (The Dole Foundation, 1993), Utility Lifeline Programs: Prevalence and Performance (American Association of Retired Persons and the Consumer Federation of America, 1991), Expanding the Information Age for the 1990s: A Pragmatic Consumer Analysis (American Association of Retired Persons and the Consumer Federation of America, 1990), The Telecommunications Needs of Older, Low Income and General Consumers in the Post-Divestiture Era, (American Association of Retired Persons and the Consumer Federation of America, 1987), Low Income Households in the Post-Divestiture Era: A Study of Telephone Subscribership and Use in Michigan (Michigan Divestiture Research Fund, 1986), and Energy and Equity: Rising Energy Prices and the Living Standards of Lower Income Americans (Westview, 1982).

Q. HAVE YOU TESTIFIED ON CONSUMER PROTECTION ISSUES?

A. I have served as an expert witness on consumer protection and done research on a number of industries.

In telecommunications, I was the expert witness for the People's Counsel in cases involving fraudulent marketing of local exchange service in Pennsylvania and Florida. While those cases were settled through stipulations, testimony

developed in them was filed in the Department of Justice case dealing with the divestiture of AT&T. On behalf of the Consumer Federation of America I filed comments on consumer protection on in the transition to competition in California. On behalf of the Public Interest Advocacy Center, I have filed testimony on quality control standards before the CRTC. I conducted research for the National Association of Attorneys General regarding consumer protection in the sale of 800 and 900 number services.

In electricity I have testified before the Public Service Commission of Texas and the New York State Energy Research and Development Authority on restructuring.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. On behalf of the American Association of Retired Persons, I have reviewed the Commission orders dealing with restructuring and the Application of PP&L Energy Company for Approval of Its Restructuring Plan Under Section 2806 of the Public Utility Code.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. In my testimony I present a comprehensive approach to universal service and consumer protection policies that I believe are necessary to protect the interests of residential ratepayers as the electric utility industry transitions to a more competitive model. I then evaluate the company's proposal in terms of this

proposal.

Restructuring represents a major change in an industry that is vital to consumers and the public health and welfare. There are hard questions confronting policy makers which cannot be assumed away and the answers provided to date are inadequate. Residential ratepayers must insist on realistic, detailed solutions to these problems. For the average consumer to benefit from deregulation of electricity, policy makers must have a clear set of goals and be guided by specific principles.

In my testimony I offer a comprehensive approach to universal service and consumer protection. In many respects my proposals go beyond the guidelines offered by the Commission, but I believe that they are consistent with the Consumer Choice Act. To the extent that my recommendations go beyond the guidelines, I urge the Commission to amend its tentative conclusions and guidelines.

Even without a change on the part of the Commission, however, the companies should adopt my proposals. Every company is free to propose more extensive programs to promote universal service and more vigorous consumer protections.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. In Chapter II, I analyze the nature of electricity services, the historical pattern of their delivery and the implications of electricity restructuring for two key

public policy areas -- universal service and consumer protection. Attachment MNC-1 presents a summary of the factors I cite which create a need for vigorous policies to promote universal service and ensure adequate consumer protection. I then recommend a new paradigm for consumer protection. Attachment MNC-2 summarizes the elements of this paradigm.

In Chapter III, I discuss policies to ensure universal service.

In Chapter IV, I discuss the consumer protection policies that are necessary to ensure consumers are not abused in the new market for electricity. Attachment MNC-3 identifies all of the major policy elements discussed in my testimony.

In Chapter V, I review the recent law and initial guidelines published by the Commission. I demonstrate the consistency between my recommendations and broad policy goals recently enacted in Pennsylvania.

In Chapter VI I evaluate the Company's proposal. The proposals before the Commission have barely begun to address the hard questions. Therefore, the bulk of my testimony outlines the fundamental principles that should be adopted by the companies and the Commission.

II. THE NEED FOR MORE VIGOROUS POLICIES TO PROMOTE UNIVERSAL SERVICE AND CONSUMER PROTECTION IN THE TRANSITION TO COMPETITION

A. PUBLIC POLICY FOR UTILITY NECESSITY SERVICES

Q. WHAT ARE THE PRIMARY PUBLIC POLICY ISSUES IN THE AREA OF UNIVERSAL SERVICE.?

A. The primary purpose of public policy in the area of utilities, such as telephone, electricity and natural gas service, is to ensure that all consumers are able to purchase reliable supplies of these necessities in adequate quantities to meet their basic needs at affordable rates. These services are considered necessities and have been delivered as regulated utilities for almost a century. Although public policy is moving away from monopoly delivery of these services, the services are still necessities and the fundamental commitment to universal service remains.

Q. HAS REGULATION DEALT WITH CONSUMER PROTECTION BEYOND THE ISSUE OF THE SETTING OF RATES?

A. Although price has been the focal point of regulation, it must be recognized that public utility commissions have traditionally gone well beyond simply setting rates in the regulation of the sale of these services. There were behavioral

consequences of monopoly control over a necessity service that required the regulation of the terms and conditions of service.

Without this second layer of oversight, monopolists would exploit their market power in ways other than excessive earnings. Revenues would be maximized from those services which were the most basic monopoly services -- i.e. had the lowest elasticity of demand. The franchise value would be maximized by extending the monopolistic reach as far as possible into kindred and related services. Thus, regulation of how specific services are offered to individual classes of customers and at what prices has always been a part of regulation.

Regulation went farther, into the transaction between the company and its most captive customers. The monopoly transaction itself allows a unique opportunity to interact with customers. For this reason, regulation has always included qualitative measures of franchise performances -- such as speed of response, presentation of information, billing detail, etc.

Q. WHY IS INCREASED CONSUMER PROTECTION SO IMPORTANT IN THE TRANSITION TO COMPETITION?

A. The transformation of a utility service with no substitutes into a commodity is a major change for consumers. They have never shopped for this service. The introduction of competition changes the nature of this service and opens a range of questions.

Markets do not necessarily produce socially acceptable outcomes with

respect to the ubiquitous availability of service. How will universal service be ensured?

Because these services have been provided as a utility, quality, features and functionalities were regulated and controlled. Should uneven service quality be tolerated in the market? Can consumers learn to evaluate these commodities?

In many states because these services were regulated as utilities, their status under consumer protection statutes may be unclear. In the transition to competition policy makers must ensure that these services are fully covered, not only by general consumer protection statutes, but also by additional consumer protections.

To the extent that the transformation to competition is partial, the remaining areas of monopoly or market power are a source of concern in the transition. To the extent that the legacy of monopoly creates points of leverage and vulnerability, they should be addressed by public policy.

For a significant transition period, the terms and conditions of such purchases must be closely scrutinized and controlled.

- Consumers must be assured the same wide availability of services at affordable prices.
- They must be ensured that the reliability of the services they receive is at least as high as it is today.
- They must be assured that as they are forced to make purchase decisions about electricity, they are provided at least the same level of protection from fraud and abuse as they have today.

The National Association of Regulatory Utility Commissioners (NARUC) has recently adopted a policy statement with respect to universal service in the electricity industry:

> Because electricity service is vital for health, safety, and economic opportunity, universal service is a cornerstone of the public interest. Customers are entitled to access to reasonably priced power and to a forum for dispute resolution.
>
> Electric service is a basic need. Therefore, preserving and protecting the public interest in a restructured electric industry should include assuring that consumers have access to an adequate supply of electricity to satisfy their basic needs at a reasonable price. Policy-makers should continue to address the needs of low-income customers. The health and safety of all consumers is paramount.

NARUC went on to define the issue of consumer protection during restructuring broadly.

> Consumers should be protected from anti-competitive behavior, undue discrimination, poor service, and unfair billing and disconnection practices. In a restructured industry, certain consumer protections should be preserved, particularly those that guard against undue discrimination, failure to meet minimum service quality and safety requirements and other unfair business practices. In a competitive environment, other consumer abuses such as deceptive marketing practices should also be prevented. Associated with these issues are questions of service quality, providers of last resort and the obligations of distribution companies.

B. THE COMMODITY AND THE TRANSACTION

Q. WHAT SPECIFIC FACTORS CREATE THE NEED FOR GREATER

CONSUMER PROTECTION?

A. The fundamental need for heightened consumer protection stems from the nature of the service provided and the historical context of its delivery (see Attachment MNC-1). Consumers are unprepared for the commodification of these utility services. Three sets of factors make the sale of these services problematic -- the consumer, the transaction and the seller.

Q. PLEASE DESCRIBE THE PURCHASE OF SERVICES IN AN EMERGING COMPETITIVE ENVIRONMENT.

A. Electricity remains a necessity. It has a low elasticity of demand. There are no close substitutes. This suggests that consumers have little bargaining power in the transaction.

One of the reasons society cares so much about the price and quality of utility services is that we cannot do without them. Use of utilities is a basic determinant of the quality of life at the end of the twentieth century and must be universally available. It is not enough for the wires to pass by people's homes, if they cannot afford to actually consume what they need. It is not good enough that people continue to purchase these utilities, but at a cost that puts a strain on their household budget. We mean a decent level of consumption on a reliable basis, without suffering deprivation because of how much it costs.

Once this fundamental commitment is embraced as the central tenet of public policy toward utilities, concern moves on to the secondary aspects of public

policy -- like economic efficiency in production, customer choice in consumption, and optimization of output. The goal of providing universal, reliable, affordable service should be accomplished in the most efficient manner possible, but no amount of economic efficiency gain is worth cutting people off and leaving them alone in the dark to freeze.

Q. ARE THE CONDITIONS OF PURCHASE OF THESE SERVICE UNIQUE?

A. Yes. Consumers frequently purchase these commodities under considerable time constraints. Frequently, the need to get service is urgent. People change service only when they have to because they have moved their place of residence. Therefore, they are under internal pressures to make sure that they get connected. Where one is seeking to reconnect utility service because of a move, the customer is likely to be highly motivated and focused. The customer needs to make a purchase (rather than the seller needing to make a sale). This reverses the typical roles and makes the customer vulnerable to exploitation. The customer is likely to be highly receptive to a sales pitch.

Traditionally, consumers have not been presented with an array of choices for the underlying basic service. Moreover, many of the bells and whistles that will be sold as part of a package have not been bundled before or were easily separable. Now the consumer is faced with packages that are difficult to sort out.

Consumers have not been subject to marketing pressures at the point-of-

sale in the past. As utility services they were not heavily sold and the incumbents did not do a great deal of promotion or selling.

Q. WHAT CHARACTERISTICS OF THE TRANSACTION MAKE THE CONSUMER VULNERABLE TO ERROR OR ABUSE?

A. Since the transaction is conducted over the phone, electronically, there is little opportunity for point-of-sale information gathering. No immediate record of the transaction exists.

The billing pattern for these services is also problematic. There is a disconnection between the purchase and the bill. Many weeks may elapse between the purchase and the bill. Further, the bill may make it difficult to identify exactly what costs how much.

The cost itself is a monthly charge, which may appear small on a recurring basis, but over the course of the year adds up. The smallness of the monthly charge and the difficulty of sorting the bill out renders pre-purchase information gathering and post-purchase follow up less likely.

Q. WHAT CHARACTERISTICS OF THE SELLER MAKE THE SITUATION DIFFICULT FOR CONSUMERS?

A. Sellers can definitely exploit a situation of less than effective competition for these services. For many services being offered to consumers, not only have there not been alternatives available in the past, but the alternatives available in the

future may be hard to find, and difficult to evaluate. Exploitation of incumbency and the legacy of having provided a franchise service provides a point of leverage over the transaction. Consumers may have difficulty separating the basic services that they must purchase from the bells and whistles that are optional. Marketers will make this more difficult. Sellers will also exploit their position of authority and expertise.

C. POLICY IMPLICATIONS

Q. WHAT DO YOU CONCLUDE ABOUT THE TRANSACTION?

A. Urgency, time pressure, a lack of alternatives, a small expenditure spread out over time all lead to less effective consumer decision making, make consumers vulnerable to pressure tactics, and make post-purchase complaints less likely.

As a result, I believe that we need a new paradigm for consumer protection. The new paradigm for consumer protection must actively cover the three aspects of a sale I have discussed above which are typically recognized as important in consumer decision making and market performance. These include:

- o Pre-purchase facilitation
- o Point-of-sale protections
- o Post purchase remedies

The new paradigm should also cover activities that affect both the consumer and the seller as they conduct the transaction. By addressing each of the stages of a purchase decision and both parties to the transaction, I identify six

specific areas for public policy action (see Attachment MNC-2).

There are several major areas that are in need of special attention. For the long term we must bring forward the fundamental universal service commitments and utility protections that have long been associated with these necessity services. Because they are so important, I will discuss the general universal service policies as a separate area in the next chapter. These are a core set of public policies. In addition, we have developed a set of transaction protections to ensure access to these services. These must be preserved.

For the long term, we must also ensure that former utility services are subject to the full array of consumer protections generally available in the state. There must be no possibility that because these services were once or are now partially regulated by the Commission they can be exempted from routine consumer protections.

In the short term, we must also have a transition plan. These are utilities and necessities. We must be sure that the marketplace can work effectively to provide them to consumers. A vigorously competitive marketplace does not exist today. There is some question about how vigorous it can ever be. There is also some question about how effective consumer decision making will be. Until we can conclude that the marketplace is vigorously competitive and consumers can make informed choices among a wide array of services, additional specific consumer protections are necessary. Educational efforts will be particularly important.

Q. HOW SHOULD CONSUMER PROTECTION POLICY BE DEVELOPED?

A. I believe that the approach to consumer protection must be pro-active, as well as reactive, which is the traditional approach to consumer protection. Moreover, because this is an emerging area, I believe that ongoing input from advisory boards or task forces should be formed to recommend specific steps to accomplish consumer protection.

The advisory bodies should include representatives of the major agencies engaged in consumer protection and the delivery of utility services, service providers, and all classes and categories of customers.

They should provide both advisory and monitoring functions. These functions should include advice on universal service for people and institutions. It should include definitions of services to be made available, expansion of the services included over time, cost models and recommendations for discounts. It should provide advice on how to reach targeted populations and it should monitor changes in universal service and issue periodic reports.

It should also play a role in consumer protection, helping to develop the form and content for information dissemination and educational campaigns. It should also have the task of compiling data on the status of consumer purchases and competition in the market.

III. UNIVERSAL SERVICE

A. AFFORDABLE SERVICE FOR ALL

Q. HOW DO YOU DEFINE AFFORDABLE SERVICE?

A. Affordability and service must be specified more carefully if the goal of universal service is to be properly articulated and achieved. Because electricity is a necessity, the goal of universal service policy is to ensure a reasonable quality of life, not bare survival. Therefore, a basic level of service to meet daily needs must be included in the concept of what is affordable.

Because electricity is a necessity, people will pay more for it than other commodities. Compared to non-necessities, the elasticity of demand is low. The mere fact that people continue to pay for service does not mean it is affordable. Therefore, affordable means at rates that do not strain the household budget. In fact, the primary dictionary definition of afford invokes this very concept of the relative burden -- "to manage to bear without serious detriment."

Because electricity is a necessity and has been delivered under conditions of monopoly, the potential to charge customers a great deal, and thereby generate very high profits, exists. Just because rates are affordable does not mean they are reasonable and exploitation of market power in an unregulated market must be prevented.

Thus, universal service should be defined as

the availability to all Americans of a reasonable level of electricity

service at prices that do not strain household budgets or result in excess profits for electricity suppliers, or result in subsidies for large consumers

The concept of universal service has traditionally rested upon a commitment by a single provider to ensure that service will be available. Service was made available on a non-discriminatory basis to all at rates that were deemed fair and reasonable. This obligation to serve commitment in the franchise monopoly environment must be transformed into an effective and equitable provider of last resort arrangement in a competitive environment.

Q. WHAT GENERAL POLICIES SHOULD BE ADOPTED TO PROMOTE UNIVERSAL SERVICE?

A. The accomplishment of universal service has always been primarily the result of policies to ensure affordability for all Americans. With increases in income, the general affordability of service has improved over the years. As a result, greater attention has focussed on specific groups who have difficulty affording services. These targeted programs have received greater attention in recent years, particularly in telecommunications.

It is absolutely critical not to lose sight of the underlying commitment to universal service for all consumers as the electricity market transitions to competition. Affordability of service is not simply a low income problem. There may well be areas in the state in which "cost-based" rates would be unacceptably high for households well above "low income" levels. Rates could be lowered for

all consumers in such "high cost" areas, not just the low income residents of such areas.

Electricity is almost universally available in our society because costs have been shared by all customer classes of a utility. Restructuring threatens this outcome by forcing and allowing customers to purchase their own power. A clear public policy to ensure affordability must be put in place. Policies must also ensure that people who are low income or who live in high cost areas are able to afford service. We must create an integrated program to ensure service to all people. We must not lose sight of the need to provide reasonably priced service to all people, even as we pay particular attention to low income consumers with prevention of service cut-offs, discounts for households in need, and low income weatherization.

Q. HAVE SIMILAR UNIVERSAL SERVICE POLICIES BEEN ADOPTED FOR OTHER UTILITY SERVICES?

A. Yes. This is a well established practice in the telecommunications industry.

Affordability for the general population has been maintained by policies which recover a larger share of joint and common costs from customer classes with the ability to spread costs over products sold to the public at large or on services which are not considered basic services. This is the cornerstone of consumer protection which was recently enacted in the Telecommunications Act of 1996. Section 254 (k) contains the following language.

The Commission, with respect to interstate services, and the States,

> with respect to intrastate services, shall establish any necessary cost allocation rules, accounting safeguards, and guidelines to ensure that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide those services.

The Conference Report adopts Senate report language which went even farther --

> The Commission and the states are required to establish any necessary cost allocation rules, accounting safeguards, and other guidelines to ensure that universal service bears no more than a reasonable share (and may bear less than a reasonable share) of the joint and common facilities used to provide both competitive and noncompetitive services (Conference Report, p. 129).

A similar concept is directly applicable in electricity. Indeed, such a strong commitment to affordability is even more appropriate for electricity since there are no close substitutes for this necessity.

Substantial joint and common costs in the electricity industry could well be allocated away from basic service. Requiring higher mark-ups on services which are considered non-basic does not mean subsidies are involved. As long as a service covers its incremental costs and makes some contribution to joint and common costs, it is neither the source, nor the recipient of a subsidy.

Joint and common costs are costs which are incurred in the provision of more than one service or for the purposes of providing services to more than one customer. They are shared by services, customers or customer classes. The principle is that any cost which is shared between customers, classes of customers or services are to be considered joint and common costs. These would include

costs associated with facilities, general overhead, services (such as planning) and functionalities (such as coordination).

Stranded costs, to the extent that they are deemed recoverable, can also be considered shared, since the basis on which uneconomic costs are recoverable is a purported "social obligation" which is certainly shared among all ratepayers. My view of stranded costs, without making any conclusion that recovery of such costs has any legitimacy, is that if they exist they must be "shared" costs. Claims to recovery of stranded costs are typically based on a claim about a so-called "social compact" between ratepayers and utilities.

Therefore, to further universal service policy, recovery of stranded costs could be structured in such a way as to recover larger shares of such costs from non-basic services. This could be accomplished by recovering a larger share of such costs from non-residential customer classes and by recovering a larger share from non-basic services within customer classes.

Q. IN YOUR PREVIOUS ANSWER YOU ARGUED FOR TREATING STRANDED COSTS AS COMMON COSTS "WITHOUT MAKING ANY CONCLUSION THAT THE RECOVERY OF SUCH COSTS HAS ANY LEGITIMACY." WHAT POSITION HAS AARP TAKEN ON STRANDED COST RECOVERY?

A. In several recent proceedings at the federal and state levels AARP has developed a comprehensive analysis of stranded costs and made recommendations

for the treatment of stranded costs in the transition to competition. That position can be briefly summarized as follows.

There is no guaranteed return of or on capital implicit or explicit in the current rates payed by consumers. Claims that a 'regulatory compact" or constitutional protections bind ratepayers to make utilities whole for every penny of investment they have made or every obligation they have incurred have no economic or legal basis. Utilities are obligated to provide economic service. They are required to be efficient and have no claim to recover inefficient costs. Efficiency would be the outcome of a competitive market and that is the outcome which regulation strives to achieve.

Management exercises substantial discretion in the decision to make investments and incur contractual obligations. Management must bear the responsibility for its own actions. The burden of strategic actions or mistakes should be borne by stockholders, not ratepayers.

Even where management decisions are found to be prudent, that is no guarantee of a return on or of capital. Every Commission that has allowed an investment to be included in rate base has also assigned that investment a rate of return far above the risk free level in our society (the T-Bond rate). The assignment of a return which includes a substantial risk premium clearly indicates that there were no guarantees being offered. If a return of or on capital were guaranteed, the Commission would have assigned a return without a risk premium.

Utilities have also been compensated with a virtual guarantee against

bankruptcy.

Virtually every utility in the country has, in fact, enjoyed a return far in excess of a risk-free level and has, therefore, been compensated for risks.

Unanticipated outcomes on the demand-side (reductions in demand due to recessions or changes in behavior patterns) or the supply-side (changes in fuel prices or technology) are part of the risk for which utilities have been compensated.

New revenue opportunities must be taken into account in determining responsibility for investments, such as sales outside of the service territory which will be opened up.

Given this view of the relationship between ratepayers and stockholders, AARP recommends a case-by-case analysis of stranded costs. Management responsibility must be presumed, unless specific legislative mandates over precise terms and conditions of investment or purchase commitments was exercised. To the extent that unanticipated factors have caused the stranding of costs, AARP recommends that ratepayers and stockholders share stranded costs. Ratepayers should be responsible for no more than 50 percent of stranded costs and, depending on an evaluation of management responsibility, legal requirements and financial factors, could be held responsible for less than 50 percent.

After stranded costs are reasonably estimated and responsibility ascertained, utilities can be the beneficiaries of opportunities to mitigate stranded costs or incentives to improve operating efficiencies. Ratepayers should be the

beneficiaries of any reductions in the share of stranded costs allocated to them through securitization.

B. TARGETED PROGRAMS

Q. WHAT SPECIFIC PROGRAMS SHOULD BE ADOPTED TO ENSURE THE AFFORDABILITY OF SERVICE FOR LOW INCOME HOUSEHOLDS?

A. Without losing sight of the affordability of service for all, it is appropriate to devote more detailed attention to targeted programs.

The Telecommunications Act of 1996 established a Federal State Joint Board to consider how to promote universal service. It recommended a very aggressive policy. It has proposed a major expansion of the lifeline and link up programs. The discount rate for low income households proposed by the Joint Board amounts to over 50 percent of the national average rate for basic service.

Similar programs to ensure the availability of service for specific groups should also receive significant attention in electricity. The preferred approach to low income programs is a percentage of income program (PIP) that targets an affordable limit that low income households should pay. These programs have proved difficult to implement, however. Instead, deep discounts for eligible households should be offered.

I believe that there must be a standard or basic service package developed which is covered by a PIP or deep discount program and made available to all who qualify. This standard package should provide for a reasonable level of

consumption and should not be "punitively" restrictive.

It is not possible to state a specific level of consumption for every household in the service territory. This would vary by the size of the household. It might also vary according to the status of the household. Households with older or disabled members might require higher levels of energy consumption to preserve their health. As a general frame of reference for determining the needs of typical households, we can start from the amount of electricity consumed by median income households of various types.

Defining the strain on the household budget can best be done with respect to expenditures. This leads to the percentage of income standard as the basis for determining affordability. The percentage of income devoted to a necessity by middle income households is a good starting point for determining what is affordable. Lower income households should not be required to spend more than that percentage of income.

The basic service package should be available to all consumers at a reasonable cost. The low income program involves a discount off of generally affordable rates, to reflect the fact that low income households are unable to afford services that non-low income households are able to afford. A discount program should strive to ensure that low income households devote no more of their income to electricity than average households.

Eligibility should follow the eligibility for the telecommunications lifeline program. The automatic enrollment approach which has been applied to

telecommunications in some states should be applied to the low income weatherization program. The eligibility criteria for the telecommunications program is automatic enrollment of any household enrolled for public assistance in the state. Both the basic service package and the weatherization program should be included.

C. PROVIDER OF LAST RESORT OBLIGATIONS

Q. WHAT SPECIFIC POLICIES SHOULD BE ADOPTED TO PROMOTE UNIVERSAL SERVICE?

A. The obligation to serve has been a cornerstone of utility service and should remain so. Every consumer should have a provider who has the ultimate obligation to provide the basic necessity service. This would include the responsibility to maintain the facilities necessary to deliver electricity, as well as the actual purchase and delivery of electric service.

By default, the monopoly utility was the provider of last resort but the price paid may have been too high because of inefficient investment and preclusion of competition. Monopoly utilities have shielded inefficiencies and excess profits behind internal transfers made in the name of universal service and provider of last resort obligations.

The commitment to universal service should be maintained, but the approach to achieving it can change. Monopoly utilities have decided the cost of universal service through their internal investment decisions, but the line between what was

done in the name of universal service and what was done in response to corporate investment preferences was difficult to draw.

Q. WHAT POLICIES DO YOU RECOMMEND TO ENSURE THAT ELECTRIC SERVICE REMAINS UNIVERSAL?

A. There must be a provider of last resort designated for each area of the state. Public policy will simply not allow electricity service to be unavailable in an area.

The provider of last resort could be an incumbent utility (or part of it) or a new entrant. Whether or not distribution and transmission services become competitive, there must be an entity responsible for the maintenance of the facilities necessary to provide electricity service. At the outset, the incumbent utility will be responsible for distribution, transmission and generation. The incumbent may shed the obligation to ensure generation for every customer served by its transmission and distribution system, if the Commission certifies a new entity to be the provider of last resort. For the foreseeable future, it appears that distribution and transmission will remain monopoly services of a single entity.

The provider of last resort obligation may result in costs that are deemed unaffordable for specific customers or in specific areas of the state. The commission may designate such areas as "high cost" and eligible for support from a universal service fund. The provider of last resort would be allowed to receive support to cover the difference between the cost of service and the rates charged. To the extent that an area is a "high cost" area, there should be only one service provider allowed

to draw funds from a subsidy pool to support service. It makes no sense from a public policy or efficiency point of view to subsidize the existence of more than one supplier in a high cost area who is drawing a subsidy.

Q. HOW MUCH SHOULD THE PROVIDER OF LAST RESORT BE ALLOWED TO RECOVER FROM THE HIGH COST FUND?

A. The amount to be recovered from the fund to meet provider of last resort obligations should be no larger than the lesser of the difference between the benchmark costs and rates in effect in the area or any documented revenue shortfall in the aggregate. If the company is earning its authorized rate of return in the aggregate, it is not suffering any loss due to the obligation to serve that it bears. If the company is earning its allowed rate of return through the rates it charges the public and then the Commission allows it to draw additional funds from the universal service fund, for its provider of last resort obligations, the company will immediately be in a situation of excess earnings.

The provider of last resort must demonstrate the prudence of investments which it claims have been made to meet its provider of last resort obligations. The costs it claims to need subsidies must be prudently used and useful. The provider of last resort should not be allowed to earn a return on capital that is no longer used and useful.

All revenues associated with investments must be included in any calculation of specific revenue shortfalls. The eligible area must be defined to include reasonably

contiguous or immediately adjacent areas with lower cost or higher revenues.

On a going forward basis, providers of last resort must not be allowed to enjoy a risk free investment that earns a risk premium. Being paid for costs from a "social obligation pool" removes those revenue streams from market risk. Rate of return earned on high cost fund investment should be lower than company wide rate of return.

D. FUNDING UNIVERSAL SERVICE

Q. HOW DO YOU RECOMMEND PAYING FOR UNIVERSAL SERVICE?

A. There should be one fund from which all of the programs which are intended to achieve universal service should draw. In addition, to the extent that there are costs associated with the transition to competition which would create impediments to achieving the goal of competition, these too should be paid for from this fund.

From the point of view of universal service, the fund would be the source of revenues for the following:

- o High cost areas
- o Life line for individuals
- o Any other programs that the Commission decides are necessary to ensure that all the citizens have access to electric service.
- o Unique costs resulting from the implementation of

competition.

Q. HOW WOULD THE UNIVERSAL SERVICE FUND BE COLLECTED?

A. The accomplishment of universal service is a social goal that serves all members of society, producers and consumers, therefore all should contribute.

The lives of consumers are enhanced as a result of electricity consumption. Businesses in the state benefit too, since they are able to sell more goods and services, their employees are better off, and their productivity is higher as a result of the accomplishment of this goal.

The producers of electricity also benefit from universal service, since it expands their market. This is especially true of new sources of electricity outside of the state, which are seeking new business opportunities as a result of the opening of the state market to competition. Therefore, all sources of electricity should contribute to universal service.

All electricity produced in the state, delivered to the state or consumed within the state should contribute to the universal service fund on a competitively neutral basis. The most likely entity to collect and manage the fund would be an independent system operator (ISO). This entity is likely to be set up to maintain reliability and competitively neutral functioning of the network. With an independent system operator in place, it would be most efficient and effective for the ISO to assess all electricity suppliers at a uniform rate. Since the ISO has account of every KWH sold and is likely to have knowledge of all self-generation (as part of its obligation to

ensure reliability), this would eliminate any possibility that anyone would escape the charge.

Assessing suppliers also allows them to decide how to recover the universal service costs. Some might pass it through in the form of usage charges. Some might pass it through in the form of customer charges. Still others might not pass it through in an effort to gain market share. The above approach is the one that is emerging for telecommunications. By federal law, all telecommunications providers must contribute in a competitively neutral manner to the universal service fund. Neutral third parties are being established at the federal and state levels to administer the funds. All sources of revenue (intra and interstate) are being included in the calculation of the fund. A broad range of services are being supported by the fund.

Q. DO YOU THINK COGENERATORS SHOULD BE REQUIRED TO CONTRIBUTE TO UNIVERSAL SERVICE?

A. Yes, as a matter of principle, they should. They benefit from the achievement of universal service just as all others. Their needs are likely to be taken into account when the ISO plans for and seeks to maintain reliable operation of the system. Failing to impose an equal universal service obligation on this source of electricity will give it a competitive advantage.

Q. PLEASE SUMMARIZE YOUR PROPOSALS ON AFFORDABLE SERVICE AND THE ALLOCATION OF JOINT AND COMMON COSTS TO

PROMOTE UNIVERSAL SERVICE.

A. The analysis embodied in the above statement goes through a series of steps which can be generally summarized as follows (see Table 4).

1. It starts from the economic cost of production.

2. Joint and common costs are calculated.

3. Joint and common costs are allocated to non-residential classes based on economic and public policy considerations.

4. The residual is allocated to the residential class.

5. Recovery of these costs within the residential class is determined on the basis of economic and public policy considerations.

6. Stranded costs are calculated.

7. A determination about the recoverability of stranded costs is made.

8. If stranded cost recovery is allowed, stranded costs should first be apportioned between stockholders and ratepayers.

9. The ratepayer share of stranded costs should then be allocated between customer classes. We recommend total consumption as the starting point for this allocation. Total consumption can be justified on both economic and public policy grounds. The overwhelming majority of stranded assets are generation assets, which are directly related to consumption. Allocating stranded costs on the basis of consumption would also tend to allocate a lighter share to the residential class. Using consumption also enables policy makers to recover part of the burden of stranded costs from self-generators. Self generators should contribute to promoting affordable

service for economic and public policy reasons. Their historic demand was one cause of stranded costs. They are no less responsible than other customers. They benefit from the provision of universal service, as do all member of society. Cost causative analysis should be undertaken to establish the baseline for allocation. However, a higher proportion could be allocated to non-residential classes by multiplying non-residential consumption by a social policy factor.

10. The remaining stranded costs apportioned to ratepayers would be allocated to residential customers.

11. To minimize the recovery of these costs on basic service they could be recovered in an inverted fashion (recovering larger shares from residential customers with higher levels of consumption).

12. To further promote universal service, low income customers could be excused from the recovery of stranded costs.

IV. A NEW APPROACH TO CONSUMER PROTECTION

Q. WHAT IS THE PURPOSE OF THIS CHAPTER?

A. This Chapter describes the consumer protections policies, in additional to universal service, which are necessary to ensure a smooth transition to a competitive market.

A. CONSUMER-ORIENTED POLICIES

Q. PLEASE DISCUSS THE NEEDS FOR CONSUMER EDUCATION.

A. We must develop price and quality information that is understandable by and useful to residential ratepayers. We cannot expect the marketplace to do this for us. In telecommunications we have had over a decade of "so-called" competition and we still do not get good information from industry members. Instead, we have fairly elaborate and entirely inadequate "public interest" efforts to develop information. The Commission should require, as a matter of public policy, that such information be made available. One of the jobs of the advisory bodies should be to help develop the guidelines. Both the format and the content of the presentation of information should be subject to oversight.

I believe that there are four steps to conducting a successful consumer education campaign.

First, the Commission must encourage the development of materials to enable

consumers to make effective choices. Initially, consumers should be alerted to the fact that competition is coming. They must be made aware that new decisions are coming. Consumers must be provided information on price, quality and features that facilitate comparisons across providers.

Second, outreach efforts should be conducted. These should rely on general advertising as well as community-based efforts.

Third, the Commission should monitor the effects of education efforts. Surveys to assess the extent of consumer knowledge and the best means to improve areas of weakness should be conducted. Audits of company efforts should also be carried out.

Fourth, each provider should be required to prepare a plan for consumer education. The plan should cover materials, outreach and monitoring.

Q. WHAT UTILITY ASSURANCES DO YOU RECOMMEND?

A. Delivering electricity services under a competitive model on the supply-side does not change its fundamental demand-side characteristics. It is still a basic necessity, for which there are no substitutes. Electricity is still subject to strong public policy mandates for universal service. Therefore, the broad range of protections for utility services must be preserved. In addition to the programs discussed earlier with respect to ensuring affordability of service, utility protections essentially ensure the availability of service to all. We regulate the transaction between service providers and customers to ensure that they are not denied services, except for very good cause

and even then, not at times when the service is particularly vital. Specific policies in this area include

- Application
- Credit
- Deposit
- Disconnection
- Collection
- Dispute resolution
- Partial payment

Q. PLEASE DESCRIBE THE NEED FOR POLICIES TO ENSURE FAIR MARKETING.

A. Marketing fairness involves protection against abuse of consumers and provision of reasonable opportunities to benefit from the introduction of competition into the industry. If the marketplace becomes fully competitive, these protections may no longer be necessary.

Giving customers the opportunity to make choices is only part of the problem. Because these utility services are complex commodities for which consumers have not had to actively shop for a century or more, their ability to make informed choices is limited. Structures and institutions must be created to protect them in the transition to a competitive market and to ensure they have adequate information to make informed choices, once they gain the skills to do so.

Privacy Protection: Information about billing, payment history and consumption patterns must be under the control of the customer. To the extent that exchange of such information is necessary for efficient billing, it should be made available to the parties with whom the customer has contracted for service.

Sales Practices: Customers must be protected against abusive marketing practices. Regulations should explicitly outlaw slamming (changing service providers without the written permission of the customer) and other fraudulent or abusive marketing practices (unauthorized upgrade of services, pressure tactics, bait and switch tactics, negative options, etc.) Rules should be enacted on notification and language requirements. Standards for information included in marketing should be set. A cooling off period should be specified. There are a range of marketing practices which must be precluded.

Slamming

False billing

Fraud in advertising or labeling

Unfair collection practices

Pressure tactics

Redlining

Billing Practices: Delivery of bills and billing information should be stipulated. This should include frequency of billing and notice, information and billing detail, format and language requirements

Policies to promote fair marketing and prevent fraud should be both reactive

and proactive. With the advice of the Task Force, the Board should develop guidelines for marketing and advertising at the point of sale. It should conduct studies to ascertain the state of marketing and sales practices. For example, an aggressive anti-slamming program should be conducted. This would include implementing procedures for preventing slamming (such as third party verification). At the same time, consumer protection agencies in the state should have the authority and resources to periodically obtain lists of customers from service providers and randomly sample those customers to ascertain whether they have the services and the service providers that they expected to have.

Q. PLEASE DISCUSS THE PRINCIPLE OF NON-DISCRIMINATION IN THE TRANSITION TO COMPETITION.

A. A fundamental principle that must be preserved as the electric utility industry is restructured is that all classes of customers should benefit from improvements due to structural changes in the industry. Electric industry restructuring should be done in a way that benefits all customer classes fairly and does not unduly disadvantage any customer class nor preserve any undue cross-class subsidy.

To ensure that all classes of customers benefit from restructuring, the Commission should ensure:

1) Relative fairness between customer classes. Large disparities in the quality or cost of service must be resisted.

2) Non-discrimination within customer classes. Similarly situated customers must be treated similarly.

3) User pays principle. Entities or customer classes who cause costs to be incurred (who use facilities) and obtain the associated benefits should bear the corresponding cost burden.

4) Fair treatment of investors. Investors must be given an opportunity to earn a return which is commensurate with the risk that they face.

NARUC addressed this issue in its policy statement.

> *All customer classes should have access to electricity suppliers and* applicable laws and rules should require all electricity suppliers to compete fairly. Non-discriminatory availability of service, including ancillary services, back-up power and interconnection services, should be assured for all firm service customer classes.

Q. HOW DO YOU PROPOSE TO BALANCE THE INTERESTS OF RATEPAYERS AND STOCKHOLDERS IN THE TREATMENT OF STRANDED COSTS?

A. I have described this in the discussion of universal service.

Q. PLEASE DISCUSS THE FACILITATION AND RESOLUTION OF DISPUTES?

A. I have pointed out a number of factors which may reduce the willingness and ability of consumers to pursue disputes with telecommunications service providers, even though they have been wronged. Without effective dispute registering procedures, abusive practices are likely to persist because of the difficulty of pursuing post-purchase remedies. Therefore, it is important to provide support for the registering of complaints.

There are four steps in the complaint process -- intake, investigation, resolution, and redress.

Companies should be required to provide 800 number services and notification of dispute procedures. The lead state consumer protection agency should also have a centralized dispute handling service.

Policies to protect consumers from unfair or rapid loss of service during the adjudication process must be in place.

B. SELLER-ORIENTED POLICIES

Q. PLEASE DISCUSS THE PRE-PURCHASE POLICIES THAT YOU RECOMMEND FOR SELLERS.

A. In the transition to competition, it is important to require all sellers to be certified and licensed. This will ensure that they are subject to the consumer protection policies. It is a central step in ensuring that they adhere to reliability policies and consumer protection policies.

Licensing and certification should cover several broad areas. All companies should be required to demonstrate their technical, financial and managerial capabilities to provide the services for which they seek certification. Histories of prior complaints and problems should be made available. Bondings should be required to cover penalties for failure to meet reliability and marketing standards. Penalties should be known in advance.

Q. WHAT ARE THE ISSUES IN RELIABILITY?

A. For most Americans, electricity is reasonably priced and quite reliable. Over 98 percent of all residences in America have electricity and their service is interrupted for significant periods of time less than once every year. One of the cornerstones of regulated utility services has been a policy to promote reliability. Public policy has sought to regulate service up to what is generally considered a high level of quality and residential and small commercial consumers have not been allowed to pay less for less reliable service. Interruptions or deteriorations of service are major events that trigger both public outcry and frequently regulatory review.

The introduction of competition into utility industries invariably raises quality concerns. Is the level of service mandated by the regulated monopoly situation simply too high (too expensive) to prevail in a competitive marketplace? Will consumers understand that they are paying less (more) for a lower (higher) quality of service? Will companies driven by profit maximizing behavior cut corners?

NARUC's recently adopted language on reliability and safety captures the fundamental public policy position.

> The safety, reliability, quality, and sustainability of electric service should be maintained or improved in a restructured electric industry... Public policy should ensure the integrity of the electric grid and encourage prudent long-term resource planning, acquisition, and utilization.

Q. WHAT IS THE BEST WAY TO ENSURE A HIGH LEVEL OF

RELIABILITY?

A. There are at least two crucial aspects to implement this policy.

First, minimum standards should be established and imposed on the marketplace. No one should be allowed to contract for or sell electricity without meeting these standards. The network is too integrated and too vulnerable to allow substandard transactions to take place.

Second, penalties for failing to meet quality standards should be severe.

Given the direction that most discussions of "restructuring" take, there will almost certainly be an independent system operator with the responsibility of maintaining the reliability of the electricity grid in a specific area. Current reliability functions of the local utility will be transferred to and/or split between several entitities. An independent entity (an independent system operator or ISO) may run the regional and/or statewide network. Responsibility for the reliability of local distribution will reside in another entity.

Regardless of how responsibility is structured, each entity should have full legal authority to ensure that quality standards are met. Binding contracts that are fully secured (bonded) should be required. The independent system operator should be required to bind both parties (seller and purchaser) to any private transactions that use the public grid.

The simple notion of transferring responsibility for reliability to a new entity or asserting that the PSC will exercise its continuing authority over service quality in a complex deregulated market requires more careful consideration. What

functionalities will be subject to standards? How will the standards be set? How will they be enforced?

Even if private actions (complaints and lawsuits) are to be the primary mechanism for imposing quality performance on the network, customers will have to know to whom they should complain. We should have mechanisms to resolve problems before we end up in court. Service providers and the courts will have to know what the expectations are.

To the extent that there is a central entity vested with the responsibility of ensuring minimum standards of quality, that entity should have adequate authority, power and resources to accomplish its goal. It should articulate specific standards to be met and establish substantial penalties for failure before the fact. Therefore, public policy should clearly outline at least the following steps in ensuring the oversight over reliability:

The Commission should institute a process for making recommendations for standards. It should include input from all consumer and producer segments that would be affected by the standards.

The Commission should preserve the authority to license service providers.

It should codify its policy on imposing penalties, so that all service providers are on notice about the consequences of failure to adhere to standards.

The Commission must have adequate resources to conduct investigations.

System performance for former utility services should cover at least

three major areas,

> Normal operating performance --Technical operating standards
>
> Outage and repair -- catastrophic breakdown and recovery standards
>
> Business office performance (objective and subjective).

Q. WHAT ACTIVE POLICIES TO ENSURE A COMPETITIVE MARKET SHOULD BE IMPLEMENTED?

A. There are two areas where the Commission and other state agencies must be active -- the creation and monitoring of competition.

The cornerstone of consumer protection is consumer sovereignty. The ability of consumers to exercise informed choices in the marketplace is considered essential to the efficient functioning of a market.

NARUC has offered the following observation on consumer sovereignty.

> Customers should have the opportunity to make informed choices among electricity providers and services... The potential for competition to improve economic efficiency rests on having multiple service providers as well as informed consumers. Market development should be guided in a way that increases the role of competition among energy service providers and the role of choice for customers. Customers acting in their own self-interest, when presented with a variety of market choices, will tend to arrange their consumption to maximize their welfare, save costs and enhance their satisfaction.

Large industrial customers are vigorous advocates of bilateral transactions --

individuals buying from other individuals by themselves. They have the resources to readily become informed consumers. There is serious question whether individual residential ratepayers will be able to purchase power on their own, or whether suppliers would be interested in selling to them because of the unappealing load characteristics of residential consumers and the high transaction costs of dealing with them. The Commission must actively promote competition for residential ratepayers. There is serious doubt about whether we can really create a level playing field for large industrial and small residential consumers, so that residential consumers have a realistic chance of getting the benefits of competition. In a restructured market, can individual consumers actually purchase power without being saddled with high costs of metering and expensive middlemen?

There must be institutions and mechanisms in place to ensure that residential ratepayers can purchase low cost power. The role of aggregators has been given considerable attention. Residential customers are the least likely to benefit from competition. They need a head start or large corporations and institutional users will gobble up the lower priced power. It will not be easy for a century old monopoly, with tight regional transmission markets and a tendency to be dominated by large firms, to become rapidly competitive to achieve the benefits of restructuring. There must be clear conditions to promote competition and to preserve regulation where competition does not become effective. Strict enforcement of anti-trust laws, non-discriminatory access to bottleneck facilities, and specific definitions of what constitutes competition must be put in place before deregulation takes place.

The Commission and other state agencies (perhaps the Attorney General) will inevitably have the task of ascertaining how competitive the marketplace is. Therefore, it should undertake an aggressive program of market monitoring. The areas covered should include prices, profits, quality, product development, market shares, entry and exit. Subject to the necessary proprietary guarantees, all market participants should be required to report these factors to the board so that it can develop a complete and current picture of the status of competition. A summary report should be prepared on an annual basis. Relevant market segments should be identified such as residential/small business basic and enhanced, large business basic and enhanced, etc.

Q. HOW DO YOU PROPOSE TO PROMOTE COMPETITION FOR RESIDENTIAL RATEPAYERS?

A. Each utility should run a year long pilot in which a variety of aggregation approaches for residential ratepayers should be actively promoted and assessed to ascertain whether residential ratepayers can have effective access to the competitive market in electricity. At the end of the trial the Commission should concludes

Q. WHAT ROLE SHOULD ENFORCEMENT PLAY?

A. Each of the five policy areas outlined is intended to prevent or discipline abusive practices without enforcement. This has not proven adequate in the telecommunications industry since divestiture. Enforcement has been continual in

both the local and long distance markets. One of the problems is that penalties are not adequate. I would urge the Commission and the Task Force, to establish severe penalties for abusive practices. Losing a court case must result in more than a slap on the wrist, or abuses will persist.

V. UNIVERSAL SERVICE AND CONSUMER PROTECTION IN CHAPTER 28

Q. WHAT IS THE PURPOSE OF THIS CHAPTER?

A. In this chapter I review AARP's recommendations in terms of the recently enacted changes in Chapter 28. Where the Commission has issued initial guidelines to implement the new law, I also consider how these relate to AARP recommendations.

Q. DO YOU BELIEVE THAT YOUR AGGRESSIVE PROGRAM TO ENSURE UNIVERSAL SERVICE AND PROVIDE CONSUMER PROTECTION IS CONSISTENT WITH THE RECENTLY ENACTED RESTRUCTURING LEGISLATION?

A. Yes. Both the general thrust of the legislation and the specific policies adopted in each of the areas I review is consistent with my proposal for more vigorous policy. I would encourage the Commission to support this policy, even though its tentative guidelines do not go far enough in a number of areas. Companies certainly have the right, under the law, to propose a specific restructuring plan like the one I recommend and the Commission could certainly approve such a plan. I believe that the spirit and letter of the law is more consistent with the aggressive program I have proposed than the one that has been put on the table by the company. The Commission's guidelines are just that, guidelines, and more aggressive approaches can

be proposed by the Companies.

A. GENERAL POLICY

Q. PLEASE EXPLAIN WHY THE GENERAL POLICY IN THE RECENTLY ENACTED LEGISLATION IS CONSISTENT WITH YOUR RECOMMENDATIONS.

A. I would point to four repeated themes in the law. First, the law reiterates and repeats its commitment to reliable, affordable service available on reasonable terms.

> As long as safe and affordable transmission and distribution service is available at level of reliability that are currently enjoyed by the citizens and businesses of this commonwealth -- s.2802 (3).
>
> Electric service is essential to the health and well-being of residents, to public safety and to orderly economic development; and electric service should be available to all customers on reasonable terms and conditions -- s.2802(9).

Second, while the traditional concepts of reasonable, reliable service at affordable rates provides the minimum standard that must not be violated as change is implemented, the goal is to improve the situation --

> Rates for electricity in this commonwealth are on average higher than the national average, and significant differences exist among the rates of Pennsylvania electric utilities.
> Competitive market forces are more effective than economic regulation in controlling the cost of generating electricity.
> The cost of electricity is an important factor in decisions made by businesses concerning locating, expanding and retaining facilities in this Commonwealth.
> This Commonwealth must begin the transition from regulation to greater competition in the electricity generation market to benefit all

> classes of customers and to protect this Commonwealth's ability to compete in the national and international marketplace for industry and jobs (s.2802 (7)).
> Things are supposed to get better.

Third, the universal service policy enacted by the legislature establishes the current policies in the state as only a minimum.

> The Commonwealth must, at a minimum, continue the protections, polices and services that now assist customers who are low income to afford electric service -- s.2802(10).

The Commission and the companies could certainly propose more vigorous programs than the minimum. I suggest that the minimum is not sufficient to accomplish the purposes of the new law. When legislators state that this is the minimum that should be done, they clearly contemplate the fact that the regulators would find that more is necessary. The floor should not be assumed to also be the ceiling.

Fourth, the new law uses exactly the same language with respect to customer service and consumer protection.

> Consumer Protections and Customer Service . -- The electric distribution company shall continue to provide customer service functions consistent with the regulations of the commission, including meter reading, complaint resolution and collections. Customer service shall, at a minimum, be maintained at the same level of quality under retail competition -- s.2807(d).

Thus the purpose is to take the current situation and improve upon it, preserving all of the fundamental utility, universal service, and consumer protection principles that have been put in place in the past as a minimum. The benefits of restructuring are not only to be achieved in terms of price (since the law puts a cap

on current rates) but also in the quality of service including transactions in the market place. This becomes even more apparent when we review the policy adopted in each of the twelve specific areas I have identified for vigorous public policy.

B. CONSUMER

1. UNIVERSAL SERVICE

Q. PLEASE DESCRIBE THE NEW LAW'S UNIVERSAL SERVICE POLICY.

A. Although the law identifies low income households as a focal point of public policy ("at a minimum" preserving current policies), there is a broad commitment to affordability for all (as noted above) and availability for all.

> Electric distribution companies should continue to be the provider of last resort in order to ensure the availability of universal electric service in this Commonwealth unless another provider of last resort is approved by the Commission -- s.2802(16)
>
> The total charges of an electric distribution utility for services to any customer who purchases generation from that utility shall not exceed the total charges that have been approved by the Commission for such service as of the effective date of this chapter -- s.2804(4).

These two fundamental policy protections apply to all consumers. It is crucial in implementing policy not to allow the floor to become a ceiling or the ceiling to become a floor. I suggest that the ceiling the legislature placed on rates should not be considered a floor. The rate ceiling is the minimal protection against doing harm, but there is every hope and intention that the law would do good. Rates cannot go above current levels, they should come down.

The universal service policies identified in the law to be targeted at low income households are broad in scope, as is my proposal.

> The purpose is to be promoted by continuing universal service and energy conservation policies, protections and services; and full recovery of such costs is to be permitted through a non-bypassable rate mechanism -- s.2802(17).
>
> "Universal Service and Energy Conservation." Policies, protections and services that help low-income customers to maintain electric service. The term includes customer assistance programs; termination of service protection and policies and service that help low-income customers to reduce or manage energy consumption in a cost effective manner, such as the low income usage reduction programs, application of renewable resources and consumer education -- s.2803.

Q. HOW DO YOU EVALUATE THE COMMISSION'S TENTATIVE ORDER ON UNIVERSAL SERVICE AND ENERGY CONSERVATION IN LIGHT OF YOUR READING OF THE LAW AND YOUR RECOMMENDATIONS?

A. The tentative order essentially brings forward current policies as a minimum and seeks to make sure they are consistent with the new law (Pennsylvania Public Utility Commission, Tentative Order Re: Guidelines for Universal Service and Energy Conservation Programs Made Pursuant to 66 Pa. C.S. s.2803, s.2802(17), s.2804(8) and s.2804(9), Docket No. M-00960890 f 0010, April 25, 1997 (hereafter, Universal Service Tentative Order). It does not preclude moving beyond that minimum, as I believe the law contemplates and encourages. There are a few important points I would stress in recommending that companies propose, and the Commission approve,

more than the minimum.

Universal service policies should be a permanent feature of regulatory structure, not simply "multi-year." (Universal Service, Tentative Order, II. A.)

Clearly the structure of programs outlined by the Commission dealing with rates, provides a bedrock of support which is a "minimum" as outlined in II.C.1. There is a fundamental step that I recommend utilities take, which the Commission has not required, but certainly has not precluded. Eligibility criteria should be based only on income (Universal Service Tentative Order, II. B.). That is, each of the rate relief programs proposed by the company includes in its eligibility criteria a "special" circumstance beyond limited household income. The household must be payment troubled or have a special need. I propose a program, similar to that recently adopted for telecommunications at the federal level, which relies solely on income as a criteria. I believe that a distressed payment program should stand side-by-side with the general discounts for low income households, not be superseded by it.

As required by the new law, funding should be provided in a competitively neutral way. As pointed out in my proposal, the benefits of universal service accrue to all citizens in Pennsylvania. Therefore, I believe that my recommended per kwh approach is consistent with the law and the Commission's order (Universal Service Tentative Order, II. F.).

Q. HOW WILL YOUR UNIVERSAL SERVICE PROGRAM FIT UNDER THE PRICE CAP?

A. If the funding is financed on a kwh basis, the cost will be relatively small. If the Commission adopts my recommendation on the sharing of the responsibility for stranded costs, there will be no problem with the price cap. Indeed, if the Commission requires the utility to bear even a small share of the responsibility of stranded costs, there would be more than adequate room under the price cap to fund the program.

2. EDUCATION

Q. WHAT ARE THE POLICIES ON CONSUMER EDUCATION IN THE STATUTE?

A. There is no clearer indication that the law recognized the need for proactive policies to help the public benefit from restructuring in the electric utility industry than the education policy it enacted.

> Prior to the implementation of any restructuring plan under section 2806, each electric distribution company, in conjunction with the Commission, shall implement a consumer education program informing customers of the changes in the electric utility industry. The program shall provide consumers with information necessary to help them make appropriate choices as to their electric service. The education program shall be subject to approval by the Commission -- s.2807(d)(3).

I have outlined the aggressive program that I believe is necessary to accomplish this goal of the new law.

Q. WHAT HAS THE COMMISSION PROPOSED ON EDUCATION

EFFORTS?

A. The Commission has outlined the program for education in two areas. Very general observations about the full range of consumer protection issues I have identified are covered in Pennsylvania Public Utility Commission, Tentative Order Re: Guidelines for Maintaining Customer Service at the Same Level of Quality Pursuant to 66 Pa. C.S. s.2807, and Assuring Conformance with 52 Pa. Code Chapter 56 Pursuant to 66 Pa. C.S. s.2809(E) and (F), Docket No. M-00960890 f 0011 (hereafter, Consumer Protection Tentative Order). The Commission has certainly identified all of the areas in which policy is necessary. It has not specified the content of policy in most of these areas. Therefore, the proof is in the proposals that the companies put forward.

The Commission has also identified certain additional educational steps which should be taken with respect to low income households associated with their participation in lifeline programs Universal Service Tentative Order, II. C. 4). It covers both general questions (such as how to exercise choice) and specific low income issues (eligibility, etc.). It outlines some brief steps to help ensure effective functioning (outreach, etc.).

3. UTILITY ASSURANCES

Q. WHAT IS THE POLICY ON UTILITY ASSURANCES?

A. As previously noted, the law identifies the full range of utility protections currently in place as the minimum that should be done. The funding mechanism is

also generally specified.

> The Commonwealth must, at a minimum, continue the protections, polices and services that now assist customers who are low income to afford electric service -- s.2802(10).
>
> The purpose is to be promoted by continuing universal service and energy conservation policies, protections and services; and full recovery of such costs is to be permitted through a non-bypassable rate mechanism -- s.2802(17).

Q. HOW HAS THE COMMISSION DEALT WITH THIS ISSUE?

A. It has brought forward current practices. It does not recommend changes in these policies at present. However, a fundamental problem will be to assure that these policies can continue to effectively be implemented with multiple suppliers of services (Consumer Protection Tentative Order, paras. 11-14).

4. FAIR MARKETING

Q. WHAT IS THE POLICY ON MARKETING?

A. The law calls for general consumer protections and identifies some of the specific areas that I mention.

> Customer Billing. -- Subject to the right of an end-use customer to choose to receive separate bills from its electric generation supplier, the electric distribution company may be responsible for billing customers for all electric services consistent with the regulation of the Commission, regardless of the identity of the provider of those services -- s.2807(c).
>
> (1) The Commission shall establish regulations to ensure that an electric distribution company does not change a customer's electricity supplier without direct oral confirmation from the customer of record

or written evidence of the customer's consent to a change of supplier.

(2) The Commission shall establish regulations to require each electric distribution company, electricity supplier, marketer, aggregator and broker to provide adequate and accurate customer information to enable customers to make informed choices regarding the purchase of all electricity services offered by that provider. Information shall be provided to consumers in an understandable format that enables consumers to compare prices and services on a uniform basis -- s.2807(d).

Q. WHAT IS THE COMMISSION POLICY IN THIS AREA?

A. As I noted, the Commission has identified a number of areas of concern. It has not generally selected specific approaches to these consumer protection issues in (Consumer Protection Tentative Order, III.C. 3-8).

5. NON-DISCRIMINATION

Q. WHAT IS THE POLICY ON NON-DISCRIMINATION?

A. As previously noted, the law requires non-discrimination in the benefits provided across customer classes. It also prohibits discrimination, by fording negative results that unfairly burden one customer class.

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 -- s.2804(7).

6. DISPUTE HANDLING

Q. WHAT IS THE POLICY ON DISPUTE HANDLING?

A. The law does not specifically deal with this issue. It falls under the general policy of preserving current consumer protections.

Q. WHAT POLICY HAS THE COMMISSION ADOPTED?

A. The Commission has outlined a dispute resolution process that generally is consistent with my recommendation – requiring notification, exchange of information, etc. (Consumer Protection Tentative Order, III. C. 9).

C. SELLER

7. STRANDED COSTS

Q. WHAT IS THE POLICY ON STRANDED COSTS?

A. The law has essentially brought forward existing legal treatment of stranded costs.

> 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 recovery charge, for recovery of an appropriate amount of such costs in accordance with the standards established in this chapter -- s.2802(15).
>
> "Transition or stranded costs." 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 -- s.2803.
>
> Consistent with s.2808 (relating to competitive transition charge), 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 -- s.2804(13).
>
> The key policies here are to invoke traditional treatment of costs with specific

reference to just and reasonable. The traditional concept in Pennsylvania is a used and useful standard.

In dealing with the unique situation of evaluating stranded costs during a transition, the Commission is given leeway in dealing with mitigation efforts.

> The Commission shall consider the extent to which the electric utility has undertaken efforts to mitigate generation-related transition or stranded costs by appropriate means in a manner that is reasonable under all of the circumstances, including consideration of whether mitigation has been commensurate with the magnitude of the electric utility's generation related transition or stranded costs. During the transition period, electric utilities shall have the duty to mitigate generation related transition or stranded costs to the extent practicable -- s.2808(c)(4)

Q. WHAT POSITION HAS THE COMMISSION TAKEN?

A. The Commission has not issued any specific decisions with respect to stranded costs. In the securitization proceeding it did not grant over two-thirds of PP&L's request.

8. LICENSING/CERTIFICATION

Q. WHAT IS THE POLICY ON LICENSING AND CERTIFICATION?

A. The Commission is granted broad authority on certification which is consistent with my recommendations.

> Electric generation suppliers will be required to obtain licenses, demonstrate financial responsibility and comply with such requirements concerning service as the commission deems necessary for the protection of the public -- s.2802(14) (see also s.2806(3)).

9. RELIABILITY

Q. WHAT IS THE POLICY ON RELIABILITY?

A. As previously noted, the law requires the current level of reliability to at least be maintained. The reliability language is repeated several times in great detail.

> 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 -- s.2802(12).
>
> [T]he independent system operator or its functional equivalent should set, and the Commission shall set, through regulations, inspection, maintenance, repair and replacement standards and enforce those standards -- s.2802(20).
>
> "Reliability." Includes adequacy and security. As used in this definition, "adequacy" means the provision of sufficient generation, transmission and distribution capacity so as to supply the aggregate electric power and energy requirements of consumers, taking into account scheduled and unscheduled outages of system facilities; and "security' means designing maintaining and operating a system so that it can handle emergencies safely while continuing to function -- s.2803.

11. COMPETITIVENESS

a. Customer Choice

Q. WHAT IS THE POLICY ON CUSTOMER CHOICE?

A. My particular focus is on residential customers. My recommendation to ensure that the pilot demonstrates that retail access for residential ratepayers will work is consistent with the authority given to the Commission.

> Retail access pilot programs. -- As of the effective date of this chapter, the Commission has authority to order electric utilities to submit proposals for retail access pilot programs to begin April 1, 1997. The Commission shall provide guidelines for retail access pilot programs by order.
>
> (1) In order to determine whether all customer classes can benefit from competitive markets, utilities shall tailor proposed retail access pilot programs to accommodate the specific geographic, demographic and socioeconomic characteristics of their customer base. Retail access pilot programs must include an equal opportunity for the broadest practical direct access by all customer classes to electric generation suppliers -- s.2806(G)

At the extreme, under the law one can argue that until the Commission finds, as a result of the pilot, that retail access "benefits all classes of customers," it cannot allow the process to go forward. It can reject the restructuring plan and require another one be written. While I do not necessarily anticipate that the Commission will be forced to this extreme, I phrase it this way to underscore the importance of demonstrating the efficacy of the model to residential consumers.

b. Market Monitoring

Q. WHAT IS THE POLICY ON MONITORING THE MARKET?

A. The law contains a vigorous program on market monitoring.

> Monitoring Competitive Conditions. -- The Commission shall monitor the market for the supply and distribution of electricity to retail customers and take steps as set forth in this section to prevent anti-competitive or discriminatory conduct and the unlawful exercise of market power. s.2811(A)

12. ENFORCEMENT

Q. WHAT IS THE POLICY ON ENFORCEMENT?

A. The law outlines a vigorous and coordinated enforcement strategy.

> Referrals and Intervention -- If as a result of an investigation conducted under this section, the Commission has reason to believe that anti-competitive or discriminatory conduct, including the unlawful exercise of market power is preventing the retail electricity customers of this Commonwealth from obtaining the benefits of a properly functioning and workable competitive retail electricity market, the Commission, pursuant to its regulations, shall:
>
> (1) refer its findings to the Attorney General, the United States Department of Justice, the Securities and Exchange Commission or the Federal Energy Regulatory Commission -- s.2811(D).

VI. EVALUATION OF THE PP&L RESTRUCTURING PROPOSAL

Q. WHAT IS THE PURPOSE OF THIS CHAPTER?

A. In this chapter I review PP&L'S restructuring proposal in light of AARP's recommendations for sound public policy in restructuring and the recently enacted statute.

Q. WHAT IS YOUR CONCLUSION ABOUT THE PP&L PROPOSAL?

A. The PP&L proposal is severely deficient in a number of major areas. I will focus on three broad areas. The first is stranded costs, which has a tremendous impact on the affordability for all customers and the fundamental benefits that the Consumer Choice Act sought to deliver to all ratepayers. The second is the low income proposal. The third involves several aspects of the consumer protection proposal.

A. STRANDED COSTS

Q. PLEASE DESCRIBE THE IMPORTANCE OF STRANDED COSTS IN THE PP&L PROPOSAL.

A. The most fundamental flaw in the PP&L proposal is its treatment of stranded costs. PP&L has taken the rate cap in the law and assumed that it is a rate floor which can be used to guarantee full recovery of utility costs. For example, the

"bottom-up" unbundling method treats the CTC as the residual between the market price and the cap (see, Exhibit SFT 8).

In so doing, it robs ratepayers of any benefits of the new Act. It has structured its rate proposal to virtually ensure that competitors will not be able to enter the market because the price it would allow to be paid for generation is extremely low. As a result, it destroys the fundamental goal of the legislation, which is to deliver benefits to all classes of ratepayers. Residential ratepayers cannot possibly benefit under PP&L's proposal and will almost certainly suffer because a competitive market will never get going. It explicitly denies ratepayers about $100 million per year of rate reductions that would have been implemented under current regulation.

The most fundamental problem is the proposal to absolve utility management and stockholders from all responsibility for above market costs. Essentially, PP&L has assumed that every penny of capital cost and expense for its uneconomic assets must be recovered first. After the utility is made whole, it then allows the market to start to operate.

In some respects PP&L's analysis of stranded costs is the most troubling and illogical that I have seen. Not only does PP&L get the so-called "regulatory compact" completely wrong, but it fundamentally distorts the market analysis. Under PP&L's proposal, the only producers who make any money in the deregulated generation market are the incumbent utilities. They do so not because they are more efficient but by transforming all of their capital costs into stranded costs and collecting them from ratepayers as a tax (the CTC). All other producers are then assumed to

sell, at a huge loss, into the generation market for a decade.

Worse still, PP&L has taken its view of the price cap to such an extreme that ratepayers lose about a billion dollars of rate reductions they would have received over the next decade, while PP&L gets its full return of and on capital out of the market. Not only do ratepayers fail to benefit in any tangible way, they actually lose a billion dollars. The purposes of the act have been totally perverted in PP&L's proposal.

The Commission must explicitly reject this argument. Not only does it make a mockery of traditional regulation, it would turn restructuring of the electric utility industry into the largest corporate welfare program in the history of the state. PP&L's approach to stranded costs means that every penny of capital invested in the electric utility industry in Pennsylvania will have to be paid in the form of a tax on ratepayers, insulated from regulatory oversight and market forces. After a decade of corporate welfare, competition might start to benefit consumers, but competitors would be few and far between after a decade in which it is impossible to get into the market.

If the Commission is going to assume a "distressed" market in generation that clears at the variable cost of production and does not allow any return of or on capital for non–utilities selling into the market, then it must at least deny utilities a return on their investments. One must assume that no rational economic actor would ever commit capital to such a market. Therefore, utilities could be allowed to get their capital out, but they should not be allowed to get a return on their capital.

Q. ISN'T IT TRUE THAT IF PP&L ASSUMES A HIGHER PRICE FOR GENERATION AND FILLS IN WITH STRANDED COSTS, CONSUMERS END UP IN THE SAME PLACE?

A. Yes and no.

Yes, if you assume that PP&L should be allowed to just price up to the cap to make itself whole. But that is the wrong assumption.

No. Because if PP&L assumes a higher price for generation, which is not guaranteed to it, and a lower charge for stranded costs, at least consumers have a realistic chance of finding a supplier who can beat the assumed cost of generation.

If the Commission is going to let the rate cap be used to shield the utility income against any market impacts, it should at least give consumers a fighting chance of realizing market benefits. The least it could do is choose the highest market clearing price it can to calculate stranded costs and to insist that this price be used in the rate cap calculation. This would give the market a chance to develop and the consumer a chance to benefit from it. However, I do not believe the "make-whole" approach chosen by PP&L should be allowed in any event.

Q. WHY DO YOU REJECT PP&L'S INTERPRETATION OF THE OBLIGATION OF THE COMMISSION TO ALLOW MAKE-WHOLE STRANDED COST RECOVERY?

A. PP&L's main witness on stranded costs, Dr. Kalt, has totally misinterpreted the nature of stranded costs and the implication of the statute for stranded cost

recovery. Dr. Kalt asserts and assumes, incorrectly, that the stranding of costs is the result of a change in regulatory mechanisms. That simply is not the case.

> In many cases, however, events and circumstances (including restrained growth, availability of substitutes, need for reliable service to meet high peak load combined with the capital intensive nature of the industry and energy conservation) have combined to leave utilities with excess capacity. This excess capacity has resulted in a situation in which the price of electricity that would occur in unregulated competitive markets would be below the embedded, average cost of producing that power. Herein lies the policy problem: Excess capacity in the electric power industry implies pressure toward (and concomitant political support for) lower prices, but traditional principles of public utility regulation have operated to insulate franchise utilities from competitive pressures. Removal of that protection would effectively deny them the opportunity to recover costs prudently incurred in the course of fulfilling their obligations as publicly-regulated utilities (Kalt, p. 5)..

Dr. Kalt's statement proves that traditional regulation did not protect utilities from market forces and efforts to make them whole are unfounded. He cites to several market forces -- available substitutes, restrained growth, conservation. His conclusion that traditional regulation "operated to insulate" utilities from competitive pressures is in error. "Events and circumstances" are what markets are all about. Traditional regulation did not insulate utilities on the supply-side -- substitutes -- or the demand side (restrained growth, energy conservation). Utilities were always at risk to these events and that is why they were allowed a return far above the interest free rate of return.

The capital intensity of companies varies widely and the exposure to "events and circumstances" it creates is a management decision for which management must bear responsibility. Within Pennsylvania itself the capital intensity of companies varies

by a factor of two. No management was compelled to choose a capital intensive approach.

The statement confuses utility obligations with market forces. Reliability may dictate some excess capacity, but not all of it.

The statement incorrectly asserts that utilities were protected from competition and that all prudent costs were guaranteed. There is no claim to automatic recovery of even prudent investment.

The utility has traditionally and continuously been under the obligation to deliver electricity service that is economic. That obligation existed prior to any change in approach to regulation and continues to exist.

Uneconomic costs were never recoverable under traditional regulation. They were always subject to disallowance. The fact that PP&L has been recovering some of those costs for a period of time has never meant that all of those costs were recoverable forever. The fact that the Commission (and the legislature) invokes competition as a more precise regulatory mechanism for determining what is economic, does not change or create the requirement that the utility provide economic service – that obligation has always been at the heart of traditional regulation. The law notes that competition is just another mechanism for controlling costs (s.2802 (5)).

By improperly blaming current uneconomic costs on a "regulatory switch" Mr. Kalt has misrepresented the nature of traditional regulation. Regulation never indemnified utilities against the changes brought on by technological progress.

Regulation never protected utilities from either supply-side or demand-side competition. A showing of prudency, even if there had been one, never guaranteed recovery of costs. Just like companies in a competitive marketplace, a utility is required to continually review the efficiencies of its operation compared to those around it and in light of new and emerging technologies.

Q. DO OTHER PP&L WITNESSES MAKE SIMILAR MISTAKES IN DISCUSSING TRADITIONAL REGULATION?

A. The complete misrepresentation of the nature of traditional regulation is embodied in the claim that efforts to provide efficient, economical service should be considered "historic" mitigation. PP&L wants extra credit for doing what it was supposed to. Mr. Hill's discussion of mitigation is quite exactly the opposite of how regulation has was always supposed to work.

> I use the term "mitigation" to describe any efforts by a utility to reduce costs or increase revenues (other than by rate increases), both historically and prospectively, and thereby reduce stranded costs (Hill, p. 4).

This definition of stranded costs essentially assumes that utilities were guaranteed to recover every penny of costs they incurred, regardless of how inefficient they might have been.

> Stranded costs, as defined in the Act, is essentially a measure of the difference between a utility's regulated cost of service and the market price of electricity (Hill p. 5).

Quite the opposite is the case. Utilities are obligated to provide efficient

service. Failure to do so should result in disallowances.

Q. HOW HAS PP&L MANAGED TO COME UP WITH SUCH A HUGE ESTIMATE OF STRANDED COSTS?

A. PP&L combines the erroneous assertions about the nature of regulation with an extreme view of the generation market to produce a distressed situation.

> The relevant concept of cost for this purpose depends on market conditions. In the long run, prices should reflect the "all-in" cost of electric generation, including the cost of financing the capital investment. If, however, there is surplus generating capacity (as is currently the case in the mid-Atlantic regions and elsewhere), then the true social cost of incremental electricity generation is currently only the short-run "incremental cost" of that generation. That is, the short-run incremental cost compromises the only resources that are used up, and hence not available for other productive uses, by utility generation of electricity. If the utility does not generate electricity, society does not have the capital that is sunk in utility generation facilities available for some other use. Efficiency requires that new entrants be able to provide electricity at a price at or below this short-run incremental cost (Kalt, p. 20-21).

Here we have the ultimate irony in the circular logic of the utilities. Having created the condition of excess capacity through a failure to recognize market forces -- the failure to recognize substitutes, energy conservation or to choose readily available less capital intensive technologies -- the utilities are made whole through stranded cost recovery that destroys the possibility for a competitive market. This concept of a distressed market clearly has dominated the estimate of market clearing price.

Q. HOW SHOULD PP&L'S CLAIMS TO COST RECOVERY BE EVALUATED?

A. Having established the fact that PP&L only has a claim to recover the efficient costs of production and that the Commission has never been required to allow the recovery of uneconomic costs, we turn to the question of how to measure the economic costs of production. There are two relevant standards that should be considered.

One standard is the "most efficient producer standard." Under routine assumptions about competitive market behavior, this would be the market clearing price. In essence, we ask "at what price would competitive supply clear the market." This is Dr. Kalt's "all in" price. This is a relevant consideration because competition would force producers to continuously evaluate and choose the most efficient technology. In a competitive market, if you get stuck with an inefficient technology, you suffer inadequate returns or losses until you lower your costs. Only efficient producers achieve a reasonable return on their investment.

A second standard is the "most efficient utility standard." This standard recognizes that certain obligations were placed on utilities. While they might have been able to choose the most efficient plant for any specific decision about a specific increment of supply, they may also have been required to make decisions that were not strictly least costs in the aggregate for policy reasons. For example, they might be required do things a competitive profit maximizer might not do, such as to have a larger reserve margin, a different resource mix, or a higher level of reliability.

However, it is crucial not to confuse the fact that a utility was required to have more capacity with the fact that it paid too much for that capacity. The former is a policy obligation, the latter is a management mistake.

The divergence between the "most efficient producer standard" and the "most efficient utility standard," if there is any, will vary depending on policy and the nature of decision making. Both should be examined by the Commission to determine which costs to allow. Any divergence should be carefully analyzed by the Commission.

Q. HOW DOES PP&L FARE BY THESE STANDARDS?

A. Both the "most efficient producer" or "most efficient utility" standard indicate that PP&L is producing electricity at costs that are well above efficient levels. These would not be recovered from ratepayers under traditional forms of rate making and they should not be recovered in the transition to restructuring. Ironically, because PP&L has used such a low price to calculate stranded costs, its stranded generation costs are almost as high as PECO's in spite of the fact that its production costs are 15 percent lower.

Nearby utilities have achieved lower production costs. For example, 100 miles away, Baltimore Gas and Electric and Potomac Electric Power Company serve large metropolitan areas. PP&L's generation costs are about 20 percent higher than these company's costs. PP&L's production costs are about 20 percent above the lowest cost producer in Pennsylvania. PP&L's production costs are about 20 percent above the national average. PP&L's production costs are just at the state-wide average

production cost for other Pennsylvania utilities, excluding PP&L. This results primarily because of the inclusion of the even more inefficient PECO in that average.

PP&L's nuclear costs are high and the use of a very low market price for comparison with nuclear has created its large claim for stranded cost.

Q. WHAT IS THE MAGNITUDE OF UNECONOMIC COSTS SUBJECT TO DISALLOWANCE?

A. To estimate these uneconomic costs, in the current context we must separate out two categories. Given the legislative language on the recovery of regulatory assets and certain transition costs, these must be treated separately. PP&L separates them out as I do below.

Attachment MNC-5 gives order of magnitude estimates of the potential disallowances (Appendix A provides supporting detail). In this analysis, I assume non-utility producers have no regulatory assets and add PP&L's estimate to the market price of production. I assume other utilities have regulatory assets equal to PP&L's.

Because of the low market clearing price, I set the disallowance recommended according to the most efficient producer analysis equal to the return on investment. This is approximately $2.6 billion. The most-efficient utility analyses suggest uneconomic production costs of approximately $.011 per kwh for nuclear facilities. This would indicate a disallowance of approximately 56 percent of PP&L's claim (or $1.6 billion. Since PP&L is close to the statewide average, this analysis would not

indicate any disallowance for uneconomic costs.

It is interesting to note that even using a broad national standard -- the national average – just under one half of PP&L's claimed stranded costs would all be disallowed.

Q. IN YOUR ANALYSIS YOU ADD REGULATORY COSTS DIRECTLY INTO THE ESTIMATE OF THE COST OF PRODUCTION. DOES THAT MEAN YOU ACCEPT PP&L'S ESTIMATE?

A. I have only accepted PP&L's estimate of regulatory costs for purposes of the discussion and to simplify the discussion of generation costs. I am not agreeing or disagreeing with PP&L's claims. I have not analyzed these in detail in this case.

However, there is one principle I believe the Commission should apply in evaluating PP&L's claims, which seems to be in conflict with PP&L's approach. To the extent that regulatory assets involve interest free loans, all of the benefits of those loans should be returned to ratepayers. If the regulatory asset involves taxes or other charges that were collected from ratepayers, under the pretext that they would be paid to the government but they were not, it is the ratepayers who lost the use of those moneys in the first place. The utility should not be made worse off as a result of the accounting treatment, but it should not profit from the use of ratepayer money.

I believe that the Commission should scrutinize PP&L's claims for recovery of regulatory assets in this vein.

Q. WHAT DO YOU RECOMMEND?

A. AARP has taken the position that ratepayers should be held responsible for, at most, 50 percent of stranded costs. As discussed throughout my testimony, management must be responsible for their share of stranded costs where management discretion was exercised. This is consistent with the Pennsylvania law's decision to hold ratepayers responsible for regulatory assets (over which management had no discretion), as long as the Commission applies the principle I mentioned earlier. AARP also recognizes that certain financial obligations are binding on utilities in terms of their debt. The Commission should take this into account as well.

In this case, a disallowance of $1.6 billion is supported by the most efficient producer analysis and a dissallowance of $2.6 billion is supported by the distressed market analysis.

My discussion establishes two clear justifications to disallow a return on capital if the Commission accepts PP&L's "distressed" market price as the standard.

First, PP&L has attempted to absolve itself of all risk with its heads-I-win-tails-you-lose definition of stranded costs. Since it has no risk, it should receive no reward.

Second, PP&L's market price does not allow recovery of capital to anyone else in the market. PP&L should not be allowed the huge competitive advantage of getting a return on its capital while no one else could even get a return of its capital. In essence, since markets in long-term equilibrium allow recovery of capital costs (i.e. they are "all in"), if the Commission accepts the extremely low market clearing price

set by PP&L, it should basically start the generation market with an "all out" proposition. Let PP&L get its capital out, without any return, and then all parties would be set on an equal footing.

If the state-wide average is used, there would be no disallowance primarily because of the inclusion of the even more inefficient PECO in the state-wide average.

I believe that regulatory assets should be recovered, after they are scrutinized and that at least $1.6 billion should be disallowed.

B. LIFELINE PROGRAMS

Q. HOW DO YOU EVALUATE PP&L'S LIFELINE PROGRAM?

A. I believe that it is inadequate in two areas -- eligibility for benefits and the funding mechanism.

Q. WHAT IS THE PROBLEM WITH ELIGIBILITY?

A. I believe that it should drop the requirement for bill payment problems for participation. All low income households should receive the discounts presently made available, if they are certified as eligible by the criteria I outlined.

Providing broad based eligibility will certainly reduce the burden on low income households. PP&L's current benefit structure reflects ability to pay, so expanding the program will target benefits to those who need it most.

The analysis of lifeline programs in Pennsylvania shows that the discounted rates cover the variable cost of service and make a contribution to fixed costs. Thus, for the social and economic reasons I outlined earlier, I believe that eligibility should be broadened.

As I have pointed out, all customer classes benefit from universal service. All should pay. I believe that consumption should be used as the basis for raising funds.

C. CONSUMER PROTECTION

Q. WHAT IS THE PROBLEM WITH PP&L'S CONSUMER PROTECTION PROPOSALS?

A. Basically they are undefined. PP&L's "Code of Conduct," provides very little substance. In addition to my earlier recommendations, there are two areas of the PP&L proposal that cause me concern -- supply-side safeguards and allocation of competitive opportunities.

Q. PLEASE EXPLAIN WHAT YOU MEAN BY SUPPLY-SIDE SAFEGUARDS?

A. By supply-side safeguards, I mean the rules and regulations which will govern the interaction between suppliers in the mixed competitive/monopoly environment. My earlier comments focused on the interaction between consumers and suppliers, but I believe PP&L's proposal organizing the supply-side of the market is inadequate.

I believe that the only way to prevent abuse of bottleneck facilities -- i.e. the remaining monopolies in transmission and distribution -- is to achieve divestiture. To the extent that this is not required or accomplished through voluntary means, I believe a substantial regulatory apparatus must be put in place. This apparatus must set the terms and conditions and oversee two sets of transactions, those:

(1) between the incumbent monopoly subsidiaries and competitors,

and

(2) between the incumbent monopoly subsidiaries and its generation affiliate.

Attachment MNC-6, which draws from the recently enacted telecommunications model, identifies the key elements in this regulatory apparatus. I urge the Commission to insist that these protections be in place before competition opens.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

ATTACHMENT MNC-1

FACTORS CREATING THE NEED FOR ADDITIONAL CONSUMER PROTECTION IN THE TRANSITION FROM UTILITY TO COMMODITY

PRE-PURCHASE

LOW ELASTICITY OF DEMAND
UTILITY HISTORY
- HOMOGENEITY OF PRODUCT
- ABSENCE OF MARKETING

LACK OF INCENTIVE TO SHOP
- MONTHLY BILL
- TIME CONSTRAINT

INCUMBENCY ADVERTISING & ADVANTAGE

POINT-OF SALE

ELECTRONIC BILLED
TIME CONSTRAINT
LACK OF SUBSTITUTES
LIMITED PRESENTATION OF INFORMATION
BUNDLING OF FEATURES

POST-PURCHASE

LACK OF INCENTIVE TO COMPLAIN
- MONTHLY BILL

LACK OF TRANSACTION RECORD
UNCERTAINTY ABOUT REDRESS
MULTIPLE RESPONSIBILITIES FOR SERVICE

ATTACHMENT MNC-2

AREAS OF CONSUMER PROTECTION IN THE TRANSITION FROM UTILITY TO COMMODITY

	CONSUMER	SELLER
PRE-PURCHASE	UNIVERSAL SVC EDUCATION	STRANDED COSTS LICENSING/CERTIFICATION RELIABILITY
POINT-OF-SALE	UTILITY SERVICE FAIR MARKETING NON-DISCRIMINATION	COMPETITIVENESS CUSTOMER CHOICE MARKET MONITORING
POST-PURCHASE	DISPUTE HANDLING	ENFORCEMENT

ATTACHMENT MNC-3
PUBLIC POLICIES TO PROMOTE UNIVERSAL SERVICE AND PROVIDE CONSUMER PROTECTION IN THE TRANSITION FROM UTILITY TO COMMODITY

BUYER: PRE-PURCHASE

UNIVERSAL SERVICE
- GENERAL POPULATION
- PRINCIPLES FOR ALLOCATION OF JOINT AND COMMON COSTS
- LOW INCOME
  - DISCOUNT PROGRAMS
  - STANDARD OFFER SERVICE
  - UTILITY ASSURANCES
- PROVIDER OF LAST RESORT/HIGH COST AREAS
  - DESIGNATION
  - HIGH COST FUNDS
    - PARTICIPATION
    - SUBSIDY CALCULATION
  - UNIVERSAL SERVICE FUND
    - COLLECTION
    - DISTRIBUTION

EDUCATION
- MATERIALS
  - DECISION MAKING
  - COMPARISONS
    - PRICE
    - QUALITY
    - FEATURES
- PLANNING
- OUTREACH
- MONITORING

BUYER: POINT OF SALE

UTILITY CONSUMER PROTECTIONS
- APPLICATION FOR SERVICE
- CREDIT
- DEPOSIT
- DISCONNECTION
- COLLECTION
- DISPUTE RESOLUTION
- PARTIAL PAYMENT

MARKETING PROTECTIONS
- FAIR MARKETING
  - ABUSIVE MARKETING PRACTICES.
  - SLAMMING
  - UNAUTHORIZED UPGRADE OF SERVICES
  - PRESSURE TACTICS
  - BAIT AND SWITCH TACTICS
  - NEGATIVE OPTIONS
- BILLING PRACTICES
  - DELIVERY OF BILLS
  - BILLING INFORMATION
  - BILL FORMATS
  - LANGUAGE REQUIREMENTS
- NON-DISCRIMINATION
- PRIVACY
  - BILLING
  - PAYMENT HISTORY
  - USAGE

BUYER: POST-PURCHASE

DISPUTE HANDLING
- INTAKE
- INVESTIGATION
- RESOLUTION
- REDRESS

SELLER: PRE-PURCHASE

STRANDED COST RECOVERY

LICENSING AND CERTIFICATION
- TECHNICAL, FINANCIAL AND MANAGERIAL CAPABILITIES
- HISTORIES OF PRIOR COMPLAINTS AND PROBLEMS
- BONDING FOR RELIABILITY AND MARKETING
- PENALTIES KNOWN IN ADVANCE

RELIABILITY
- STANDARDS
  - NORMAL OPERATIONS
  - OUTAGE
  - BUSINESS OFFICE
- PENALTIES
  - REVIEW OF PERFORMANCE
  - *ENFORCEMENT PROGRAM*
  - SPECIFICATION OF PENALTIES

SELLER: POINT-OF-SALE

MARKET STRUCTURE
- VERTICAL MARKET POWER
- HORIZONTAL MARKET POWER

COMPETITIVE OPPORTUNITIES
- PREFERENCE
- AGGREGATION

MARKET MONITORING
- DEFINE MARKETS
  - GEOGRAPHIC
  - PRODUCT
- MEASURE MARKET COMPETITIVENESS
  - STRUCTURE
    - MARKET SHARES
    - ENTRY AND EXIT
  - CONDUCT
    - COMPLAINTS, DISPUTES
    - DISCRIMINATION, REDLINING
  - PERFORMANCE

PRICES
PROFITS
QUALITY
PRODUCT DEVELOPMENT

SELLER: POST-PURCHASE

ENFORCEMENT
ADEQUATE RESOURCES
MEANINGFUL PENALTIES

ATTACHMENT MNC-4

USING UNIVERSAL SERVICE POLICY TO DETERMINE THE RECOVERY OF JOINT AND COMMON AND STRANDED COSTS AND PRESERVE AFFORDABILITY

1. Calculate Economic Costs of Production

JOINT AND COMMON COSTS ALLOCATION

2. Estimate Joint and Common Costs
3. Allocate Stranded Costs to Non-residential
   --> (Kwh + ?)/Kwh to Non-residential
4. Allocate Residual to Residential
   --> (Kwh - ?)/Kwh to Residential
5. Recover joint and common costs from residential ratepayers

STRANDED COST ALLOCATION

6. Estimate Stranded Costs
7. Decide on Recoverability of Stranded Cost
8. Apportionment Between Stockholders and Ratepayers
   --> 50 % to Stockholders
   --> 50 % to Ratepayers
9. Allocate Stranded Costs to Non-residential
   --> (Baseload Kwh + ?)/Baseload Kwh to Non-residential
10. Allocate Residual to Residential
    --> (Baseload Kwh - ?)/Baseload Kwh to Residential
11. Minimize Impact on Basic Service to Assure Affordability
    --> Inverted Charges
12. Promote Universal Service for Targeted Groups
    --> Exempt Low Income from Stranded Cost Recovery

ATTACHMENT MNC-5
ESTIMATES OF PP&L'S UNECONOMIC GENERATION COSTS

(STRANDED COSTS EXCLUDING REGULATORY ASSETS)

STANDARD	COST (in $/kwh)	TOTAL c/ (in million $)
MOST EFFICIENT PRODUCER (distressed market) a/	.018	2.6
MOST EFFICIENT UTILITY b/		
IN STATE	.011	1.6
NEIGHBORING STATE	.013	1.8
AVERAGES		
NATIONAL	.011	1.6
STATE-WIDE	.000	0

a/ Disallows all return on capital.

b/ Costs for 1995 derived from Appendix A.

c/ Uses PP&L's estimate of total stranded costs ($3.6 billion).

ATTACHMENT MNC-6

CONDITIONS FOR INTERCOMPANY TRANSACTIONS

ASSURING NON-DISCRIMINATORY DEALINGS WITH COMPETITORS

RATES, TERMS, AND CONDITIONS
- TARIFFS IN PLACE
- COST-BASED RATES

PERFORMANCE STANDARDS
- EQUAL FOR ALL
- EXCLUSIONS

FULLY LOADED FUNCTIONING
- TESTS/PILOTS
  - INTERNAL
  - INTER-COMPANY
- AUTOMATED INTERFACES
- EFFECTIVE FUNCTIONING
  - TIMING FOR
    - ORDER
    - PROVISION
    - MAINTENANCE
- QUALITY/RELIABILITY

AFFILIATE SAFEGUARDS

STRUCTURAL SEPARATION
1) INDEPENDENT COMPANY
2) ACCOUNTS
3) OFFICERS, ETC.
4) NON-RECOURSE IN FINANCE
5) ARMS LENGTH TRANSACTIONS

NON-DISCRIMINATION
1) PROCUREMENT OR PROVISION OF GOODS, SERVICES, FACILITIES, AND INFORMATION
2) ACCOUNTING PRINCIPLES
3) COST ALLOCATION

PROHIBITION ON JOINT MARKETING
1) RULES FOR PRESENTATION OF ALTERNATIVES

COMMISSION AUTHORITIES AND INSTITUTIONS

MONITORING

ENFORCEMENT

APPENDIX A

The data used for the comparison between utilities was taken from the Department of Energy statistics because a uniform set of numbers across utilities was desired. The first column reports the number from the DOE publication. The second column converts these numbers to a per kwh number by dividing by the total number of kwh sold. No allocation to customer classes was undertaken.

The third column for each utility allocates the capital charges plus net income to the major categories of production cost -- steam, nuclear, other transmission, and distribution (including customer). Capital costs are allocated in proportion to the plant listed at the bottom of the table. The fourth column converts these total costs to kwh costs by dividing by the total number of kwh sold.

The same methodology is applied to each of the utilities.

The Table shows the calculation for each of the comparisons contained within the text. It also shows the methodology applied to PP&L's 1996 cost study. The results are quite close. The key point of methodological significance is the allocation of capital costs between generation and other functions. Based upon the plant investment, I have allocated 76 percent of capital costs (depreciation, amortization, taxes and net income) to generation. This is identical to the allocation of depreciation in the 1996 cost study.

COMPARISON OF PECO TO PENNSYLVANIA UTILITIES

	PP&L				WEST PENN				PA NON-PPL			
SALES	31507				17511				90436	90436		
COSTS	LINE ITEM IN $	PER KWH	BY SOURCE OR FUNCTION INCLUDES CAPITAL IN $	PER KWH	LINE ITEM IN $	PER KWH	BY SOURCE OR FUNCTION INCLUDES CAPITAL IN $	PER KWH	LINE ITEM IN $	PER KWH	BY SOURCE OR FUNCTION IN $	PER KWH
steam												
prod	454	.0144	879.6	.0279	259	.0148	499.9	.0285	1032	.0114	2000.	.0221
maint	88	.0028			66	.0038			206	.0023		
nuc												
prod	187	.0059	909.0	.0289	0	0	0	0	641	.0071	2392.	.0264
maint	61	.0019			0	0			191	.0021		
other	306	.0097	328.9	.0104	298	.0170	477.9	.0273	1057	.0117	1752.	.0194
avg cost		.0348		.0672		.0356		.0558		.0346		.0679
trans												
prod	4	.0001	71.12	.0023	9	.0005	46.83	.0027	48	.0005	361.6	.0040
maint	6	.0002			5	.0003			30	.0003		
dist												
prod	36	.0011	606.4	.0192	19	.0011	188.3	.0108	137	.0015	1536.	.0170
maint	52	.0017			42	.0024			178	.0020		
cust												
prod	85	.0027			30	.0017			271	.0030		
admin	127	.0040	127	.0040	60	.0034	60	.0034	652	.0072	652	.0072
OPERAT	1406				788				4443			
dep	348	.0110			112	.0064			866	.0096		
amort	1	3e-5			1	.0001			60	.0007		
taxes												
gen	201	.0064			90	.0051			607	.0067		
income	259	.0082			59	.0034			467	.0052		
def	134	.0043			54	.0031			569	.0063		
CAP	943	.0299			316	.0180			2569	.0284		
net in	573	.0182			169	.0097			1681	.0186		
TOTAL	2922	.0927	2922	.0927	1273	.0727	1273	.0727	8693	.0961	8693	.0961

plant	IN $	ALLOCATOR	IN $	ALLOCATOR	IN $	ALLOCATOR
steam	2066	.2227	1609	.3607	5417	.1792
nuc	4045	.4360	0	0	11096	.3670
other	140	.0151	1655	.3710	4941	.1634
trans	374	.0403	302	.0677	2017	.0667
dist	2652	.2859	895	.2006	6760	.2236
	9277	1	4461	1	30231	1

SOURCE: Energy Information Administration, FINANCIAL STATISTICS OF MAJOR U.S INVESTOR-OWNED ELECTRIC UTILITIES: 1995 (U.S. Department of Energy, December, 1996), Tables 37, 39, 40 41 42.

MARYLAND UTILITIES

	PEPCO				BGE				US AVERAGE			
SALES	23445				28191				2.3e6			
COSTS	LINE ITEM		BY SOURCE OR FUNCTION		LINE ITEM		BY SOURCE OR FUNCTION		LINE ITEM		BY SOURCE OR FUNCTION	
	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH
steam												
prod	377	.0161	685.6	.0292	321	.0114	758.7	.0269	28653	.0125	55305	.0242
maint	52	.0022			45	.0016			4118	.0018		
nuc												
prod	0	0	0	0	156	.0055	483.6	.0172	8530	.0037	35525	.0155
maint	0	0			63	.0022			2928	.0013		
other	590	.0252	647.9	.0276	256	.0091	287.2	.0102	32155	.0141	36106	.0158
avg cost		.0435		.0569		.0298		.0543		.0334		.0555
trans												
prod	7	.0003	96.24	.0041	8	.0003	103.9	.0037	1425	.0006	12647	.0055
maint	6	.0003			4	.0001			704	.0003		
dist												
prod	23	.0010	510.3	.0218	62	.0022	504.6	.0179	2560	.0011	33922	.0148
maint	116	.0049			35	.0012			3314	.0014		
cust												
prod	41	.0017			49	.0017			2270	.0010		
admin	106	.0045	106	.0045	190	.0067	190	.0067	13373	.0058	13373	.0058
OPERAT	1318				1189				1.0e5			
dep	170	.0073			221	.0078			18503	.0081		
amort	2	.0001			37	.0013			1381	.0006		
taxes												
gen	203	.0087			173	.0061			13519	.0059		
income	74	.0032			108	.0038			11500	.0050		
def	164	.0070			134	.0048			7300	.0032		
CAP	613	.0261			673	.0239			52203	.0228		
net in	115	.0049			466	.0165			34646	.0151		
TOTAL	2046	.0873	2046	.0873	2328	.0826	2328	.0826	1.9e5	.0817	1.9e5	.0817
plant	IN $	ALLOCATOR			IN $	ALLOCATOR			IN $	ALLOCATOR		
steam	1942	.3525			2142	.3448			1.4e5	.2595		
nuc	0	0			1443	.2323			1.5e5	.2771		
other	438	.0795			170	.0274			23835	.0455		
trans	630	.1143			501	.0807			63454	.1211		
dist	2500	.4537			1956	.3149			1.6e5	.2968		
	5510	1			6212	1			5.2e5	1		

OTHER PA UTILITIES

	PECO				DUQ				MET			
SALES	33611				12415				11009			
COSTS	LINE ITEM		BY SOURCE OR FUNCTION INCLUDES CAPITAL		LINE ITEM		BY SOURCE OR FUNCTION		LINE ITEM		BY SOURCE OR FUNCTION	
	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH
steam												
prod	259	.0077	513.9	.0153	196	.0158	340.7	.0274	80	.0073	160.9	.0146
maint	58	.0017			31	.0025			19	.0017		
nuc												
prod	389	.0116	1813.	.0540	128	.0103	298.5	.0240	62	.0056	135.1	.0123
maint	135	.0040			25	.0020			14	.0013		
other	280	.0083	314.5	.0094	32	.0026	293.2	.0236	224	.0203	352.9	.0321
avg cost		.0334		.0786		.0332		.0751		.0362		.0589
trans												
prod	16	.0005	149.8	.0045	8	.0006	47.97	.0039	6	.0005	41.70	.0038
maint	16	.0005			3	.0002			2	.0002		
dist												
prod	60	.0018	636.3	.0189	18	.0014	214.6	.0173	14	.0013	181.4	.0165
maint	70	.0021			18	.0014			15	.0014		
cust												
prod	135	.0040			36	.0029			26	.0024		
admin	330	.0098	330	.0098	96	.0077	96	.0077	65	.0059	65	.0059
OPERAT	1748				591				527			
dep	395	.0118			150	.0121			95	.0086		
amort	33	.0010			25	.0020			0	0		
taxes												
gen	281	.0084			86	.0069			55	.0050		
income	203	.0060			130	.0105			22	.0020		
def	170	.0051			65	.0052			107	.0097		
CAP	1082	.0322			456	.0367			279	.0253		
net in	928	.0276			244	.0197			131	.0119		
TOTAL	3758	.1118	3758	.1118	1291	.1040	1291	.1040	937	.0851	937	.0851

plant	IN $	ALLOCATOR	IN $	ALLOCATOR	IN $	ALLOCATOR
steam	1341	.0980	907	.1624	441	.1510
nuc	8782	.6415	1161	.2079	421	.1442
other	235	.0172	2084	.3731	918	.3144
trans	802	.0586	295	.0528	240	.0822
dist	2529	.1847	1138	.2038	900	.3082
	13689	1	5585	1	2920	1

OTHER PA UTILITIES

	PENELEC				PENPOW			
SALES	12193				3697			
COSTS	LINE ITEM		BY SOURCE OR FUNCTION		LINE ITEM		BY SOURCE OR FUNCTION	
	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH
steam								
prod	191	.0157	380.9	.0312	47	.0127	94.35	.0255
maint	24	.0020			8	.0022		
nuc								
prod	32	.0026	79.52	.0065	30	.0081	120.4	.0326
maint	7	.0006			10	.0027		
other	211	.0173	219.6	.0180	12	.0032	12.62	.0034
avg cost		.0381		.0558		.0289		.0615
trans								
prod	6	.0005	57.55	.0047	3	.0008	23.52	.0064
maint	2	.0002			2	.0005		
dist								
prod	22	.0018	293.3	.0241	4	.0011	51.10	.0138
maint	26	.0021			7	.0019		
cust								
prod	36	.0030			8	.0022		
admin	77	.0063	77	.0063	24	.0065	24	.0065
OPERAT	634				155			
dep	83	.0068			31	.0084		
amort	0	0			1	.0003		
taxes								
gen	67	.0055			28	.0076		
income	27	.0022			26	.0070		
def	155	.0127			18	.0049		
CAP	332	.0272			104	.0281		
net in	142	.0116			67	.0181		
TOTAL	1108	.0909	1108	.0909	326	.0882	326	.0882

plant	IN $	ALLOCATOR	IN $	ALLOCATOR
steam	864	.3501	255	.2301
nuc	211	.0855	521	.4702
other	45	.0182	4	.0036
trans	258	.1045	120	.1083
dist	1090	.4417	208	.1877
	2468	1	1108	1

SOURCE: Energy Information Administration, FINANCIAL

COMPARISON OF PPL DOE 1995 DATA TO PPL 1996 COST STUDY

	PPL DOE 1995				PPL 1996 COST STUDY			
SALES	31507				29304			
COSTS	LINE ITEM		BY SOURCE OR FUNCTION INCLUDES CAPITAL		LINE ITEM		BY SOURCE OR FUNCTION INCLUDES CAPITAL	
	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH	IN $	PER KWH
steam								
prod	454	.0144	878.7	.0279	474	.0162	747.1	.0255
maint	88	.0028			49	.0017		
nuc								
prod	187	.0059	907.3	.0288	0	0	692.4	.0236
maint	61	.0019			98	.0033		
other	306	.0097	328.8	.0104	676	.0231	785.6	.0268
avg cost		.0348		.0671		.0443		.0759
trans								
prod	4	.0001	70.96	.0023	11	.0004	67.84	.0023
maint	6	.0002			0	0		
dist								
prod	36	.0011	605.2	.0192	92	.0031	578.1	.0197
maint	52	.0017			0	0		
cust								
prod	85	.0027			82	.0028		
admin	127	.0040	127	.0040	220	.0075	220	.0075
OPERAT	1406				1702			
dep	348	.0110			363	.0124		
amort	1	3e-5			0	0		
taxes								
gen	201	.0064			203	.0069		
income	259	.0082			253	.0086		
def	130	.0041			0	0		
CAP	939	.0298			819	.0279		
net in	573	.0182			570	.0195		
TOTAL	2918	.0926	2918	.0926	3091	.1055	3091	.1055
plant	IN $	ALLOCATOR			IN $	ALLOCATOR		
steam	2066	.2227			1522	.1613		
nuc	4045	.4360			4037	.4280		
other	140	.0151			744	.0789		
trans	374	.0403			386	.0409		
dist	2652	.2859			2744	.2909		
	9277	1			9433	1		

SOURCE: Energy Information Administration, FINANCIAL STATISTICS OF MAJO INVESTO.S INVESTOR-OWNED ELECTRIC UTILITIES: 1995 (U.S. Department of En TablesDecember, 1996), Tables 37, 39, 40 41 42.