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VOLUME III

Duquesne Statement No. 6

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BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

DUQUESNE LIGHT COMPANY
DOCKET NO. R-00974104

Direct Testimony
of
Frank A. Hoffmann

Contents:

Regarding Retail Choice Phase-In, Customer Education, Universal Service, Quality of Service and Economic Development Rates.

DIRECT TESTIMONY OF FRANK HOFFMANN

I. QUALIFICATIONS

Q. Please state your name and business address.

A. Frank Hoffmann, Duquesne Light Company, 411 Seventh Avenue, P.O. Box 1930, Pittsburgh, PA 15230-1930.

Q. By whom are you employed and in what capacity?

A. I am employed by Duquesne Light Company as the General Manager, Marketing and Sales.

Q. What are your duties in that position?

A. I am responsible for the marketing and sales functions associated with Duquesne Light's retail sales activities. This includes customer relations, new product development, marketing communication and customer research.

Q. Please describe your education, background and professional experience.

A. I graduated from Dartmouth College with a Bachelor of Arts ('73) and Bachelor of Engineering ('74) degrees. I subsequently graduated from the University of Chicago and was awarded a Master of Business Administration ('79) degree. I have over 23 years of experience in the electric utility industry. After receiving my undergraduate degrees, I worked eight years with an architectural engineering firm, Sargent & Lundy, as a structural engineer and project manager on high voltage transmission systems. I then was employed for nine years by Price Waterhouse providing general management consulting services to electric, gas, telecommunications and water utilities nationwide.

And, for the most recent six years, I have been employed by Duquesne Light, first in a corporate planning function and more recently in marketing and sales.

II. SUMMARY OF TESTIMONY

Q. What part of Duquesne's Appendix A filing was prepared by you or under your supervision and direction?

A. All of the material related to Restructuring procedures (Section M, with the exception of M-2) and customer service, education and conservation programs (Section P, with the exceptions of P-13, 14 and 15) were prepared by me or under my supervision and direction.

Q. What is the purpose of your testimony?

A. First, I provide an overview of Duquesne's method for phasing-in customers for access to competitively priced retail electricity in a fair and equitable manner during the three year transition period. Second, I summarize Duquesne's proposals on universal service and energy conservation. Third, I describe our Code of Conduct for ensuring that all alternative suppliers are treated fairly and that customer-specific information is kept confidential as appropriate. Finally, I describe the Company's economic development rates and how those rates will change or continue in the future.

III. PHASE-IN PROCEDURES

Q. Please summarize your understanding of how the Electricity Generation Customer Choice and Competition Act ("the Act") phases in retail access.

A. The first step in the phase-in process is the establishment of retail access pilot programs. The Act authorizes the Commission to order electric utilities to submit proposals for retail access pilot programs to begin April 1, 1997. The Company has filed a pilot program proposal and is awaiting final Commission approval.

The next phase begins on January 1, 1999, when the Act requires electric utilities to allow direct access for up to thirty-three percent of the peak load of each customer class. As of January 1, 2000, direct access must be allowed for an additional thirty-three percent of the peak load of each customer class. As of January 1, 2001, direct access must be allowed for all customers.

Q. How will the Company select residential and small commercial customers to participate in the first two phases of retail access?

A. Residential and small commercial customers will be randomly selected by zip code-based geographic areas of choice (GACs). All GACs will be assigned to the first, second and third year of the phase-in. Generally, this process will allow all residential and small commercial customers in the same neighborhood to be phased-in together.

Q. Why is this type of phase-in appropriate?

A. This approach ensures non-discriminatory eligibility, instead of eligibility driven by which customers are better informed or respond more quickly to an open enrollment process. Eligibility should not depend on whether customers are willing to pay $10 for overnight mail delivery instead of 32 cents for U.S. mail. This approach also will allow the Company to target its consumer education effort more precisely, to specific

areas within our service territory. Finally, this approach will allow competing suppliers to target their marketing efforts more precisely.

Q. How will the Company select other customers to participate in the first two phases of retail access?

A. Other commercial customers and all industrial customers will be selected for phase-in by SIC code-based market segments. Duquesne's customers include eleven commercial and five industrial market segments. Some of these segments may be grouped to avoid competitive disadvantage. Duquesne proposes to prioritize the release of these market segments based on the results of our pilot program open enrollment process. Those market segments having the largest percentage of total accounts being nominated by customers for participation in the pilot will be included in the first phase until the requisite peak load contribution is reached or exceeded. This process will allow customers that compete with each other to be phased-in together, thus eliminating many disputes about competitive disadvantage.

Q. How will Duquesne address any remaining disputes about competitive disadvantage?

A. Duquesne will ask the complaining customer to submit its complaint in writing, showing the specific competitive disadvantage. To prevail, the customer must show that: (1) their business has been misclassified by SIC code or other market segment; or (2) other businesses within the service territory with the same product or service have received a competitive advantage. Duquesne will review the situation case-by-case,

attempt to resolve it to the satisfaction of the affected customer(s) and appropriately address any competitive disadvantage.

Q. Did the Company consider other methods for phasing in access for these commercial and industrial customers?

A. The Company considered a first-come, first-served approach. The Company rejected this approach for these customers because this approach could have caused inappropriate competitive disadvantages. The Company also considered an approach in which all of these customers would be allowed access for one-third of its load in the first phase, two-thirds of its load in the second phase and all of its load in the third phase. The Company rejected this approach as presenting excessive difficulties in account administration and billing, triggering extraordinary volumes of customer contacts and imposing unnecessary complexity and inconvenience on those customers.

Q. How will the Company accommodate pilot program participants who also want to participate in the first phase of direct access?

A. Duquesne expects that pilot program participants may want to continue choosing their power supplier upon termination of the pilot program, even if they are not yet eligible for direct access under Duquesne's phase-in plan. Duquesne proposes to allow these customer accounts to "grandfather" into the first phase of retail access upon request. While Duquesne will allow these customer accounts to be transitioned into the first phase under unbundled service, the pricing for Duquesne services will be modified as

necessary from the pilot program design to the unbundled service rate design approved by the Commission for the transition period.

Q. Does Duquesne propose to allow any other exceptions to its phase-in plan?

A. Yes. First, all customers taking service at specified economic development sites will be allowed direct access upon commencement of their service. Exhibit No. FH-1 lists the specific criteria that define the Economic Development Areas of Choice that would be allowed direct access at the outset of the transition period. Customers located within these designated areas will be offered unbundled service with access to competitively priced generation. Second, all customers taking service at new premises (as distinct from new customers taking service at premises previously served by Duquesne) will be allowed direct access upon commencement of their service.

Q. Will these exceptions (economic development sites and new premises) reduce the number of other customers offered direct access during the first and second phases?

A. No. Customers allowed direct access under the two exceptions will be in addition to the customers offered direct access under Duquesne's proposed plan for determining one-third and two-thirds of the peak load of each customer class.

Q. How will the Company notify customers of their eligibility for direct access?

A. By mail. The Company will send a list of all licensed alternative suppliers to each participating customer. Alternative suppliers will be responsible for giving customers any additional marketing information about their products or services.

Q. How will the Company confirm a customer's choice of alternative supplier?

A. The Company will allow confirmation of a customer's choice of supplier and service options in two ways. First, the supplier can send the Company a service agreement signed by the customer. Second, the customer may call the Company. The Company will verify that the caller is authorized to change the account's status (through social security number or other information). The Company will then ask the customer for the name of the alternative supplier, the billing option (integrated or separate billing) and the supplier rate plan (if the integrated billing option is chosen). The customer-supplied information must be verified by supplier-supplied information.

Upon confirmation of the customer's choice in either of these two ways, the Company will send the customer a notification of the changes in its service. This notification will alert customers of any unauthorized changes in their account.

More information on these procedures is contained in Item M-4 in Duquesne's Appendix A filing.

IV. UNIVERSAL SERVICE AND ENERGY CONSERVATION

Q. Does Duquesne's Restructuring Filing fully comply with the Commission's "Guidelines for Universal Service and Energy Conservation Programs"?

A. Duquesne has only recently received the Commission's Final Order [Docket No. R-000960890F0010, entered July 11, 1997] on Universal Service and Energy Conservation. As such, we are still evaluating the various aspects of the Commission's Order but have initiated actions to develop a comprehensive and multi-year Universal Service and Energy Conservation Plan that would reflect the

features of our existing policies, protections and services but also address (at a minimum) such issues as:

- Needs assessment,
- Identification of the supplier of last resort,
- Inclusion of renewable resources,
- Customer education targeting low income customers,
- Customer access to competitive markets,
- Estimates of operational costs,
- Funding mechanisms, and
- Advisory panels.

Our Universal Service and Energy Conservation Plan is scheduled to be completed on or before November 1, 1997.

Q. What does "universal service and energy conservation" include?

A. Section 2803 of the Act defines "universal service and energy conservation" as "[p]olicies, 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 services 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."

Q. How does the Company plan to meet these objectives?

A. At this time, the Company plans to continue its existing programs, as described below. The Company views these programs as an array of resources, not as stand-alone programs, available to low-income customers. The Company will continue to fund these activities at current levels pending future review of the need for, and effectiveness of, these programs.

Q. Please identify and briefly describe the existing programs.

A. Duquesne sponsors the following programs:

Customer Assistance Program: This is a pilot program currently with about 1,600 participants and annual funding of $500,000. The program writes off past arrearages over three years if the customer makes monthly payments. The program also helps customers to reduce electricity consumption.

Smart Comfort: This program helps about 700 customers each year, with annual funding of $700,000. The program offers cost-effective appliance and lighting replacements to low income customers with high electrical usage.

CARES: This program, currently with about 4,500 participants and annual funding of $130,000, is targeted at low-income customers and senior citizens. The program seeks to link customers with social service programs that will help them pay for their electric service.

Hardship Fund: This program provides financial assistance to about 2,500 customers annually. The Company's stockholders match customer contributions up to

$325,000 annually. Also, the Company contributed $65,000 in 1996 to provide administrative support.

Gatekeeper: Under this program, which is funded as part of CARES, Duquesne field personnel monitor for situations (e.g., mail not picked up, concerns expressed by neighbors) where elderly people may need social service support. The Company asks social support agencies to visit such customers.

LIHEAP: This federally-funded program is administered by the Pennsylvania Department of Public Welfare. The Company promotes the availability of the program through a variety of media (e.g., bill inserts, special mailings) at an annual cost of about $65,000.

Write-offs and Waivers: Each year, the Company writes off substantial arrearages or waives late payment charges for low income customers. The annual cost of these write-offs and waivers is about $5.8 and $1.9 million, respectively. In addition, the Company incurs about $5 million annually in collection costs associated with low income customer accounts.

Q. Is the Company proposing to sponsor any new programs in this area?

A. Not at this time. However, the Company will continue to consider new ideas and approaches that may be cost-effective in serving the needs of low-income, payment-troubled customers. As the competitive market develops, other innovative models may warrant testing and evaluation. In addition, the Company will continue to improve its existing programs as appropriate.

Q. Will Duquesne continue to use community-based organizations ("CBOs") in providing universal service programs?

A. Yes. Past experience has demonstrated that the partnership between the Company and CBOs is effective in providing universal service. Thus, the Company is committed to continuing these existing relationships. There may be other CBOs with programs available to assist low income customers and the Company will continue to explore new ways to integrate such organizations into its universal service programs.

Q. Will the Company maintain its current customer protections on termination of service?

A. Of course. The Company will continue to comply with the Commission's regulations on termination of service, as well as related provisions on credit, collection and billing standards. Section 2807(D) of the Act requires the Company to continue "to provide customer service functions consistent with the regulations of the Commission, including meter reading, complaint resolution and collections. Customer services shall, at a minimum, be maintained at the same level of quality under retail competition."

V. CONSUMER EDUCATION

Q. Does the Act address consumer education?

A. Yes. Section 2807(D) of the Act requires all electric distribution utilities to develop and implement a comprehensive plan informing customers of the changes in the electric utility industry and providing them with information necessary to help them make appropriate choices as to their electric service.

Q. Please describe Duquesne's customer education program.

A. Duquesne's program is multi-faceted. The program uses the media and methods most effective to convey complex topics appropriately to the individual segments of our customer base.

Duquesne's program started with a broad-based public information campaign. This included a series of 500-word "advertorials" in local newspapers, with a concurrent direct mailing to about 25,000 residential, commercial and industrial customers. Each advertorial provided a detailed but understandable explanation of a significant issue related to direct access. This effort was paralleled by a series of 25-word advertisements in local newspapers, with content and graphics targeted at a broader segment of customers. In addition, the advertorials and advertisements appear regularly on the Company's Internet website.

Duquesne's program also includes a team of specially trained telephone representatives available to answer customer inquiries about direct access. A dedicated, toll-free line is being used for this purpose. A brochure is also available for mailing to customers upon request.

Duquesne has also trained other representatives to speak with customer groups about direct access and the attendant changes. These presentations also provide a forum for responding to customer questions.

A videotaped cable TV program will also be available for use by basic cable channels accessible to residents in the service territory. The program contains general educational material about direct access. Video cassette copies of the program will also

be made available through community libraries, municipal offices and other public sources.

In addition, our employees frequently convey information informally to family, friends and acquaintances. To ensure they have (and thus convey) accurate information, the Company's internal communications to employees regularly discuss restructuring and related issues.

Finally, regular customer communications such as bill inserts also will address direct access.

Q. Will the Company work with other groups in its educational effort?

A. Yes. The Company will offer assistance to a range of third-party groups such as universal service CBOs, Chambers of Commerce, community action agencies, senior citizen groups and neighborhood improvement groups. Working with local government officials and community outreach organizations, the Company will offer information workshops on direct access. Similarly, Company employees are available upon request for educational presentations to groups throughout the service territory. The Company also will provide groups with prepared materials on restructuring to supply to their members, clients or other interested parties. This is a cost-effective outreach approach that enables the Company to enhance its educational efforts by partnering with respected community organizations to deliver understandable information to consumers.

Q. Will the Company assess the effectiveness of its customer education program?

A. Yes. The Company will use several established research techniques. Generally, the Company will use the same kinds of techniques it has already used to assess its educational efforts.

For example, the Company retained an independent research firm to conduct one-on-one interviews to test consumers' reaction to the proposed advertorials. Most respondents perceived the advertorials as promoting informed decisions in a fair and unbiased perspective.

The Company also retained an independent research firm to conduct a series of customer focus groups. Generally, the customers indicated a realistic understanding of the upcoming changes due to restructuring. The customers also provided valuable suggestions on improving Duquesne's educational program.

The Company also has used monthly surveys and other studies to evaluate customers' understanding of restructuring. Tracking surveys have assessed customers' awareness of the Company's advertisements and their understanding of the messages.

The Company also will solicit feedback from CBOs and other groups on the effectiveness and understandability of its educational efforts.

The Company will adapt its educational materials and techniques as needed based on this evaluation and on input from the Commission.

Q. Does the Company use its educational program as a marketing tool?

A. No. Consumer education is separate from marketing. The Company recognizes that consumer education should inform customers about restructuring, customer choices

and changes in bill format, without seeking to influence customer decisions about power suppliers. The principal purpose of marketing, on the other hand, is to convince customers to select a particular supplier. In short, consumer education is supplier-neutral; marketing is supplier-specific. The Company will seek to provide unbiased, credible and understandable educational information in compliance with the Commission's plain-language guidelines.

VI. RETAIL SERVICES CODE OF CONDUCT

Q. Will the Company compete for the sale of energy and energy-related services in its service territory?

A. Duquesne expects to compete in the restructured retail market as a competitive supplier of electric energy, capacity and related services. However, at the present time, the specific structure and timeline for doing so has yet to be established.

Q. Is the Company proposing a code of conduct that will assure that nonaffiliate suppliers are treated fairly?

A. Yes. I have attached as Exhibit FH-2 a proposed code of conduct that applies to the provision of regulated and unregulated services by Duquesne. This code will apply if and to the extent that Duquesne offers unregulated services to customers within its service territory. As indicated, Duquesne has not yet formulated a timeline or specific strategy with respect to the provision of such services.

Q. Please summarize the key principle on which the code of conduct is based.

A. The key principle underlying the code of conduct is that Duquesne employees engaged in providing regulated services should not provide preferential treatment to employees engaged in unregulated services.

VII. ECONOMIC DEVELOPMENT RATES

Q. Does Duquesne presently have Economic Development rate incentives?

A. Yes. Duquesne presently has Riders No. 8, 9 and 20 in its existing tariff. A brief description of these Riders follows:

Rider No. 8 is applicable to existing qualifying manufacturing or processing customers as defined in Section D of the latest Standard Industrial Classification (SIC) Manual. It offers variable percentage discounts for load of 100 kW or greater on a 5 year contract basis to both the incremental Capacity and incremental Energy Charges of Rates GM, GL, and L.

Rider No. 9 is applicable to all new qualifying manufacturing or processing customers as defined in Section D of the latest Standard Industrial Classification (SIC) Manual. It offers variable percentage discounts for load of 100 kW or greater on a 5 year contract basis to the entire Capacity and Energy Charges of Rates GM, GL, and L.

Rider No. 20 is applicable to all new or existing smaller qualifying manufacturing or processing customers as defined in Section D of the latest Standard Industrial Classification (SIC) Manual. It offers variable percentage discounts for new or incremental load up to 100 kW on a 5 year contract basis to the Capacity Charge only of Rate GS/GM.

Q. Have these economic development initiatives been effective?

A. Yes. Duquesne has taken a proactive role in attracting and retaining industrial and commercial entities in Pennsylvania. As conveyed to the Governor and the General Assembly in her report (dated July 3, 1996), *The Restructuring of the Electric Utility Industry*, (former) Vice Chairman Lisa Crutchfield noted:

"Duquesne Light Company has assisted 178 industrial customers with discounts totaling $32.5 million while adding 107 MW of new load. In Duquesne's service territory, industrial customers cannot claim that electric rates are making them uncompetitive in the U.S. and in the global international markets. These electric rates are lower than electric rates in England, France, Germany and Japan." [Page 51]

Q. Does Duquesne continue to see a role for Economic Development incentives after customer choice is fully implemented by January 1, 2001?

A. Following the transition period which is scheduled to end January 1, 2001, Duquesne believes the Economic Development rate incentives applicable for <u>new</u> Industrial customers - Riders 9 and 20 - should continue to be available as part of bundled and unbundled service. For those customers choosing unbundled rates, the CTC component may prove to be a disincentive to locate in Duquesne service area, unless discounted comparable to the level of benefits associated with existing Economic Development Riders 9 and 20. By continuing to offer Riders 9 and 20, we will provide more pricing options for customers with comparable (therefore, unbiased) benefits between bundled and unbundled service. Riders 8 and 20, applicable to expansion of

existing industrial customers, will be discontinued. These riders provide economic incentives for incremental load and usage for existing industrial customers. A comparable incentive (depending on load factor) will be embedded in the proposed design of the unbundled rates because the CTC is based on historical, baseline usage with all incremental usage being priced at lower tail block energy rates. Therefore, if a customer is eligible for unbundled rates, there is sufficient incentive to expand their business using unbundled rates, thus making the bundled rate with Riders 8 and 20 unnecessary.

Q. Does Duquesne see a role for Economic Development rate incentives during the transition period from January 1, 1999 to January 1, 2001?

A. Because the customer choice legislation requires the continued offering of bundled service, along with rate caps for total charges through the phase-in period, Duquesne plans to continue to offer its Economic Development rate incentives for existing customers through 2000. Riders 8 and 20 (applicable to existing Industrial customers) will be discontinued and not available for any customers eligible to receive unbundled service. Existing customers who are taking service with the economic development riders will continue to receive the prescribed economic development incentive (i.e., discount) through the remainder of their 5 year contract through adjustments in the CTC calculation. Duquesne sees a role for Economic Development rate incentives for new customers during this period for the same reasons as outlined in the preceding answer.

Q. Does Duquesne have any other tools for use in Economic Development?

A. While the ED riders represent standard offers with pricing incentives that minimize the need for time consuming negotiations and ensure comparable pricing among customers, the riders do not offer the pricing flexibility for the attraction or retention of load. Rule 4, in its present form, has proven to be a useful tool for developing customer-specific pricing. Additionally, Rule 4 has proven to be an effective mitigation strategy, whereby the pricing flexibility of Rule 4 has allowed Duquesne to secure significant incremental load and the associated contribution to fixed costs. Without this competitive pricing, we would have lost incremental sales and lost that potential contribution to stranded costs.

Q. Does Duquesne expect to introduce any new economic development incentives?

A. Yes. As indicated in Mr. Lahtinen's testimony, we will be introducing a new economic development rider applicable to commercial and industrial customers who locate within designated Economic Development Areas of Choice, as defined in Exhibit FH-1. The design of this rider, and the incentives it will offer, are to be patterned after the existing Rider 9. While the existing Rider 9 applies to larger (i.e., >100kw) manufacturing or processing customers, the new rider will apply to any qualifying commercial or industrial customer (i.e., Rates GM, GL or L) with a load of 25 kw or greater. This new rider effectively complements the existing Riders 9 and 20 previously discussed as an incentive for new business to locate within the service territory. For a typical industrial or commercial customer, this rider will provide an

average of 20-25% reduction in the tariff rate over a five-year period. The new rider would go into effect at the start of the phase-in period, scheduled for January 1, 1999.

Q. Does this conclude your testimony?

A. Yes.

Duquesne Exhibit No. FH-1
R-00974104
Witness: Frank Hoffmann

Economic Development Areas of Choice

Definitions[1]

"City" - Any city of the first, second, second class A or third class. "The city" shall mean the particular city for which a particular Authority is created.

"Municipality" - Any county, city, borough or township.

"New Service Location" - A location having one or more delivery points for electric service which will be billed separately by the Company under a single billing address:

(a) To which the Company has not previously supplied electric service
(b) To which the Company has previously supplied electric service provided that such service had been discontinued prior to January 1, 1998, and has remained inactive.

"Redeveloper" - Any individual, government, partnership or public or private corporation that shall enter or propose to enter into a contract with an Authority for the redevelopment of an area, or any portion thereof, or any building or structure thereon, under the provisions of this act.

"Redevelopment Authority" - A public body and a body corporate and politic created and organized in accordance with this act.

"Redevelopment-C" - Undertakings and activities for the elimination of blighted areas. Such undertakings and activities may include the planning, replanning, acquisition, rehabilitation, conservation, renewal, improvement, clearance, sale, lease or other disposition of real property, buildings or other improvements in blighted areas, or portions thereof, the relocation of

[1] Title 35, Chapter 18a, Section 1703 of Purdon's Pennsylvania Statutes.

businesses and families affected thereby into or outside of a redevelopment area, or any combination of such undertakings and activities, the installation, construction or reconstruction of streets, utilities, parks playgrounds and other improvements necessary for carrying out in the blighted area the objectives of this activity in accordance with the redevelopment area plan, and carrying out plans for a program of voluntary repair, rehabilitation, and conservation of real property, buildings or other improvements in accordance with the redevelopment area plan.

"Redevelopment Area" - Any area, whether improved or unimproved, which a planning commission may find to be blighted because of the existence of the conditions enumerated in section two of this act so as to require redevelopment under the provisions of this act.[1]

Site Qualifying Conditions

1. Economic Development Areas of Choice consist of New Service Locations located in a City or Municipality within a Redevelopment Area.

2. The Redevelopment Area must have a minimum area of 100 acres under Redevelopment by a Redeveloper.

Duquesne Exhibit No. FH-2
R-00974104
Witness: Frank Hoffmann

DUQUESNE LIGHT COMPANY
CODE OF CONDUCT FOR RETAIL SERVICES

I. Scope

This code of conduct applies to the employees of Duquesne Light Company ("Duquesne") or any of its affiliate or associate companies that are engaged in the marketing and sale of products and services to Duquesne's franchised retail customers.

II. Definitions

"Aggregate Customer Information" shall mean data that relates to a group of Duquesne's franchised customers and from which individual customer identities and characteristics have been removed.

"Confidential Customer Information" shall mean nonpublic information regarding an individual customer that Duquesne has obtained from the customer regarding (i) the price, quantity, type, or destination of a Regulated Service provided to the customer, (ii) information regarding the customer's billing, payment or credit history for Regulated Services, or (iii) information regarding a customer's desire to purchase unregulated products or services.

"Market Information" shall mean information regarding the market for the provision of energy or energy-related services that is obtained by Duquesne in the course of providing Regulated Services.

"Regulated Service" shall mean a service for which Duquesne holds an exclusive obligation to serve a customer under state law, including, but not limited to, the provision of transmission or distribution services.

"Transmission or Distribution Information" shall mean nonpublic information regarding the provision of retail transmission or distribution service to Duquesne's franchised customers.

"Unregulated Service" shall mean a service for which Duquesne does not have an exclusive obligation to serve under state law.

III. Separation of Functions

Duquesne employees that are engaged in the provision of Regulated Services shall function independently from employees engaged in the provision of Unregulated Services.

IV. Nondiscrimination

Duquesne employees that are engaged in the provision of Regulated Services shall not provide preferential treatment to employees that are engaged in Unregulated Services. Regulated Services shall be offered without undue discrimination and without regard to whether the customer for such services purchases Unregulated Services from Duquesne or an affiliate of Duquesne.

V. Information Sharing

A. Confidential Customer Information

1. An employee engaged in the provision of Regulated Services shall not disclose Confidential Customer Information to any person without the prior consent of the customer.

2. An employee providing Regulated Services may solicit the release of Confidential Customer Information to qualified suppliers of products or services, but may not solicit the release of such information exclusively on behalf of any entity, including affiliates providing Unregulated Services.

B. Supplier Charge Information

Supplier electricity charges provided to Duquesne employees engaged in the provision of Regulated Services for the purpose of providing consolidated bills to customers shall not be released by those employees to Duquesne employees providing Unregulated Services.

C. Other Information

If Aggregate Customer Information, Market Information or Transmission and Distribution Information is transferred from an employee providing Regulated Services to an employee providing Unregulated Services, such information shall be made available upon request to any nonaffiliate.

D. Reliability

Notwithstanding any other provision of this Code of Conduct, in emergency circumstances affecting system reliability Duquesne employees may take whatever steps are necessary to protect system reliability or the health and safety of employees, customers or others.

E. Officers and Directors

Nothing in this Code of Conduct shall prohibit an officer or director of Duquesne or any of its affiliates or subsidiaries from performing his or her duties, provided that, in performing such duties, the officer or director does not provide information that is subject to Section V of this Code of Conduct to employees engaged in the provision of Unregulated Services or, if such information is provided to such persons, the information must be disclosed to nonaffiliates upon request in accordance with this Code of Conduct.

VI. Pricing of Goods and Services

To the extent Duquesne provides support services, including, but not limited to, legal, human resources, accounting, and information systems, to employees providing Unregulated Services, the costs associated with the provision of such services shall be

allocated on a nondiscriminatory basis and in a manner that reflects the degree to which such employees have caused such costs to be incurred.

VII. Dispute Resolution

Duquesne shall establish and file with the Commission a dispute resolution procedure to address complaints alleging violations of this Code of Conduct.

Duquesne Statement No. 6-R

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

DUQUESNE LIGHT COMPANY
DOCKET NO. R-00974104

Rebuttal Testimony
of
Frank A. Hoffmann

Contents:

Response to Intervenor Testimony Regarding Economic Development Rates, Retail Choice Phase-In, Customer Education, and Code of Conduct

REBUTTAL TESTIMONY OF FRANK A. HOFFMAN

I. INTRODUCTION

Q. Please state your name and business address.

A. Frank A. Hoffmann, Duquesne Light Company, 411 Seventh Avenue, Pittsburgh, PA 15230-1930.

Q. Have you previously participated in this proceeding?

A. Yes. I submitted direct testimony (Duquesne St. No. 6) and various supporting exhibits with the Company's August 1, 1997 Restructuring Application. A statement of my qualifications is contained in my direct testimony.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is twofold. First, I would like to correct any misinterpretations of my direct testimony by the various intervening witnesses and secondly to respond to several conclusions and/or recommendations by these witnesses that I believe lack merit. The specific subject areas of this rebuttal include, economic development, the customer selection methodology associated with the phase-in to customer choice, customer education and code of conduct issues.

Q. Would you summarize your rebuttal testimony?

A. First, Duquesne's proposal to eliminate Riders 8 and 20 (for existing customers) and not to unbundle Rule 4 contract pricing is wholly consistent with the economic development objectives of the region and the state. Second, Duquesne's proposed

customer selection methodology is a simple, equitable and objective approach giving customers opportunity for direct access in compliance with the legislation's schedule. Third, Duquesne's customer education program has been structured to effectively fulfill the Company's role as a credible source of objective information about the transition to Customer Choice while integrating that role with the PUC led implementation of the core curriculum. And lastly, to restate Duquesne's commitment to a practical Code of Conduct that ensures fair competition.

Q. In your direct testimony you addressed Universal Service and Energy Conservation issues. Are you going to cover these issues in your rebuttal?

A. Duquesne has taken a progressive approach to Universal Service that is in full compliance with the PUC's Guidelines. Based on our recent needs assessment, we conclude that the current level of funding appears to be adequate to meet the Programs' objectives. Since our original Restructuring Plan filing, Duquesne filed our Universal Service and Energy Conservation Plan with the Commission on November 3, 1997. Given the disparate views on these issues by the various intervening witnesses and the Commission's apparent interest in these important issues, Duquesne is introducing a new witness, Mr. Joseph P. Flynn Jr., to address these issues in depth. Mr. Flynn is the Director of our Customer Programs and is the principle architect of Duquesne's Universal Service and Energy Conservation Programs.

II. ECONOMIC DEVELOPMENT

Q. What is Duquesne's general position vis a vis economic development?

A. Duquesne has been long recognized as an active leader in working with customers and other stakeholder groups to promote the economic growth of the region. This commitment to strengthening the regional economy remains strong and Duquesne will continue in an active role.

Q. DII witness Baron claims unequal treatment between new and existing customers if Duquesne eliminates Riders 8 and 20 (as they pertain to existing customers). Would there be unequal treatment?

A. No. Riders 8 and 20 were originally designed to provide a discount for incremental load and usage as an incentive for qualifying business to expand their operations and contribute to the economic growth of the region. With the introduction of Duquesne's unbundled rate design, as described by Duquesne witness Lahtinen, all incremental usage for existing customers over the baseline usage used to determine their CTC, will be billed at unit prices considerably below the bundled tariff tail block rates. For example, based on an analysis of existing GL-rider 8 customers, the unbundled tariff provides them with approximately 35% more savings on incremental load. If Riders 8 and 20 were to be retained in the tariff structure in their present form, the low tail block rates found in the unbundled tariff would be discounted even further. This would have three adverse consequences. First, maintaining the tariff as presently filed could be misinterpreted to mean that energy charge discounts would also be applied to the unbundled generation charge (CGC). This is not what Duquesne intended. To do so would mean that economic development customers who take full requirements service from Duquesne would

receive power prices as low as 25% below current market prices. Competitive generation suppliers would find it difficult to compete against this below market price. Second, the discount on the already low unit prices would provide more economic incentive than necessary to stimulate the business expansion thus suggesting economic inefficiency. And third, any inequity would in fact result from preserving Riders 8 and 20 since existing customers would be receiving a "discount on a discount" whereas for new customers the Rider 9 discount would apply to only the baseline usage.

Q. In the interest of economic development, should the Rule 4 contracts be unbundled?

A. No. One would not expect any economic development effect by simply unbundling each of the Rule 4 contracts. First of all, each Rule 4 contract was developed as a mitigation strategy to attract or retain incremental load that Duquesne would have otherwise lost to a competitive alternative (e.g., end-use technology using an alternative energy, physical location outside the territory, etc.). In each instance, the customer's total economics associated with the relevant business operation (e.g., differences in energy costs, maintenance costs, capital requirements, etc.) were considered in establishing the negotiated rate. As such, the terms and conditions of each contract are unique to the specific competitive threat. It should be noted that all contracts were priced to cover all of Duquesne's incremental costs and make a positive contribution to fixed costs thus mitigating stranded investment.

With the unbundling proposed by Duquesne, where the generation credit is established based on the market price of energy, the customer's economics under a unbundled Rule 4 would be unchanged. Furthermore, since the Rule 4 rate for each customer was established based on the customer's economics associated with the competitive alternative, the pricing was efficient from an economic development perspective (i.e., it was just low enough to attract/retain the incremental load for the region, yet maximized the contribution to fixed costs.)

Q. You mention that the Rule 4 contracts have the dual effect of supporting economic development while also being a mitigation strategy. Could you describe the effect they have had?

A. The economic development benefits and stranded cost mitigation under Rule 4 have been substantial since its inception. Duquesne has 18 Rule 4 Contracts in effect representing approximately 190 MW's of load. The net present value of the revenues associated with these contracts total more than $247.5 million. If Duquesne did not have this competitive pricing, it would have lost the incremental sales associated with the competitive threat. For example, if the Rule 4 customers had each implemented their next best alternative, the total revenue from the remaining sales with bundled tariff rates would have totaled only approximately $103 million (NPV). Without the pricing flexibility of Rule 4, the net present value of the contribution to fixed costs for the remaining sales would total only about $62.2 million. Under the current contracts, however, the contribution to fixed costs totals $138 million (NPV). Thus using Rule 4 to secure long-term contracts for

incremental load, which otherwise would have exercised a competitive alternative, has helped Duquesne to mitigate fixed costs by almost $76 million ($138 million - $62.2 million = $75.8 million NPV).

Q. Is it valid to view the Rule 4 pricing as a discount from existing tariff levels?

A. No. As described above, the Rule 4 pricing was set at a level necessary to defeat the competitive alternative after it was determined that the standard tariff schedule for the relevant customer class and load would not achieve this objective. Thus the pricing level under the standard tariff schedule as applied to the incremental load is irrelevant since the incremental load would not have been attracted/retained. Rather the customer's savings would have accrued from the competitive alternative with no incremental contribution to Duquesne's fixed costs. OCA witness Smith suggests that any Rule 4 discounts be imputed toward the CTC collections for the relevant customer classes [Page 10, Line 1]. There are two obvious problems with this position. First, as illustrated above, the alleged discount is fictitious. Secondly, the practical effect of witness Smith's suggestion will be to chill any activity under Rule 4, and by extension to all economic development incentives. This is because the costs of all the incentives for economic development will be borne by Duquesne's shareholders while the benefits in terms of economic stimulus to the region accrue to the ratepayers and other stakeholder groups. Given this asymmetrical arrangement, Duquesne would have a disincentive to promote economic development in the region and as a result would cease promoting the economic development incentives inherent to Rule 4 and the relevant riders.

Q. Would you please summarize how you believe the key economic development issues discussed above should be resolved?

A. Given our unbundled rate designed, the claim that it is somehow "unfair" for Duquesne to eliminate economic development Riders 8 and 20, as they pertain to new incremental load, should be rejected. Furthermore, it should be recognized that the attraction/retention of customer load through the Rule 4 flexible pricing provisions is an effective economic development initiative as well as a sound mitigation strategy. As such, ratepayers throughout the region are benefitting from these contracts.

III. CUSTOMER SELECTION

Q. Duquesne has not advocated the "first-come, first-served" approach to customer selection as suggested in the legislation. Why not?

A. First of all it should be noted that, while the legislation suggests that full direct access be determined on a "first-come, first-served" basis, the final determination of the phase-in methodology is to be determined by the Commission. Duquesne's primary reservation about the first-come, first-served approach is the inherent inequities that it introduces among the customers. "First-come, first-served" is only equitable if one presumes all customers are equally informed and educated about both the benefits of competitively priced generation and the procedural aspects for enrolling in the program. (The only remaining variable therefore is motivation.) Given the extensive interest in customer education in this proceeding (which will be subsequently discussed), there appears to be a consensus that this common level of

knowledge does not currently exist and will be a challenge to achieve. While the competitive disadvantage issue for commercial and industrial customers is an obvious issue with this approach, residential customers who will also benefit from direct access should not be disadvantaged simply because someone else who may be better informed enrolls first.

Q. Does Duquesne's proposed approach using GAC's and market segments meet the objectives of the legislation?

A. Yes it does. The legislation requires that the phase-in be designed such that "each customer class shall have the opportunity (emphasis added) for direct access" by the prescribed dates. Duquesne's approach provides this opportunity on a fair and equal basis. Environmentalists witness Biewald suggests that the non-choosing customers (i.e., customer given the opportunity for direct access but deciding to stay with the existing service) should be allocated among the various generation suppliers serving the other customers [Page 46, Line9] presumably against the customer's wishes. MAPSA witness Russell recommends that "suppliers should be able to sign-up customers until one-third of Duquesne's total load is transferred" (emphasis added) [Page 62, Line 27]. Both of these witnesses, as well as other proponents of the first-come, first-served approach seem to have the same objective in mind, i.e., force all customers to leave their incumbent EDC whether they want to or not – an objective that is no where evident in the legislation. The purpose of the legislation was to give customers a choice, not to implement a new framework for regulating customer decisions.

Q. DII witness Baron characterized Duquesne's proposal as "vague and provides absolute control to DLC" [Page 62, Line 19]. Is this true?

A. Not at all. In fact, with the pilot program enrollment completed, we have relied on the customers' responses to determine the actual phase-in schedule for both the GACs and the commercial and industrial market segments. Exhibits FAH-3 and FAH-4 show the results of the pilot enrollment. FAH-3 ranks communities in Duquesne's service territory based on the percentage of total customer accounts within the designated zip code that volunteered for Customer Choice. This list serves as the basis for Duquesne's proposed phase-in schedule such that a maximum of one third of the peak load of each residential customer class shall have the opportunity for direct access. For example, in the first phase, the top 38 communities listed collectively have 189,116 residential and small commercial accounts – one third of the system total. During the pilot enrollment these communities had the largest percentage of customers who expressed interest in direct access by volunteering for the pilot. Duquesne did not control who got on this list; the customers did. Similarly, Exhibit FAH-4 ranks the commercial and industrial market segments based on the percentage of total customer accounts within each segment that volunteered for Customer Choice. From this list the first phase would obviously include the entire load of all commercial/industrial customers in the "Government", "Education", "Industrial-Chemical", "Industrial-Plastics", "Utility Services", etc. Duquesne proposes to release customer segments from this list such that one third of the respective load has the opportunity for direct access by January

1, 1999. By extension, this list would also govern the market segment phase-in sequence for the subsequent two years. Once again, Duquesne did not control which segments were in the first phase – the customers within those segments did.

The simplicity of this approach is self-apparent.

It does not require any complicated pro-rata reductions to each subscriber's nominated load in the event of over subscription (as suggested by DII witness Baron).

It avoids the "land rush" approach, and the attendant operational difficulties of allowing all customers access at the same time (as suggested by Environmentalists witness Biewald).

It ensures that similarly situated business customers are not competitively disadvantaged (as acknowledged by OSBA witness Kalcic).

It allows all customer information now about when they will have the opportunity for direct access so they can plan accordingly.

Q. Is it feasible to accelerate the phase-in to compress the first and second years as some have suggested?

A. The legislation specifies that the opportunity for direct access be phased-in in accordance with the key milestone dates of January 1, 1999, 2000 and 2001. This phase-in was prescribed primarily to ensure that direct access is implemented in an orderly fashion such that all stakeholders are able to adjust to the new marketplace. DII witness Baron and Environmentalists witness Biewald have suggested a rather distorted interpretation of the legislation that would accelerate the time frame.

Given the recent and ongoing experiences of the pilot programs across the state, it is apparent that the phase-in as prescribed in the legislation is a prudent course of action. As we gain further experience with the pilot program, Duquesne will continue to evaluate its implementation plans for the operational feasibility and desirability of accelerating the phase-in.

Q. Would you please summarize how you believe the key customer selection issues related to the phase-in of customer choice discussed above should be resolved?

A. Duquesne has proposed a fair and equitable customer selection methodology that is wholly consistent with the legislation's goals for phasing-in customer choice. We recognize however, that it is desirable to have a uniform approach state-wide and that other methodologies may have comparable results. The Commission has recently issued a Request for Comment regarding Retail Access Phased Implementation (M-00960890 F.0012). While the staff recommendation contained within the Commission's request appears to be flawed in various respects, Duquesne will continue to work within the Commission's process to advance our views on this matter and work toward an equitable resolution.

IV. CUSTOMER EDUCATION

Q. Has Duquesne Light proposed and implemented a customer education plan as required by the customer choice act and the Commission's orders?

A. Yes. As required by the Competition Act, Duquesne Light presented a well-structured customer information and education plan to effectively convey complex topics to all of the individual segments of its customer base. The plan as designed,

although preliminary in part, seeks to *inform and educate* customers about electric competition, and help them understand how to evaluate their choices. The role of the consumer education plan is to provide factual, unbiased information and instruct consumers on how to comfortably use that information to make the choice that is appropriate to meet their needs.

As a regulated utility, Duquesne devotes significant resources to consumer education. The Company maintains ongoing interactions with individual customers as well as various local organizations catering to the needs of specific segments of the community. These dialogues enable the Company to obtain additional insight into local education needs, then factor that insight into its overall education plan. Duquesne will continue to work with local and state government officials and community outreach organizations to deliver understandable information and education to all of its consumer segments about competition and retail choice. The Company annually establishes budgets to implement its planned consumer education and evaluation initiatives. Any expansion of this plan by the Commission could require additional funding above the established budget level. Duquesne would consider these extra funds to be transition costs, and therefore fully recoverable. These efforts may include the use of existing Company employees, facilities and other in kind services, so the identification of a specific budget and educational staff can be misleading if used as a sole means of determining the Company's commitment to its educational responsibility. Instead, a better measurement of this

obligation is by the quality and effectiveness of its resource utilization to achieve the stated goals.

Duquesne continues to evaluate all available alternatives to provide the most effective education efforts and allocates resources as appropriate. The Company respects the needs of its customers and does not assume that low income, elderly or non-English speaking customers are less intelligent or less capable of understanding the impending changes. Duquesne research shows that older consumers understand more than most, including high income customers, about the concepts of retail choice.

Duquesne also adheres to Commission requirements to disseminate general customer education materials such as the glossary of terms and dictionary. The Company participates in state-wide efforts to incorporate additional initiatives developed to support the Commission's core education curriculum, and provides support to these efforts as appropriate for the needs of Duquesne customers. The statewide Consumer Education Programs proposed by witnesses Alexander (Alexander testimony - p. 20), Muench (Muench testimony - p. 28), and Biewald (Biewald testimony - p. 24) do not exist, and may not for several months. Duquesne cannot delay the development and implementation of its own education plan since consumers are currently being exposed to decidedly biased and often inaccurate messages about competition through the media, by suppliers and from other special interest groups. Since the Company is providing objective educational

information, it anticipates no difficulty in coordinating its planned efforts with future statewide campaigns.

Q. How will this customer education be funded?

A. Duquesne recognizes that it has an ongoing responsibility for providing its customers with information about the safe, efficient and economical use of the utility's services. We view this role as continuing. Expenses associated with these activities at their traditional level are contained within Duquesne's cost of the service. Specifically, based on Duquesne witness Lahtinen's direct testimony (R-00974104, Volume II, Statement No. 5, Exhibit JAL-1B) there is approximately $0.9 million in labor and $1.4 million in non-labor expense contained within the relevant FERC accounts (i.e., 907 through 910, 913 and 916). The corresponding 1998 non-labor O&M budget to implement Duquesne's customer education plan is estimated to be $1.95 million, approximately $550,000 above the cost of service level. It should be noted that this budget is preliminary and is based on both the customer education plan and on our proposed approach to customer selection and phase-in. The Commission has not yet specified the scope or tactics of implementing its core curriculum, or the level of funding needed to execute it. Should these costs be allocated to the various stakeholder groups including Duquesne, we would have to adjust our budget accordingly. While Duquesne views the customer education expense to be an inherent cost of fulfilling its role as the EDU, extraordinary expenses above the cost of service level are clearly driven by the unique educational requirements of the transitional period. As such, Duquesne will treat

these incremental expenses as transitional costs and recover them through the appropriate mechanism.

Q. Does Duquesne Light's proposed education plan make it difficult for consumers to distinguish education from marketing messages?

A. No. Duquesne Light clearly understands the distinctions between informational, educational and promotional material, as do its customers. OCA witness Alexander points out that "It does not take a marketing expert to realize that most Americans are quite sophisticated at discounting marketing information and the 'hype' of most commercial advertising" (Alexander testimony - pp. 17,18). Duquesne agrees with this statement and strongly believes its customers are also sophisticated enough to separate education from marketing, regardless of the banner under which the information appears. The Company's consumer education program does not attempt to influence customer behavior by motivating them to enter the market and choose a particular generation supplier. Stimulating sufficient interest to participate in a competitive market is the function of marketing communications as provided by others such as the licensed electricity generation suppliers under the supervision of the Commission. This is not the role of an effective consumer education program.

The Environmentalist's suggestion to coordinate consumer education with disclosure and labeling requirements (Biewald testimony - p. 12) is problematic. Disclosure of sources of electricity is a supplier responsibility, and could in fact represent marketing information that might influence customer decisions about power

suppliers. Duquesne agrees with witness Biewald's statement that "a customer education program that presents clear and unbiased information to consumers is essential for meaningful choice" (Biewald testimony - p. 25).

Q. What will happen to Duquesne's marketing activities and associated expenses as its customers transition to Customer Choice?

A. As a regulated utility, Duquesne's marketing activities have been closely aligned with its traditional role of informing customers about the safe, efficient and economical use of its services. From its cost of service study (previously cited), Duquesne's 1996 cost for marketing (e.g. sales expense) and communications (e.g., customer service and information) to customers was approximately $6.7 million (as reflected in FERC accounts 907 through 916).. As Duquesne transitions from a vertically integrated/regulated utility to some other structure, the separation between customer service and marketing may become more pronounced, especially as it pertains to regulated and non-regulated activities (as addressed in section V below regarding Code of Conduct). It is not at all certain, however, that the level of Duquesne's marketing-related expenses supporting the regulated business will diminish. Even functioning solely as a regulated EDU, Duquesne will still provide delivery service to the same number of franchise customers, still need to provide customer programs and still need to encourage the safe, efficient and economical usage of its services. In the event that regulated marketing-related expenses are avoidable and do diminish during the transition period, the ROE spill-over mechanism proposed in this Plan (as described by Duquesne witness Clayton in

Statement No. 2) will make the necessary adjustments to Duquesne's recovery period.

Q. Has Duquesne Light used its consumer education materials to enhance its image and position itself as a supplier in the new competitive market?

A. No. Duquesne's educational materials repeatedly emphasize the opportunity that the new competitive marketplace will provide to its customers, not itself. The consistent theme of the Company's educational materials is that despite all of the changes, Duquesne will provide local continuity by continuing to deliver the power, respond to emergencies and answer customer questions about their electricity service, regardless of whom they choose as a generation supplier. This has always been, and will continue to be, Duquesne's role as a regulated, electric distribution company. Contrary to Enron's claim (Muench testimony - p. 31), the Company has made no marketing references, subtle or otherwise, as to why Duquesne is superior to alternative suppliers.

Duquesne does not agree with Enron's assertion that "attempting to label information as marketing or customer education oriented is completely unenforceable" (Muench testimony - p. 29). The Commission's involvement in the development and implementation of consumer education programs, along with their review of all education materials, will clearly eliminate this concern. In addition the Code of Conduct, to which Duquesne Light subscribes, will ensure that marketing and education activities remain separate.

Q. Has Duquesne conducted research to determine what its customers already know and how they want to learn more about customer choice?

A. Yes. Duquesne conducts monthly research to determine its customers' knowledge of electric competition legislation, what competition will mean to their electric service, and how they want to receive information about customer choice. The Company's ongoing research shows that most customers (88% - Overall 1997) claim to be aware of changes in the electric industry, and nearly two-thirds (64% - August 1997) recall that they can soon choose the company that produces their electricity (September 1997 residential survey). Duquesne specifically researched awareness and perceptions of changes in the electric utility industry among energy decision-makers in high income households (>$50,000), older households (50 years of age or older) and mixed residential customers (March 1997 residential focus groups). Customers in the older group tended to have a more extensive knowledge of changes occurring in the electric industry than either of the other groups, and demonstrated a solid understanding of the differences between the generation and distribution of electricity.

Duquesne does not share Enron's view that "there is no reason for Duquesne to place its name on any customer education communications" (Muench testimony - p. 31). Customers naturally turn to a company that they recognize and feel comfortable with to ask questions and learn more about the issues relating to competition and restructuring. They also expect the Company to distribute education materials

developed specifically for Duquesne customers under the "corporate banner" since they are still customers of Duquesne Light. In fact, 78% of Duquesne's customers reported that they would find it useful to get educational information about customer choice from Duquesne Light (January 1997 residential survey). High SES consumers were more likely to say they wanted to receive information through technological channels (i.e., via cable or Internet); whereas other customers were more likely to want to learn from a "live" person, either in-person or by telephone (March 1997 residential focus groups). It is important for consumers to have a local source for information, and the use of the Company's name and toll-free hotline provide them with such a source. Accordingly, Duquesne has incorporated these and other research findings into the implementation of its education plan.

Q. Has Duquesne Light conducted research of pilot program participants in other states to determine what information and methods were most effective in the education process, and used that research to improve its overall plan and education materials?

A. Yes. Duquesne conducted an analysis of pilot programs in New Hampshire, Massachusetts and Illinois (March 1997) specifically focusing on customer education efforts and customer responses to those efforts. Surveys of customers in the New Hampshire pilot indicated that more than two-thirds (68%) said bill inserts were a *very effective* way to educate consumers about retail competition, over one-half (53%) said direct mail would be *very effective* and nearly one-half (49%) said a toll-free telephone number would be *very effective*. (January 1997 Survey Report of Retail Competition Pilot Program prepared for NH Public Utilities Commission).

Duquesne has incorporated these and other findings into its education and evaluation plans. The Company initially informed customers of the move toward retail choice and pilot programs via bill inserts and feature articles in the ServiceLine newsletter inserted in all residential electric bills. Duquesne direct mailed copies of the advertorials to numerous opinion leaders in most residential communities, and established a toll-free hotline to respond to consumer questions about the new legislation and the impending switch to a competitive electric generation market.

Witness Alexander states that "... research of pilot program participants have concluded that customers want information and education about electric competition from neutral parties, such as newspapers, television and government organizations" (Alexander testimony - p. 10). While surveys of participants in the New Hampshire pilot show that consumers *expected* these sources to take lead responsibility for educational efforts, the research also shows that the number of participants who completely understood the pilot was very similar when compared by receipt of information from these same neutral sources (Newspapers - 55.3%, Television - 57.4% NHPUC - 58.8%), and from a potentially "biased" source (Public Utility - 55.7%). This suggests that the neutrality of the information source may be less relevant to educational effectiveness than the utility of that information. Company research of its own customers shows that only 9% find Duquesne Light *not at all believable* when it talks about issues that concern customers, while 78% found it

useful to get educational information from Duquesne (September 1997 residential survey).

Q. How does Duquesne Light's education program prepare consumers to be informed shoppers for electricity and electricity suppliers?

A. By necessity, Duquesne assumed the role of chief information source about electric restructuring because there were few sources as clearly accessible or recognizable to the general public. Duquesne's education plan demonstrates that there are distinct phases to a consumer's exposure to the onset of electric competition. It also identifies specific goals for each phase that mirror the objectives established by the Commission as set forth in their Final Order on Duquesne's pilot program (as entered August 29, 1997). The strategies for attaining these goals are evident in the stated purpose indicated for each of the key activities. The activities introduce the relevant information needed by consumers to understand and participate in each phase of the transition to retail choice. The approach builds on previous knowledge and allows consumers to establish their own comfort level with the current information before moving on to the next phase.

The information stage establishes basic awareness of the changes occurring in the electric utility industry, and uses Duquesne Light as a familiar reference point for customers to understand how these changes will affect common relationships associated with their own electricity service. The consistent theme is that while

many things are changing, others will remain the same and there will always be familiar resources in the local community to guide the way.

The solicitation, enrollment and administration phases of the education plan currently focus on the pilot program, but similar phases will exist for the transition to competition. Because the Commission has not finalized the procedures for transition, current education materials and initiatives focus primarily on Duquesne Light pilot participants. Subject matter is consistent with the key areas defined by the Commission's core curriculum. The information provides facts about how the pilot works and what consumers have to do to make informed decisions about participation. Duquesne tested the content of this material with focus groups of high income, older and mixed residential consumers, and overall impressions of the content were generally quite good. Most customers felt the information was useful, and generally limited their criticisms to the format of the package (which changed for the published document).

Consistent with research findings of pilot participants in other states, Duquesne customers particularly want information about suppliers, and how to accurately calculate savings. To address these concerns, the Company mailed copies of the Commission's licensed supplier list to all participants, and included relevant questions to ask those suppliers about their generation service and rates. Duquesne also provided detailed instructions on the sources of potential savings as a pilot

participant. The pilot information provided a simple worksheet that enabled consumers to use their own monthly electric bill to apply the pilot program credits, then factor in the generation supplier's offer to determine potential savings as compared to their current bill. This approach enabled all pilot participants to evaluate the true impact on ultimate savings of different offers by separating the pilot incentives from the actual prices quoted by the suppliers. Using an "apples-to-apples" comparison of supplier prices, un-obscured by potentially misleading savings claims, enables consumers to truly shop for the best offer rather than the best average savings claim.

Q. Has Duquesne Light developed a plan to evaluate the effectiveness of its consumer education plan?

A. Yes. As the pilot progresses, and the Commission refines the rules of competition, Duquesne will continue to conduct detailed research to assess overall knowledge as well as evaluate customers' experience with the competitive market and choosing a generation supplier. The Company disagrees with witness Colton's statement that it "provides no mechanism to evaluate and adjust its consumer education program as it is implemented (Colton testimony - p. 26). Duquesne submitted a Customer Choice Pilot Evaluation Plan as part of its compliance filing to describe the specific information it will gather, compile, analyze and report to provide insights into the efficacy of the retail choice pilot program. The plan also describes when and how it will use established research techniques appropriate to the stated evaluation objectives.

The Customer Education Plan identifies specific areas in each phase of the plan where these evaluation results will help assess the validity of the program and guide changes where appropriate. Duquesne recognizes that the ongoing evaluation and adjustment of its consumer education efforts are crucial to the introduction of customer choice. Witness Colton proposes adoption of his 11-step plan for evaluation of consumer education efforts (Colton testimony - p. 26). While this plan is one way of approaching the issue, it is not the only workable method to evaluate the effectiveness of education initiatives. Duquesne believes its own evaluation plan will clearly address the issues inherent in communicating the changes occurring in the electricity industry.

Q. Does Duquesne support the development of a commission-led statewide consumer education plan?

A. While a centralized approach, as suggested by Enron, Environmentalists, and OCA, is certainly one way to manage consumer education, there is no evidence to support the claim that this is the most efficient way to reach all Pennsylvania households (Alexander testimony - p. 22), or that it makes the most sense (Muench testimony - p. 28). Duquesne Light recognizes the importance of public input into educational messages; however, the creation of a "Consumer Education Joint Committee" as suggested by the Environmentalists (Biewald testimony - p. 24) to control content and timing of the Company's messages is neither practical nor necessary. It adds needless layers of bureaucracy, time and expense to a review process that is

currently adequate and thorough. There is no evidence to support the suggestion that formation of a Committee will result in better communications than exist.

The demographic profiles and resulting educational needs of consumers throughout the state vary from one service territory to the next, so a one-size-fits-all approach is inappropriate. Duquesne representatives throughout the company routinely gather customer input on the information needs unique to our service area in addition to its ongoing formal customer research. A combination of centralized and decentralized messages coordinated at the local level may be more appropriate to address these issues.

Duquesne acknowledges the appropriateness of a significant Commission role in statewide consumer education efforts, provided the Commission's activities do not supplant Duquesne's initiatives addressing the specific educational needs of consumers in its service area. The development of the core curriculum to establish basic educational objectives and provide key information messages is one example of how the Commission currently serves this capacity. Review and oversight of education efforts by electricity generation suppliers, special interest groups and local distribution companies to ensure consistent themes is another appropriate function for the Commission's statewide efforts. Duquesne could also support the Commission's role in establishing uniform criteria for evaluating the effectiveness of consumer education activities statewide, provided the Commission develops these

criteria with advice and input from major stakeholders, including the local distribution companies. Duquesne disagrees with the inferences of witnesses Colton, Biewald and Alexander that a Commission-led or Commission-supervised evaluation effort is the *only* effective way "...to make sure that the message about customer choice is understood, and determine where further educational efforts are needed..." (Alexander testimony - p. 25).

Until the nature and design of the state-wide program are complete, Duquesne does not support the blind allocation of funding, nor can it commit millions of dollars to capitalize state-wide efforts that may prove inappropriate to local needs or redundant to ongoing Company efforts (Colton Exhibit RDC-11 - pp. 1,2). Duquesne is also of the opinion that any expenses related to consumer education prescribed by the Commission should be fully recoverable, and does not support the Environmentalists' position that the use of ratepayer dollars be prohibited if an advisory committee does not approve the Company's education materials (Biewald testimony - p. 27).

The Company could support witness Alexander's testimony that the state-wide plan be funded by a combination of resources from the Commission itself, the distribution companies and other governmental, educational and non-profit organizations (Alexander testimony - p. 26), provided the electricity generation suppliers also participate as a funding source. As the principle beneficiaries of the education efforts, all suppliers who have applied for, or received licenses to sell electricity in the state of Pennsylvania must also be required to contribute to the funding of any

state-wide education and or evaluation program in an amount proportionate to their share of retail customers throughout the state.

Q. Could you summarize Duquesne's position regarding its approach to customer education?

A. Duquesne has submitted to the Commission its Customer Information and Education Plan that is designed to meet the Commission's stated objectives regarding customer education. We agree with the Commission that the responsibilities for customer education should be shared between the Commission and the EDU, with input from the relevant stakeholder groups. The customer education initiatives developed by Duquesne and the Commission will focus on meeting the customer education requirements unique to the transitional period. As such, the new education programs are expected to require extraordinary expenditures to implement (i.e., above customer information expenses contained within the Restructuring Plan's 1996 cost of service) albeit just during the three-year phase-in period. Therefore, any customer education expenditures above the existing cost of service level should be recovered by the EDU as a transition cost, possibly through the Universal Service Charge.

V. CODE OF CONDUCT

Q. Has Duquesne proposed an effective Code of Conduct?

A. Yes. The Code of Conduct adopted by Duquesne is wholly consistent with that proposed by the Pennsylvania Electric Association for the pilot program and subsequently accepted by the Commission. It is interesting to note that the only commentators on Duquesne's Code of Conduct were ENRON and MAPSA, parties

which have a vested interest in taking positions which would handicap the Electric Distribution Utilities and/or its affiliates at the expense of the consumer. Other intervenor groups in this proceeding who would be expected to have a more objective view of Code of Conduct issues did not take issue with Duquesne's proposed policies. Contrary to MAPSA witness Russell's belief (p. 47, line 8), Duquesne is currently complying with the proposed Code of Conduct. Furthermore, Duquesne has operated under a Commission approved Affiliated Interest Agreement since 1989 [Docket G-890176].

Q. Does Duquesne expect to modify its Code of Conduct in the future?

A. As recognized by the members of the Competitive Safeguard Working Group, there are many issues that are complex and remain contentious among them and to date have not been resolved through consensus. The relevant issues for the most part are generic in nature and not unique to Duquesne. As a result we expect that they will be addressed in a generic proceeding by the Commission through the issuance of regulations after the Commission has received comment and input from all interested parties. The outcome of that proceeding may necessitate as yet unspecified modifications or additions to Duquesne's Code of Conduct. Should the outcome of the generic proceeding so dictate, Duquesne will obviously adjust its Code of Conduct to be in full compliance.

VI. CONCLUSION

Q. Does this conclude your testimony?

A. Yes it does.

Residential and Small Commercial Transition Groups

FIRST 1/3 OF MUNICIPALITIES - JANUARY 1999

Zip Code	Municipality	Total Accounts	% Interest
15275	Parkway West	2	100.00%
15084	Tarentum	18	33.33%
15021	Burgettstown	15	26.67%
15071	Oakdale	306	24.18%
15090	Wexford	26	23.08%
15243	Scott	4,727	16.40%
15102	Bethel Park	1,543	16.08%
15024	Cheswick	1,162	16.07%
15075	Rural Ridge	115	17.39%
15142	Presto	264	17.05%
15037	Elizabeth	94	17.02%
15236	Pleasant Hills	11,026	16.80%
15234	Castle Shannon	7,018	16.13%
15049	Harwick	273	16.12%
15050	Hookstown	1,078	15.58%
15222	Golden Triangle	1,353	15.45%
15228	Mt. Lebanon	7,433	15.42%
15123	West Mifflin	52	15.38%
15026	Clinton	1,419	15.15%
15668	Murrysville	33	15.15%
15131	McKeesport	3,961	15.00%
15101	Allison Park	9,435	14.49%
15017	Bridgeville	564	14.36%
16115	Darlington	42	14.29%
15227	Brentwood	13,309	14.28%
15108	Coraopolis	16,060	14.00%
15044	Gibsonia	8,086	13.91%
15146	Monroeville	13,550	13.82%
15239	Plum	8,486	13.70%
15043	Georgetown	1,026	13.42%
15220	Wabash	9,388	13.28%
15143	Sewickley	6,927	13.25%
15216	South Hills	12,202	13.06%
15217	Squirrel Hill	12,017	13.04%
15235	Penn Hills	17,799	12.93%
15006	Bairdsford	218	12.84%
15229	West View	6,661	12.79%
15237	McKnight	11,406	12.70%
	TOTAL	189,116	

SECOND 1/3 OF MUNICIPALITIES - JANUARY 2000

Zip Code	Municipality	Total Accounts	% Interest
15116	Glenshaw	6,139	12.66%
15005	Baden	3,890	12.37%
15068	New Kensington	1,558	12.32%
15147	Verona	8,289	12.26%
15126	Findlay	1,181	12.19%
15226	Brookline	6,747	12.16%
15202	Bellevue	10,809	12.16%
15085	Trafford	1,877	12.04%
15137	North Versailles	5,376	11.94%
15136	Mckees Rocks	10,794	11.88%
15009	Beaver	6,909	11.84%
15034	Dravosburg	1,099	11.74%
16063	Zelienople	206	11.65%
15106	Carnegie	9,729	11.61%
15042	Freedom	3,146	11.54%
15092	Wireton	52	11.54%
15122	West Mifflin	9,648	11.54%
15112	East Pittsburgh	1,977	11.48%
15207	Hazelwood	6,225	11.42%
15007	Bakerstown	206	11.17%
15225	Neville Island	755	11.13%
15216	Swissvale	7,954	10.99%
15642	North Huntingdon	55	10.91%
15035	East McKeesport	1,278	10.88%
15205	Crafton	11,592	10.78%
15056	Leetsdale	630	10.63%
15139	Oakmont	3,564	10.55%
15210	Mt. Oliver	14,126	10.50%
15204	Corliss	4,235	10.48%
15051	Indianola	249	10.44%
15221	Wilkinsburg	18,260	10.27%
15213	Oakland	8,468	10.21%
15001	Aliquippa	15,844	10.21%
15003	Ambridge	6,543	10.21%
	TOTAL	189,410	

THIRD 1/3 OF MUNICIPALITIES - JANUARY 2001

Zip Code	Municipality	Total Accounts	% Interest
15133	McKeesport	3,242	10.18%
15238	Fox Chapel	5,282	10.13%
15025	Clairton	5,610	10.04%
15061	Monaca	5,889	10.02%
15046	Glenwillard	310	10.00%
15052	Industry	1,613	9.92%
15145	Turtle Creek	4,061	9.87%
15212	Lower North Side	16,305	9.80%
15027	Conway	1,096	9.67%
15209	Millvale	6,147	9.52%
15214	Observatory	6,819	9.25%
15074	Rochester	4,487	9.25%
15066	New Brighton	5,878	9.17%
15215	Sharpsburg	6,337	8.98%
15132	McKeesport	11,048	8.89%
15059	Midland	2,324	8.82%
15045	Glassport	2,522	8.80%
15081	South Heights	266	8.65%
15211	Mt. Washington	6,580	8.63%
15208	Homewood	6,128	8.44%
15010	Beaver Falls	7,553	8.20%
15223	Etna	4,001	7.97%
15203	Carson	6,124	7.95%
15206	East Liberty	15,950	7.87%
15110	Duquesne	3,488	7.83%
15148	Wilmerding	1,564	7.74%
15233	Kilbuck	1,659	7.66%
15232	Shadyside	6,721	7.65%
15091	Wildwood	108	7.41%
15104	Braddock	5,304	7.35%
15120	Munhall	9,906	7.32%
15201	Arsenal	7,485	6.97%
15077	Shippingport	116	6.90%
15140	Pitcairn	15	6.67%
15224	Bloomfield	5,866	6.63%
16059	Valencia	110	6.36%
15219	Uptown	5,758	5.94%
15279	Pittsburgh	203	3.94%
15032	Curtisville	1	0.00%
15076	Russellton	1	0.00%
15080	Glasgow	1	0.00%
15115	Glenfield	5	0.00%
15134	McKeesport	2	0.00%
15244	Montour	1	0.00%
	TOTAL	183,886	

Commercial/Industrial Market Segment Raking

Market Segment	Total Accounts	Volunteered Accounts	Percent of Total
Government Total	1,728	911	52.72%
Education Total	985	509	51.68%
SIndustrial - Chemicals Total	125	46	36.80%
Industrial - Plastics Total	64	21	32.81%
Utility Services Total	1,801	577	32.04%
Retail Foods Total	968	308	31.82%
Industrial - Steel Total	458	142	31.00%
Retail Restaurants Total	2,382	675	28.34%
Industrial - Glass Total	148	40	27.03%
Retail Merchandise Total	4,733	1,195	25.25%
Office Buildings Total	7,931	1,864	23.50%
Industrial - Other Total	1,238	284	22.94%
Healthcare Total	1,813	352	19.42%
Mining Total	57	9	15.79%
Services Total	29,929	4,693	15.68%
Wholesale Trade Total	1,535	194	12.64%
Construction Total	1,349	159	11.79%
Agriculture Total	129	13	10.08%

R-00974104, R00974104C0001-C0002

VOLUME III

Duquesne Statement No. 8

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BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

DUQUESNE LIGHT COMPANY
DOCKET NO. R-00974104

Direct Testimony
of
Fred R. Allison

Contents:

Regarding Metering, Meter Reading, Billing, Payment Processing, Collection and Supplier Settlements.

DIRECT TESTIMONY OF FRED R. ALLISON

I. Qualifications

Q. Please state your name and business address.

A. Fred R. Allison, 411 Seventh Avenue, P.O. Box 1930, Pittsburgh, Pennsylvania 15230-1930.

Q. By whom are you employed, and in what capacity?

A. I am employed by Duquesne Light Company ("the Company" or "Duquesne") as an Assistant Controller in the corporate Controller's Unit.

Q. Please describe your educational background.

A. I graduated from Pennsylvania State University with a Bachelor of Science degree in Business Administration with a major in Accounting in 1971, and from Ohio State University with a Master of Accounting degree in 1974. In addition, I have completed continuing education programs in accounting and budgeting at the University of Pittsburgh and the University of Wisconsin, Madison, respectively.

Q. Do you hold any professional licenses and are you a member of any professional organization?

A. I am a Certified Public Accountant (CPA) licensed by the Commonwealth of Pennsylvania and am a member of the American Institute of CPA's.

Q. Please describe your employment history.

A. Immediately following graduation from Ohio State, I was employed by the accounting firm of Haskins & Sells, now Deloitte & Touche, from 1974 to 1976. Since 1976, I have been employed by Duquesne Light in the following positions: Statistical Accountant -

CAPCO, 1976-1978; Manager, Customer Accounting, 1978-1985; Manager, General Accounting, 1985-1988; Manager, Financial Systems, 1988-1991; Manager, Corporate Budgeting, 1991-1996; and the position I now hold, Assistant Controller.

Q. Please describe your current responsibilities.

A. I oversee the operation of the accounts payable, customer accounting, payroll accounting and valuation & property records departments. In addition, I am managing the business process redesign to implement the Company's Retail Access Pilot Program.

Q. Please describe your memberships in any industry organizations.

A. I have been a member of various accounting and budgeting committees of the Edison Electric Institute (EEI); the Pennsylvania Electric Association (PEA) and the Central Area Power Coordination Group (CAPCO).

Q. Have you previously testified before this or any other regulatory commission?

A. I provided testimony in a customer service billing dispute before an administrative law judge of the Pennsylvania Public Utility Commission in the early 1980's.

II. Purpose of Testimony and Conclusions

Q. What is the purpose of your testimony in this proceeding?

A. My testimony and accompanying exhibits describe and support the Customer Choice Plan for the implementation of metering, meter reading, billing, payment processing, collections and supplier settlement during the Transition Period. In doing so, I will address the reasons why Duquesne's implementation plan satisfies the requirements of the Restructuring Legislation.

My testimony is organized as follows. I first discuss the requirements and objectives of the Restructuring Legislation. I next discuss the manner in which Duquesne

will address the implementation issues associated with metering, billing and other revenue cycle services. I next address the arguments of certain stakeholders that revenue cycle services should be unbundled. Finally, I discuss the supplier settlement procedures that Duquesne is proposing.

Q. What are your principal conclusions?

A. First, I conclude that Duquesne's implementation plan for customer choice will maintain or improve the reliability of service customers enjoy today and will treat customers and competitive suppliers fairly. In particular, I conclude that the new automated metering service being installed by Duquesne, the Customer Advanced Reliability System ("CARS"), which provides time differentiated pricing capability for customers, will enhance the transition to competition by broadening the nature of generation services that customers are able to purchase. Second, I conclude that the unbundling of revenue cycle services is not appropriate at this time and that, even if it were appropriate to do so in the future, the matter should be addressed generically by the Commission in a rulemaking proceeding, not in this case. Third, I conclude that Duquesne's proposal for supplier settlement is appropriate because it uses the best available information and technology in determining whether suppliers' deliveries and customer consumption are in balance.

III. Statutory Requirements

Q. Please describe the requirements of the Restructuring Legislation that apply to metering, billing and other revenue cycle services.

A. There are a number of provisions of the Restructuring Legislation that discuss the provision of revenue cycle services. These provisions are largely contained in Section 2807. I summarize them briefly below:

- Section 2807(a) states that an electric distribution company ("EDC"), with Commission approval, "may require that the customer install, at the customer's expense, enhanced metering capability sufficient to match the energy delivered by the electric generation suppliers with consumption by the customer."
- Section 2807(c) provides that "subject to the right of an end-use customer to choose to receive separate bills from its electric generation supplier, the [EDC] may be responsible for billing customers for all electric services." This section also requires that (i) bills contain unbundled charges, (ii) electric suppliers provide the EDC with certain billing data, and (iii) the EDC be protected from having to remit payment to an electric supplier before having received payment from the customer.
- Section 2807(d) requires that the EDC "continue to provide customer service functions including meter reading, complaint resolution and collections" and that "customer services shall, at a minimum, be maintained at the same level of quality under retail competition."
- Section 2804(3) provides that the Commission "shall require the unbundling of customer bills to separate the charges for generation, transmission and distribution" and that "the Commission may require the unbundling of other services."

Q. What do you conclude from these requirements?

A. In my opinion, these requirements, taken together, demonstrate support for the following three principles. First, maintaining customer service at current levels is a key priority and no policy should be adopted that would degrade service levels. A necessary corollary is

that customer service levels should be improved if possible. Second, the Legislation recognizes the potential customer benefits of installing "enhanced metering capability" and therefore authorizes the Commission to order such service. Third, the unbundling of bills and services is contemplated, but the Legislation specifically indicates that the unbundling of generation, transmission and distribution services is the first priority.

Q. How do these requirements relate to Duquesne's implementation plan?

A. As I will explain in more detail below, Duquesne's implementation plan is fully consistent with the statutory requirements and objectives. First, CARS not only maintains, but increases, the high level of service that Duquesne's customers enjoy today. Second, CARS will provide customers the ability to obtain the full benefits of a competitive generation market by providing them the ability, among other things, to purchase products that are priced on a time-differentiated basis. Third, Duquesne will unbundle customer bills to separate charges for generation, transmission and distribution and will provide customers the option of having their electric supplier submit a separate bill for the services it provides.

IV. Duquesne's Implementation Plan for Revenue Cycle Services

Metering

Q. Please describe Duquesne's plan regarding metering during the Transition Period.

A. In January 1996, Duquesne signed a fifteen year, full service contract with Itron, Inc. a leading supplier of energy information and communication solutions to the utility industry to install, operate and maintain CARS. CARS will provide Duquesne with an electronic communications link to its approximately 580,000 customers in Allegheny and Beaver counties. With the new system, customers' use of electricity will be recorded and

communicated electronically to a control center in the Company. As a result, customer service personnel will have a much greater insight into the status of power delivery across the system and for individual customers. Customers also will be able to request electric service to start or stop with no advance notice, and service to the location can be stopped or started without visiting the site. Additionally, customers who have electric meters inside their homes will no longer have to provide access to have their meters read.

The system's ability to process information about power delivery will provide customers new choices and greater convenience. For example, customers may be able to determine which day of the month to pay their bills. CARS will enable development of a daily profile of the electricity usage of each customer. CARS also will allow customers to obtain the benefits of time differentiated pricing and will facilitate supplier settlements.

Customers will benefit from increased energy security. The system will inform the Company when a customer is out of service. Upon detection of an outage, CARS automatically will notify Company personnel so that restoration can begin more quickly. The new system also will enable the Company to track more effectively electric power load growth. With more detailed information about customer demand, the Company can improve its ability to respond to the need for higher capacity distribution equipment. In these ways CARS will add a further tool by which the Company will strengthen its commitment to the highest level of reliability in Pennsylvania. At its current performance level, Duquesne Light provides service that is available to customers 99.99 percent of the time, one of the highest levels in the region over the past five years.

Q. Are these benefits provided on an integrated basis?

A. Yes, in order to achieve the full benefits of this system, customers must be connected to Duquesne through the CARS network so that the advanced metering capabilities provided within the network can be achieved. Tampering, outage detection and interval metering, for example, require network processing in order for the additional customer benefits to be realized. Outage detection capabilities cannot be implemented without use of the head end processor for interpretation of outage and restoration information. A meter separately installed by a third party or supplier would not possess the capability to independently process this information. Consequently, customers utilizing other metering devices would experience a significantly lower level of service than the customers that are connected to the network.

Q. Please explain the timetable for the installation of CARS and whether all customers will receive the associated metering equipment?

A. Most CARS functions should be operational by January 1, 1999. The CARS network applies to residential and small commercial customers. In addition, using the UTS MV-90 system, most, i.e., as many as 85 percent, commercial and industrial customers should be connected to the network by January 1, 1999.

Q. How will Duquesne recover the costs of CARS?

A. The Duquesne contract with Itron is a service agreement that requires Itron to acquire, install and maintain the metering and other facilities necessary to support the automated information network. Duquesne will incur no capital costs to implement CARS. The costs of the service agreement for each year and over the fifteen year term are offset by cost reductions associated with base operations, customer choice, improved reliability and

enhanced base services. Customers will not be charged a price increase for the improved and enhanced services from CARS.

Q. Please describe how Duquesne's metering plan complies with Section 2807 of the Restructuring Legislation.

A. CARS meets the objectives and requirements of the legislation in two important respects. First, CARS will allow Duquesne to provide an enhanced level of customer services, rather than simply maintaining the current level of service. Duquesne thus will meet or exceed the requirements of Section 2807(d). Second, customers will have "enhanced metering capability sufficient to match the energy delivered by the electric generation suppliers with consumption by the customer," as contemplated by Section 2807(a) and customers will be required to pay only for those enhanced services that they desire to purchase.

Q. Will CARS be utilized during Duquesne's Retail Access Pilot Program, hereinafter, "Retail Pilot?"

A. Yes. Duquesne has four objectives for CARS during the Retail Pilot: 1) to complete the installation and acceptance of the system; 2) to use the system to develop load profiles; 3) to gather daily consumption data for customer participants to aid supplier scheduling and settlement; and 4) to further develop consumption data for the computation of premise-specific customer baselines when historical data are not readily available. The lessons learned from metering in the Retail Pilot will reduce the risks of customer complaints, supplier scheduling problems and supplier settlement disputes during the Transition Period.

Meter Reading

Q. Please describe Duquesne's plan regarding meter reading during the Transition Period.

A. Traditionally, utilities have read customer meters monthly on a cyclical basis determined by the utility. Due to the labor intensive nature of the process, costs were high and the typical extent of the service provided was a meter reading at a point in time. With the implementation of CARS, Duquesne has introduced to its customers a technologically advanced system that will allow increases in the frequency, accuracy and timeliness of meter reading at reduced cost. For example, customers may be able to determine which day of the month to have their bills rendered. Most customer meters will be read daily. Meter reading information is planned to be stored in a Customer Data Warehouse which will provide improved security and facilitate limited, controlled access to this information by customers and suppliers. Access to the Customer Data Warehouse may be required to support: 1) customer evaluation of competing products and services from electricity suppliers; 2) separate billing by electricity suppliers for generation charges if selected by their customers, and 3) electricity supplier scheduling based on load profiles of their customers.

Q. Please describe how Duquesne's meter reading plan complies with Section 2807 of the Restructuring Legislation.

A. The advanced technology of CARS clearly will allow Duquesne to gather more information about customer behavior than ever before, more accurately and at a lower cost, thereby enhancing the quality of these services and meeting the requirements of Section 2807(d). Properly authorized supplier changes as defined in Section 2807(d) (1)

would be activated on dates specified by customers. Finally, the obligation of the EDC to acquire and deliver service would be measured and priced accurately with CARS as required by Section 2807(e) (3).

Q. Will Duquesne's Pilot Program provide an opportunity to test the implementation plan with respect to meter reading?

A. Yes. Duquesne has three objectives for meter reading during the Retail Pilot: 1) to use the CARS fixed network and vans to obtain meter readings for calculating monthly customer bills for T & D and generation services and daily customer usage for supplier settlement; 2) to finalize Customer Data Warehouse data design, structure, retention periods and access protocols; and 3) to facilitate planned enhancements in generation billing and supplier settlement processes during the Transition Period.

Unbundled Billing

Q. Please describe Duquesne's plan regarding unbundled billing during the Transition Period.

A. During the Transition Period, Duquesne will provide each customer a single consolidated bill that includes unbundled transmission, distribution, competitive transition charge (CTC), and any other electricity charges, regardless of the identity of the provider of the services, unless the customer chooses to receive a separate bill for electricity from their third party electricity supplier. No customer will receive a traditional "bundled" bill after December 31, 1998. Duquesne will prepare consolidated bills by computing generation charges based on rate schedules provided by the electricity suppliers. Customer bills will be prepared on a monthly basis, based on meter readings obtained from CARS.

Traditional cycle meter reading schedules determined by the EDC may be replaced by customer determined reading, billing and payment dates, subject to processing constraints.

Electricity suppliers who have large numbers of customers may encourage their customers to receive separate bills. During the Transition Period separate billing of generation charges is the only form of separate billing that will be supported by Duquesne. For those customers who choose to receive a separate bill for generation charges from their electricity supplier, the supplier will issue a bill directly to each customer, the form and content of which will be determined by the suppliers, subject to Commission regulation. Duquesne will make available to each electricity supplier, for its customers, meter reading data and any other billing determinants.

The Duquesne consolidated, unbundled bill format has been designed to minimize customer confusion. Exhibits FRA-1A, B and FRA-2A, B show sample bill formats for residential and commercial customers. The appearance of these bills is similar to the current bill except it unbundles Duquesne delivery charges into distribution, transmission and CTC components, and clearly separates these EDC charges from competitively-priced generation charges from electricity suppliers. This standard bill format will enable customers to compare prices and services on a uniform basis. Duquesne will provide this consolidated bill in compliance with Chapter 56 regulations and plain language requirements. In addition, a message with the name and telephone number of the electricity supplier also will appear on the bill.

Consolidated billing services offered by Duquesne during the Transition Period will be provided based on a contract between each electricity supplier and Duquesne for the terms and conditions of the billing and related services.

Q. Please describe how Duquesne's unbundled billing plan complies with Section 2807 of the Restructuring Legislation.

A. Consistent with Section 2807(c) of the Restructuring Legislation, Duquesne will be responsible for billing customers for all electric services, consistent with the regulations of the Commission, regardless of the identity of the provider of the services, subject to the right of an end-use customer to choose to receive separate bills from its electric generation supplier. As described above, the single consolidated bill will present transmission, distribution, CTC, and generation charges in a format sufficient to enable customers to determine the basis for these charges. Currently, the Company intends to identify universal service costs separately for ratemaking purposes, but include these costs in the distribution charges on the bill in order to minimize customer confusion.

Q. Will Duquesne's Retail Pilot provide information that will be helpful in ensuring a smooth transition to unbundled billing for all customers?

A. I believe so. Duquesne has four objectives for unbundled billing during the Retail Pilot: 1) to implement successfully a separate generation billing system to compute the generation charges for electricity suppliers based on traditional rate schedules, 2) to develop policies, procedures and protocols for the exchange of information between electricity suppliers and Duquesne to support separate generation billing, payment processing, accounts receivable collection action, supplier scheduling and supplier settlement, 3) to develop effective procedures for addressing customer billing disputes,

and 4) to determine customer responses to the metering, meter reading and billing processes as reflected in the customer bill.

Customer Payment Processing

Q. Please describe Duquesne's plan regarding customer payment processing during the Transition Period.

A. For those customers to whom Duquesne renders a single, consolidated bill, Duquesne will process customer payments for electricity suppliers related to the generation charges on the bill. Those customers who have chosen to receive separate bills from electricity suppliers will remit payments for their generation charges directly to their electricity suppliers. Customers will continue to have choice among a variety of payment options provided by Duquesne. Duquesne will process walk-in payments at Company locations, mail-in payments, walk-in payments at authorized payment agency locations, payments by telephone bill paying service and pre-authorized electronic direct debit payments. Duquesne will provide each electricity supplier a standardized daily report of customer payments processed. These data may be transmitted electronically or placed in a Customer Data Warehouse, subject to the information processing capabilities of electricity suppliers. Duquesne will transfer funds to each electricity supplier within a reasonable period of time following receipt and processing to ensure that payments are good funds to Duquesne at the time of transfer. Customer payments that are dishonored for any reason will be excluded from the funds transfer and will be reported to the electricity supplier. Fund transfers between Duquesne and electricity suppliers will be in United States dollars.

In the absence of customer direction to the contrary, partial payments will be applied in the following order: (i) first to extinguish Duquesne's receivables, (ii) second to extinguish electricity supplier receivables and finally, (iii) any residual will be applied to Duquesne's receivable balance. Credit balances resulting from overpayments will be carried forward to future bills in the Duquesne receivable balance. This method of applying payments is consistent with Chapter 56 and good business practice.

Q. Please describe how Duquesne's customer payment processing plan complies with Section 2807 of the Restructuring Legislation.

A. Duquesne's customer payment processing plan affords customers choice among payment options, minimizes customer confusion by focusing on a single payment for all electric services and provides electricity suppliers with the information they need to properly account for and collect, as appropriate, delinquent and unpaid accounts. Duquesne's plan clearly complies with Section 2807(c) (3) regarding forwarding of payments to suppliers.

Customer Collection Plan

Q. Please describe Duquesne's plan regarding customer collections during the Transition Period.

A. Duquesne's collection procedures for customers who receive a single, consolidated bill will operate consistent with Chapter 56 and any Commission final orders from the Maintaining Customer Service and Universal Service and Energy Conservation working groups addressing these procedures. Duquesne will collect any delinquent, unpaid amounts due from customers for transmission, distribution, CTC and any other EDC related charges. Collection services for electricity suppliers to collect delinquent, unpaid

generation charges will require separate action by the suppliers, or will require the electricity suppliers to enter into a contract with Duquesne for the terms and conditions of the collection service. Consistent with current practice, Duquesne will assess a late payment charge on any delinquent, unpaid amounts owed to Duquesne. Duquesne will address the needs of low income and payment troubled customers consistent with the Universal Service and Energy Conservation final order(s) including, but not limited to the Customer Assistance Program (CAP) and the Low Income Usage Reduction Program (LIURP). Duquesne recognizes that only the EDC may terminate service for non-payment of bills and will use payment arrangements consistent with this responsibility. Finally, with the implementation of CARS, supplier switching and customer movements within Duquesne's service territory will be processed more efficiently, resulting in more timely and effective collection action.

Q. Please describe how Duquesne's customer collection plan complies with Section 2807 of the Restructuring Legislation.

A. Duquesne's collection activities during the Transition Period will not only be maintained at the same level of quality as required by Section 2807(d), but will be enhanced through the use of CARS. Additionally, as appropriate, the Customer Data Warehouse may be enhanced to facilitate access to information regarding delinquent customers. These efforts will ensure that Duquesne's collection activities comply with Chapter 56, Sections 2803 and 2807, of the Restructuring Legislation and any final orders from the Commission working groups, including the Maintaining Customer Services and Universal Service and Energy Conservation working groups.

Q. Do you believe that the Retail Pilot will provide information relevant to implementing customer collections during the Transition Period?

A. Yes. Duquesne will evaluate the impact of retail competition on low income and payment troubled customers and develop new, innovative programs as appropriate to meet their needs. Also, Duquesne will evaluate the impact of supplier switching and customer movements on collection policies and procedures.

V. Unbundling And Competition In Revenue Cycle Services

Q. Is Duquesne proposing to unbundle and separately state the rates for revenue cycle services?

A. No. The Restructuring Legislation does not require that these services be unbundled or subjected to competition.

Q. Are other stakeholders advocating that these services be unbundled and subjected to competition?

A. Yes. In the restructuring proceedings of the other Pennsylvania companies, certain stakeholders have argued that revenue cycle services be unbundled and subject to competition. These stakeholders have contended that, by doing so, consumers will save money and receive an enhanced level of service.

Q. What is your opinion of this position?

A. Based on the arguments of which I am aware, I conclude that these stakeholders have not presented a compelling case in a number of respects. First, these stakeholders have argued that revenue cycle services can be provided at lower cost and a higher level of quality if they are unbundled and opened to competition. This is a factual contention as to which I have seen very little supporting evidence. In fact, as shown in the articles

attached hereto as Exhibit FRA-4, the experience in the United Kingdom with respect to the unbundling of metering services provides evidence to the contrary. There, the government opened metering services to competition; however, due in part to the economies of scale in metering and meter reading, new entrants have not been able to provide these services at a competitive price. According to these articles, "the U.K. approach has produced only high costs, little actual competition in providing meter operation, and virtually no real customer choice relative to metering." King Article at 25.

Second, the arguments of which I am aware provide scant, if any, discussion of the safeguards that would be necessary to ensure, as the Restructuring Legislation requires, that service levels are not degraded. One must remember that the revenue cycle services are part of an integrated package of customer services. Accurate metering services (including installation, reading, removal, maintenance, procurement and testing) are essential for the success of a new market structure, especially when issues related to safety, reliability and supplier settlement are considered. Metering and metering data also play a critical role in numerous distribution processes such as: providing a safe termination point to the distribution grid for customer connection, preventing energy theft, allowing distribution planning and maintenance and determining billing requirements. The integrity of the metering, billing and customer service processes must be ensured, and there are serious questions whether such integrity can be maintained if these processes are fragmented among various parties. Meter installation, meter reading, billing, payment processing, collection and customer contact, including outage related activities, are not disjointed functions, but rather, interrelated functions that constitute the distribution provider's interface with its customers. Functional unbundling of some or all

of these services could degrade existing services to customers. In the energy services marketplace of the future, providers will survive and prosper based on their ability to differentiate their products and services. In 1995, Duquesne was the first electric utility in Pennsylvania to offer to its customers a service guarantee program. This program guarantees timely arrival for scheduled appointments; accurate meter reading and billing; courteous, professional service to customers; and timely processing of new electric service requests. For the year ended December 31, 1996, Duquesne experienced fewer than 1,500 service errors under this program, a rate of less than 0.01 percent. Degradation of these levels of performance is simply unacceptable. While these services potentially could be competitive in the future, numerous standards and protocols relating to safety, reliability, and accuracy will need to be established first in order to protect consumers. In other jurisdictions, this process has led to time-consuming negotiations among a variety of interested parties, and certainly has the potential to delay retail access implementation.

Third, the stakeholders advocating unbundling also do not seem to have addressed whether these services would be truly deregulated. It seems as if the proposals are predicated on the assumption that the EDC would remain the supplier of last resort. This is not competition, but rather simply a one-sided plan that allows suppliers to pick and choose customers that are profitable to serve, while ignoring those that are not profitable. The critical question therefore is whether the market will be sufficient to provide <u>all</u> customers these services at the high level of reliability that exists today, assuming that EDCs are treated fairly and have the right, as all other suppliers, to enter or exit the market to provide these services.

Fourth, the unbundling proposals do not seem to recognize that the resulting savings for customers would be minimal, if any. The costs associated with metering activities represent a very small portion of the entire bill for an average customer. Therefore, making these services competitive is unlikely to result in significant customer savings. Even if metering were open to competition at the outset of retail access, there would be very little avoided cost for Duquesne in the near-term since most of the metering infrastructure costs are sunk. The calculation of the avoided cost, if any, resulting from an alternate provider for metering services would be difficult, and involve a complex analysis to consider customer class, size, and location, as well as the obligation to provide metering to the remaining customers. Furthermore, if Duquesne were required to provide an "average" avoided cost credit, the potential would exist for suppliers to target low-cost customers, and thereby raise the metering costs for the remaining customers. Also, there are likely to be additional transaction costs associated with allowing third party metering services, which could further reduce the potential savings for customers.

Q. If the Commission believes that unbundling should be considered more closely, what do you recommend?

A. I recommend that any such examination take place in a generic proceeding involving all the Pennsylvania utilities, not in individual restructuring cases such as this one. In fact, the Commission has begun such an inquiry in Docket No. M-00960890.F009, Request for Comments - Metering, and has indicated that a tentative order may be issued in August 1997.

VI. Supplier Settlement Process

Q. Please define the supplier settlement issue and indicate why it is important to Duquesne.

A. "Supplier settlement" has two components: 1) scheduled delivery of service by each electricity supplier to Duquesne's system versus actual delivery by each electricity supplier; and 2) actual delivery by each electricity supplier to its retail generation customers on Duquesne's system versus actual consumption by those retail generation customers. The scope of the supplier settlement process in the following testimony will be limited to the second definition, actual delivery versus actual consumption. This process is important to Duquesne for two reasons: first, scheduled versus actual delivery is traditional in the electric utility industry and is part of the wholesale purchase and sale of energy that has occurred for years. Actual delivery versus actual consumption, however, is unique to retail competition and is therefore new to Duquesne. Second, the process, if not performed accurately, may misstate the total amount of the energy imbalance and/or the amounts to be paid to or collected from electricity suppliers. The supplier settlement process would not be an issue if, without exception, the usage of every customer were to be recorded as the price of that usage changed. However, even with the functions and features of CARS, inevitably, this will not be the case on January 1, 1999. On that date, most customer meters will be read daily. CARS provides the flexibility to record actual hourly usage for each customer. During the Transition Period, Duquesne will evaluate the feasibility from an economic and technological perspective of collecting and using actual hourly readings instead of load research. For purposes of explaining the process in the following testimony, prices will be assumed to change on an hourly basis.

Q. Please describe Duquesne's supplier settlement plan during the Transition Period.

A. Electricity has differing prices at different times of the day and week. Therefore, the question of how hourly loads and their costs should be attributed to individual customers in the absence of hourly readings -- together with how those same loads should be aggregated and charged to multiple electricity suppliers -- provides a good deal of difficulty.

Since hourly readings will not be universally available during the Transition Period, Duquesne will use representative customer load shapes based on actual hourly readings from load profile meters and load research. It will be assumed that all customers in a given class or category use electricity in a single pattern. Using representative load shapes to attribute load responsibility is simple conceptually, but in practice the details are complicated and quite important.

The supplier settlement process in its simplest form is aimed at determining the amount of load attributable to each customer and thus each retail supplier on an hourly basis, and then reconciling the determinations with actual metered customer load and supplier delivery data as they become available. The process involves the matching of each supplier's hourly delivery of electricity to the estimated hourly consumption of that supplier's customers, and settling the megawatt-hour electricity imbalance. This process requires reconciliation of data from many sources, as well as the necessary time to collect these data. Duquesne's general approach is to derive the supplier obligations based on the best information available given the current technology, and within the constraints of the schedule for implementing retail generation competition. The most accurate method for determining supplier obligations would be to record usage continuously for every

customer. However, it would be imprudent for Duquesne to assume this will be possible beginning January 1, 1999.

The program will achieve its ends by using representative customer class load shapes, keeping careful records, and reconciling as much as possible with actual meter readings. Duquesne believes this process will produce reasonable results given the use of actual daily meter reads for residential customers and hourly load profile meters on a representative sample of Duquesne's customers:

1) Daily consumption available for most customers. To the maximum extent practical, Duquesne will make use of CARS. This system will facilitate the measurement of actual customer usage on a daily basis during the pilot. For any customer for whom CARS is not available, Duquesne will read their meter on a cyclical monthly basis;

2) Representative hourly load profiles based on sample metering data. Furthermore, Duquesne plans to use contemporaneous kilowatt-hour readings from existing hourly load profile meters to develop representative load shapes for pilot customers. These special meters are located throughout Duquesne's service territory and provide hourly data for a sample of residential, commercial and industrial customers.

The combination of CARS for most customers and a representative sample of contemporaneous hourly load profiles will increase the accuracy of Duquesne's settlement process. The difference between retail supplier deliveries and customer load in every hour will be multiplied by the energy imbalance rates.

The basic steps of the supplier settlement process are summarized as follows: 1) Submit schedules to Systems Operations by electricity suppliers. Electricity suppliers

will submit informational schedules on a week-ahead basis and submit formal schedules on a day-ahead basis.

2) Create representative load profiles for each customer class. Reading the load profile meters for representative customer accounts will provide a sample of hourly kilowatt-hour consumption patterns. These hourly load profiles will be developed for each customer class.

3) Read customer meters. This will result in actual daily kilowatt-hour meter readings for customers with CARS functionality, and monthly kilowatt-hour consumption for customers without CARS functionality or when meter reading information cannot be obtained from CARS.

4) Estimate customer usage by supplier. Using the estimated load shapes for each customer class, and the meter readings described above, the amount of retail load for each supplier will be estimated as follows:

a) Aggregate kilowatt-hour readings by customer class for each supplier

For residential customers with CARS functionality, these will be daily kilowatt-hour figures, and for all other customers these will be monthly figures.

b) Apply hourly load profiles to each rate class for each supplier

The estimated load profile for each rate class will be used to derive the estimated hourly consumption. These hourly kilowatt-hour figures by rate class will be summed for each supplier to determine that supplier's estimated megawatt-hour load obligation.

c) Reconcile and adjust estimated hourly consumption to actual hourly system load. The estimated kilowatt-hour amounts by rate class by supplier will be

summed and this total compared to the actual system hourly load, as measured by the System Operations Unit. Differences will be allocated based on each supplier's pro rata share of the total to yield an adjusted estimate of each supplier's retail load obligation.

5) Calculate imbalance charges for each supplier. Financial settlement is calculated for each supplier by multiplying the difference between supplier deliveries and the adjusted estimates of retail load obligations by the energy imbalance rate in each hour. The energy imbalance rate is based on energy imbalance service. Energy imbalance service is provided by the control area to balance supply and consumption on an hour-by-hour basis. The energy imbalance charges are based on the difference between the megawatt-hours supplied and the megawatt-hours consumed by customers. If the imbalances are in excess of an hourly "deadband" of 1.5% (per the pro forma tariff), the supplier will pay the following rates (i) in off-peak periods, the higher of Duquesne's out-of-pocket costs (plus 10%), or $50/mWh, and (ii) in on-peak periods, the higher of Duquesne's out-of-pocket costs (plus 10%), or $100/mWh. These charges provide a reasonable incentive for suppliers to schedule accurately. As Duquesne gains experience with scheduling practices, modification of these charges may be appropriate.

Due to the constraints inherent in the collection of meter readings on a billing cycle basis, the supplier settlement process is expected to lag the calendar month by at least thirty days. The settlement process can be accelerated when daily readings are implemented across the distribution system. As discussed above, based on the results of a feasibility study, should hourly meter reading be adopted, supplier settlement will rely less on load research.

Q. Does this conclude your testimony?

A. Yes.

DUQUESNE LIGHT COMPANY

P. Customer Service, Education and Conservation Programs

13. In instances in which the end-use customer chooses to receive a single bill from the electric utility for all electric services regardless of generation supplier, provide a proposed billing format. Show how charges will be unbundled to enable customers to determine the basis for each charge. State the procedures which will be employed to receive accurate, timely billing data from other providers in rendering customer bills after restructuring commences. State how the company intends to prevent the improper disclosure or use of sensitive or proprietary customer information, obtained from outside generation suppliers for billing purposes, within the company or to third parties. Indicate how the company will apply partial payments in satisfaction of the unbundled charges. State how customer billing inquiries or complaints will be handled in a timely and effective fashion.

Response:

Consolidated Bill Form

Duquesne will provide each customer the choice to receive a single consolidated bill with itemized charges. Its appearance is similar to the current bill except that it unbundles transmission, distribution, competitive transition charge (CTC) and electricity generation charges. The bill form clearly separates the utility delivery charges from the competitively-priced electricity generation charges. A standard bill form will enable customers to compare prices and services on a uniform basis. Duquesne will provide this consolidated bill in compliance with Chapter 56 regulations and plain language requirements.(Exhibits P-13A and P-13B show sample bill forms). In focus group sessions conducted in March 1997, customers who examined the proposed residential consolidated bill form without any prices or charges responded that the proposed itemization of the various charges was helpful in understanding the bill.

Consolidated Billing Service

Duquesne will provide metering services for customers who choose to receive a single consolidated bill. For information purposes Duquesne will provide electricity suppliers monthly kilowatt-hour readings and monthly maximum kilowatt demand readings (if applicable) in accordance with the existing Duquesne meter reading and billing cycles. Duquesne will provide metering services consistent with Chapter 56 regulations, including estimated readings for utility service when actual meter readings cannot be obtained.

Duquesne plans to offer a complete billing service to the suppliers during the Transition Period, i.e., 1999 through 2005. Duquesne will prepare consolidated bills by computing the generation charges based on rate schedules provided by the electricity suppliers. Calculated bill amounts for generation will be forwarded to the electricity

electricity supplier and Duquesne for the terms and conditions of the billing and related services.

Supplier electricity charges will remain confidential, consistent with Duquesne's code of conduct. Customer information regarding load and consumption shall be provided directly to each customer upon request. Duquesne shall not release the following information ("confidential information") to Duquesne's Retail Marketers or any other generation suppliers without the customer's explicit authorization: the price, quantity, type or destination of a regulated service provided to a customer; the customer's billing, payment or credit history for regulated services; or information on a customer's desire to purchase unregulated products or services. If authorized by a customer, Duquesne shall simultaneously make available to all generation suppliers any confidential information Duquesne provides to its Retail Marketers.

Customer Payment Processing

For those customers to whom Duquesne renders a single, consolidated bill, Duquesne will process customer payments for electricity suppliers related to the generation charges on the bill. Customers will continue to have choice among a variety of payment options provided by the Company. Duquesne will process walk-in payments at Company locations, mail-in payments, walk-in payments at authorized payment agency locations, payments by telephone bill paying service and pre-authorized electronic direct debit payments.

In the absence of customer direction to the contrary, partial payments will be applied: (i) first to extinguish Duquesne's receivables; (ii) second to extinguish electricity supplier receivables; and (iii) any residual to be applied to Duquesne's receivable balance. Payments applied to Duquesne's receivables will extinguish the competitive transition charge balance first. Credit balances resulting from overpayments will be carried forward to future bills in the Duquesne receivable balance. This method of applying payments is consistent with Chapter 56 and good business practice.

Duquesne will transfer funds to each electricity supplier within a reasonable period of time following receipt and processing to ensure that payments are good funds to Duquesne at the time of transfer. Customer payments that are dishonored for any reason will be excluded from the funds transfer and will be reported to the electricity suppliers. Fund transfers between Duquesne and electricity suppliers will be in United States dollars. Gross receipts tax on the generation charges of the electricity suppliers will be remitted to the Commonwealth of Pennsylvania by the electricity suppliers.

Customer Billing Inquiries or Complaints

Duquesne will develop new and enhance existing customer information online data displays which will enable service representatives to answer customer inquiries for the transmission and distribution and electricity supplier portions of the bill. The new online data displays will detail the breakdown of bills and payments for both Duquesne and electricity suppliers and will detail all components of the consolidated bill.

Duquesne will provide the supplier's name and telephone number in the message center on the consolidated bill. Any inquiry or dispute related to supplier plans or rates will be referred to the customer's electricity supplier for further explanation.

Duquesne will handle any inquiry or dispute related to the transmission and distribution portions of the bill in compliance with Chapter 56 regulations. Duquesne will notify the supplier when a billing dispute is initiated and will stop all collection activity on the disputed portion of the bill. Duquesne will again notify the supplier when the dispute is resolved and collection activity resumes.

EXHIBIT P-13A
RATE (RSP) - Residential Service

Duquesne Light

CHOICE
CUSTOMER
123 MAIN ST

Account Number
1000-123-456-001

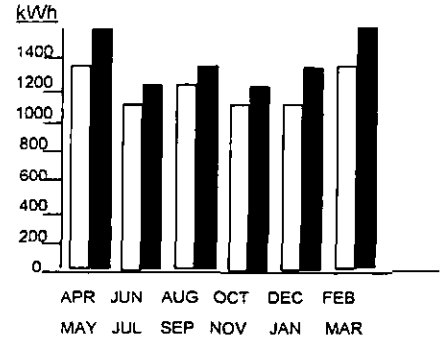
H

Duquesne Light Company Billing Information

Meter Read Information

Present: Mar 1, 19XX - Actual	0500
Prior: Feb 1, 19XX - Actual	0000
Difference	500
Your Meter Multiplier	X 1
Total kWh used	**500**

Electric Usage Bi-Monthly



■ Prior 12 Months ☐ Latest 12 Months

Prior Billing Information

Amount Of Last DLCo Bill	$XX.XX
Payment Received: **Feb 15** - Thank You	-XX.XX
Amount Owed From Your Last DLCo Bill	**$X.XX**

Current Charges

Customer Distribution Charge		$X.XX
Competitive Transition Charge - Fixed		X.XX
Transmission Charge	500 kWh @ X.XXX¢	X.XX
Distribution Charge	500 kWh @ X.XXX¢	X.XX
Competitive Transition Charge - Variable	500 kWh @ X.XXX¢	X.XX
Current DLCo Billing Charges		**$XX.XX**
Your Pledge To The Dollar Energy Fund		X.XX
Total DLCo Account Balance		**$XX.XX**

Message Center

For questions regarding the Supplier ABC portion of the bill, please call 1-800-555-4567

Your Total Taxes: Around 14.3% of your total bill is for Federal, State and Local taxes.

Supplier ABC Billing Information

Prior Billing Information

Amount Of Last Supplier Bill	$XX.XX
Payment Received: **Feb 15** - Thank You	-XX.XX
Amount Owed From Your Last Supplier Bill	**$X.XX**

Current Charges

*Usage: **500** kWh From Feb 1 To Mar 1*	X.XX
Total Supplier Account Balance	**$XX.XX**
Total Amount Due	**$XX.XX**

Estimated Gross Receipts Taxes	Estimated PA State Taxes	Late charge after Mar 20, 19XX	PAYMENT DUE	BUDGET AMOUNT	AMOUNT *DUE*
$X.XX	$X.XX	$X.XX	Mar 25, 19XX	$XX.XX or	$XX.XX

MAKE CHECK PAYABLE TO DUQUESNE LIGHT

AMOUNT ENCLOSED	PAYMENT DUE	BUDGET AMOUNT	AMOUNT DUE
	Mar 25, 19XX	$XX.XX	$XX.XX

Account Number

1000-123-456-001

YOU MAY PAY EITHER AMOUNT

Please return this portion with your payment.

CHOICE CUSTOMER
123 MAIN ST
PITTSBURGH PA 15212-0884

Actual Meter Reading Bill

EXHIBIT P-13B

ACCOUNT NUMBER	SERVICE USED AT: 321 MAIN ST	DATE PREPARED
2000654321001	RATE GS/GMP - GENERAL SERVICE SMALL AND MEDIUM H	SEP 01, 19XX

TYPE OF SERV	SERVICE PERIOD FROM	TO	KILOWATT HOUR INFORMATION METER READINGS PRIOR	PRESENT	DIFFERENCE	METER CONSTANT	KILOWATT HOURS	KW DEMAND INFORMATION DEMAND READING	PWR. FACT. MULT.	BILLING DEMAND
P	02-08	03-10	3442	3465	23	480.0	11040	.08	1.00	38.40
L	02-08	03-10	0193	0387	194	12.0	2328	.93		11.20
					TOTAL		13368			49.60

DUQUESNE LIGHT COMPANY BILLING INFORMATION				SUPPLIER ABC BILLING INFORMATION		
AMOUNT OF LAST BILL		$XXX.X		*AMOUNT OF LAST BILL*	$XXX.X	
PAYMENT - FEBRUARY 23		XXX.X	CR	PAYMENT - FEBRUARY 23	XXX.X	CR
ACCOUNT BALANCE REMAINING		$X.X		ACCOUNT BALANCE REMAINING	$X.X	
CUSTOMER DISTRIBUTION CHARGE - BILLING PERIOD (1.00 MO.)		$X.X		CHARGES FOR 02-08 THRU 03-10		
COMPETITIVE TRANSITION CHARGE - FIXED		XX.X		KWH: 13368 KW: 49.6	XXX.X	
				PENNSYLVANIA SALES TAX	XX.X	
DELIVERY CHARGES - DEMAND				CURRENT BILLING PERIOD AMT	XXX.X	
TRANSMISSION CHARGE	5 KW @ NO CHARGE	.X		PRESENT ACCOUNT BALANCE	$XXX.X	
	44.6 KW @ $X.XX / KW	XX.X				
DISTRIBUTION CHARGE	5 KW @ NO CHARGE	.X				
	44.6 KW @ $X.XX / KW	XX.X				
COMPETITIVE TRANSITION CHARGE / KW	49.6 KW @ $X.XX	XX.X				
DELIVERY CHARGES - ENERGY						
DISTRIBUTION CHARGE	550 KWH @ X.XX¢ / KWH	XX.X				
	750 KWH @ X.XX¢ / KWH	XX.X				
	12068 KWH @ X.XX¢ / KWH	XX.X				
COMPETITIVE TRANSITION CHARGE	550 KWH @ X.XX¢ / KWH	XX.X				
	750 KWH @ X.XX¢ / KWH	XX.X				
	12068 KWH @ X.XX¢ / KWH	XX.X				
PENNSYLVANIA SALES TAX		XX.X				
CURRENT BILLING PERIOD AMOUNT		XX.X				
PRESENT DLCO ACCOUNT BALANCE		$XXX.X				

MESSAGE CENTER

FOR QUESTIONS REGARDING THE SUPPLIER ABC OF YOUR BILL, PLEASE CALL 1-800-555-4567.

APPROXIMATELY 16.5% OF YOUR BILL IS FOR FEDERAL, STATE AND LOCAL TAXES.

TOTAL AMOUNT DUE	$XXXX.X

EST. PA STATE TAXES	LATE PYMT CHARGE RATE PER MONTH
$XXX.XX	1.25%

PAYMENT DUE	DLCo AMOUNT	SUPPLIER AMT	TOTAL AMT DUE
MAR 28 'XX	XXX.XX	XXX.XX	XXXX.XX

Duquesne Light

One Oxford Centre
301 Grant Street
Pittsburgh, PA 15279-0001

AMOUNT ENCLOSED	PAYMENT DUE	TOTAL AMOUNT DUE
	MAR 28 'XX	XXXX.XX

MAKE CHECK PAYABLE TO DUQUESNE LIGHT

ACCOUNT NUMBER 2000654321001

COMMERCIAL CHOICE CUSTOMER
321 MAIN ST
PITTSBURGH, PA 15212-0084

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT.

2000654321001 000000000000 000000000000 000000000000

DUQUESNE LIGHT COMPANY

P. Customer Service, Education and Conservation Programs

14. Provide a proposed billing format for customers who choose to be billed separately for energy service by their electric generation provider. Show how charges will be unbundled to enable customers to determine the basis for each charge. State the procedures from other providers (if any) in rendering customer bills after restructuring commences. Indicate how customer billing inquiries or complaints will be handled in a timely and effective fashion.

Response:

Separate Billing

Duquesne will provide each customer the choice to receive a separate bill from their electricity supplier. If a customer chooses separate billing, they will receive two bills: one from Duquesne for charges related to transmission and distribution and one from their electricity supplier for their generation charges.

For those customers who choose to receive a separate bill from their electricity supplier, the supplier will issue a bill directly to the customer, the form and content of which will be determined by the suppliers, subject to Commission regulations.

Duquesne Bill Form

The Duquesne bill form will be the same as for those customers who receive a single bill from Duquesne. The only difference will be that the electricity supplier data will not be included on the bill. (See Exhibit P-14A and P-14B.) A bill message will show that the customer has selected billing from their electricity supplier.

Separate Billing Service

Duquesne will provide metering services for customers who choose to receive a separate bill from the electricity supplier. For bill calculation purposes Duquesne will provide electricity suppliers monthly kilowatt-hour readings and monthly maximum kilowatt demand readings (if applicable) in accordance with the existing Duquesne meter reading and billing cycles. The information will be electronically forwarded to electricity suppliers for their customers on the day after the normal meter reading cycle. Duquesne will provide metering services consistent with the Chapter 56 regulations, including estimated readings for utility service when actual meter readings cannot be obtained.

Customer Payment Processing

Customers who have chosen to receive separate bills from electricity suppliers will remit payments for electricity directly to them.

Customer Billing Inquiries or Complaints

Duquesne will handle any inquiry or dispute related to the transmission, distribution or competitive transition charge (CTC) items of the bill in compliance with Chapter 56 regulations. Customer inquiries or disputes related to the electricity supplier bill will be documented and referred to the electricity supplier for handling.

EXHIBIT P-14A

Duquesne Light

CHOICE
CUSTOMER
123 MAIN ST

RATE (RSP) - Residential Service

Account Number
1000-123-456-001

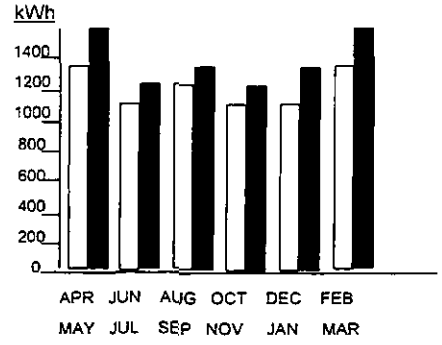
H

Duquesne Light Company Billing Information

Meter Read Information

Present: Mar 1, 19XX - Actual	0500
Prior: Feb 1, 19XX - Actual	0000
Difference	500
Your Meter Multiplier	X 1
Total kWh used	**500**

Electric Usage Bi-Monthly



■ Prior 12 Months ☐ Latest 12 Months

Prior Billing Information

Amount Of Last DLCo Bill	$XX.XX
Payment Received: **Feb 15** - Thank You	-XX.XX
Amount Owed From Your Last DLCo Bill	**$X.XX**

Current Charges

Customer Distribution Charge		$X.XX
Competitive Transition Charge - Fixed		X.XX
Transmission Charge	**500** kWh @ **X.XXX¢**	X.XX
Distribution Charge	**500** kWh @ **X.XXX¢**	X.XX
Competitive Transition Charge - Variable	**500** kWh @ **X.XXX¢**	X.XX
Current DLCo Billing Charges		**$XX.XX**
Your Pledge To The Dollar Energy Fund		X.XX
Total DLCo Account Balance		**$XX.XX**

Message Center

For questions regarding the Supplier ABC portion of the bill, please call 1-800-555-4567

Your Total Taxes: Around 14.3% of your total bill is for Federal, State and Local taxes.

Supplier ABC Billing Information

OUR RECORDS INDICATE THAT YOU HAVE REQUESTED A SEPARATE BILL FOR YOUR SUPPLIER ENERGY CHARGES.

Estimated Gross Receipts Taxes	Estimated PA State Taxes	Late charge after Mar 20, 19XX	PAYMENT DUE	BUDGET AMOUNT	AMOUNT DUE
$X.XX	$X.XX	$X.XX	Mar 25, 19XX	$XX.XX or	$XX.XX

MAKE CHECK PAYABLE TO DUQUESNE LIGHT

AMOUNT ENCLOSED	PAYMENT DUE	BUDGET AMOUNT	AMOUNT DUE
	Mar 25, 19XX	$XX.XX	$XX.XX

Account Number

1000-123-456-001

YOU MAY PAY EITHER AMOUNT

Please return this portion with your payment.

CHOICE CUSTOMER
123 MAIN ST
PITTSBURGH PA 15212-0884

Actual Meter Reading-Bill

10001234560011 000000000000 000000000000 000000000000

EXHIBIT P-14B

ACCOUNT NUMBER	SERVICE USED AT: 321 MAIN ST	DATE PREPARED
2000654321001	RATE GS/GMP - GENERAL SERVICE SMALL AND MEDIUM H	SEP 01, 19XX

TYPE OF SERV	SERVICE PERIOD FROM	SERVICE PERIOD TO	KILOWATT HOUR INFORMATION METER READINGS PRIOR	METER READINGS PRESENT	DIFFERENCE	METER CONSTANT	KILOWATT HOURS	KW DEMAND INFORMATION DEMAND READING	PWR. FACT. MULT.	BILLING DEMAND
P	02-08	03-10	3442	3465	23	480.0	11040	.08	1.00	38.40
L	02-08	03-10	0193	0387	194	12.0	2328	.93		11.20
					TOTAL		13368			49.60

DUQUESNE LIGHT COMPANY BILLING INFORMATION

AMOUNT OF LAST BILL		$XXX.X	
PAYMENT - FEBRUARY 23		XXX.X	CR
ACCOUNT BALANCE REMAINING		$X.X	
CUSTOMER DISTRIBUTION CHARGE - BILLING PERIOD (1.00 MO.)		$X.X	
COMPETITIVE TRANSITION CHARGE - FIXED		XX.X	
DELIVERY CHARGES - DEMAND			
TRANSMISSION CHARGE	5 KW @ NO CHARGE	.X	
	44.6 KW @ $X.XX / KW	XX.X	
DISTRIBUTION CHARGE	5 KW @ NO CHARGE	.X	
	44.6 KW @ $X.XX / KW	XX.X	
COMPETITIVE TRANSITION CHARGE / KW	49.6 KW @ $X.XX	XX.X	
DELIVERY CHARGES - ENERGY			
DISTRIBUTION CHARGE	550 KWH @ X.XX¢ / KWH	XX.X	
	750 KWH @ X.XX¢ / KWH	XX.X	
	12068 KWH @ X.XX¢ / KWH	XX.X	
COMPETITIVE TRANSITION CHARGE	550 KWH @ X.XX¢ / KWH	XX.X	
	750 KWH @ X.XX¢ / KWH	XX.X	
	12068 KWH @ X.XX¢ / KWH	XX.X	
PENNSYLVANIA SALES TAX		XX.X	
CURRENT BILLING PERIOD AMOUNT		XX.X	
PRESENT DLCO ACCOUNT BALANCE		$XXX.X	

SUPPLIER ABC BILLING INFORMATION

OUR RECORDS INDICATE THAT YOU HAVE REQUESTED A SEPARATE BILL FOR YOUR SUPPLIER ENERGY CHARGES.

MESSAGE CENTER

FOR QUESTIONS REGARDING THE SUPPLIER ABC OF YOUR BILL, PLEASE CALL 1-800-555-4567.

APPROXIMATELY 16.5% OF YOUR BILL IS FOR FEDERAL, STATE AND LOCAL TAXES.

TOTAL AMOUNT DUE	$XXXX.X

EST. PA STATE TAXES	LATE PYMT CHARGE RATE PER MONTH
$XXX.XX	1.25%

PAYMENT DUE	DLCo AMOUNT	SUPPLIER AMT	TOTAL AMT DUE
MAR 28 'XX	XXX.XX	XXX.XX	XXXX.XX

Duquesne Light

One Oxford Centre
301 Grant Street
Pittsburgh, PA 15279-0001

AMOUNT ENCLOSED	PAYMENT DUE	TOTAL AMOUNT DUE
	MAR 28 'XX	XXXX.XX

MAKE CHECK PAYABLE TO DUQUESNE LIGHT

ACCOUNT NUMBER 2000654321001

COMMERCIAL CHOICE CUSTOMER
321 MAIN ST
PITTSBURGH, PA 15212-0084

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DUQUESNE LIGHT COMPANY

P. Customer Service, Education and Conservation Programs

15. If the utility intends to permit generation suppliers (including its own generation affiliate or division) to bill all charges, provide a proposed billing format. Show how charges will be unbundled to enable customers to determine the basis for each charge. State the procedures which will be employed to transmit accurate, timely billing data to other providers in rendering customer bills after restructuring commences. Indicate how the billing company will apply partial payments in satisfaction of the unbundled charges. State how customer billing inquiries or complaints will be handled in a timely and effective fashion.

Response:

Duquesne will continue to perform essential regulated metering, billing, and other customer related services during the Transition Period. The precise line of demarcation between regulated distribution services and competitive retail services will need to be established. There is a question of whether metering, billing, and certain types of customer services - which are regulated distribution services today - should be deemed to be regulated or competitive services after the Transition Period. Whether these services can and should be provided on a competitive basis at the end of the seven-year Transition Period will depend in part on market developments that may occur during the Transition Period, but are uncertain today.

Duquesne believes that metering, billing and customer services should remain regulated as distribution services until the ability to provide them competitively in a safe and reliable manner has been demonstrated as part of a Commission proceeding. Duquesne recognizes that these services could eventually become competitive. However, during the Transition Period, as the new industry structure evolves, Duquesne believes that the potential costs of allowing metering to be competitive exceed the benefits for the reasons stated in Mr. Allison's testimony.

Therefore, the Company recommends that metering, billing and related services remain regulated until a generic proceeding involving all the Pennsylvania utilities to address further unbundling of these services has been completed.

See the responses to Exhibit FRA-1 and Exhibit FRA-2.

Competition at the Meter: Lessons From the U.K.

By Chris S. King

Metering lies at the heart of electric competition, but may work best as a "natural" monopoly controlled by the distribution utility.

Metering represents one of the more complex issues in retail electric competition—one that suffers from major misperceptions. In fact, most industry participants remain unaware that metering techniques effective enough for competition (hourly reads, daily retrieval) already exist today not only in scale, but also at low cost.

Issues like transmission pricing receive the most attention, but metering will actually have far greater effects on consumers and any successful operation in a competitive retail environment. The United Kingdom learned that lesson in 1994, when it expanded access from retail suppliers to customers with lower load levels and discovered that over 50 percent of customers' bills had to be estimated.

> In 1994, when the U.K. expanded customer choice, over 50 percent of customer bills had to be estimated.

The United Kingdom began opening retail electricity markets to competition in 1990. Half-hourly metering of customers, with daily data retrieval, currently forms the standard, because the Electricity Pool of England and Wales ("the Pool") prices power by the half-hour *(see Figure 1)*. In 1998, small commercial and residential consumers will be able to choose their power suppliers. This market of 23 million potential customers will bring the metering issue to the fore.

Back in the United States, the California Public Utilities Commission (CPUC) has called for a system generally similar to that in the United Kingdom: a centralized power pool, an independent transmission grid operator, a regulated distribution company, and retail choice of energy supplier. To address implementation issues, including metering, the CPUC formed the Direct Access Working Group (DAWG) in April 1996. The DAWG examined these issues in detail, filing its draft report on August 30, 1996.

Experience gained in the United Kingdom and preliminary work in the DAWG process in California indicates that decisions on metering will affect key aspects of the competitive market, including consumer choice and confidentiality, billing rates and structures, and balancing supply and demand.

Nevertheless, current trends appear to be leading to a market in which meaningful choice is restricted to large customers and consumer protections are eroded. In such a market, economies of scale are diminished and lost.

Gauging Consumption: A Key to Choice

In competitive electricity markets, consumers may choose between peak energy, offpeak energy, or something in between, according to the hourly prices set in the wholesale power market by the competitive power pool. Thus, the only way to determine exactly how much of each "type" of electricity consumers use is to meter them in the same way the pool

operates: hourly (in California), or half-hourly (in the United Kingdom).

Marketers may bundle hours to offer a peak/offpeak or weekday/weekend rate, but they need to know how many kilowatt-hours their customers use during each hour so they can settle with the pool. Marketers need to know these quantities daily, so they can settle with energy suppliers daily, just as the pool operates.

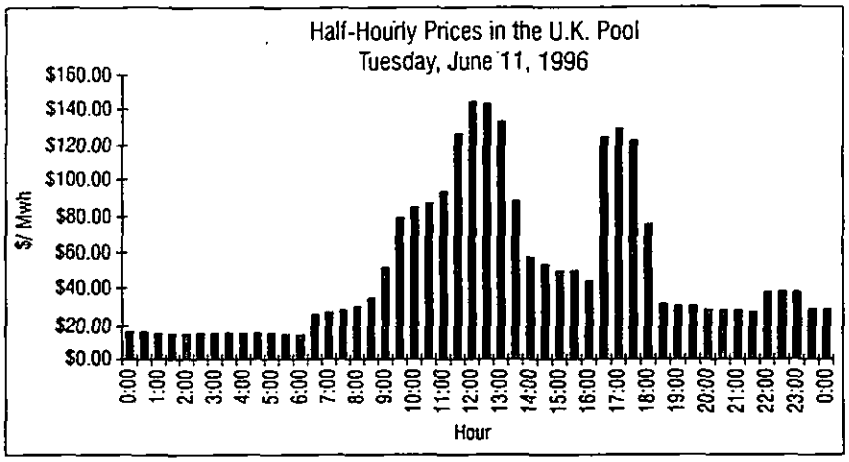
However, due to the perceived high cost of half-hourly metering, the United Kingdom plans to meter small commercial and residential customers by class load profile: measuring total consumption and estimating half-hourly usage by assuming an individual customer's load profile is the same as that of all other customers in the class. Relying on old-style, total-consumption meters, the U.K. Pool will use such load profiles to avoid the cost of actual half-hourly metering—but will incur a projected cost of $480 million for the associated data-processing systems.

In California, meanwhile, the CPUC's Direct Access Working Group has identified several disadvantages to using load profiles.

First, customers do not pay for what they use; they pay for what their fellow customers use. Thus, customers lose out on the "triple benefits" of restructuring originally foreseen by the CPUC: cost reduction for any customer that can shift load off peak, deferral of new peaking generation, and more productive use of existing generating plant.

Second, load profiling limits the customer to a choice of *supplier*, eliminating choice of *rates* that reflect time-varying prices in the wholesale power market.

Third, as power marketers cherry pick customers with good profiles, small commercial and residential customers will be forced into groups with bad load profiles and correspondingly higher prices. Officials in the United Kingdom at the Office of Electricity Regulation (OFFER) admit that the existing and proposed Pool rules enable suppliers to select a group of customers and, based on statistically valid sampling, establish a new load profile for just that group. Marketers will do this, of course, only if the new profile is a better one.



Finally, load profiling eliminates the critical real-time link between supply and demand that will ensure reliability in a competitive electric generation market. Metering enables customers to respond to critical peaks—and their corresponding high prices—by dropping load that obviates the need for brownouts. A five-utility test conducted by the U.K. Electricity Association found that customers reduced peak loads from 20 to 40 percent. One U.K. customer, a steel mill, earned more in 1995 from dropping load during critical peak periods than from its steel business.

Hourly metering is clearly preferable to load profiling, but only as long as it poses no additional or unjustified cost burden.

High *Costs?* **A Question of Scale**

Metering carries three significant economies of scope and scale: size, *functionality, and technology.* A firm that buys a million meters obtains a lower price than one purchasing 100,000. A meter reader reading 500 meters in a consecutive path reads 10 times the number of meters per day as one who reads every 20th meter. A telemetry system for one million meters can provide hourly metering for close to $1 per meter per month for small users and $20 per meter per month for the largest users. Since savings for some utilities exceed $1 per meter per month, telemetry may be available at *zero* net cost. In contrast, the current system in the United Kingdom, which only supports

Using load profiles to estimate usage will limit customers to a choice among suppliers, denying a choice among rates.

20,000 meters, costs $120 per meter per month for the largest users.

As a multifunctional unit, the meter plays a critical role in eight distribution and customer-service processes:

1) **Safety.** The meter provides a safe, reliable termination to the distribution grid.

2) **Reliability.** Telemetering turns the meter into an outage detection device that communicates critical information about the scope, timing, and frequency of outages, as well as the restoration of power.

3) **Customer Service.** The meter forms the dividing line between equipment the utility is responsible for and equipment the customer is responsible for.

4) **Credit.** The meter is used to connect and disconnect the customer's service for nonpayment, move-in/out, and other reasons.

5) **Energy theft.** A secure meter provides a reliable cash register for the power supplier and the distribution company.

6) **Distribution planning.** Metering data helps to plan the operation, maintenance, and expansion of the distribution grid.

7) **Billing.** The meter records consumption, and may be read manually or remotely.

8) **Prepayment.** In the United Kingdom, about 15 percent of customers use prepayment meters. These meters are programmed to provide a certain amount of power, and then shut off.

These functions all become more efficient when combined at the meter. Among other benefits, the meter permits field employees to perform multiple functions, provides a single entity with numerous operating economies, and distributes training and administrative costs over multiple employee groups.

The third metering economy lies in the scope of the technology. A meter can be used simply to record consumption, or as an element of a multifunctional system that supports some or all of the functions listed above. The savings realized from the multifunctional system far exceed those from the single-purpose technology.

The technology itself can also achieve significant economies of scale: A network meter-reading (NMR) system can perform advanced processing within the network to record hourly data, for example, or to process outage alarms. Upgrading existing meters instead of replacing them substantially lowers the cost of hourly metering and other functions. Moreover, the cost of the network itself can be shared with other services, such as gas NMR.

At one time, 30 new firms had sought approval in the U.K. as meter operators. . . . Interest dried up by 1996, when economics favored the distribution companies.

Forced Unbundling: An Initial Failure

Who should provide metering services?

In the United Kingdom, OFFER made meter operation (installation, maintenance, and reading) a competitive service. However, few new competitors showed any interest in entering the meter operation market in 1990, when retail access was made available to only 5,000 large customers.

In 1994, when access was extended to approximately 55,000 customers, over 30 entities sought the Pool's approval as meter operators. By 1996, interest had nearly disappeared among all but distribution companies. The combination of technical expertise and scale economies gave the local distribution companies an insurmountable competitive advantage.

The high cost (approximately $1,600 per year) also discouraged competitors. In addition to the communications costs for radios or phone lines that collect the half-hourly reads daily, there is the cost of amortizing a central data repository across only 25,000 customers.

Sources

1) Office of Electricity Regulation, personal communication, Sept. 3, 1996.

2) Office of Electricity Regulation, personal communication, June 6, 1996.

3) UK Data Collection Services Ltd., "UKDCS & The UK Electricity Pool," presentation to the California Direct Access Working Group, May 17, 1996.

4) The Electricity Pool of England and Wales, "1998 Operational Framework, Business Requirements," March 26, 1996.

5) The Electricity Pool of England and Wales, personal communication, June 11, 1996.

6) Direct Access Working Group, "Report of the Direct Access Working Group to the California Public Utilities Commission," August 31, 1996.

7) The Electricity Association, UK, "Domestic Customer Response to a Multi-Rate Tariff," November 1992.

8) Intervenor Comments, Direct Access Working Group Meeting, Sacramento, CA, June 20, 1996.

9) The Electricity Pool of England and Wales, "A Blueprint for 1998, Overview of The Electricity Pool's Operational Framework," December 1995.

Although 20 meter operators still exist, the 12 distribution companies provide virtually all customer-site metering services.

Allowing customers to choose meter operators proved a massive initial failure. According to OFFER, customers had no clear incentive to get meters installed properly and on time. For UK Data Collection Services, Inc. (UKDCS)—current manager of the metering data repository—that failure took the form of missing half-hourly data. As a result, over 50 percent of customers' bills had to be estimated. In short, according to UKDCS, the "U.K. competitive market [was] close to chaos."

OFFER and the Pool have now decided to make power marketers responsible for qualifying meter operators in 1998. While customers will theoretically have a choice, the supplier will actually select the meter operator.

Thus, the U.K. approach has produced only high costs, little actual competition in providing meter operation, and virtually no real customer choice relative to metering.

Although California leans toward retaining the regulated distribution company (DisCo) as the meter operator, this approach remains debatable. On the positive side, using the DisCo would offer a number of advantages:

▲ Ensure equal and equitable access to low-cost metering for all customers of all classes.

▲ Achieve the scale economies associated with network-based approaches to hourly metering. Instead of a total cost of $10 to $100 per meter per month for point-to-point, electronic hourly reads with individual meters, the total cost would fall to between $1.00 and $2.00 per meter per month.

▲ Guarantee data accuracy.

▲ Guarantee customer privacy.

▲ Guarantee access to the data, as mandated by the CPUC or specified by the customer.

▲ Ensure public safety associated with the distribution network.

By 1998, power marketers will take responsibility for certifying meter operators in the U.K.

▲ Provide additional scale economies (the DisCo needs access to the meter to fulfill its distribution operations duties), including outage management and restoration, distribution system planning, turn-on/turn-off, line-loss management, and energy-theft identification.

▲ Guarantee the requisite expertise in meters and metering systems to select and implement them.

▲ Achieve the lowest possible price, since the DisCo can enter into large-scale, long-term contracts through competitive bidding.

▲ Keep all these services under regulatory protection.

To be sure, using the DisCo as the meter operator carries with it some important, but surmountable, disadvantages:

▲ Customers and power marketers cannot select their meter operator from among competing providers.

▲ Changes in metering processes and procedures must be addressed through a sometimes burdensome regulatory process.

▲ Without adequate regulatory oversight, meter ownership by the DisCo may provide an unfair competitive advantage to the power-supply side of the utility company.

▲ Power marketers would not be able to use metering to differentiate their services (but have greater ability to achieve differentiation through advertising, traditional marketing, or pricing design).

As it decides whether to unbundle metering services, the CPUC should consider applying the following test, which establishes the metering part of the natural DisCo monopoly:

> Any equipment, facilities, processes, or services used in the distribution of electricity that are shared by or affect multiple customers, and which lead to significant loss of economies of scope or scale when duplicated by multiple firms, should remain within the regulated electric distribution company, unless doing so would inhibit competition in electric supply.

Up to this point, the experience gained in the United Kingdom indicates that the benefits of retaining meter operation within the scope of the regulated distribution company appear to outweigh the perceived advantages obtained from creating a competitive business sector for electric metering services. ▼

Chris S. King is vice president for CellNet Data Systems, Inc. Involved in electric metering issues since 1982, he is active in regulatory proceedings in the United Kingdom, California, New York, and Massachusetts, educating industry participants on the policy, economic, and technical issues of metering. Mr. King has a BS and MS in environmental science from Stanford University and an MS in management science from Stanford's Graduate School of Business.

By Alex Henney

Competition, Confusion, and Chaos: The Metering Muddle

With no system in place to collect data, retail choice brought gridlock to England and Wales in 1994. California, you're next.

Consider what happens when one moves from dealing with a few thousand sizable customers that are easily identifiable, to more than 20 million residential customers who suddenly acquire the "power to choose."

Congressman Schaefer's bill promises that "by no later than December 15, 2000, all electric utility retail customers shall have the right to purchase retail electric energy services from any person offering to provide those services to such customers." Even more daunting, the California Public Utilities Commission has called for "direct access" open to all sizes of customer, beginning in 1998.

However, as we found out the hard way on the other side of the Atlantic, these promises are easier to make than to deliver. Competition in England and Wales has been introduced in two phases thus far—5,000 sites taking over one megawatt were given competitive choice in 1990, then 45,000 sites taking over 100 kilowatts in 1994. We are promised—or perhaps more accurately, threatened—with a free-for-all in 1998, which at the moment looks like chaos for many.

Competition requires a system for identifying each meter, its characteristics, its operator, its supplier, its line-loss factors, and so on.

1990-94: A Shambles

Opening the market in 1990 was not without its problems: shortages of meters and modems connected into the central Pool settlement system, arguments about the price that the distribution companies charged for metering and data collection and aggregation, disputes over who owned the data. But since there were relatively few sites, and they included the biggest hitters in the market, and many of the customers had energy engineers who were familiar with the electricity industry and metering and communications, the problems were sorted out fairly quickly. That said, it was only possible to implement competition for customers because there was an agreed-upon market structure. That structure provided three key advantages:

- ▲ A means of reflecting the time-varying value of electricity in a market-based manner
- ▲ An accounting and legal framework to ensure that parties consuming electricity paid for it and that those providing it get paid (the Pooling and Settlement Agreement)
- ▲ A mechanism in the Pool to settle discrepancies between

power contracted and power consumed. (Such an arrangement avoids penalty payments that distort market behavior by either requiring power retailers to indulge in unnecessary feats of load control or handing an artificial advantage to parties providing a so-called balancing service.)

Simple as these instruments appear, they do not yet appear on the U.S. agenda. Yet, they lie buried like minefields waiting (with attorneys in attendance) for the facile.

Opening access in 1994 was quite another experience: a shambles. Part of the mess was the fault of distribution companies that had not organized themselves properly; part of the mess was due to the electricity regulator's enthusiasm for competition regardless of practicalities. He introduced competitive metering late in the process, without defining the responsibilities of the "meter operator" to ensure that meters were not only on site but connected to a modem that was, in turn, connected to the data aggregation system and the whole setup both commissioned and registered. Competition requires a system for identifying each meter, its characteristics, its operator, its supplier, its line-loss factors, and so on. Introducing such a system becomes far from trivial when tens, if not hundreds, of thousands of meters are involved. Worse, the regulator decided to allow customers lacking a half-hour meter to take competitive supply on load profiles.

In the ensuing chaos, some companies were not billed for six months. The cash flow of the distribution companies suffered severely (the larger ones were $100 million down for a while) and the problem took two years of intense clerical effort to straighten out. The Pool auditor qualified the Pool's accounts.

1998: Consider the Reality

So on to 1998, when, in theory, 2 million nonresidential customers and 21 million residential customers will gain competitive choice. The prospect is not merely that of inconveniencing a few thousand commercial customers, but of making the voters unhappy on a grand scale and incurring the risk of the nightmare scenario of losing the billing systems if there is a mighty mess.

It probably will not happen. This time reality will temper ideological enthusiasms, and distribution companies will not allow themselves to be railroaded into introducing untested systems again. But the bare fact that one can make such an observation at this time, only a year and a half from the date competition is supposed to start, indicates the magnitude of the task at hand.

Consider some of the issues that must be addressed once one moves from dealing with a few thousand or tens of thousands of sizable customers that consume a significant value of power, that are fairly readily identifiable, that are commercially competent, and on which one can afford to spend a reasonable amount of administrative time and effort sorting out their problems on a customized basis. Extending the market to everyone is not only a major systems project, but a move that raises public policy and legal issues, and demands a recasting of the regulatory framework. For example, if the objective really is to create access:

▲ Should customers taking competitive supply be required to have an hour meter (which may be regarded as a transaction-cost barrier to trade),or should they be profiled, which is where the fun and complexity really start?

If we do not trust the incumbent utility to play fair, are we going to unbundle meter operation, data collection, and data aggregation and open them to competitive operation?

▲ What—if any—measures should be taken to overcome some of the advantages of the incumbent distributor, which has the customer database? Should there be a registration system for states or market areas (if we can define them), with a common meter identification system that is electronically accessible by other parties (are there data privacy issues?) and can be linked into postal information?

▲ If we do not trust the incumbent utility to play fair, are we going to unbundle meter operation, data collection, and data aggregation and open them to competitive operation? If so, how are we going to define the legal relationships between these operations (which have traditionally been part of an integrated utility meter reading, billing, and collection system) and ensure reliable operation?

▲ How are we to define the responsibilities for interfacing with customers as between the transmission provider (WiresCo) and the power retailer. Who does the customer call on the telephone when a power glitch arises? Does the WiresCo have a record of the customer's name, or is that an unfair competitive advantage?

We would have been well advised to proceed incrementally, rather than go for a big bang that may produce a big flop.

The New Hampshire Primary

So far, so good, but . . .

Assisted by some political economics, New Hampshire's retail-access pilot for 17,000 small customers (3 percent of each utility's customer base) appears to be a success so far. There has been some confusion, however, and the PUC chairman agrees that the project was "less than fully baked." The pilot represents a different order of magnitude than the effort undertaken in England and Wales.

The "profile risks" (*i.e.*, the probability of misallocating costs between power retailers) for such a small number and proportion of customers are not financially significant to the players, most of whom have joined in to learn rather than to make money. The conventional NEPOOL settlement arrangement serves adequately for settling "overs" and "unders" because the sums at stake are not large. Access to so few customers is easy to organize of a few DisCos. There is no need to ensure the uniformity of data format between utilities. And data cleanup will be easy.

With string and sealing wax, existing customer-service systems can produce the data for billing the wires charges and for running into programs to aggregate, then to load profile, and then to reconcile with NEPOOL and between the power retailers. The volumes of data are relatively small (although the Public Utilities Commission did have to mandate common protocols and electronic data interchange). And with so few customers, utilities need fear no big rollout problem of perhaps being overwhelmed with customers wanting to change suppliers. While half-baking a small pilot project is manageable, half-baking for millions of customers would create chaos.

This is not to decry the pilot project. Indeed, far from it. We would have been well advised to proceed incrementally, rather than go for a big bang that may be a big flop. Coupled with our experience, the pilot will give the wise the opportunity to measure the problems that have to be faced in opening up the market on a large scale and help them avoid the bear pits.

▲ How are we to define the relationship between a WiresCo and the same utility's power retailing? Will supply to customers that do not seek competitive supply be priced at energy pass-through? Will there be functional unbundling and Chinese walls, or do we suspect them and require at least affiliate unbundling?

▲ How will customers change power retailers? Exactly what flexibility is allowed for contract start date? (Will the computer systems cope?) What provisions will be made for past debt? What happens when husband and wife both sign contracts, or when one power retailer claims that (s)he still has a valid contract and another claims that a new contract is in force?

▲ What, if any, social obligations will be imposed on new entrant power retailers?

▲ What has to be done to convert a relationship between a bundled supply on a tariff that is backed by legislative provisions to a contract based on unbundled supply?

▲ What legal wrinkles lurk in decades of legislation? Perhaps there may be difficulty in disconnecting if a retailer other than the local utility supplies the power.

Before determining the broad parameters of change, shouldn't someone descend from the Olympian heights of political ideology and try to analyze what's in it for the customers, a question that should point up how complex it is worth making the systems. Last, but not least, who is going to lead this grand and complex project and arbitrate the differences of opinion among the stakeholders?

Beyond Public Policy: Never Pure and Simple

Having resolved the public policy issues, we can start to think about how to design and provide the basic systems infrastructure of registration and settlement (*i.e.*, working out which power retailers owe which generators how much for what power). Then utilities will have to consider the impact on their internal computer systems. How are they going to bill for use of transmission and use of distribution? What changes will have to be made to the main billing system to accommodate the flexibility of presentation that customers will not merely want, but will demand? And last, but definitely not least, consider how to try out the system with real people. Which publicly minded utility is going to volunteer part of its service territory for a pilot so that others can come in and go at its customers and the media can berate it for any system messes? How are we going to roll the show out in a manner that will ensure that utility systems and staff can cope with the possible level of early switchers? (In the gas trial in England—which opened access to a half-million residential customers in April—30,000 households wanted to switch on the first day, overloading the capability of British Gas. The rate of switching has now settled to 2,000 per week, which is manageable.)

Thus far I have only talked about the mechanics: How will utilities and/or others organize the power-retailing function, develop the new systems that will be required—*e.g.*, pricing, risk management, contract management, forecasting and business planning, accounts reconciliation)—and determine their policies?

As Oscar Wilde once observed, "The truth is rarely pure and never

simple." I have said enough to indicate why we are having difficulties. There has been no attempt to analyze customer benefits and possible behavior. Although industries do on occasion implement joint projects, they only do so when they share a common interest, something completely lacking in this venture. Commercial politics and distrust among the players is rife. The interests of the generators are not the same as those of the distributors, and the latter differ among themselves. Not one key program date has yet been met. Indeed, it took a year to get an agreed program toward which the distribution companies and regulator are working. The regulator—really the only person capable of leading the show—has tried to distance himself from responsibility, while berating the industry for not getting an act together. No one knows how much the changes will cost, but few would dispute that it will make change out of a half-billion, and could cost as much as a billion. We will never know.

Given the American ability to generate so much heat and so little light out of the PoolCo versus bilateral trading debate, the forthcoming discussion about access for all promises at least an equal outpouring of ill-informed nonsense and corporate wheel spinning. The change will be paradise where consultants with imagination but no practical experience will peddle snake oil, and attorneys (as always) will pass Go. ▼

Alex Henney, a former director of London Electricity, was involved in the privatization of the electricity supply industry in England and Wales. He has advised electric companies, governments, and regulators in a number of countries, increasingly the United States and Canada. Mr. Henney recently formed Competitive Electric Strategies, Inc. with Resource Dynamics Corp. of Vienna, VA.

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Duquesne Statement No. 8-R
Pgh 12/18/97

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

DUQUESNE LIGHT COMPANY
DOCKET NO. R-00974104

Rebuttal Testimony
of
Fred R. Allison

Contents:

Response to Intervenor Testimony Regarding Unbundling of Revenue Cycle Services, Application of Customer Payments, and Customer Service Procedures

REBUTTAL TESTIMONY OF FRED R. ALLISON

I. Introduction

Q. Please state your name and business address.

A. Fred R. Allison, 411 Seventh Avenue, Pittsburgh, Pennsylvania 15230-1930.

Q. Did you present written direct testimony in this proceeding?

A. Yes. I submitted direct testimony, Duquesne Statement No. 8, in the August 1, 1997, Duquesne Light Company Restructuring Plan filing.

Q. What issues will you address in your rebuttal testimony?

A. I will address the following major issues which witnesses for intervenors Enron Power Marketing, Inc. (ENRON), Mid-Atlantic Power Supply Association (MAPSA), New Energy Ventures (NEV) and the Office of Consumer Advocate (OCA) identified in their written direct testimony:

- Should revenue cycle services, i.e., metering, meter reading, billing, customer payment processing, and collection, be unbundled from regulated distribution functions at this time and be provided competitively?
- Is the proposed method of applying payments from customers to whom Duquesne renders consolidated bills reasonable and consistent with Pennsylvania Public Utility Commission (Commission) requirements?
- Are Duquesne's proposed customer service procedures consistent with the Guidelines for Maintaining Customer Services at the Same Level of Quality as ordered by the Commission?

Q. Is your rebuttal testimony organized around these three topics?

A. Yes, it is. Each is addressed in turn.

II. Unbundling Of Revenue Cycle Services

Q. Several intervenors have suggested that Duquesne unbundle its revenue cycle services. Can you please summarize their positions?

A. I will try. OCA witness Alexander states that the PUC should not finalize a restructuring plan that assumes metering and billing will continue as monopoly services. (Alexander direct at pp. 41-42) MAPSA witness Russell proposes a list of metering and billing options that he believes Duquesne should implement. (Russell direct at pp. 42-46) Enron has several witnesses that address this subject. Enron witness Muench argues that the PUC should presume all services are subject to competition and asserts that the unbundling of billing as well as other non-wire services is important for competition because these services represent such a large proportion of small customers' monthly bills. (Muench direct at pp. 5-6) Enron witness Steffes claims that permitting competition means unbundling all services that a utility currently embeds in its service – transmission, distribution, metering, billing, and customer information services. (Steffes direct at p. 5) Enron witness Brown concludes that the PUC should order Duquesne to unbundle non-wire services as part of their restructuring plans. (Brown direct at p.22) Mr. Boonin and Ms. Day on behalf of NEV also contend that consumers should be allowed to

choose their provider of metering, meter reading, billing and information services through open market competition. (Day direct at p. 4 and Boonin direct at p. 21)

Q. What is your response?

A. I have three major points:

- First, Duquesne believes that it would be inappropriate to unbundle revenue cycle services in this proceeding as supported by the Commission's recent Proposed Rulemaking Order Regarding Advanced Meter Deployment for Electricity, 52 Pa. Code 57.250-57.257, Docket No. L-0097 (hereafter referred to as the "Proposed Rulemaking").
- Second, if at some later date it becomes appropriate to unbundle certain services, Duquesne will be prepared to do so.
- Third, Duquesne's prior commitment to install the Customer Advanced Reliability System (CARS) will provide better distribution service at lower cost and is pro customer choice.

I describe each of these points in more detail in the testimony that follows.

A. It Is Inappropriate To Unbundle Revenue Cycle Services In This Proceeding

Q. Please summarize your first point.

A. Certainly. First of all, numerous important issues need to be resolved prior to unbundling of revenue cycle services in order to ensure reliability, safety, customer protections, and the integrity of the current system. Secondly, the PUC has already

established a collaborative process to address several of these issues on a generic basis across Pennsylvania. Thirdly, retail access can move forward as planned without unbundling these services now. Therefore, I recommend that the PUC wait until this collaborative process is completed before making any decisions. This general approach is supported in the Commission's recent Proposed Rulemaking.

Q. Please explain.

A. The Commission "concludes that advanced metering is not an essential requirement for all customers to participate in the competitive generation market at this time...The Commission does not believe that it is necessary at this early stage of electric generation competition to unbundle metering from distribution services...and concludes that metering should remain a regulated function of the EDC at this time." (Proposed Rulemaking, pp.11-12)

Q. Do you think the same logic applies to other revenue cycle services, such as billing and customer services?

A. Yes, I do. Establishing competition in the generation market should be the first priority. Efforts should be focused on getting the generation market structure in place and developing the necessary policies, interactions and communication procedures. It already requires a significant effort to complete these tasks. If the Commission is interested in pursuing unbundling of revenue cycle services, this decision should be postponed.

Furthermore, a competitive generation market can proceed without competitive revenue cycle services. Duquesne's proposal promotes an orderly transition that minimizes customer confusion. Unbundling the revenue cycle services from the existing distribution company structures would require a significant number of administrative and procedural details to iron out. Customers have significant changes to adapt to without further confusing the issues and potentially affecting the service they receive.

Q. Does the Restructuring Legislation require the Commission to unbundle revenue cycle services?

A. No, it does not.

Q. Please summarize your conclusions regarding the requirements of the Restructuring Legislation that apply to revenue cycle services.

A. First, the Legislation states that customer services shall, at a minimum, be maintained at the same level of quality as today, suggesting that no policy should be adopted that would degrade service levels. Second, the Legislation recognizes the potential customer benefits of installing "enhanced metering capability". Third, the unbundling of these services is contemplated, but the Legislation specifically indicates that the unbundling of electric utility service charges into generation, transmission and distribution charges is the first priority.

Q. Several intervenors have suggested that concerns regarding safety, accuracy, installation and performance should be addressed with the assistance of the

Commission, through task forces, working groups and generic docket proceedings (Brown direct at pp. 19-21, Muench direct at p. 12). Do you agree?

A. Yes. Furthermore, I believe it would be unwise for the PUC to set a course of action to unbundle these services in this proceeding until it is known that these very important issues can be resolved in a manner that maintains existing safety and consumer protections.

Q. Has the Commission established a process to address these and other issues related to the unbundling of revenue cycle services?

A. Yes. The Commission has established working groups in the areas of Metering, Customer Information and Billing, Reliability, Supplier/Utility/Customer Interaction, Competitive Safeguards, Consumer Education, Retail Access Phase-in, Universal Service and Conservation, and Taxes to address these issues and to develop the policies, procedures, standards and implementation requirements related to the transition to retail competition in Pennsylvania. Stakeholders from virtually every constituency are represented on these working groups.

Q. As contemplated by the Legislation, can retail access be implemented without unbundling and deregulating revenue cycle services?

A. Yes, this is clearly the case. Retail access programs currently in progress in Pennsylvania and other states support this conclusion.

Q. Witnesses Alexander (Direct at p. 41); Brown (Direct at pp. 3-8, 9-10); Muench (Direct at pp. 5-6); Boonin (Direct at p. 2) and Day (Direct at pp. 3-4) contend that without unbundling revenue cycle services, suppliers will be unable to attract

customers, customers will see fewer benefits, and the market will be less competitive and efficient. They argue this will lead to few market participants as profit margins in the commodity market for generation decline. Do you agree?

A. No. Duquesne shares the Commission's view expressed in the Proposed Rulemaking that market participants need to first have an opportunity to gain experience in the primary industry change to competitive generation markets. Later it may be possible to unbundle other services.

B. If Appropriate Later, Duquesne Will Be Prepared To Unbundle Services

Q. At a future date, following the conclusion of a generic proceeding involving all Pennsylvania electric distribution companies (EDCs), if ordered by the Commission, will Duquesne be prepared to unbundle its revenue cycle services?

A. Yes. Assuming Duquesne's concerns are addressed by the Commission and the various stakeholders, Duquesne will unbundle these services from current rates and give customers that choose alternative providers a credit based on Duquesne's avoidable service costs.

Q. OCA witness Alexander (Direct at p. 42) cites the need for Duquesne's short-term policies to be compatible with the possibility of increased competition in metering and metering services. Are Duquesne's current activities compatible with the possibility of increased competition?

A. Yes. Duquesne believes its infrastructure improvements provide benefits in the short-term and are consistent with the long-term direction of the Commission in its Proposed Rulemaking.

Q. Enron Witness Mr. Brown states that Pennsylvania can implement retail open access with existing meters (Brown direct at p. 16). Do you agree?

A. Yes, but I also believe that Pennsylvania can implement retail open access with distribution-related meters that are cheaper to operate and more reliable. The intervenors provide no compelling reason why fair and efficient competition could not occur if more advanced meters were installed prior to unbundling. If anything, this should provide more suppliers an opportunity to offer new value-added services.

Q. Witnesses Alexander (Direct at pp.40, 43) and Russell (Direct at pp. 45-46) request information regarding Duquesne's metering policies. What are Duquesne's metering policies?

A. Consistent with the Proposed Rulemaking, Duquesne will perform all existing functions related to metering. Duquesne is already well into the process of installing the Customer Advanced Reliability System (CARS) for customers in its service area. Customers shall also have the opportunity to choose a Qualified Advanced Meter to support the generation services provided by their chosen suppliers. Any alternative meter installed by Duquesne will be billed to the customer or supplier at net incremental cost as described in the Proposed

Rulemaking. Customers who wish to have a second meter installed may do so subject to the same conditions described above.

Q. Does the Proposed Rulemaking specify qualified advanced meter standards?

A. No. The Commission states that it is not appropriate to adopt rigid standards for advanced metering at this time. Instead the regulations are designed to adopt a flexible set of standards that will be adopted by the Commission from time to time as requirements based on recommendations of a working Meter Committee. This Committee is supposed to report to the Commission on or before September 1, 1998 and at least annually thereafter with its considerations and recommendations. (Proposed Rulemaking pp.15, 17)

Q. Does the Commission provide any guidance with respect to defining what constitutes a "Qualified Advanced Meter"?

A. Yes. The Commission states that "an advanced meter or network must possess, at minimum, open, non-proprietary communications capabilities, which allow both a supplier and EDC to assess the information in a standard data format with multiple callout capability, unless the Qualified Advanced Meter is to be used in conjunction with a second meter. In addition, a Qualified Advanced Meter must be capable of supporting the expected minimum market requirement of hourly usage and may support one or more other functional requirements such as the ability to : (1) modify profile intervals; (2) provide a communications port for the customer to monitor usage; (3) provide a pulse output to allow for usage monitoring; (4)

provide password protection; and (5) operate in two directions for net metering." (Proposed Rulemaking, pp. 17-18)

Q. Do you expect the CARS system to be able to meet those minimum requirements?

A. Yes.

Q. Several intervenors have expressed concerns that the CARS system may somehow be anti-competitive. Does the Proposed Rulemaking support that conclusion?

A. No, not at all. In fact, the Commission states that it encourages the integration of new technologies into the marketplace and wants to monitor the trends. (Proposed Rulemaking, p.14) I explain the benefits of CARS and address the intervenors' concerns further in the next section of my testimony.

C. ***CARS Will Provide Better Distribution Service At Lower Cost And Is Pro Customer Choice***

Q. Please briefly summarize this section of your testimony related to the installation of CARS.

A. Approximately eleven months before the "Electricity Generation Customer Choice and Competition Act" was signed into law, Duquesne signed a fifteen year, full service contract with Itron, Inc. to install, operate and maintain its CARS system. This system is already in the process of installation and will make a significant improvement in infrastructure to improve and enhance distribution services.

The CARS system will provide numerous benefits both to customers and retail suppliers. First, the installation of CARS will improve system reliability, provide advanced electronic metering capabilities, improve the use of distribution

system assets and provide enhanced information about customer usage. CARS will enable Duquesne to provide better distribution service (particularly in the areas of improved reliability and meter reading) at lower cost than it would have without these improvements. These benefits will accrue to customers that choose alternative suppliers as well as elect to stay with Duquesne.

Second, the CARS Project is pro customer choice. CARS will support a more reliable and accurate supplier settlement process than other programs based on estimated load profiles. CARS will allow retail suppliers serving customers in Duquesne's service area to offer new value-added services to their customers (time-of-use pricing, real-time pricing, and group consolidated consumption metering, etc.). Duquesne will make available optional services to competitive suppliers and/or customers in a non-discriminatory manner consistent with open access codes of conduct. These optional services will be cost-based and Duquesne will submit tariffs for these services to the Commission for approval. Finally, the CARS system does not preclude the unbundling of billing or other services in the future. Duquesne plans to modify CARS as appropriate to meet the standards described in the Proposed Rulemaking.

Q. Has the Commission reviewed the CARS project prior to this proceeding?

A. Yes. Duquesne reviewed this project with representatives of the Commission and sought temporary relief from certain watthour meter testing standards and actual meter reading requirements. Duquesne not only was granted the requested relief, the Commission, in correspondence dated February 27, 1996, indicated that, "We

are extremely pleased that your company has decided to install an automatic meter reading system". See Exhibit FRA-5.

Q. What is the current status of the CARS implementation?

A. Field installation of meters with encoder receiver transmitters (ERTs) has been completed. Approximately 550,000 ERTs have been installed. The majority of the fixed network has been installed and communication links have been established to read over 123,000 meters from the fixed network. In addition, approximately 350,000 accounts are being read monthly through use of the van. The system should be fully operational by December 31, 1998.

Q. Witness Brown in his testimony (p. 12) does not agree that there are considerable benefits to customers by implementing the Itron system. What are the distribution-related benefits of installing the CARS system for Duquesne and its customers?

A. The CARS system provides improved basic operation of the distribution system, enhances the operation of the distribution system, improves reliability of the distribution system and finally supports the introduction of customer choice. Distribution system efficiency and operational information will be extracted from the CARS system and utilized to reduce the risk of outages due to circuit loading, improve the planning for distribution expenditures, allow efficient loading and operation of the system and allow the system operators in general to enhance system operation. The Commission expects customer service to remain at the level prior to the introduction of competition and expects it to improve. The

CARS system is an integral part of the Company's capability for maintaining and improving distribution services.

In addition to distribution system enhancements, the CARS system will allow Duquesne to offer: 1) improved load profiles for suppliers and for balancing; 2) improved billing choices for customers; and 3) easier and more friendly service connection through remote access to the device.

In summary, CARS provides operational benefits to the functioning and efficiency of the distribution system itself and offers customers better service. The CARS system is integral to the continued improvement in distribution services to our customers.

A list of the specific benefits of the CARS system by function is provided below:

- System Reliability
  - ◊ Outage Notification and Restoration Functions
  - ◊ Tamper Monitoring and Reporting Functions
  - ◊ Service Voltage Test
  - ◊ Service Current Test
  - ◊ Power Quality
  - ◊ Diagnostics
  - ◊ System Load Control

- Improved Utilization of Distribution Assets
  - ◊ Extended Transformer Life
  - ◊ Power Outage Management
  - ◊ Load Research
  - ◊ System Load Control

- System Advanced Electronic Metering Capabilities
  - ◊ System Service Tests
  - ◊ Instrumentation
  - ◊ Power Quality Monitoring Functions

- New Business Processes
  - ◊ New Service Diagnostics
  - ◊ Instrumentation Readings
  - ◊ Power Quality Diagnostics

- Customer Service Benefits
  - ◊ Consumption Meter Reading
  - ◊ Turn Off/On and Dual Service Orders
  - ◊ Group Summary Billing
  - ◊ Internet Access to Data
  - ◊ Energy Management
  - ◊ Daily Read Functions
  - ◊ Virtual Disconnect Usage Alarms
  - ◊ Billing Cycle Selection
  - ◊ Eliminates Inside Customer Access and Property Damage

Many of the services listed above would be provided to customers at no charge, while optional services would be available to customers and retail suppliers under open access tariff rates to be filed with the Commission. For an expanded description of these benefits, see Exhibit FRA-6.

Q. Do the projected financial benefits for the distribution system exceed their cost?

A. Yes. Projected financial benefits for improved reliability and the advanced meter reading features of CARS exceed their cost. These benefits will result in lower distribution costs. Exhibit FRA-7 summarizes the cost effectiveness of the CARS system for Duquesne. Referring specifically to page 5 of this exhibit, the projected savings from improved base operations, enhanced operations and improved reliability of the distribution system, absent customer choice benefits, more than

offset the cost for installation of the CARS system. For an overview of the cost/benefit analysis, see Exhibit FRA-7.

Q. Have Duquesne's meter reading costs been reduced as a result of the implementation of CARS?

A. Yes. The CARS system was partially implemented in 1996. As a result, the cost of meter reading declined from 1995.

Q. OCA witness Alexander and other intervenors suggest that Duquesne's shareholders, not ratepayers, should assume the risk of CARS. (Alexander direct at p. 42) Please explain how Duquesne will recover the costs of CARS.

A. The Duquesne contract with Itron is a service agreement that requires Itron to acquire, install and maintain the metering and other facilities necessary to support the automated information network. Duquesne will incur no capital costs to implement CARS. The costs of the service agreement for each year and over the fifteen year term are offset by cost reductions associated with base operations, improved reliability, enhanced base services, and customer choice. This means that the cost of providing distribution service will be lower than it would have been without CARS. This is a source of cost mitigation, not unlike other cost-cutting measures, and will allow Duquesne to amortize its stranded costs more quickly, as described in Mr. Clayton's testimony. Thus, it is irresponsible and unfair for these parties to claim that this lower level of costs should be disallowed from rates.

Q. OCA witness Alexander asserts that CARS will provide a big marketing advantage to Duquesne since the reliability benefits are not shared by other suppliers (Alexander direct at pp. 40-41). Is this true?

A. No. As stated earlier, Duquesne will provide retail suppliers equal access to the service offerings of the CARS system in a non-discriminatory manner. Moreover, the reliability benefits that I discussed earlier relate to distribution service, not the supply of generation. Finally, the issues raised regarding accessibility to the CARS system information by witnesses Alexander and Brown (Direct at pp. 12-14) should be resolved through the qualification process. As described in witness Brown's "Non-Wire Communications Network Conceptual Model", (Exhibit JAB-4), standards and protocols have not been developed for two of the three communication areas addressed. Duquesne agrees with the Commission that the Metering Committee is the proper vehicle to resolve these issues.

Q. Does CARS facilitate or hinder retail choice of alternative suppliers?

A. CARS will provide several benefits to promote fair and efficient retail choice. The load profiling capabilities of CARS will allow Duquesne to compute the aggregate hourly consumption for each supplier's customer more accurately than by using historical load profiles based on sample interval reading data to develop estimates of consumption. These load profiles are essential to the supplier settlement process. This certainly is an important component of providing retail access. All

parties should have more comfort in knowing that actual customer consumption can be measured as opposed to being estimated.

Q. Please describe some of the other capabilities of CARS that may be available to customers or retail suppliers other than those already detailed?

A. Over time, the capabilities of CARS will be increased to provide suppliers and/or customers with new products and services. With more information available about individual customer use, flexible rates can be tailored to provide new value-added services. The ability of CARS to process information about energy usage will provide customers or their suppliers new choices and greater convenience. For example, customers would be able to select which day of the month to pay their bills. CARS will permit development of a daily profile of the electricity usage of each customer. CARS can provide Duquesne's customers or suppliers with a wide variety of advanced metering capabilities:

- Daily scheduled consumption meter readings
- On-request readings
- Flexible start and end-of-service readings
- Flexible time-of-use rates
- Load profile information
- Energy Management Opportunities

Q. Will the distribution system benefits of CARS and these other capabilities, such as those that facilitate customer choice, be accessible to competitive suppliers?

A. Yes. Consistent with the Proposed Rulemaking, Duquesne and Itron will work with the Metering Committee to qualify the CARS system to meet Sections 57.252 and 57.253 of the Proposed Rulemaking.

Q. Some features of the CARS System described in the CARS Financial Analysis Report refer to marketing benefits. Please comment.

A. As discussed previously, Duquesne plans to qualify the CARS system as a Qualified Advanced Metering network consistent with the Proposed Rulemaking. By doing so, customers and suppliers will have equal access to, and choice of, the capabilities of the CARS system. Suppliers will not be disadvantaged because Duquesne affiliates will be treated comparably to non-affiliates in accessing the CARS system.

Q. Please provide examples of fees charged by Itron, Inc. to Duquesne for some of these optional services?

A. As indicated in Exhibit FRA-7, Itron, Inc. will assess Duquesne optional charges for the use of demand (kW) reads ($0.20 per meter per month), time-of-use (TOU) metering reads ($0.30 per meter per month), real-time pricing reads ($0.50 per meter per month) and load profile reads ($2.75 per meter per month). In addition to these out-of-pocket costs, Duquesne will include any other net incremental costs in its tariff for these services to be billed to those customers or suppliers who choose to use them.

Q. Enron witness Muench states that Duquesne charges should be "cost based", "reasonable" and with "Commission oversight" (Direct at p. 15). Does Duquesne agree?

A. Yes. I also note that many of the distribution-related services will be provided to customers at no additional cost, given that Duquesne expects distribution-related costs to be lower than what they would have been without these improvements. In any event, the Proposed Rulemaking allows Duquesne to assess the net incremental cost it incurs as a result of the use of Qualified Advanced Meters in its network. A customer surcharge or supplier payment for optional value-added services will be filed by Duquesne and subject to Commission review consistent with the Proposed Rulemaking.

Q. OCA witness Alexander assumes that Duquesne will not charge other fees related to implementing customer choice since no mention of them was made in my direct testimony. (Alexander direct at p. 44) Is that correct?

A. No. The Restructuring Legislation allows the Company to recover such transition costs. Duquesne will establish cost-based charges and file them with the Commission for their approval. These costs could potentially be recovered in user fees and/or as a transition cost regulatory asset.

Q. What related retail choice services does Duquesne plan to provide and at what cost?

A. Duquesne will charge customers and/or suppliers the net incremental cost of providing the following services:

- Changing Customer's Electric Supplier of Record (except for the first change)
- Supplier Settlement
- Customized Billing
- Collection Activities
- Customer Payment Processing
- Customer Service
- Others (as they are identified)

It is impossible at this time to know with certainty all the direct transition costs associated with implementing retail choice. Duquesne will continue to monitor this process and will develop and file cost-based charges for Commission approval as deemed necessary.

D. Other Issues Regarding Unbundling

Q. OCA witness Alexander states that Duquesne should be required to describe how it would comply with three billing options. (Alexander direct at p. 44) What is Duquesne's position regarding the three billing options addressed by the Commission in its final order regarding Guidelines for Maintaining Customer Services at the Same Level of Quality (Folder 11 Order)?

A. The three billing options allow a retail customer to choose among the following:

- Receive a single bill from Duquesne for both its charges and supplier charges.
- Receive two bills -- one for services from Duquesne and one for services from the alternative supplier.
- Receive a single bill from a supplier for both its charges and those of Duquesne.

Duquesne supports the first two billing options as mandated by Section 2807(C) of the Restructuring Legislation and affirmed by the Commission in the Folder 11 Order (p. 11).

Q. Witnesses Alexander (Direct at pp. 44-45); Russell (Direct at pp. 42-45); Brown (Direct at p. 18); Muench (Direct at pp. 4, 7-8); Boonin (Direct at p. 21); and Day (Direct at pp. 4-5) support the third billing option, "supplier complete billing", to allow suppliers to provide more comprehensive and value added services and to enhance profitability when commodity prices yield thin profit margins. Why doesn't Duquesne also support this option?

A. Duquesne's concerns center around its experience in the Customer Choice Pilot Program. First, six of the seventeen suppliers participating in the Pilot are requiring their customers to adopt the two-bill billing option, contrary to Mr. Muench's testimony (Direct at p.9). Second, at least one supplier has implemented a cancellation fee to its residential customers, a clear disincentive to return to Duquesne. Third, the exchange of information with suppliers by electronic media during the Pilot has been somewhat problematic. For these reasons, Duquesne believes this

issue should be addressed by a working group within a generic rulemaking proceeding.

Q. Witness Muench (Direct at p. 13) broaches the issue of allowing a supplier to act in an agency capacity with respect to billing and collection. What is Duquesne's position regarding this proposal?

A. Duquesne believes the following points are significant:

- Only the EDC, Duquesne, can provide metering services for customers.
- Only the EDC, Duquesne, can physically disconnect service.
- The Commission requires the EDC's service representatives to determine whether the customer is requesting discontinuance of *service* at their current location, or discontinuance of *supply* from their current supplier.
- The single supplier bill option has not been endorsed by the Commission.

Given the above, Duquesne does not see the benefits to the customer of modifying its tariffs to allow suppliers to act in an agency capacity.

Q. Enron witness Muench (Direct at p. 3) addresses the need to provide adequate information to determine the basis for all of the various charges included in the EDC's bill in an understandable format. What is Duquesne's position regarding the information to be presented on the customer's bill?

A. Duquesne, like Enron, takes pride in its billing and customer service activities and strives to provide its customers with the highest quality billing services possible. Duquesne was one of the first utilities to implement a customer guarantee pro-

gram. However, the Commission has been very clear in section 56.15 of Chapter 56 and in the proposed rulemaking order regarding Customer Information Disclosure for Electricity Providers as to the information content of bills for residential and small commercial customers. At issue here is the definition of non-basic services. Duquesne proposes that the appropriate working group(s) address this issue. The unbundling of charges and their presentation on the billing statement proposed by witnesses Alexander (Direct at p. 42) and Muench (Direct at p. 3-4) have not been ordered by the Commission in any of its rulemakings.

Q. Does Duquesne plan to restrict the types of charges or rate design supported by its billing system?

A. In the Customer Choice Pilot Program currently in progress, Duquesne has been able to accommodate all of the rate schedules proposed by suppliers to prepare consolidated bills. Based on this experience, it appears that the concerns of OCA witness Alexander (p. 45) in this regard may not be an issue. Also, the CARS system may enable suppliers to offer new pricing options and any customized billing options offered by Duquesne would be cost-based.

III. Application of Customer Payments

Q. OCA witness Alexander (Direct at pp. 45-46) expresses concerns about Duquesne's proposed application of partial payments when Duquesne renders a single consolidated bill. How does Duquesne plan to apply customer payments?

A. Duquesne will maintain accounts receivable balances (Alexander direct p. 45) and apply customer payments in the consolidated bill scenario consistent with the Guidelines for Maintaining Customer Services at the Same Level of Quality (Folder II Order). These Guidelines are set forth below:

For a customer who has a pre-retail access balance, the payment should be applied by the EDC as follows: (1) outstanding pre-retail access balance or the installment amount for a payment agreement on this balance; (2) intangible transition charge (ITC) and competitive transition charge (CTC); (3) EDC transmission and distribution charges (T&D); (4) supply charges, and (5) non-basic service charges. If the customer's account develops a post-retail access balance, partial payments should be applied to the pre-retail access balance, according to the terms of the pre-retail access payment agreement, before being applied to any other outstanding post-retail access charges. For a customer with no pre-retail access balance but with a post-retail access balance, partial payments should be applied as follows: (1) balance due for prior ITC, CTC, and T&D service; (2) ITC and CTC; (3) T&D; (4) balance due for prior supply charges; (5) supply charges, and (6) non-basic service charges.

Q. Enron witness Muench (Direct at pp. 17-19) does not agree with the proposed method of applying payments proposed by Duquesne. Please explain Duquesne's position.

A. Duquesne has modified its proposed method of application of customer payments to comply with the Folder II Order. The issues raised by Muench have been, for the most part, addressed by the Commission in the rulemaking.

IV. Customer Service Procedures

Q. OCA witness Alexander expenses concerns regarding complaint resolution (Direct at p. 46), service interruptions and outages (Direct at p. 47), requests to discontinue service by customer (Direct at p. 48) and termination and payment agreements (Direct at p. 48). What is the position of Duquesne with respect to these issues?

A. First, Duquesne's procedures will be consistent with the Commission guidelines, rules and regulations. Second, these procedures are being developed and will be implemented during the Customer Choice Pilot Program. Attached as Exhibit FRA-8 is the most recent release of Duquesne's procedures for customers and suppliers during the Customer Choice Pilot Program. These procedures will be revised as appropriate based on Duquesne's experience during the Pilot Program.

Q. OCA witness Alexander (Direct at p. 44) addresses the use of standard load profiles and the need for these profiles to be updated frequently and approved by the Commission. What is Duquesne's position?

A. Duquesne has provided historical hourly load profiles for each rate class, hourly average temperature data and hourly humidity data to suppliers for scheduling purposes during the Customer Choice Pilot Program. As described previously,

Duquesne plans to make the load profile information from the CARS system, based first on daily, and then hourly readings, available to customers and suppliers. This information will be updated frequently and should not require Commission approval since it will be based on actual, and not estimated, metering information.

V. Conclusions

Q. What do you conclude?

A. I have five major conclusions:

- First, the Commission should postpone the decision whether or not to unbundle revenue cycle services since (a) numerous issues need to be resolved first in order to maintain the integrity of the system, (b) the Commission has already established a process to address these issues in a generic proceeding, and (c) it is not required to meet the primary objective of the Restructuring Legislation to develop competitive generation markets.
- Second, if at some later date, the various parties are able to adequately address the concerns associated with unbundling certain services, Duquesne is prepared to do so.
- Third, the CARS system will provide better distribution service at lower cost and will promote, not hinder, customer choice.
- Fourth, Duquesne will apply customer payments consistent with the Folder II Order for the consolidated billing scenario.

- Fifth, Duquesne will use the Customer Choice Pilot Program to develop and implement customer service procedures to meet Commission guidelines and rulemakings by January 1, 1999.

Q. Does this conclude your testimony?

A. Yes.

Exhibit FRA-5 - Letter from the Commission

Exhibit FRA-6 - Distribution System Benefits

Exhibit FRA-7 - Customer Advanced Reliability System Cost/Benefit Analysis

Exhibit FRA-8 - Customer Choice Pilot Customer and Supplier Procedures

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
P.O. BOX 3265, HARRISBURG, PA 17105-3265

2-29-96

Exhibit FRA-5
Page 1 of 1

IN REPLY PLEASE
REFER TO OUR FILE

February 27, 1996

F.M. Nadolny, General Manager
Regulatory Affairs Unit
Duquesne Light
411 Seventh Avenue
P.O. Box 1930
Pittsburgh, PA 15230-1930

Frank

Dear Mr. Nadolny:

Thank you for your recent visit to Harrisburg to discuss your company's request for waiver of our regulations with regard to your meters. Our discussions have been productive and have cleared up all questions regarding what Duquesne intends to do over the next two-year period. We are extremely pleased that your company has decided to install an automatic, meter-reading system.

Accordingly, your request for waiver of 52 Pa. Code §57.20 and §56.12 is granted for a two-year period beginning April 1996. During this period, you should submit annual reports to the Bureau of Transportation and Safety detailing your experience with the new system. The information that you should provide on an annual basis is set forth in your February 14, 1996, letter to me.

At the expiration of the waiver period, it is recommended that you formally request a waiver from the Commission. For your use and information, enclosed is a copy of an order which grants similar relief to PECO Energy Company.

If you have any questions or concerns regarding this matter, we can address those during my visit to Pittsburgh on March 7, 1996. Thanks again for your prompt response to our concerns regarding your request.

Very truly yours,

Ken

Kenneth E. Nicely, Director
Bureau of Transportation and Safety

KEN:rjm

pc: Jerry Wells, Standardization Lab

DUQUESNE LIGHT COMPANY
Customer Advanced Reliability System

DISTRIBUTION SYSTEM BENEFITS

Installation of the CARS system will bring about many distribution system benefits when the network is fully installed.

I. SYSTEM RELIABILITY

Outage Notification and Restoration Functions

CARS outage detection capabilities will provide reliable analysis and reporting benefits for power outage conditions. The system's power restoration verification capabilities will help identify secondary (downstream) outages and eliminate customer call-backs. The CARS system provides a capability to identify which customers have lost electric power. For decades, utilities have relied on customer phone calls to know when and where an outage occurred and whether power was restored. The CARS system provides the required information without relying on phone calls or customer interaction.

The CARS system uses the distributed intelligence of the system's neighborhood Cell Control Units (CCU) to gather and report outage notification. When a CCU loses AC power, it will report this condition to Duquesne Light's Operations Center (DOC). Once in the DOC database, outage information is available and can be transferred to other applications such as a trouble call. This provides a positive and recorded verification that an outage condition exists.

When power is restored to an area, the CCU immediately senses the presence of AC power. Meter modules formerly without power also respond to polls by the CCU and send appropriate information to the DOC. This provides positive confirmation that an outage condition has been corrected. Positive verification of power restoration provides very important benefits. For example, repair crews will no longer leave an area assuming the outage was corrected only to find out later that there was another nearby outage (e.g. blown line fuses). What's more, the need for customer call-backs is reduced, which is especially beneficial for outages corrected at night.

The CARS system will be integrated with other outage management systems and Geographic Information Systems (computerized mapping) to provide a pictorial view of outage areas. Telephone-based trouble reports can be combined with CARS outage information to provide a complete picture of the outage, and accelerate restoration efforts.

Since CARS data and control structures are stored in one of several Duquesne Light relational databases, full access to the data can be obtained for any distribution application capable of data access. This will allow Duquesne Light to create additional applications in the future.

Key benefits to the distribution company are the rapid response to power outages, reduced repair costs by dispatching the line crew to the right location and verifying that the entire outage has been corrected, thereby avoiding redispatch of the crew to the same area later. Reduced customer service costs could also be experienced by reducing trouble call frequency and outage duration which helps to improve customer satisfaction. It also allows for a standard database format for interface with other related applications, such as SCADA.

Customers will benefit from shorter outages due to the improved response time and verification that an outage has been corrected. Quicker, more accurate responses to trouble calls and outage detection and correction verification, even when customer is not at home, will greatly improve customer satisfaction.

Tamper Monitoring and Reporting Functions

CARS tamper monitoring and reporting functions will provide remote meter tamper monitoring and reporting of all meters connected to the Duquesne Light system. Losses due to theft will be minimized, as system alarms provide the distribution company with the ability to quickly respond to theft conditions.

The CARS tamper monitoring and reporting features eliminate much of the burden of theft investigation by providing new capabilities and benefits that are otherwise too costly and inefficient. Any meter connected to the Duquesne Light system will monitor and report tampers. Immediate notification when a tamper occurs will result in the identification of theft and bring about a reduction in losses. The CARS system will provide complete information by automatically generating a daily report of all accounts showing any changes in tamper status. Any meter showing a tamper status can be isolated and Duquesne Light can then view information on the account. The Duquesne Light user interface will show account and meter module information as well as a log of past meter readings. In addition, any suspect account can be selected and viewed for tamper activity.

Each meter module has a built-in tamper indicator. For electric meters, the system monitors meter tilt and removal tampers. When a tamper occurs, the tamper counter on the meter is activated. Each time the meter is read by the fixed network, the tamper count is transmitted. If the current tamper count differs from the tamper count obtained on the previous read, a tamper is reported.

A specific account could be more closely monitored by the distribution company by initiating a specific read interval. Each time the selected meter is read and a tamper is identified, a tamper alarm would be reported. Any meter in the system can be monitored and reported, and changes can be monitored remotely from utility headquarters. The tamper monitoring interval could be set for a particular time period by establishing start and stop dates and times and monitoring interval times.

Important benefits to the distribution company are the reduced costs associated with theft investigation, elimination of liability and risk associated with on-site investigations, and the immediate identification of theft and resulting avoided losses. Remote monitoring capability and a log of the tamper history can provide proof of theft. Any meter can be monitored, and Duquesne Light's system will provide reporting capabilities on any account including status, history and exception reporting.

Improved ability to analyze theft losses will also aid the distribution company in the evaluation of system line losses which will bring about an improvement in overall distribution system integrity.

II. IMPROVED UTILIZATION OF DISTRIBUTION ASSETS

The DOC and System Planning will be able to improve line inefficiencies and better balance loads through utilization of CARS system capabilities. Presently, System Operations has limited telemetering information beyond the substation: Telemetry data from individual customers' meter points provides information that will help optimize circuit regulation and balance. This optimization process should result in lower energy loss expenses.

CARS will provide an information based data platform permitting the distribution company to incrementally add power system capacity. Additions or changes could be made one customer at a time through utilization of demand control processes during peak periods. Market and customer incentives can be developed to encourage customer participation in load shifting programs. However, if the necessary infrastructure is not in place, customer participation is irrelevant. Hence, CARS and its data communications platform is expected to become a valuable component of Duquesne Light's ability to provide strategic energy shaping management programs.

An important system planning benefit of CARS supported load management capability is the potential to better manage significant capital expenditures. Several power distribution plant areas within Duquesne Light's service territory are meeting or exceeding their capacity limits. Utilizing CARS obtained customer usage profiles, Duquesne can better forecast loading, plan capacity additions, and provide market incentives for strategic load shaping to minimize the need for capacity additions. The new distribution company's business planning process can optimize utilization of existing assets with information gathered from CARS. Significant annual capital expenses for distribution transformer replacements may be averted through application of CARS information.

The bulk of transformer failures are due to repeated overloads. If CARS is used to analyze and proactively manage transformer replacements prior to failure, a majority of overload failures could be averted. This means that transformers can be replaced, when necessary, on a straight-time basis and need not be repaired since they have not failed. Not incidentally, a significant number of unplanned customer outages will be avoided annually.

Extended Transformer Life - Transformer life will be extended. In addition to severe overload failures, this type of proactive distribution plant management will minimize overloading. Any overloading shortens the life of the transformers. Fewer failed transformers will be reworked in Duquesne's shops. Many transformers are repaired in the shop annually. Less labor will be required since this number would be greatly reduced.

Power Outage Management - Annual system disturbances cause lost revenue due to unplanned outages of this type. Minimizing outages due to failed distribution transformers, along with quicker restoration through improved outage information should reduce annual lost revenue significantly.

Load Research - Currently, there are approximately 300 load research meters manually read by field meter service technicians. CARS will provide access to these and many more meters automatically to greatly enhance the distribution company's load research capabilities, while eliminating the manual reading efforts.

System Load Control - Duquesne experiences a needle peak of about 400 megawatts during summer months. This requires a potential reserve of 400 megawatts to supply an air conditioning load that is only needed for approximately one percent of the total time in a year. CARS will provide an information platform that supports the distribution company's ability to incrementally improve power system capacity load factor through customer demand control, on an as-needed basis as customer demand versus system capacity tightens.

III. SYSTEM ADVANCED ELECTRONIC METERING CAPABILITIES

Through the CARS project, new automated functionality will be available to enhance service reliability to Duquesne's customers. This higher level of service reliability was not possible prior to the installation of new advanced electronic meters. Features of new electronic meter technology that contribute to increased service reliability include system service tests, instrumentation and power quality monitoring.

System Service Tests - System service tests are performed to check the validity of the electrical service as wired to the meter. Advanced electronic meters can verify the service type, phase rotation and validity of phase voltages; it also determines whether the phase currents are reasonable.

Service Voltage Test helps to locate misapplied or incorrectly wired voltage transformers and aids identification of open or missing line-side fuses.

Service Current Test - A test of the service current can also be scheduled. When current on any phase falls above or below the programmed limit, when current is negative or missing on any phase, or when the power factor is outside the preset limit, the meter will provide a service error code.

Instrumentation - Instrumentation provides instantaneous displays of metering values which will enable Duquesne Light to analyze the customers' electrical service at the moment of delivery. Service instrumentation and power monitoring information will provide Duquesne Light with the unique capability of performing site diagnostics and service checks locally at the customer site and remotely using data collection capabilities of the CARS system.

Power Quality - Advanced electronic meters can monitor circuit parameters on a cyclical basis, 24 hours per day. With system power quality monitors (PQM) advanced electronic meters can monitor voltage, current and total harmonic distortion (THD) for variations outside pre-selected threshold limits. Every time conditions fall beyond these parameters in 1, 2 or all 3 phases, the incident will be noted in an event counter and an event timer. Separate event counters and timers are available for each of ten power quality monitors. Event counters keep a cumulative count of how many times each parameter was exceeded; event timers give the total elapsed time for each parameter.

For further study of power quality issues, an advanced electronic meter can record a date and time stamp when any of the monitored quantities exceed a programmed threshold, and again when the event returns to normal conditions.

Momentary Voltage Sag - One power quality monitor that will significantly benefit customer service reliability is date/time stamp of momentary voltage sag. Since voltage sag may be a reduction in voltage for only a few line cycles, the advanced electronic meter monitors each phase voltage on a continual basis, measuring the rms voltage every two line cycles. This permits the recognition and recording of events occurring when the voltage drops below a specified threshold for two cycles or longer. A maximum time duration provides a dividing line between short duration sags and longer term low voltage conditions.

Advanced data collection and analysis tools provided by CARS enable dynamic graphic interpretations and display of power quality and power measurement data obtained through end point devices located at customer premises served by the distribution company. The chart of advanced electronic metering capabilities identifies the features that are integrated into the CARS system. In addition to consumption information needed for revenue billing, the electronic meter and end point devices provide timely access to critical information needed by the distribution system to meet customer expectations for reliable service in a competitive energy market.

ADVANCED ELECTRONIC METER CAPABILITIES

FEATURES	CUSTOMER SERVICE	RELIABILITY OF SERVICE
• Instrumentation		
– Service Voltage Test		✓
– Service Current Test		✓
– Per Phase Voltage		✓
– Per Phase Current		
– Per Phase Voltage Phase Angle		✓
– Per Phase Current Phase Angle		✓
– Per Phase Power Factor		✓
– Per Phase Power Factor Angle		✓
– Per Phase Watts		✓
– Per Phase VARS		✓
– Per Phase VA		✓
– Per Phase Total Harmonic Distortion for Voltage		✓
– Per Phase Total Harmonic Distortion for Current		✓
– System Line Frequency		✓
– System KW		✓
– System KVAR		✓
– System KVA		✓

FEATURES	CUSTOMER SERVICE	RELIABILITY OF SERVICE
• Power Quality Monitors (Event Counters and Timers)		
– Momentary Voltage Sag		✓
– Service Voltage Test		✓
– Low Voltage Test		✓
– High Voltage Test		✓
– Reverse Power and PF Test		✓
– Low Current Test		✓
– Abnormal Power Factor		✓
– Second Harmonic Test DC		✓
– Total Harmonic Distortion for Current		✓
– Total Harmonic Distortion for Voltage		✓
• Power Quality Event Logs		
– Time/Date of Extended Outages		✓
– Time/Date of Test Mode Events		✓
– Time/Date of Time Change Events		✓
– Time/Date of Demand Resets		✓
– Time/Date of Voltage Sags		✓
• Outage Callback		✓
• Outage Restoration Notification		✓
• Power Quality Output Alarms		✓
• Load Control Relay Outputs (Time and Data)	✓	
• Reverse Energy Flow Warning		✓
• Demand Overload Warning	✓	✓
• Consumption Measurements		
– Total Real Energy (KWH)	✓	✓
– KW Demand	✓	✓
– Total KVARH (Quadrants I, II, III and IV)	✓	✓
– Total KVAH	✓	✓
– Cumulative KW Demand	✓	✓
– Load Profile Data Recording	✓	✓
– TOU (4 or 5 Rate)		
⇒ Cumulative Energy for Each TOU Rate Period	✓	
⇒ Maximum Demand With Its Date and Time for Each TOU Rate Period	✓	
⇒ Cumulative Demand for Each TOU Rate Period	✓	
⇒ Separate Demand Thresholds for Each TOU Rate Period	✓	
– Programmable Demand Threshold	✓	✓
– Programmable Demand Forgiveness After Power Outage	✓	

FEATURES	CUSTOMER SERVICE	RELIABILITY OF SERVICE
– Installation Warning Flags		
⇒ Voltage Transformer Polarity		✓
⇒ Current Transformer Polarity		✓
⇒ Service Wiring		✓
– Site Diagnostics		✓
– Power Relationship Graphs	✓	✓
– Harmonics Graphing Software	✓	✓
– Phasor Graphing Software	✓	✓

IV. NEW BUSINESS PROCESSES

CARS implementation will bring about a significant improvement in the distribution company's ability to connect new services to power distribution networks in a timely manner and to cancel old services no longer required by the customer. When linked with the Company's Work Management System, new services will automatically be scheduled for installation of CARS system meter devices and will support the Company's goal of providing new service connections within 48 hours. Once connected to the CARS system, a customer will be able to receive enhanced meter data and other benefits such as timely processing of canceled service and eventually new energy management applications.

New Service Diagnostics

Customers equipped with advanced metering devices can initially and periodically check the service wiring to make sure it is accurate. This feature increases the quality of electricity service by reducing the potential for installation errors or subsequent tampering situations that could otherwise go undetected.

Instrumentation Readings

More sophisticated commercial and industrial customers can receive very accurate, key engineering units of the electricity flowing through the wires. This data is useful to both the utility distribution company as well as the customer when setting up new business processes. Today it is not uncommon for industrial customers to pay energy management companies to provide this kind of information.

Power Quality Diagnostics

Advanced metering power quality diagnostic software can provide key indicators for help in troubleshooting new services with known power quality problems. The software will communicate directly with the meter -- either locally or over a modem. This software also provides visual indication of the accuracy of the wiring and meter application at the customer's site.

V. CUSTOMER SERVICE BENEFITS

Many of the features provided through CARS system implementation will have significant customer satisfaction benefits. Customer service representatives will be able to provide a wide range of information obtained through the distribution company's integrated system network. Once connected to the network, a customer's meter can become a valuable source of information for monitoring energy use and ensuring that power conditions are satisfactory for equipment operated on the distribution network for business or home use. Some applications which will become available through the system that will enhance customer satisfaction are as follows:

- Consumption Meter Reading
- On-Request Reads
- Turn On/Offs and Dual Service Orders
- Group Summary Billing
- Internet Access to Data
- Energy Management
- Daily Read Functions
- Virtual Disconnect Usage Alarms
- Billing Cycle Selection
- Time-of-Use Rates
- Load Profile Information

In addition, the benefits of improved outage detection and restoration described above will also contribute significantly to improved customer satisfaction through a reduction in the number and duration of outages experienced by customers on the Company's distribution lines.

PROPRIETARY INFORMATION

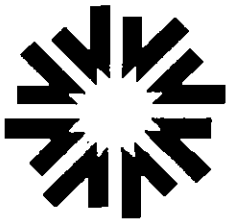
Docket Number R-00974104

Name of Document Customer Advanced Reliability System Financial Analysis Report

Date Document Received _____

DOCUMENT CONTAINS

PROPRIETARY INFORMATION



Duquesne Light Company

Customer Choice Pilot

Customer and Supplier Procedures

Release 1.1
October 16, 1997

TABLE OF CONTENTS

I. Purpose

The purpose of this document is to identify the interfaces with participating customers and suppliers and the procedures for transferring and communicating information.

II. Qualifying for the Duquesne Light Customer Choice Pilot Program

Suppliers wishing to participate in Duquesne's Pilot Program must request participation and provide satisfactory documentary evidence of certification or licensure by the Pennsylvania Public Utility Commission (PUC). Requests and documentation should be sent to: Robert A. Irvin, General Manager, Duquesne Light Company, System Operations Unit, 2839 New Beaver Avenue, N2-SO, Pittsburgh, PA 15233.

Participating Suppliers who wish to purchase transmission service from Duquesne will need to execute a Service Agreement under Duquesne's Open Access Transmission Tariff.

III. Customer and Supplier Selection

During the customer participation management process, several events can occur that will require communication and coordination with suppliers. These events are described below.

A. Identifying Selected Customers

Once customers representing approximately five percent of Duquesne Light Company's non-coincident peak load have been randomly selected from the pool of customers that expressed interest in participating during the open enrollment, a file will be developed and made available to participating suppliers by Advantis mailbox. Information regarding Advantis is available by calling 1-800-727-2222. This ASCII file will contain the name, service address, mailing address, telephone number and customer type for each selected customer who did not expressly restrict the release of their information to suppliers. *See Appendix A for the Eligible Participants File description.*

In addition, this list of selected customers is available on a secure web site, www.dlcopilot.lm.com, as of Monday, October 13, 1997, to PUC licensed suppliers only.

B. Changing from Duquesne to an Electricity Generation Supplier

1. Customer Oral Confirmation

Duquesne will change a customer to an electricity supplier through direct oral confirmation with the customer if the customer is properly identified by:

- Name
- Address
- Social Security Number (if in the Duquesne customer record)
- Present Supplier (for initial change this will be Duquesne)
- Proposed Supplier
- Duquesne Account Number

2. Customer Written Authorization

Duquesne will change a customer to an electricity supplier through written evidence if the customer is properly identified by:

- Name
- Address
- Social Security Number (if in the Duquesne customer record)
- Present Supplier (for initial change this will be Duquesne)
- Proposed Supplier
- Duquesne Account Number

Note: The customer will be advised to use the form *in Appendix B - Customer/Supplier Agreement Document.*

3. Supplier Contact

Duquesne will change a customer who calls a supplier if the supplier immediately transfers the call to Duquesne so the change can be initiated. The electricity supplier may stay on the telephone for a three-way phone call.

- If the three-way phone call is unable to occur, the supplier will give the customer Duquesne's phone number so the customer can initiate the change.
- Alternatively, the supplier may acquire written authorization from the customer and provide this to Duquesne to initiate the change.

Suppliers should use the form *in Appendix B - Customer/Supplier Agreement Document.*

4. Agent or Marketer Contact

- The proposed regulations offer similar options to agents and marketers involved in the direct marketing of a supplier's services. One exception is that for supplier initiated contacts, immediate telephone transfers to Duquesne are prohibited. In this case, the customer would have to make direct contact with Duquesne to initiate the change.
- Valid written authorization from an agent or marketer is constituted by a document signed by the customer of record whose sole purpose is to obtain the customer's consent to change electric generation supplier. Such written authorization will result in Duquesne's initiation of the customer's request.

C. Customer Deselection

Any customer participating in the Retail Pilot may "deselect" from further participation and return to Duquesne Light generation service at capped rates. Deselection must be authorized by the customer and processed by Duquesne subject to the adequate notice provisions to become effective as of the next scheduled meter reading date. These customers will not be readmitted into the Pilot.

D. Changing Customers to a New Generation Supplier

Consistent with the above guidelines and subject to timely notification, Duquesne Light will switch the customer to the new supplier at the next scheduled meter reading date. Duquesne will assume that the customer has terminated the current supplier agreement and has the capacity to enter into a valid agreement with the new supplier.

E. Customer Electricity Supplier Status

On a daily basis using the Advantis Mailbox, an ASCII file of each customer change in supplier, active or pending, will be delivered to each supplier. See *Appendix C, Customer Status File Format*, for the file definitions.

IV. Billing

A. Consolidated Billing

1. Supported Rate Structures

For the Retail Pilot, Duquesne Light will support a generation rate structure consisting of a single price per kWh, a single price per kW and a fixed monthly charge, or any subset of this structure.

2. Providing Rate Information

Suppliers are to provide Duquesne Light with their rate structures. Set forth below is the rate structure supported by Duquesne for generation billing during the Retail Pilot. Rate schedules with greater complexity cannot be supported by Duquesne.

Supplier A Rate Plans

Supplier Rate Name	Price Per kWh	Price Per kW	Fixed Monthly Charge	Rate ID
XXXXXXXXXXXXXXXXXXX	X.XX¢	$XX.XX	$XX.XX	XXXXX

Duquesne Light will establish a naming convention for the Rate ID with each supplier, including a rate class, e.g. residential. Each Rate ID must have a rate class. The Rate ID is a five digit alpha-numeric field. The first two fields will be alphabetic, will be unique to each supplier and will be assigned by Duquesne Light. The last three digits will be numbered according to the rate class:

- Residential Rates will be designated through the 100 number series, i.e., 100-199.
- Commercial Rates will be designated through the 200 number series, i.e., 200-299.
- Industrial Rates will be designated through the 300 number series, i.e., 300-399.

The supplier will send by fax to *Gwen Pielin at* (412) 393-6119 or (412) 393-6157 the Supplier Rate Name, Price Per KWH, Price Per KW (if applicable) and the Fixed Monthly charge (if applicable). Duquesne Light will establish the naming convention for the Rate ID with each supplier as described above and communicate this to the supplier.

3. Processing Billing Data

For those customers who choose to receive one bill, Duquesne Light will calculate and bill both the Electric Distribution Company (EDC) and generation charges on the bill. The generation charge on the bill will be calculated in accordance with the rates provided to Duquesne Light by each supplier. Duquesne Light will provide each supplier with a file detailing the results of billing for their customers on a daily basis. These ASCII files will generally be in the suppliers' Advantis mailboxes by 6:00 AM the morning following calculation of the bills. *See Appendix D for the Billing Interface File.*

4. Bill Format

A consolidated customer bill will include one section for the EDC portion of the bill and a separate section for the supplier charges. The supplier's name will be presented at the top of the supplier section. The supplier's name and phone number will be presented in the message center. To avoid customer confusion, the pilot bills are formatted to closely resemble the current bills of Duquesne Light. *See Appendices E through G for Residential, Commercial and Industrial bill formats.*

5. Bill Messages

a) Required Messages

It is required that each supplier provide Duquesne Light with their customer service telephone number. This telephone number will be printed on consolidated bills in the message center.

b) Optional Messages

Duquesne Light will provide the suppliers with the ability to have up to four lines (forty-five characters each) of bill messaging subject to PA Public Utility Commission information requirements. Duquesne Light will support three levels of supplier messaging: global, revenue class and rate plan.

- ***Global Messages*** will appear on every bill produced for the supplier. For example, internet web site information.
- ***Revenue Class Messages*** will appear on every bill for the supplier in the designated revenue class.
- ***Rate Plan Messages*** will appear on every bill for the supplier in the designated rate plan.

This messaging functionality provides each supplier with the ability to target messages to specific groups of customers, subject to the appropriate approved Codes of Conduct.

Multiple lines can be tied together to form one message.

It should be noted that if bill conditions require certain messages to comply with the Chapter 56 or any other PUC regulations, some or all supplier messages may not be *presented.*

The bill print process will attempt to fit supplier bill messages on the bill in the *following manner.*

- First, Global messages will be processed. Any Global message that will not fit on a bill due to space limitations will not be printed.
- *Second, Revenue Class, e.g., residential, commercial, industrial* messages will be processed. Any Revenue Class message that will not fit on a bill due to space limitations will not be printed.
- *Third, Rate Plan messages will be processed. Any Rate Plan message* that will not fit on a bill due to space limitations will not be printed.

The supplier ***must*** *provide Duquesne Light with advance notice of at least five business* days for new bill messages or changes, including deletions, to existing bill messages. This information will be on a standard form similar to the one shown below.

(Supplier Name) Bill Messages

Global	Rev Class	Rate Plan	Msg No.	Message

Each time a supplier changes their messages, the supplier will provide the above form showing the most current messages to be applied to the bill. Any prior existing messages will be replaced with the messages indicated on the form.

6. PaPUC Chapter 56 Regulations

EDCs and suppliers are required to comply with the Chapter 56 regulations unless a specific waiver is requested by the EDC or a supplier and approved by the Pa PUC.

Duquesne Light's consolidated billing processes are designed to comply with Chapter 56.

7. Account Balance and Budget Billing

For residential customers who choose consolidated billing, Duquesne Light will provide both account balance and budget billing for both the EDC and the supplier portions of the bill. *See Appendix E, Residential Consolidated Bill Format.*

a) Actual Balance Billing

For bill presentation purposes, the following rules will determine what appears in the account balance box on the bill:

- If the account is an actual balance customer, i.e., the customer regularly pays the account balance:
  - If both the Duquesne Light account balance and the supplier account balance are debits, the sum of the two balances will be printed in the account balance (amount due) box
  - If either the Duquesne Light actual balance or the supplier account balance is a credit, but the other is a debit, the debit balance amount will be printed in the account balance (amount due) box
  - If both the Duquesne Light account balance and the supplier account balance are credits, "NONE" will be printed in the account balance (amount due) box

b) Budget Billing

The supplier budget amount will be determined by applying the budget kWh as determined by the Duquesne Light budget billing process through the applicable supplier's schedule.

For bill presentation purposes, the following rules will determine what appears in the budget box on the bill:

- If it is the account anniversary date, the sum of the Duquesne Light and supplier actual balances will be printed in both the actual and budget boxes
- If the account is a budget customer, i.e., the customer regularly pays the budget amount:
  - If both the Duquesne Light budget balance and the supplier budget balance are debits, the sum of the two balances will be printed in the budget box

- If either the Duquesne Light budget balance or the supplier budget balance is a credit, but the other is a debit, the debit balance amount will be printed in the budget box
- If both the Duquesne Light budget balance and the supplier budget balance are credits, "NONE" will be printed in the budget box

8. Estimated Meter Reading and Billing

Duquesne reads meters for billing purposes on a monthly basis using predetermined schedules. Duquesne will generate estimated readings based on historical usage when the customer's bill cycle closes and no acceptable actual reading(s) is available.

For consolidated billing, estimated readings will be used to calculate both the EDC and generation charges on the bill. For separate billing, the estimated reading data will be passed to the appropriate supplier so they can perform their bill calculation.

B. Separate Billing by the Electricity Supplier

1. Providing Billing Determinants

Duquesne Light Company will provide metering services for all customers participating in the pilot program. All meter readings will continue to be subjected to the existing validation routines. Readings will not be forwarded to suppliers until they have been successfully posted in Duquesne's customer information system. If readings are not successfully posted before the billing cycle closes, estimated readings will be generated by and provided to the suppliers.

For those customers who elect to receive separate bills (one from Duquesne Light Company and one from the supplier), a file will be built for each supplier containing the billing determinants that will be required by each supplier to calculate their bills. *See Appendix D for a description of the Billing Interface File.*

Monthly meter readings for pilot customers will be provided by Duquesne Light Company to generation suppliers for their customers in accordance with the existing Duquesne Light meter reading and billing cycles. Duquesne will provide total kWh and total kW consumption data to suppliers for each of their separately billed customers for whom such data are available. These reading data will be either actual or estimated. This information will be available to suppliers the morning after Duquesne calculates the EDC portion of the bill.

Each participating supplier will be requested to maintain an Advantis mailbox to facilitate the transfer of ASCII files between Duquesne Light Company and suppliers. These ASCII files generally will be in the suppliers' Advantis mailboxes by 6:00 AM the morning following the calculation of the EDC portion of the bill. Duquesne generates bills and processes payments on business days, Monday through Friday, excluding

company holidays. Files will be provided to suppliers on Tuesday through Saturday. Using this information, each supplier will calculate the generation portion of the bill in accordance with their rates. *See Appendix K for Company holidays.*

V. Payment Processing

A. Partial Payment Order of Extinguishment

During the pilot, the following partial payment allocation order of extinguishment will be utilized:

- First, Duquesne Light utility receivables will be extinguished[1]
- Second, supplier receivables will be extinguished
- Third, any residual will be applied to the Duquesne Light Company utility receivable balance and a credit balance will result.

Any deviation from this priority will require written instructions from the customer as required by Chapter 56.

If multiple supplier balances are outstanding, i.e., the customer has switched suppliers at least once and has an arrearage with more than one supplier, the supplier portion of the payment allocation will be applied to the oldest supplier balance first. Any residual supplier payment allocation will be applied to remaining supplier balances oldest to newest.

Note: It will not be possible for a supplier balance to become a credit balance as a result of payment processing, with the exception of customer directed payments. However, an account can achieve a credit supplier balance as a result of a corrected bill or payment adjustment/correction.

B. Providing Payment Data to Suppliers

For customers who have selected consolidated billing, Duquesne Light will process cash for suppliers during the pilot. Suppliers will be provided with a daily transaction file detailing payments received in an ASCII format. These files generally will be in the suppliers' Advantis mailboxes by 6:00 AM the morning following the processing of the payments. *See Appendix H for the Payment Processing Interface file.*

[1] If the customer has an active payment arrangement with Duquesne Light Company, instead of extinguishing the account's total outstanding balance, an amount sufficient to meet the payment arrangement will be applied to the Duquesne Light Company payment arrangement balance.

C. Returned Checks

When a check is returned by the bank for any reason, the check amount will be reversed. The reversal will be posted to Duquesne Light Company receivables and supplier receivables in the same manner as the payment was originally applied.

Returned checks will be included as debit transactions in the daily transaction file described above.

D. Payment Corrections

In the event that a payment is misapplied, the payment will be reapplied by Duquesne Light's Customer Accounting Department. Such payment corrections will be included in the daily transaction file described above.

E. Disbursement Of Collected Payments

On a daily basis, Duquesne Light will generate a report showing payments received, returned checks, corrections and adjustments for each supplier. The report will net these amounts, resulting in the amount to be disbursed to each supplier. Duquesne Light's Electronic Commerce Department will receive this report and disburse cash accordingly. The method of disbursement will be determined by the Electronic Commerce Department on a supplier by supplier basis, e.g., check, wire transfer, ACH, EDI, etc.

VI. Reconciling Customer Receivables - Duquesne Light Company to Suppliers

As described previously, Duquesne Light Company will provide each supplier with a daily ASCII file containing payment, returned check, correction and adjustment data. This file will contain a header and a trailer record. The trailer record will contain various control totals. Among these control totals will be the total number of records and the sum of the transaction amounts. Suppliers should verify that the file actually contains the number of records and the total amount indicated on the trailer record.

The trailer record will also contain the sum of all the supplier's actual account balances. The supplier should sum the actual balances for all Duquesne Light accounts on their system and reconcile this sum to the amount on the trailer record. Any discrepancies should be reported to the Supervisor of Billing and Accounts Receivable at (412) 393-6169 or (412) 393-6106.

VII. Taxes

A. Unbundled Billing

1. Consolidated Billing

Each supplier must ensure that they (1) properly reflect the recovery of taxes in their rates provided to Duquesne and (2) properly collect and remit such taxes to the appropriate taxing authority. The taxes to be included are itemized below.

a) PA State Sales Tax

- The PA State Sales Tax that applies to the supplier portion of the bill will be presented in the "Sales Tax" line item in the supplier portion of the bill which includes both PA State and Allegheny County Sales Tax
- Tax rate is 6 percent
- PA State Sales Tax calculated for the supplier portion of the bill will be passed to the supplier in the billing *interface file*
- The exemption percentage will be applied to both the Duquesne Light and supplier portions of the bill

b) Allegheny County Sales Tax

- The Allegheny County Sales Tax that applies to the supplier portion of the bill will be presented in the "Sales Tax" line item in the supplier portion of the bill which includes both PA State and Allegheny County Sales Tax
- Tax rate is 1 percent
- Allegheny County Sales Tax calculated for the supplier portion of the bill will be passed to the supplier in the billing interface file
- The exemption percentage will be applied to both the Duquesne Light and supplier portions of the bill

c) PA Gross Receipts Tax (GRT)

- Required by Chapter 56
- This will continue to be detailed only on residential bills
- The sum of Duquesne Light Company and supplier PA Gross Receipts Tax will be presented in the "Estimated Gross Receipts Tax" box on the bottom of the bill.
- Suppliers must include PA Gross Receipts Tax in their rates, i.e., Duquesne Light Company will **not** calculate GRT and apply it to the supplier portion of the bill, or, "gross up" the GRT rate to recover the surtax portion.

- *GRT will be calculated in the following manner:* Calculated as 4.4 percent of the bill as follows:
  - Supplier GRT = Supplier Bill Amount (including GRT in rates, but excluding sales taxes) * 4.4 percent
  - or Supplier GRT = Supplier Bill Amount (excluding GRT and sales taxes) * 4.6 percent.
- The PA Gross Receipts Tax calculated for the supplier portion of the bill will be passed to the supplier through the billing interface file

d) Estimated PA State Taxes

- Estimated PA State Taxes will be calculated in the following manner:
  - Supplier Estimated PA State Taxes = Supplier Bill Amount before taxes * ***Percentage Provided By Supplier*** + Supplier Sales Tax (PA and Allegheny County)
- "Estimated PA State Taxes" represents all taxes paid to PA[2]
- *Suppliers must include all PA State Taxes (other than* sales tax) in their rates, i.e., Duquesne Light will **not** calculate them and apply them to the supplier portion of the bill
- The Estimated PA State Taxes calculated for the supplier portion of the bill will be passed to the supplier through the billing interface file

2. Separate Billing

Since Duquesne Light will not be generating bills or processing payments on behalf of any supplier for separately billed unbundled customers, Duquesne Light Company will have no obligation or responsibility for taxes associated with such bills.

B. Tax Responsibility

The Electricity Generation Customer Choice and Competition Act, Section 66 Pa. Code Section 2809 (C) (1) states in part:

[2] Public utilities remit taxes including public utility realty tax (PURTA), corporate net income tax, gross receipts tax and capital stock tax to Pennsylvania. Due to the unique circumstances of each supplier, Duquesne cannot compute an effective tax rate for purposes of computing the Estimated PA State Taxes.

(C) Financial Responsibility.

(1) In order to ensure the safety and reliability of the generation of electricity in this Commonwealth, no energy supplier license shall be issued or remain in force unless the holder complies with all of the following:

(i) Furnishes a bond or other security approved by the Commission, in form and amount to ensure the financial responsibility of the electric generation supplier and the supply of electricity at retail in accordance with contracts, agreements or arrangements.

(ii) Certifies to the Commission that it will pay and, in subsequent years, has paid, the full amount of taxes imposed by articles II and XI of the act of March 4, 1971 (P.L.6, No.2), known as the tax reform code of 1971 and any tax imposed by this chapter.

(iv) Agrees that it shall be subject to all taxes imposed by the tax reform code of 1971 and any tax imposed by this chapter. Failure of an electricity supplier to pay a tax referred to in this paragraph or to otherwise comply with the provisions of this paragraph shall be cause for the Commission to revoke the license of the electricity supplier.

As discussed previously, suppliers should ensure that their rates recover all appropriate taxes, including, but not limited to, Gross Receipts, Public Utility Realty (PURTA), Allegheny County and any future tax that may be passed by the state legislature. As indicated previously, Pennsylvania Sales tax is a separately itemized charge.

To ensure such taxes have been paid, Duquesne Light reserves the right to secure independent verification of compliance by any supplier with the requirements of the appropriate taxing authorities. Duquesne Light will use any and all appropriate legal remedies to recover any tax and related interest and penalties and costs of collection which it must pay or incur on behalf of any supplier.

VIII. Collection of Unpaid and Overdue Amounts (Draft)

For customers who select a single, consolidated bill, their electricity generation provider will be responsible for collecting any unpaid and overdue amounts for generation service. Payment arrangements are a method of collecting unpaid and overdue amounts, and therefore, for customers who elect to receive a single, consolidated bill, any such arrangements are the responsibility of the supplier.

For those customers who elect separate billing, i.e., to receive two bills per month, the supplier that bills their generation charges will be responsible for collecting unpaid and overdue amounts. As described previously, Duquesne will provide billing and payment data sufficient to allow suppliers to collect unpaid and overdue amounts from their customers.

IX. Customer Service

A. Customer Billing Inquiries

Duquesne Light Customer Service Representatives (CSR) will attempt to resolve general questions pertaining to the supplier's portion of the bill when contacted by a customer. If the Duquesne Light CSR is unable to satisfy the customer's inquiry, the customer will be directed to contact the supplier at the telephone number indicated on the face of each bill.

B. Disputes & Dispute Resolution[3]

1. Calls received by Duquesne Light Company

a) Consolidated Billing Inquiries

All customer inquiries and disputes received by Duquesne Light will be processed by Duquesne Light. Duquesne Light will attempt to answer all customer inquiries during the first phone call. If the inquiry cannot be resolved, Duquesne Light will initiate a dispute and notify the supplier[4]. The supplier must be notified in order to suspend all appropriate collection activity as identified in Chapter 56. Electricheck payments will be stopped until the dispute is closed. Duquesne Light will then investigate the dispute to determine what corrective action is required, if any. Corrective action may need to be taken by Duquesne Light, the supplier or both. Once appropriate action has been taken, the customer will be notified, the supplier will be notified and the dispute will be closed in accordance with the provisions of Chapter 56. *See Appendix I for a flowchart of the dispute process for consolidated billing customers.*

- Duquesne Light Billing Disputes
    1. Notify customer

[3] Chapter 56 dictates a 10 day waiting period. This means that collection activities (Duquesne Light and supplier) may be suspended for up to 40 days.

[4] During the pilot, a daily list of opened and closed disputes will be mailed or faxed to the supplier by the Duquesne Light Company Customer Dispute Coordinator. This list will include all disputes opened or closed on the preparation date for accounts currently supplied by the supplier regardless of billing option (separate or consolidated).

2. Record the resolution in the customer record and close the dispute
3. Include in the daily list of opened and closed disputes which will be mailed or faxed to each supplier by the Duquesne Light customer dispute coordinator

- *Supplier Billing Disputes*
  1. Duquesne Light will notify customer
  2. The CSR will report the dispute to the Duquesne Light customer dispute coordinator
  3. The dispute will be recorded in the customer record.
  4. The Duquesne Light customer dispute coordinator will mail or fax the dispute report to the supplier
  5. The dispute will be listed on the daily list of opened and closed disputes which will be mailed or faxed to the supplier by the Duquesne Light customer dispute coordinator
  6. The supplier will resolve the dispute and notify the customer and Duquesne Light customer dispute coordinator
  7. Duquesne Light will record the resolution in the customer record and close the dispute.
  8. The dispute will be included in the daily list of opened and closed disputes which will be mailed or faxed to the supplier by the Duquesne Light customer dispute coordinator

- Common (Duquesne Light and Supplier) Billing Disputes
  The process is the same as that for Duquesne Light billing disputes.

b) Separate Electricity Supplier Billing Inquiries

All customer inquiries and disputes received by Duquesne Light will be processed by Duquesne Light. Duquesne Light will attempt to answer all customer inquiries during the first phone call. Customer inquiries or disputes directly related to the electricity supplier bill will be recorded but referred to the electricity supplier for handling. All other inquiries or disputes will be managed by Duquesne Light. For those calls being handled by Duquesne Light, if the inquiry cannot be resolved, Duquesne Light will initiate a dispute and notify the supplier[5] . The supplier must be notified in order to suspend all appropriate collection activity as identified in Chapter 56. Duquesne Light will then investigate the dispute to determine what corrective action is required, if any. Corrective action may need to be taken by Duquesne Light, the supplier or both. Once appropriate action has been taken, the customer will be notified, the supplier will be notified and the dispute will be closed in

[5] During the pilot, a daily list of opened and closed disputes will be mailed or faxed to the supplier by the Duquesne Light Company Customer Dispute Coordinator. This list will include all disputes opened or closed on the preparation date for accounts currently supplied by the supplier regardless of billing option (separate or consolidated).

accordance with the provisions of Chapter 56. *See Appendix J for a flowchart of the dispute process for separate billing customers.*

2. Inquiries from customers received by suppliers

a) Consolidated Billing Inquiries

Inquiries related to the charges for generation and related payments will be addressed by suppliers. Any other inquiries must be referred to Duquesne Light at 1-888-393-7100.

b) Separate Billing Inquiries

Any inquiry related to the demand and consumption billed should be referred to Duquesne Light at 1-888-393-7100.

X. Advanced Metering Equipment

Customers may acquire, at their expense, advanced metering equipment for measurement of consumption and demand provided that :

- The equipment is consistent with Duquesne's metering and communication infrastructure and
- The metering equipment provides data sufficient to meet Duquesne's needs for load scheduling, supplier settlement and billing.

Due to processing constraints, Duquesne may not be able to use the additional data available from advanced metering equipment during the Retail Pilot.

XI. Cancellation Of Service

Customer participation in the pilot will be terminated upon cancellation of service. Customers who have had their pilot participation terminated as a result of cancellation of service may re-register for possible participation at their new location in the event Duquesne Light needs to re-solicit our customer base for additional participants at a later date. Suppliers will be made aware of customer cancellations through the billing interface file. All cancellations of service result in a final bill. Receipt of a final bill transaction in the billing interface file will indicate a cancellation of service to the supplier. Due to processing requirements a supplier may not be notified of a customer termination of service for seven days in disconnect for non-payment situations.

XII. Customer Assistance Program (CAP) Customers

CAP customers who wish to participate in Duquesne Light's customer choice pilot will be billed manually.

1. The CAP coordinator and Customer Accounting will maintain a list of the CAP customers who are participating in the pilot.
2. Customer Accounting will manually calculate the Duquesne Light portion of the unbundled bill (T, D, G%).
3. If the customer has selected consolidated billing, Customer Accounting will manually calculate the supplier portion of the unbundled bill.
4. The CAP coordinator will manually prepare a comprehensive bill including the unbundled Duquesne Light and supplier amounts. These amounts will be provided by Customer Accounting. This comprehensive bill will inform the customer of the total amount due and will contain a coupon with no scan line.
5. For separate billing customers, Customer Accounting will fax the customer's consumption to the supplier.
6. For consolidated billing customers, Customer Accounting will fax the billing and payment information to the supplier to provide them with information to manually update their accounts receivable systems.

XIII. Supplier Settlement Process

A. Background

The supplier settlement process in its simplest form is aimed at determining the amount of load attributable to each customer and thus each retail supplier on an hourly basis, and then reconciling these determinations with actual metered customer load and supplier delivery schedule as they become available. The process involves the matching of each supplier's hourly delivery schedule of electricity to the estimated hourly consumption of that supplier's customers, and settling the MWH electricity imbalance. This process requires a reconciliation of data from many sources, as well as the necessary time to collect and process these data.

B. Guiding Principles Underlying Duquesne Light's Approach

Duquesne Light's general approach is to derive the supplier obligations based on the best information available given the current technology, and within the constraints of the pilot implementation schedule.

Duquesne Light will use representative customer class load shapes, keeping careful records, and reconciling as much as possible with actual meter readings. Duquesne Light will use actual daily meter readings for residential customers and hourly load profile meters on a representative sample of Duquesne's customers:

- Daily consumption available for some customers. To the maximum extent practical, Duquesne Light will make use of a new wireless metering service currently being installed on its system. This system will facilitate the measurement of actual customer usage on a daily basis during the pilot. For other residential customers for whom the wireless metering system is not available, and all commercial and industrial customers in the pilot program Duquesne Light will have their meters read on a cyclical monthly basis.

- Representative hourly load profiles based on sample metering data. Furthermore, Duquesne Light plans to use contemporaneous kilowatt-hour readings from existing hourly load profile meters to develop representative load shapes for pilot customers. These special meters are located throughout Duquesne Light's service territory and provide hourly data for a sample of residential, commercial and industrial customers. If these data are not available during the early stage of the pilot, Duquesne will use historical hourly load profiles from 1996.

The combination of the new wireless metering service for some customers and a representative sample of contemporaneous hourly load profiles will increase the accuracy of Duquesne Light's settlement process. The difference between retail supplier delivery schedule and customer load in every hour will be multiplied by the energy imbalance rates.

C. Major Steps

1. Electricity suppliers submit schedules to System Operations. Suppliers will submit informational schedules on a week-ahead basis and submit formal schedules on a day-ahead basis.

2. Create representative load profiles for each customer class. Reading the load profile meters for representative customer accounts will provide a sample of hourly kilowatt-hour consumption patterns. These hourly load profiles will be developed for each customer class.

3. Read customer meters. This will result in actual daily kilowatt-hour meter readings for the residential customers with new wireless meters, and monthly kilowatt-hour consumption for other residential customers, and all commercial and industrial customers.

4. Estimate customer usage by supplier. Using the estimated load shapes for each customer class, and the meter readings described above, the amount of retail load for each supplier will be estimated.[6]

    - Aggregate kilowatt-hour readings by customer class for each supplier. For residential customers with wireless meters, these will be daily kilowatt-hour figures, and for all customers these will be monthly figures.

    - Apply hourly load profiles to each rate class for each supplier. The estimated load profile for each rate class will be used to derive the estimated hourly consumption. These hourly kilowatt-hour figures by rate class will be summed for each supplier to determine that supplier's estimated MW hourly load obligation.

5. Calculate energy imbalance for each supplier. Energy imbalances will be settled with each supplier in accordance with Open Access Transmission Tariff of the Duquesne Light Company filed July 9, 1996 at FERC Docket ER 96-2573-000 (also referenced at OA 96-56-000), as amended.

Due to constraints inherent in the collection of meter readings on a billing cycle basis, the supplier settlement process is expected to lag the calendar month by at least thirty-five days.

[6] Estimated usage by supplier for each hour will not be aggregated and reconciled to the total system load during the Retail Pilot. This reconcilement will be performed during the Transition Period.

XIV. Appendices

A. Appendix A - Eligible Participants File

Header

No.	Field Name & Description	Starting Position	Length	Type	Comments
1	**BEGIN-KEY** *(sorting value)* Spaces	1	15	A	
2	**EXTRACT-PARM** Value S = Supplier	16	1	A	
3	**FILLER**	17	94		
4	**CREATE-DATE**	95	10	A	
5	**FILLER**	105	122	A	
6	**SORT-SUM-FLD-BREC** Value 0	227	1	N	Check for duplication

Data Record

No.	Field Name & Description	Starting Position	Length	Type	Comments
	DATA RECORD				
1	**ACCOUNT-NO**	1	13	N	The customer DLCo account number.
2	**CUST-NAME** Name of customer associated with the account	14	26	A	*Last Name* X(15) First Name X(10) *Middle Initial X(01)*
3	**CODE-NAME-TYPE** How the name is formatted	40	1	A	A - a business name B - an individual name (last name, first name, middle initial)
4	**CUST-NAME-2** The second name of an address.	41	26	A	May consist of : a person's name; a company name or a location name.
5	**CODE-NAME-TYPE-2** How the name is formatted	67	1	A	A - a business name B - an individual name (last name, first name, middle initial)
6	**CUST-TYPE** Code that indicates type of customer.	68	1	A	R - residential C - commercial I - industrial
7	**CUST-PHONE-NO** Consists of premise phone number	69	10	A	

No.	Field Name & Description	Starting Position	Length	Type	Comments
8	**CUST-ADDRESS-LN1** Consists of premise street address	79	33	A	This field will contain the first line of the premise street address, and will consist of the following fields: House Number X(05) Space X(01) Address Prefix1 X(03) Space X(01) Address Prefix2 X(02) Space X(01) Street Name X(16) Space X(01) Street Suffix X(03)
9	**CUST-ADDRESS-LN2** Contains the 2nd line of the premise street address & will contain apt/bldg *info when applicable.*	112	9	A	This field will consist of the following fields: AddressLocation1 X(04) *Space X(01)* AddressLocation2 X(04)
10	**CUST-ADDRESS-CITY** *This field will contain the city in which the premise is located.*	121	16	A	
11	**CUST-ADDRESS-STATE** This field will contain the 2 digit state code in which the premise is located.	137	2	A	
12	**CUST-ADDRESS-ZIP** This field will contain the 5 digit zip code and the plus 4 in which the premise is located.	139	9	N	
13	**MAILING-ADDRESS** This field will contain the alternate mailing street address when applicable.	148	35	A	This address is different from the premise address and is where the bill and any DLCO material is sent.
14	**MAILING-CITY-STATE** This field will contain the alternate city & state.	183	20	A	
15	**ZIP-CODE** This field will contain the alternate Zip Code.	203	9	N	
16	**KWH-LAST-12-MTHS**	212	9	N	The sum of the accounts kWh's for the last 12 bills.
17	**PEAK-KW-LAST-12-MTHS**	221	6	N	The account's peak demand over the last 12 bills.
18	**SORT-SUM-FLD** Value 0	227	1	N	Checks for duplication

Trailer

No.	Field Name & Description	Starting Position	Length	Type	Comments
	DATA RECORD TRAILER				
1	**END-KEY** 99 99 99 99 99 99 99 9	1	15	A	
2	**FILLER**	16	11	A	
3	**RECORD-COUNT-EREC** Count of detail records excluding header & trailer.	27	7	N	
4	**FILLER**	34	169		
5	**FILLER**	203	196		
6	**SORT-SUM-FLD-EREC** Value 0	399	1	N	Checks for duplication.

B. Appendix B - Customer/Supplier Agreement Document

DUQUESNE LIGHT COMPANY

CUSTOMER/SUPPLIER AGREEMENT

Customer Information

Duquesne Light Company Account Number

				-				-				-			

Name (Last Name, First Name, Middle Initial)

Daytime Phone Number

						-				

Evening Phone Number

						-				

Customer Service Address

House Number

Street Name

Apt # or Flr Location

City

State

Zip Code

Mailing Address *(Leave blank if same as Service Address)*

Street

City

State

Zip Code

Generation Supplier Data

Supplier Name

Supplier Rate

Please check the type of billing you would like to receive. Do NOT check both.

One bill each month from Duquesne Light	
Two bills each month - one from the supplier and one from Duquesne Light	

Customer Signature: _____ _____ (Date)

Authorized Supplier: _____ _____ (Date)

We have entered into an agreement containing the terms and conditions of an alternate electric power source. We understand that under Duquesne Light Company's Retail Pilot Program, billing will be rendered according to the rate and bill type selected above. Execution of this agreement cannot occur until this completed form is received and processed by Duquesne Light Company.

Mailed this agreement to:
Duquesne Light Company
Customer Relations Department
301 Grant Street (16-1)
Pittsburgh, PA 15279

C. Appendix C - Customer Status File Format

Data Record

No.	Field Name & Description	Starting Position	Length	Type	Comments
1.	**FILLER**	1	1	A	Space
2.	**SUPP-ID** - Supplier-ID Unique identifier assigned by DLCO to a supplier	2	10	A	
3.	**REC-TYPE**	12	1	A	A = Header B = Detail C = Trailer
4.	**ACCOUNT-NO** - *DLCO Account No.* Identifies the intersection between a Customer and a Premise.	13	13	A	*Composed of a 10 digit* Customer ID number plus a 3 digit extension which is increased by one each time a customer moves to a new premise.
5.	**DATE-START**	26	10	A	CCYY-MM-DD
6.	**DATE-TERM**	36	10	A	CCYY-MM-DD
7.	**CODE-CHOICE-STAT**	46	2	A	AC Active CT Contract Terminated CC Customer Canceled MA Moved While Active MP Moved While Pending PS Pending Switch PA Pending Activation RB Returned To Bundled RU Return To Unbundled
8.	**BILL-CYCLE**	48	4	N	*The account's bill cycle.*
9.	**READ-CYCLE**	52	4	N	The account's meter reading cycle. This number can be correlated to the meter *reading schedule to* determine the account's scheduled read dates.
10.	**REVENUE-CLASS**	56	4	N	The account's revenue class. 401 Residential 421 Commercial (<20 kW) 425 Commercial (≥20 kW) 426 Industrial 441 Municipal Street *Lights* 471 Borough Of Pitcairn
11.	**RATE-PLAN-NO**	60	3	A	The account's DLCo rate plan.

12.	**SUPP-RATE-ID** The supplier rate associated with the account.	63	5	A	*The account's supplier rate plan.*
13.	**CUST-NAME** The name of the customer associated with the account.	68	26	A	
14.	**CODE-NAME-TYPE**	94	1	A	
15.	**CUST-ADDRESS-LN1** The premise street address.	95	33	A	This field will contain the first line of the premise street address, and will consist of the following fields: House Number X(05) Space X(01) Address Prefix1 X(03) Space X(01) Address Prefix2 X(02) Space X(01) Street Name X(16) Space X(01) Street Suffix X(03)
16.	**CUST-ADDRESS-LN2** The 2nd line of the premise street address. Contains APT/BLDG info when applicable.	126	9	A	This field will consist of the following fields: Address Location X(04) Space X(01) Address Location 2 X(04)
17.	**CUST-ADDRESS-CITY** The city in which the premise is located.	137	16	A	
18.	**CUST-ADDRESS-STATE** The 2 digit state code identifying the state in which the premise is located.	153	2	A	
19.	**CUST-ADDRESS-ZIP** The 5 digit zip code and the plus 4 in which the premise is located.	155	9	N	
20.	**FILLER**	164	36	A	Spaces

Header

No.	Field Name & Description	Starting Position	Length[3]	Type[4]	Comments
1.	**FILLER**	1	1	A	Space
2.	**HDR-SUPP-ID** - Supplier-ID Unique identifier assigned by DLCO to a supplier.	2	10	A	
3.	**HDR-REC-TYPE**	12	1	A	A = Header B = Detail C = Trailer
4.	**HDR-PROCESS-DATE**	13	10	A	CCYY-MM-DD
5.	**FILLER**	39	161	A	Blanks

Trailer

	Field Name & Description	Starting Position	Length	Type	Comments
1.	**FILLER**	1	1	A	Space
2.	**TLR-SUPP-ID** - Supplier-ID Unique identifier assigned by DLCO to a supplier.	2	10	A	
3.	**TLR-REC-TYPE**	12	1	A	A = Header B = Detail C = Trailer
4.	**TLR-REC-COUNT** - Total number of detail records.	13	9	N	
5.	**FILLER**	22	178	A	Blanks

[3] **Length** - n.d represents whole number with decimal positions

[4] **Type** - A - alphanumeric & N - numeric (all numeric types are signed numbers)

Duquesne Light will provide each supplier with a file detailing accounts that have left the supplier, joined the supplier or are pending a switch to the supplier on a daily basis. These files will generally be in the suppliers' Advantis mailboxes by 6:00 AM the morning following Duquesne's nightly batch processing.

This file will be a major component of a supplier's load scheduling process. At a high level, suppliers should:

- stop scheduling load for accounts that have left
- start scheduling load for accounts that have joined
- begin projecting load requirements for accounts that are pending a switch to the supplier.

This file will identify each account's DLCo read cycle and DLCo rate plan. These two pieces of information will play a critical role in the suppliers' load scheduling activities. For accounts that are pending a switch to the supplier, the read cycle can be used to determine the scheduled read date for the account. This is the date on which the account will most likely begin taking power from the supplier. Therefore, this is the date on which the supplier should begin scheduling load for this account. By providing the rate plan for each account, the supplier will be able to associate each account to a load profile in order to determine the appropriate amount of hourly load to schedule.

D. Appendix D - Billing Interface File

No.	Field Name & Description	Starting Position	Length [5]	Type [6]	Comments
1	**HDR-SORT-KEY**	1	50	F	No Data Supplied
2	**HDR-DISTRIB** Distribution company ID.	51	4	A	'DLCO'
3	**HDR-SUPP-ID** (Supplier-ID) Unique identifier assigned by DLCO to a supplier.	55	10	A	Supplier can confirm receipt of appropriate files by matching to assigned ID.
4	**HDR-CODE-BILL-METHOD**	65	1	A	
5	**HDR-CODE-BILL-OPTION**	66	1	A	
	DATA HEADER				
5	**HDR-DT-BILLED** (Date-Billed) Date bill was generated & receivables posted.	67	10	A	ccyy-mm-dd
6	**HDR-TRANS-DT** (File Creation Date)Date file created that will be sent to suppliers.	77	26	A	Timestamp ccyy-mm-dd-hh.mm.ss.xxxxxx
7	**Filler**	103	598	A	

Data Record

No.	Field Name & Description	Starting Position	Length	Type	Comments
	DLCO KEY				
1	**PREMISE-NO** This number is a unique DLC identifier for the premise where service is provided.	1	10	N	
2	**BILL-NO** Sequential bill number from DLCO system.	11	9	N	Only unique within premise.
3	**CODE-UTIL-TYPE** (Utility Type Code) Type of Service Code	20	1	A	E - metered U - unmetered
4	**IC-NO**	21	4	N	
5	**BILL-ITEM-TIMESTMP** Date and time item was created.	25	26	A	Format: ccyy-mm-dd-hh.mm.ss.xxxxx
6	**DISTRIB-ID** Distribution company ID.	51	4	A	'DLCO'
7	**SUPP-ID** Unique identifier assigned by DLCO to a supplier.	55	10	A	

[5] **Length** - n.d represents whole number with decimal positions
[6] **Type** - A - alphanumeric & N - numeric (all numeric types are signed numbers)

No.	Field Name & Description	Starting Position	Length	Type	Comments
	SORT KEY				
8	**CODE-BILL-METHOD** Method of Bill Calculation.	65	1	A	T - Passthru C - Complete Billing Service
9	**CODE-BILL-OPTION** Customer's billing option.	66	1	A	S - Separate I - Integrated
	DLCO BILLING DATA				
10	**SUPP-ACCT-NO** The number assigned to the account by the supplier.	67	20	A	A stand alone field with a relationship to one & only one DLCO Account No.
11	**ACCOUNT-NO (DLCO)** Identifies the intersection between a Customer and a Premise.	87	13	N	It is composed of a 10 digit Customer ID number plus a 3 digit extension which is increased by one each time a customer moves to a new premise.
12	**CODE-BILL-TYPE** Type of bill generated.	100	1	A	A - Normal B - Final C - Charge Off D - Initial
13	**CODE-BILL-ITM-TYPE** Status of this bill item.	101	1	A	B - Backout C - Current
14	**CODE-COUNTY** Used for determination of additional 1% sales tax for Allegheny county customers only.	102	2	A	AL - Allegheny County WE - Westmoreland Cty. BE - Beaver County
15	**DATE-ORIG-BILL** The date of the original bill	104	10	A	Conditional - Only provided on backout bills (ccyy-mm-dd)
16	**DATE-CURR-READ** (Date of Current Reading)	114	10	A	ccyy-mm-dd
17	**DATE-PRIOR-READ**	124	10	A	ccyy-mm-dd
18	**NO-DAYS** Number of days for this bill.	134	4	N	Days between meter readings
19	**NO-MONTHS** Number of months for this bill.	138	5	N	
20	**KWH** Kilowatt-hour usage	143	9	N	
21	**OPT-KWH** (Optional Kilowatt-Hour) This field describes an alternate energy usage amount for use in determining a budget bill for residential customers.	152	9	N	The customer is given the option of paying either the standard bill based on actual or estimated meter reading(s) or the budget bill amount based on the calculated "Optional Kilowatt-Hour" usage amount.
22	**Actual KW** (Demand)	161	7.2	N	Used for Demand readings on account.

No.	Field Name & Description	Starting Position	Length	Type	Comments
23	**ADJUSTED-KW** (Adjusted Demand Usage) The prevailing calculated demand amount used for bill pricing in situations where minimum demand, minimum charge based on demand, percentage of contracted demand, or maximum average charge *pre-empt* calculating the bill based on the actual metered demand usage.	170	7.2	N	If no Adjusted Demand Usage is *available, the Actual Kilowatt Usage* (actual metered demand usage) will be replicated into this field).
24	***CODE-READ-TYPE*** Type of Meter Reading	179	1	A	A - *Actual* E - Estimated
25	**DATE-BILL-DUE** (Payment Due Date)	180	10	N	ccyy-mm-dd
	SUPPLIER DATA				
26	**PRIOR-ACCT-BAL** Generation portion balance prior to execution of this bill.	190	9.2	N	Includes any payments and/or adjustments occurring since the last bill.
27	**AMT-LATE-PYMT-CHRG** Supplier determined late payment charge applicable to generation portion of the bill.	201	9.2	N	'Not used at present time.'
28	**AMT-ACCT-ADJMTS** Amount of any account receivable adjustments made to the supplier's portion of the account since the last bill was issued.	212	9.2	N	
29	**AMT-ACCT-PYMTS** Amount of any account receivable adjustment made to the supplier's portion of the account since the last bill was issued.	223	9.2	N	
30	**DATE-LAST-PYMT** Date the supplier portion of the payment was applied to account *receivables*.	234	10	A	ccyy-mm-dd
31	**AMT-CUST-CHRG** Flat account charge assessed by supplier.	244	9.2	N	
32	**AMT-KWH-CHRG** (Supplier Energy Charge) Dollar amount reflecting the charge for generation of energy.	255	9.2	N	
33	**AMT-KW-CHRG** (Supplier Demand Charge) Dollar amount reflecting the charge for generation of demand.	266	9.2	N	

No.	Field Name & Description	Starting Position	Length	Type	Comments
34	**AMT-STATE-TAX** State tax amount applied to the generation portion of the customer's bill.	277	9.2	N	
35	**AMT-COUNTY-TAX** County tax(where applicable) amount applied to the generation portion of the customer's bill.	288	9.2	N	
36	**AMT-CURR-BILL** Total amount of current bill exclusive of any prior balances.	299	9.2	N	
37	**CURR-ACCT-BAL** New account balance including current & past due charges.	310	9.2	N	
38	***Optional* Account Balance** New account balance for 'Budget Billing' charges including current & past due budget billing charges.	321	9.2	N	Budget billing charges are based on Optional KWH usage detailed in the DLCO Billing Data.
39	**OPT-CURR-AMT** Current month's 'Budget Billing' charges only.	332	9.2	N	
40	**EST-PA-TAXES** All utility state taxes.	343	9.2	N	Calculated the same way as for DLCO portion of the bill. (For bill presentation purposes not tax accounting.)
41	**EST-GROSS-RCPT-TAX** Gross Receipt Tax.	354	9.2	N	Calculated the same way as for DLCO portion of the bill. (For bill presentation purposes not tax accounting.)
42	**KWH-LTTR-OF-CR-DB** Energy usage amount affected by letter of credit or debit as applicable to the generation portion of the bill.	365	9	N	
43	**KW-LTTR-OF-CR-DB** Demand usage amount affected by letter of credit or debit as applicable to the generation portion of the bill.	374	7.2	N	

No.	Field Name & Description	Starting Position	Length	Type	Comments
44	**AMT-LTTR-OF-CR-DB** Dollar amount affected by letter of credit or debit as applicable to the generation portion of the bill.	383	9.2	N	
45	**CODE-SUPP-RATE-ID** (Supplier) Internal code used to define the rate structure used for calculation of the generation portion of the bill.	394	5	A	(Format to be determined)
46	**CODE-REJECT** (Supplier) Code indicating type of reject that occurred when processing the Supplier's portion of the bill.	399	1	A	Space - No reject occurred. R - Account rejected within the generation billing system. K - Account rejected within the DLCO portion of the bill.
47	**BILL-MSG-1**	400	45	A	Messages 1 - 5 Actual supplier message(s) printed on the bill.
48	**BILL-MSG-2**	445	45	A	
49	**BILL-MSG-3**	490	45	A	
50	**BILL-MSG-4**	535	45	A	
51	**BILL-MSG-5**	580	45	A	
52	**DATE-CALCULATED** When Supplier portion of the bill processed.	625	26	A	Datestamp ccyy-mm-dd-hh.mm.ss.xxxxxx (Can differ from DLCO billing date).
53	**CODE-BILL-MSG**	651	5	A	
54	**PRI-BILL-ACCT-BAL** Supplier's prior account balance after the last bill.	656	9.2	N	NOT INCLUDING any payments and/or adjustments made to the supplier portion of the account balance since the last bill.
55	**Filler**	667	34	A	

Trailer

No.	Field Name & Description	Starting Position	Length	Type	Comments
	DATA				
1	**TLR-KEY**	1	50		
2	**TLR-DISTRIB-ID** Distribution company ID.	51	4	A	'DLCO'
3	**TLR-SUPP-ID** Unique identifier assigned by DLCO to a supplier	55	10	A	
4	***TLR-CODE-BILL-METHOD***	65	1	A	
5	**TLR-CODE-BILL-OPTION**	66	1	A	
6	**TLR-DT-BILLED** Date bill was generated & receivables posted.	67	10	A	ccyy-mm-dd
7	**TLR-TRANS-DT** (file creation date) Date file created that will be sent to suppliers.	77	26	A	Timestamp ccyy-mm-dd-hh.mm.ss.xxxxxx
8	**TLR-COUNT** Count of data records	103	7	N	
9	**Filler**	110	591	A	

E. Appendix E - Residential Consolidated Bill Format

Duquesne Light | H | CHOICE CUSTOMER
123 MAIN ST | RATE (RSP) -- Residential
Service | Date Prepared
Sep 01, 19XX | Account Number
1000-123-456-001

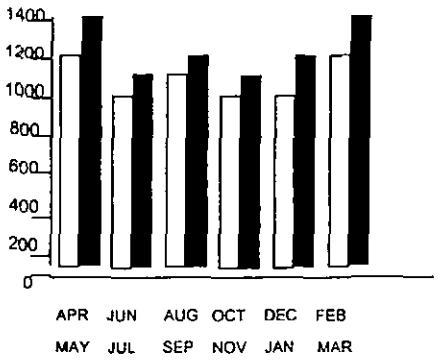
Duquesne Light Company Billing Information

Meter Read Information

Present: Mar 1, 19XX - Actual	0500
Prior: Feb 1, 19XX - Actual	0000
Difference	500
Your Meter Multiplier	X 1
Total kWh used	**500**

Electric Usage Bi-Monthly

kWh



■ Prior 12 Months ☐ Latest 12 Months

Prior Billing Information

Amount Of Last DLCo Bill	$XX.XX
Payment Received: **Feb 15** - Thank You	-XX.XX
Amount Owed From Your Last DLCo Bill	**$X.XX**

Current Charges

Customer Distribution Charge		$X.XX
Transmission Charge	500 kWh @ **X.XXX¢**	X.XX
Distribution Charge	500 kWh @ **X.XXX¢**	X.XX
Generation Charge	500 kWh @ **X.XXX¢**	X.XX
Pennsylvania Tax Adjustment		X.XX
Customer Generation Credit	500 kWh @ **X.XXX¢**	-X.XX
Customer Participation Credit		-X.XX
Current DLCo Billing Charges		**$XX.XX**
Your Pledge To The Dollar Energy Fund		X.XX
Total DLCo Account Balance		**$XX.XX**

Message Center

For questions regarding the Supplier ABC portion of the bill, please call 1-800-555-4567.
Generation prices and charges are set by the generation supplier that you have chosen.
The Public Utility Commission regulates retail transmission and distribution prices and services.
For general information, please see the reverse side of this bill.

Your Total Taxes: About 14.3% of your total bill is for Federal, State and Local taxes.

Supplier ABC Billing Information

Prior Billing Information

Amount Of Last Supplier Bill	$XX.XX
Payment Received: **Feb 15** - Thank You	-XX.XX
Amount Owed From Your Last Supplier Bill	**$X.XX**

Current Charges

Usage: 500 kWh From Feb 1 To Mar 1	X.XX
Total Supplier Account Balance	**$XX.XX**
Total Amount Due	**$XX.XX**

Estimated Gross Receipts Tax	*Estimated PA State Taxes*	*Late charge after Mar 20, 19XX*	**PAYMENT DUE**	BUDGET AMOUNT	AMOUNT DUE
$X.XX	$X.XX	$X.XX	Mar 25, 19XX	$XX.XX or	$XX.XX

Please return this portion with your payment.

YOU MAY PAY EITHER AMOUNT

Account Number 1000-123-456-001 | $XX.XX | $XX.XX | *Amount Enclosed $* ☐☐☐☐☐

CHOICE CUSTOMER
123 MAIN ST
PITTSBURGH PA 15212-0884

10001234560011 000000000000 000000000000 000000000000

VOLUME IV

Duquesne Statement No. 9

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

DUQUESNE LIGHT COMPANY
DOCKET NO. R-00974104

Direct Testimony
of
Mark G. Karl

Contents:

DIRECT TESTIMONY OF MARK G. KARL

I. Qualifications:

Q. Please state your name and address.

A. My name is Mark G. Karl. My business address is 411 Seventh Avenue, P.O. Box 1930, Pittsburgh, Pa. 15230 -1930.

Q. By whom are you employed and in what capacity?

A. I am employed by Duquesne Light Company as a Senior Consultant, and I am responsible for managing Duquesne's Integrated Resource Planning Department.

Q. Please state your educational qualifications.

A. I graduated from the University of Pittsburgh with a Bachelor of Science Degree in Mechanical Engineering with an option in Aerospace Engineering. In addition, I earned a Masters Degree in Business Administration (MBA) from the University of Pittsburgh Katz Graduate School of Business, where I majored in General Management with emphasis on Finance. I am a registered Professional Engineer in the Commonwealth of Pennsylvania.

Q. Please describe your professional experience.

A. I have more than fifteen years of diverse experience at Duquesne Light Company. I have worked professionally in a variety of assignments and functional areas within Duquesne, including both fossil and nuclear engineering; corporate and strategic planning; economic analysis; wholesale power marketing; and integrated resource planning. In support of the development of Duquesne's integrated resource plan, and as part of my benchmarking analysis of Duquesne's strategic business units, I have performed numerous economic analyses of Duquesne's

generating facilities. As part of the development of wholesale sales proposals, I have developed projections of operating cost and performance for new and/or refurbished generating facilities, both internal and external to Duquesne's current franchise territory. I was involved in the initial physical condition assessment of the Phillips Power Station in support of Duquesne's efforts to sell long term power to General Public Utilities (GPU), and I was Project Manager for the assessment and reactivation project at the Brunot Island Power Station, also in support of the GPU sale. Prior to my employment at Duquesne, I was employed for two years by the Space Systems Division of Rockwell International Corporation as a systems engineer/ analyst working on space shuttle flight control system software.

Q. What are your current responsibilities?

A. I manage and participate in the development of Duquesne's integrated resource plan. I direct the development and submittal of regulatory filings regarding integrated resource planning and assist in representation of Duquesne interests in regulatory proceedings concerning integrated resource planning and related issues. I direct the performance of production cost and preliminary financial analyses concerning proposals and projects involving power generation assets, and I participate extensively in the development and analysis of Duquesne's sales initiatives in the wholesale power marketplace, from the sale of power up to and including the sale of assets such as the Fort Martin Power Station.

II. Purpose of Testimony

Q. What is the purpose of your testimony?

A. My testimony serves three main purposes:

a) I support the use of Duquesne's hourly marginal cost curve as a known and measurable surrogate for the true market price duration curve which, together with the bid prices from Duquesne's recent power sale solicitation, yields hourly market prices. These hourly market prices are used in my production cost analysis for the

period 1999 through 2005 ("Transition Period"), and are used by Mr. Lahtinen to calculate competitive transition charges ("CTC").

b) I support the forecast of production costs and generation output of Duquesne's units under the Integrated Resource Plan least cost planning scenario, which was provided as input to Mr. Clayton's generation cost of service analysis for the period 1999 through 2005.

c) I support the forecast of production costs and generation output, by unit, for the period 2006 through end of unit life, which was provided to Mr. Clayton as input to his estimation of the market value of each of Duquesne's units at year end 2005.

III. Introduction

Q. Please describe the Integrated Resource Planning process used at Duquesne.

A. The resource planning process begins with the development of a 20 year load forecast. This forecast is the product of a regional econometric model, which predicts future electric demand and energy requirements as a function of economic performance within the market region. The resulting electric forecast is weather normalized, to eliminate year to year variations in demand resulting from changes in the weather. The electric forecast is then compared to Duquesne's current expected generating and load management capacity, and future resource requirements are quantified as the difference between actual resources and expected demand. The next step in the process is to conduct a technology screening study, to identify viable supply and demand technologies to fulfill future resource requirements. Viable technologies are then assembled into various alternative resource scenarios.

Each scenario is analyzed using the PROMOD production cost analysis computer program. PROMOD has been developed by Electronic Data Systems Corp., for use in the prediction of electric utility production costs, and has been reviewed and accepted for this use by the Pennsylvania Public Utilities Commission ("Commission"). The production costs generated by PROMOD for each resource scenario are then entered into a corporate finance model, which uses the production costs and capital requirements of each scenario to generate an annual revenue requirement prediction. The chosen scenario is the scenario with the lowest twenty year net present value revenue requirement. In the past, this lowest net present value plan was referred to as the least cost plan, and the methodology was referred to as least cost planning. With the inclusion of both demand and supply side resource options, the name of the planning process has been changed to integrated resource planning.

Q. Please describe the function of the PROMOD computer program.

A. A description of the function and operation of the PROMOD production cost analysis program is contained in Exhibit MGK-1.

Q. For how many years into the future does Duquesne plan?

A. Consistent with the requirements of the Commission, Duquesne's resource plan extends for a twenty year planning horizon.

Q. Are these resource plans submitted to any regulatory commission?

A. On a yearly basis, every electric utility in the state, including Duquesne, must submit an annual resource plan to the Commission. These annual plans detail each utility's expected load for the next twenty years, and detail the means by which the utility plans to serve load in its service territory.

Q. How are the resource plans reported to the Commission?

A. State of Pennsylvania, 52 Pa. Code §§ 57.141-57.154, which governs the electric utility planning process, includes specific requirements regarding the reporting of resource plans to the Commission and to the public. In accordance with these requirements, Duquesne prepares and submits an annual report which consists of three main parts: 1) an Executive Summary which summarizes the report and its conclusions; 2) the Annual Resource Plan, which details the selected plan, the alternate plans, the load forecast, and all relevant assumptions; and 3) the Report Appendix, which includes supporting information and detailed information tables in a prescribed format and aids the Commission in preparation of a summary report to the State Governor. The informational tables in the Report Appendix are submitted to the Commission in electronic spreadsheet form as well as on paper hard copy. Copies of the Integrated Resource Plan are required to be submitted on or before May 1, to the Secretary of the Commission, the Office of Consumer Advocate, the Pennsylvania Energy Office, and the Office of Small Business Advocate. Informational copies are also submitted to the personnel of other State Bureaus and Offices, and to other utilities in the State. In addition, as a public record, the report is available to consumers and interested parties upon request.

Q. What is the purpose of these least cost plans?

A. The purpose of these integrated resource plans is to ensure that electric utilities reliably provide electric service to all customers within the franchised service territory at the lowest possible cost.

Q. What is the difference between the analysis traditionally performed for Duquesne's Annual Resource Plan and the analysis you are presenting here?

A. The traditional annual resource plan analysis assumes Duquesne operates indefinitely as an integrated utility, with a traditional obligation to supply bundled service, including generation, to any party requesting service within the utility's franchised territory. The focus of a resource plan within this environment is to predict future customer requirements, and to build or acquire appropriate generation resources which meet customer needs at the lowest reasonable cost.

Future revenues for the utility would be set by the revenue requirement of the utility system throughout the planning period.

With the onset of competition in Pennsylvania, utilities will no longer be in a position to operate in the manner described above, but rather will operate as "price takers." Operating as a price taker seeking to maximize profit, Duquesne will operate its generation resources until the marginal cost of operation of these resources equals the prevailing market price. This prevailing market price will vary hourly, and will be set by the marginal operating cost of the last unit dispatched to serve load within the market region.

As a price taker, Duquesne's generation will effectively be decoupled from customer demand within its existing service territory, since it is assumed Duquesne can always buy or sell at the prevailing market price. Duquesne's units will therefore be dispatched to meet the market price. If the market is able to meet Duquesne's incremental load requirement at a lower cost than Duquesne's next available resource, Duquesne will buy at the market price. Conversely, if Duquesne's resources can produce at a marginal cost less than the prevailing market price, these resources will be dispatched to their full availability or to the point where their marginal cost equals marginal revenue, independent of Duquesne's local requirements.

The analysis I am presenting here will predict future generation output and operating cost for each of Duquesne's units in that competitive price taker mode rather than in the traditional utility obligation to serve mode of operation. Duquesne's Integrated Resource Plan provides the starting point for this analysis. All of the input assumptions, such as fuel prices and unit availability, as well as any operating constraints used in Duquesne's most recent Integrated Resource Plan will be used here. The analysis will be divided into two parts, corresponding to: (1) operation during the Transition Period (1999-2005); and (2) operation of Duquesne's units after the transition to competition is complete through the end of life of each generating unit.

This analysis will therefore provide an estimate of the generating cost and output of each of Duquesne's units, operating as a price taker, over the remaining life of the unit.

The generation cost and output during the Transition Period are inputs to Mr. Clayton's cost of service analysis used to calculate an ending book value for generation at year end 2005. The generation cost and output beyond 2005 through the end of unit life are inputs to Mr. Clayton's margin analysis used to compare an estimated market value to book value as of December 31, 2005.

Q. How will this PROMOD analysis of generation output and operating cost be performed during the Transition Period ?

A. As described in the testimony of Mr. Irvin, Duquesne has recently completed the bidding process for two forward market sales of electricity: a one-year sale and an eight-year sale. Prices revealed in the eight-year sale are used to set the price level at which Duquesne's units are dispatched in this PROMOD analysis. Since the price of electricity varies hourly as a function of regional load, the annual sale price for each year of the Transition Period is mapped into a set of hourly prices using a price duration curve. This hourly representation of the market, for each year of the Transition Period, is then entered into Duquesne's PROMOD model as an exchange transaction. By this I mean that the market is treated as both a buying and a selling opportunity for Duquesne.

For each hour of the analysis, PROMOD will dispatch Duquesne's generating resources on a lowest incremental cost basis until either Duquesne's service area load is met or the marginal cost of generation equals the hourly market price. If Duquesne's generation is able to meet the system load requirement at an hourly price less than the market price, PROMOD will continue to dispatch units and sell into the market until either Duquesne exhausts its available resources or the marginal cost equals marginal revenue. Conversely, if the PROMOD dispatch reaches the market price before meeting Duquesne's service area load, the remaining load will be met

through a purchase from the market and Duquesne's generation whose marginal cost exceeds the market price will stand idle.

Whether Duquesne will be serving all the customers in its service territory as a generation supplier is not material as it is assumed there will always be buyers or sellers at the prevailing market price. This function of the market effectively decouples Duquesne's generation from service territory load. This analysis will continue for each hour of the Transition Period. PROMOD will accumulate, on a generating unit basis, hourly generation and operating cost. This data is input into Mr. Clayton's generation cost of service analysis. This process will be described in more detail later in my testimony.

Q. Why use PROMOD for this analysis? Wouldn't it be simpler and more direct to just model the Duquesne system on an hourly basis using a computerized spreadsheet?

A. A spreadsheet model could be constructed for each of Duquesne's units which would simply compare, on an hourly basis, the incremental operating cost of the unit to the market price. This model could then decide whether or not the unit should operate for that hour and would accumulate revenue and costs accordingly. The problem is that such a model ignores a number of real-world operating requirements and constraints that PROMOD is equipped to address. For example, while the economics of the marketplace may dictate that a particular unit may run for one or two hours then shut down, units are not operated this way in the real world. Most units have minimum run times and minimum off times, costs are not linear with output, and unit output is not continuously variable. In order to minimize operating costs, a system operator may choose to increase load at an operating unit even though the incremental cost of power at that unit is higher than the first load block of a shutdown unit, if the power is only needed for a transient peak. The operator chooses to pay a higher marginal cost for a short period rather than incur the startup and shutdown costs of another unit. Much of the relative complexity of PROMOD is due to these issues.

Q. An annual resource plan normally details any capacity additions planned by the utility to meet future load requirements. What is Duquesne proposing in this regard?

A. During the transition to competition, Duquesne will maintain reserve generation sufficient to serve generation customers within the franchised service territory. Duquesne will ensure customers enjoy traditionally high levels of service reliability by effectively maintaining a 12% generation reserve, through either direct operation of existing units or through purchase of capacity as required. This level of reserves provides a margin over and above the required 6% ECAR operating reserve requirement, and is also above the 8% reserve identified by ECAR in its August 1996 "Assessment of ECAR-Wide Capacity Margins" as the reserve necessary to meet the ECAR DSCR reliability criterion of 1-to-10 days per year through 2005. The actual amount of firm capacity purchases required to maintain a 12% reserve will depend on the number of customers leaving Duquesne as a generation supplier (and the expected percentage of those customers who will return). If, for example, slightly more than 9% of Duquesne's customers exercise choice by 2004, Duquesne's remaining customers would enjoy a 12% reserve without any purchased capacity.

Q. How will reserve margins be dealt with in the future?

A. The planning reserve is an artifact of vertically integrated utilities which traditionally provided bundled service. A traditional utility would forecast future requirements, and would build capacity to meet those needs. In a competitive environment, capacity needs will be met through choices which arise from free market forces. It would be imprudent of Duquesne to construct new assets to meet a planning reserve requirement, on the expectation that all customers will remain with Duquesne. Accordingly, during the Transition Period, when it appears that Duquesne will fall below the targeted 12% reserve, firm capacity will be purchased at market prices to achieve this target reserve level.

Q. Does this mean that Duquesne is not planning to build any new generation facilities at any time in the future?

A. At present, Duquesne does not have any plans to construct additional generating facilities. This does not mean, however, that Duquesne or a Duquesne affiliate or successor would not construct new facilities. Any newly constructed facility would have to be profitable at prevailing market prices. If prevailing market prices rise to the point where Duquesne, an affiliate, or a successor believes a facility could be constructed which would be profitable at the market price, then such a facility might be constructed. The decision process would be comparable to similar decisions made every day by companies operating in a free market.

Q. Duquesne's generating units have operating lives which extend beyond the end of the Transition Period. How are the generation, operating cost, market revenue and net margin calculated through end of unit life?

A. Post-2005, the analysis of generation, revenue, and cost, is performed on an annual rather than an hourly basis. It is conservatively assumed that since Duquesne's generating assets are primarily baseload facilities, they will be operated at any time they are available to be operated. The annual operating capacity of each of Duquesne's generating units, post 2005, is therefore assumed to be equal to its equivalent availability. The annual revenue from each generating unit is assumed to equal its generation output (calculated at a capacity factor equal to annual equivalent availability) times the annual market prices provided by Mr. Schnitzer. Annual operating cost and output for each unit is obtained from PROMOD programmed to dispatch units at equivalent availability.

Q. Why do you use an hourly model for the margin analysis during the Transition Period while changing to an annual analysis after the Transition Period has ended?

A. There are several reasons for changing from an hourly to an annual analysis. During the transition, market prices are essentially set by the marginal cost of excess generating capacity. As a result, prevailing market prices during many hours of the year are below the operating cost of many existing units. As Mr. Schnitzer explains in his testimony, he has made the "conservative" assumption that the cost of new entry will establish a ceiling price for electricity

by the end of the Transition Period. To be consistent with this assumption, we have assumed that all Duquesne's base load facilities will actually be dispatched at any time they are available post 2005. These assumptions are conservative in the sense that they will likely overstate the market value of Duquesne's generation for purposes of estimating stranded costs as of 2005.

Because the existing units will operate whenever they are available, it is reasonable to use an annual capacity factor with an average load weighted price to calculate annual revenue. An hourly analysis beyond 2005 would require the derivation of a new price duration curve, and since the derivation of such a curve would be highly speculative, it was decided that an annual analysis would be sufficiently accurate.

IV. Variable Operating Costs and Availability

Q. What are the key input assumptions used in your calculation of variable operating and production costs?

A. The key input assumptions include fuel costs, variable operating and maintenance costs (O&M), and unit availability which is a function of both planned and scheduled outages. Also required are fuel escalation rates and unit operational data such as heat rates, minimum loads, on and off time requirements, dispatch blocks, and any specific unit operating constraints.

Q. What is the source of your fossil fuel price projections and what prices are used in your analysis?

A. Fossil fuel prices and projected escalation used in this analysis were obtained from the Duquesne Fossil Fuel Department. Wherever possible the unit fuel prices used are derived from actual fuel contracts with fuel suppliers, with spot price forecasts and forecasts of prices beyond contract limits obtained from Energy Ventures Analysis (EVA), Resource Data International (RDI), and Wharton Econometric Forecasters (WEFA). These forecasts are blended according to the judgment of the Fossil Fuel Department and are then submitted for use in production cost analyses. The Fossil Fuel Department is also responsible for developing forecasts of emission

credit prices which are treated as a variable fuel related cost in the unit dispatch. Projected sulfur credit prices are also obtained from EVA. The forecasts used in the preparation of this analysis are set forth in Exhibit MGK-2.

Q. What is the source of your nuclear fuel price projections and what prices are used in your analysis?

A. Nuclear fuel prices and projected escalation used in this analysis were obtained from the Duquesne Nuclear Fuel Department. Wherever possible the unit fuel prices used are derived from actual fuel contracts with fuel suppliers, with forecasts of prices beyond contract limits obtained from Energy Resources International, Inc. The forecasts used in the preparation of this analysis are set forth in Exhibit MGK-3.

Q. What is the source of your annual inflation projection?

A. The annual inflation projection is used to escalate all non-fuel costs, such as variable O&M, used in the analysis. These projections of annual Gross National Product Implicit Price Deflator were obtained from Wharton Econometric Forecasters (WEFA) and are presented in Exhibit MGK-4.

Q. What is the source of the unit availability data used in your analysis?

A. The unit availability data is based upon the most recent five year actual outage data. The forced outage rate input into PROMOD is the five year average unit equivalent forced outage rate. Scheduled maintenance outages are obtained from the latest actual unit outage schedule maintained by the Duquesne System Operations Department. Beyond the horizon of that actual schedule, PROMOD uses an automatic maintenance schedule generation routine, which replicates the outage frequency used in the actual schedule. The forced and scheduled outage data used in this analysis are presented in Exhibit MGK-5.

Q. What is the source of the unit Operating and Maintenance budget data and unit operating and performance characteristics used in your analysis?

A. Unit O&M data is obtained from the Fossil and Nuclear Generation departments. The operating and performance characteristics of each unit are obtained from the Duquesne Fossil Generation, Nuclear Generation, and System Operations departments as appropriate. The data reflect real world operating limitations used in the operation of Duquesne's system, and in the case of performance data, are the result of operational testing and record keeping. The unit O&M data and unit summary performance data are discussed in the testimony of Mr. Nelson and Mr. Duckworth for the fossil fueled and the nuclear units respectively.

Q. Previously you stated that your analysis of Duquesne's generating units extends through the life of the each unit. How are these unit lives set?

A. For the purposes of this analysis unit retirement dates are set at the end of each units' financial book life. These unit retirement dates are presented in Exhibit MGK-6.

V. Price Duration Curve and Calculation of Generation Cost and Output During the Transition Period

Q. Given the production cost input data presented in the previous section, what other input data is required for this analysis of unit generation and operating cost?

A. The production cost data input into PROMOD allows the program to calculate production cost at any level of output. The level of output from each unit is a function of its operating cost as compared to hourly market prices. Therefore, the key input is the hourly market price for each hour of the transition period.

Q. How is this hourly market price determined?

A. The basis for determination of market prices is the forward sale resulting from Duquesne's RFP as described in the testimony of Mr. Schnitzer. Mr. Schnitzer has derived an annual all-hours spot price for each year of the Transition Period from the forward sale data. The resulting single

annual all-hours price is mapped into an expected hourly market price using a price duration curve or price shape for each year of the Transition Period.

Q. Describe what is meant by a price duration curve or price shape.

A. The price shape defines the relationship of the market price in any given hour to the all-hours average price for the entire year. For this analysis the price shape is expressed as a series of hourly percentages, with each percentage representing an hourly price as a percentage of average price. For example, if the price shape value for noon on January 15 is 52% with a yearly average price of $20/MWh, the predicted market price for this hour of this day would be $10.4/MWh. If the price shape value for noon on June 15 is 128%, the predicted market price would be $25.6/MWh. The price shape is a simple way of expressing the normal hourly, daily, and seasonal variation in the market price of power.

Q. What is the source of Duquesne's price shape?

A. For this analysis, the price shape is derived from Duquesne's 1996 measured hourly lambda, which is simply the marginal cost of generation on an hourly basis. This choice is consistent with economic theory which holds that the market will clear at the price where marginal revenue equals marginal cost. Since Duquesne is already selling available generation into the wholesale market whenever generation is available at a cost equal to or below the market price, it is expected that Duquesne's hourly lambda should track market prices fairly closely..

Q. Is the same price shape used throughout this analysis or are different shapes used for different years?

A. This analysis uses the 1996 price shape for all years of the Transition Period. Although, the price shape will likely change over time as the current excess of capacity in ECAR comes back into balance, forecasting the demand and supply trends would require speculation. Duquesne, therefore, will rely on existing date.

Q. Is there any other use made of the 1996 price shape you are sponsoring?

A. Yes. Mr. Lahtinen uses the 1996 price shape and the market price from the one-year forward sale in Duquesne's RFP to calculate pro-forma generation audits and CTCs for 1999. Prospectively, the use of the price shapes by Mr. Lahtinen to calculate CTCs each year will use updated price shapes during the Transition Period.

Q. How do you use the price shape to convert the bid price into an hourly market price?

A. Mr. Schnitzer's testimony has described the process by which he has used the results of Duquesne's forward sale of power to derive an all-hours spot price of electricity for each year of the Transition Period. This all-hours price is simply the average market price at which a unit could expect to sell power throughout the year. As I have described above, the price duration curve is expressed as a percentage of the average yearly price. To calculate hourly prices, the yearly all-hours price provided by Mr. Schnitzer is simply multiplied by the price duration curve percentage for each hour of the year to yield hourly prices. This process is repeated for each year of the transition, multiplying the yearly all-hours price by the price duration curve. The results of that analysis are a set of hourly market price estimates for each hour of the Transition Period.

Q. Now that you have calculated an hourly market price for each year of the transition, how do you calculate unit generation and operating cost?

A. The hourly market prices for the seven year Transition Period are entered into the PROMOD production cost program as both a buying and a selling opportunity. As previously described in Section III of my testimony, for each hour of the analysis, PROMOD dispatches generating units on a lowest cost basis until either Duquesne's native load is served or marginal generating cost equals the market price. If the marginal cost of Duquesne's generation reaches the hourly market price before native load is served, the remaining load is served through a purchase from the market. On the other hand, if Duquesne's load is met before the marginal cost of generation reaches the market price, PROMOD will continue to dispatch generation until either marginal cost equals marginal revenue or Duquesne's available generation is fully loaded. This process continues through each hour of the study, and PROMOD accumulates the hourly operating cost

and output for each generating unit, which are standard outputs from PROMOD. This data is set forth in Exhibits MGK-7A and MGK-7B.

Q. Does this analysis consider the costs associated with repeatedly starting and stopping generation units in response to market prices?

A. The reason PROMOD was used for this analysis is that the actual operation of Duquesne's system is more complicated than the simple economic dispatch described above. Large generating units can not instantly start and stop in response to market economics, and the process of starting a unit consumes considerable fuel and other resources. Generating units are incapable of operating below minimum load levels. Likewise, the marginal generating cost is not linear over unit output, and in fact, output itself is not increased linearly, but rather in a discrete series of levels of output. All of these limitations and constraints are captured and considered in the PROMOD analysis.

Q. If units are constrained from repeatedly starting and stopping in response to market prices does this analysis assume Duquesne's generating system will operate in an uneconomic manner?

A. No it does not. The goal of the PROMOD dispatch logic, like the goal of a human system operator, is to operate the generation system in the most economic manner possible. A human operator, when considering the choice whether to start a shutdown unit or to increase output at an operating facility, considers more than just the incremental operating cost of each choice. Before incurring the cost of starting a unit, the human operator will make a judgment as to how long the additional generation will be needed. If for example, this decision is being made late in the afternoon, and the operator knows that load will decline quickly after the work day is over, the operator may choose to increase output at an operating unit with a higher marginal cost than the shutdown unit. This is the economic choice to make in this situation, and this is the way the system is operated both in the real world and in the PROMOD analysis. A unit which could somehow instantly start, stop, and change load levels all while operating at a baseload price

would be in a position to extract maximum revenue from the market. However, no such unit actually exists.

Q. How are the unit output and operating costs used in Duquesne's restructuring plan?

A. The analysis described in this section of my testimony yields hourly unit output and operating cost for each year of the Transition Period. As described in the testimony of Mr. Clayton, these outputs are used to calculate the cost of generation service throughout the Transition Period. This cost of service is used in Mr. Clayton's determination of Duquesne's remaining generation book value in 2005 assuming maximum acceleration of depreciation and amortization consistent with earning a fair rate of return.

VI. Calculation of Cost and Market Revenue After the Transition Period

Q. How has the analysis been simplified post-2005?

A. As described earlier in my testimony, the analysis uses an annual market price with generation output based on unit availability. As described in Mr. Schnitzer's testimony, the purpose of calculating the post-2005 market value of Duquesne's generation assets is to show that Duquesne is entitled to a rate cap under Section 2804(4)(v). For purposes of this analysis, Mr. Schnitzer has assumed that the cost of new entry in 2006 will set a ceiling on the market price. These price ceiling estimates are used to estimate a range of market prices from which Mr. Clayton calculates market value.

Q. What are the inputs used in this post-transition analysis?

A. The inputs for this analysis are the range of annual load-weighted market price ceilings described by Mr. Schnitzer in his testimony, unit fuel price projections, unit availability data, and the annual operating and maintenance costs provided in the testimony of Mr. Nelson and Mr. Duckworth.

Q. Is PROMOD used to calculate unit operating costs in this analysis?

A. Yes. As I indicated previously, the hourly market price target is set to an artificially high value to ensure that the unit will operate whenever it is available.

Q. How is generating unit revenue calculated in this analysis?

A. Generating unit revenue for the period from 2006 until the end of unit life is calculated by Mr. Clayton on an annual basis. Annual unit capacity factor is assumed to equal that units' equivalent availability. Annual generation is first calculated using PROMOD and provided as an input to Mr. Clayton's analysis. This data is set forth in Exhibit MGK-8A.

Q. How do you calculate future generating unit operating costs for this analysis?

A. As with the analysis for the period through 2005, unit operating costs are calculated by PROMOD. The model uses the fuel costs, operating and maintenance costs, and unit performance and availability data previously described, to calculate annual unit operating cost with the unit operating at its equivalent availability. These costs are set forth in Exhibit MGK-7B.

Q. How are the results of this post-transition analysis used in Duquesne's restructuring plan?

A. This analysis accumulates unit generation and operating cost on an hourly basis from 2006 through end of unit life. These hourly results are accumulated into annual values, and are included in Exhibits 8A and 8B, which are inputs to Mr. Clayton's analysis. Mr. Clayton estimates the market value of Duquesne's generation assets as of December 31, 2005. Those calculations are described in Mr. Clayton's testimony.

Q. Does this conclude your testimony?

A. Yes it does.

1. INTRODUCTION

1.1 Overview

The *PROMOD III®* system is a computer software package that simulates the operation of an electric utility power system. It is first and foremost a comprehensive production costing model for projecting future operating costs. It can also be used to evaluate system reliability.

PROMOD III differs from less sophisticated production costing programs in its treatment of generating unit forced outages. It is these forced outages that comprise the major factor in the disruption of fuel budget forecasts, operating cost estimates, and projected utilization of high-cost peaking and mid-range units. Since these outages are random and unpredictable, PROMOD III employs a special mathematical technique to properly consider their resultant impact on fuel requirements and operating costs.

Forced outages are treated within the program by a complete probabilistic model. Generating units can be represented by a seven-state failure model to give explicit consideration to partial loss of unit capability and forced outages of varying severity. All possible failure states of each unit are considered, in combination with all possible failure states of all other units, in order to obtain the best possible forecast of expected fuel consumption, operating costs, and plant capacity factors.

For fuel budget applications and system planning studies, PROMOD III will produce better results than less sophisticated programs because of the comprehensive representation provided for simulating detailed electric utility operations on an hourly basis while recognizing the importance of generating unit full and partial forced outages. Without explicit recognition of these forced outages, accurate recognition of fuel consumption is not possible. PROMOD III also serves as a generation reliability program, since loss-of-load hours and emergency energy requirements are standard outputs. Both measures are needed to determine appropriate reserve levels.

PROMOD III has developed into the most effective tool for studying a host of problems confronting utilities today:

- Making Fuel Budget Forecasts
- Examining New Plant Capacity Additions
- Planning Nuclear Refueling Outages
- Projecting Utility Operating Costs
- Pricing Firm Power and Energy
- Analyzing Fuel Conversion and Restricted Fuel Supplies
- Investigating Demand-Side Management Programs
- Projecting Hourly Marginal Energy Costs
- Calculating Avoided Energy Costs and Cogeneration Rates

- Evaluating New Power Supply Technologies

In power system operations, the relative efficiencies (operating costs) of the generating units are used to match generator output with electric demand in the most economical manner. Numerous operating restrictions must be observed: spinning and quick-start reserve requirements, minimum shutdown restrictions, limitations of the transmission network, and deliverability restrictions of fuel suppliers, to mention only a few. These and other operational considerations are explicitly modeled in the PROMOD III program. Its strength lies in the combination of probabilistic production costing techniques with detailed modeling of operating considerations to produce realistic estimates of fuel consumption and operating costs.

Critical user features include:

- *Flexibility* - PROMOD III can simulate more generating unit types, utility system characteristics, and operating modes than any other probabilistic production costing program. The user can model various situations with as little or as much detail as required. Computer run time can be controlled by selectively activating only those modeling capabilities that are required for the study.

- *Ease of Use* - PROMOD III has a simple user interface that allows data to be entered in any order. Input override capability facilitates quick setup of change case runs by selective replacement of base case data with changed values.

- *Convenient Reporting* - PROMOD III produces a generalized data base from which the user can obtain a wide variety of standard printed reports. The PROMOD III system includes post-processors that can transfer model results to corporate and financial models, and help the user build customized reports.

1.2 Basic System Description

Figure 1-1 is a simplified block diagram of the PROMOD III system. Basic inputs, shown on the left side of the diagram, are generally described in Chapter 2, "Utility System Representation", and are described in detail in Chapter I, "Input Data". Briefly, these inputs fall into five categories:

- *Generating Unit Data* - unit types, heat rates, fuel types, capacity states, forced outage rates, seasonal derations, maintenance requirements, minimum downtimes, and penalty factors. Specialized data is required for nuclear, pumped hydro, conventional hydro and combined cycle units.

- *Fuel Data* - cost, availability, and inventory information for various fuels used by the generating units.

- *Load Data* - demand and energy forecasts, chronological load shapes, and levels of interruptible load. Historical load data in EEI load data format can be directly input to define chronological load shapes.

- *Transaction Data* - type, capacity, energy, availability, timing, and costs.

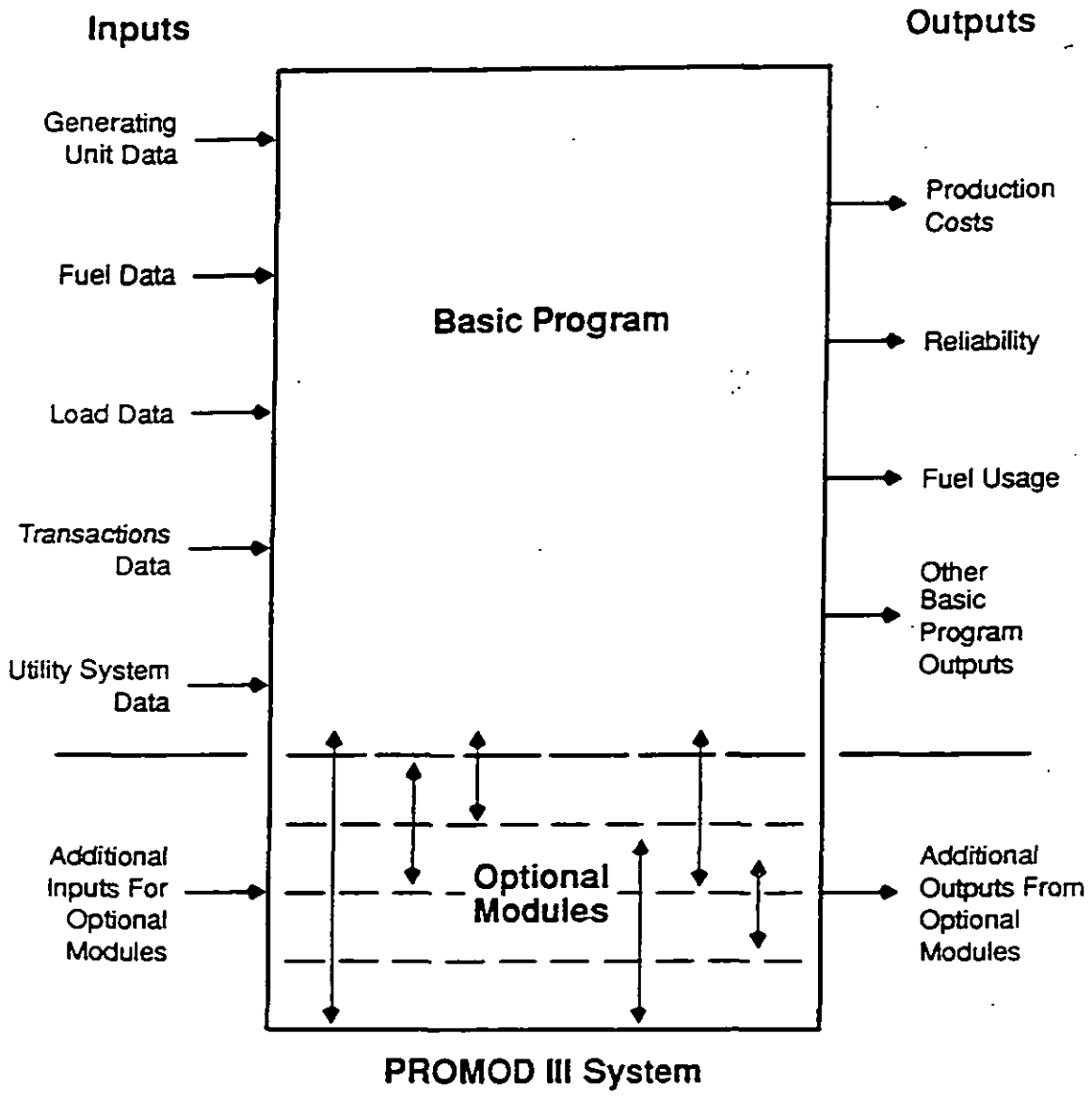


Figure 1-1. PROMOD III Block Diagram

- *Utility System Operating Data* - Operating reserve requirements, target reliability levels, emergency power purchase costs, available tie support, forbidden maintenance periods, and system-wide escalation rates.

Major outputs of the program, shown on the right side of Figure 1-1, are described and illustrated in Chapter O, "Output Reports".

Figure 1-1 shows how the optional modules interface with the basic program and with each other. These modules have been developed to:

- Model the behavior of unconventional generation resources, such as combined cycle units or pumped storage plants.
- Model utility system behavior under different operating modes, such as pooling (multi-area dispatch), emission restricted dispatch, and fuel supplies with limitations.
- Support studies by the rates (Hourly Marginal and Average Energy costs) and marketing (Controllable and End Use Load Management modules) departments.
- Develop customized reports and pass PROMOD III results to other models and databases (EXTRAC and Report Writer).

As shown in Figure 1-1, these optional modules usually require additional input data and provide additional output reports. Optional modules can be installed with the initial delivery of PROMOD III, or they may be added at any later time. The full set of optional modules offered is given below. Modules denoted by an asterisk (*) are described in this manual. Other modules have separate user's manuals.

- Hourly Marginal Energy Costing Module
- Hourly Average Energy Costing Module
- Combined-Cycle Unit Module
- Economy Energy Interchange Module
- Limited Fuel Module
- Nuclear Energy Allocation Module
- Energy Storage Module (pumped storage)
- Hourly Multi-Area Dispatch and Transmission Module (hourly interchange accounting)
- Multi-Company Reporting Module
- Environmental Dispatch & Reporting Module

End-Use Load Management Module
Controllable Load Management Module
Multi-Area Reliability Module
General Output Interface Module

With these capabilities, PROMOD III can be used to address a broad range of applications within the electric utility industry:

- *Production Costing* - This is the principal application of the program.
- *Fuel Budgeting* - Analyses can be performed on the basis of fuel costs, fuel requirements, fuel burns, inventory requirements or inventory values.

- *Reliability Analysis* - The program computes the amount of unsatisfied customer load (unserved energy) and the number of hours during which customer curtailments occur. PROMOD III automatically determines the amount of additional generating capacity needed to achieve a user-specified loss-of-load hours target. If capacity reserve levels exceed this acceptable service standard, then PROMOD III will determine the amount of surplus capacity which could be sold to neighboring systems on a firm basis.

- *Maintenance Evaluation* - Alternate maintenance schedules can be analyzed for their impact on production cost or system reliability.

- *Generation Planning* - Future capacity additions can be evaluated for production cost savings and improved system reliability. All types of generating unit alternatives can be studied, including coal, oil, nuclear, combined cycle, combustion turbines, hydro, and energy storage.

- *Marginal Energy Cost Analysis* - The program can report expected hour-by-hour marginal energy costs and hourly loss-of-load probability, key inputs to rate design studies. Interactive post-processing programs can be used in conjunction with these outputs to drive time-of-day and seasonal rates. This application requires the optional Hourly Marginal Energy Costing Module.

- *Energy Storage Evaluation* - The benefits of production cost savings and improved system reliability from pumped-hydro, compressed air energy storage projects, and battery storage can be determined. Selection of optimum capacity and storage reservoir size, and utilization of multiple projects can be studied. These evaluations require the optional Energy Storage Module.

- *Evaluation of Contract Transactions* - PROMOD III offers a number of modeling options for purchase and sale contracts.

- *Economy Energy Interchange Evaluation* - PROMOD III can be used to evaluate the effects of economy energy interchange, or changes in the opportunities for such interchange, on system operation, production costs and fuel consumption. The optional Economy Energy Interchange Module is required. In this case, an hourly price profile characterizes the neighboring systems' incremental operating costs for each month.

- *Hourly Multi-Area Dispatch* - When a number of utilities are operated as a pool, integrated operations can be analyzed with the PROMOD III Hourly Multiple Area Dispatch and Transmission Module. Centralized pool dispatch and the exchanges of economy energy between areas are modeled recognizing the bulk transmission network limitations. A flexible billing algorithm allows the user to test proposals for allocating the benefits of centralized dispatch simply by changing a few inputs. Using the Hourly Multiple Area Dispatch & Transmission Module, studies can be performed for a utility member company within a pool as well as for the entire pool. In these instances, fuel budgeting, generation planning, marginal energy cost analyses, energy storage economics and outside-system transaction evaluations can all reflect the benefits of pooled operation. Most importantly, the effects of adding transmission capabilities between areas can be studied.

- *Load Management* - PROMOD III can be used to analyze load management proposals at varying levels of detail. Overall daily, weekly, and seasonal load management strategies of various types can be modeled with the basic program. More precise study of modifications to user patterns (such as with hot water heaters or air conditioners) can be performed using the optional End-Use Load Management and Controllable Load Management modules.

- *Fuel Limitations* - The effects of fuel supply limitations and contractual restrictions on system operations and production costs can be analyzed with PROMOD III using the optional Limited Fuel Module. Minimum burn requirements, maximum available supply limits, take-or-pay contract provisions, maximum hourly consumption rates (e.g., gas flow rates), and suspension of coal deliveries can be modeled.

- *Environmental Constraints* - PROMOD III's optional Environmental Dispatch and Reporting Module calculates the release of atmospheric pollutants from fuel burned at utility plants. Restrictions can be imposed on the dispatch under varying environmental constraints allowing the user to analyze the system effects and direct costs which such conditions impose.

1.3 Illustration Of Probabilistic Modeling

At the heart of PROMOD III is a modeling technique which allows the explicit consideration of randomly occurring forced outages, forced derations and postponable maintenance outages of every generating unit and generation resource alternative. The probabilistic modeling technique accounts not only for the effects of a unit's outages and derations on its own operation, but also for the effects of a unit's outage on the operation of all other units in the utility system.

Probabilistic modeling is necessary from several standpoints:

1. Accurate prediction of peaking and mid-range capacity factors requires probabilistic treatment.

2. Monte Carlo techniques require prohibitive computer run-times to obtain statistically meaningful results.

3. PROMOD III's probabilistic technique, in effect, dispatches every possible configuration of the generation system, from one unit on outage at a time, two units on outage another time, and so on to the very unlikely but disastrous situation of all units on simultaneous outage. The properly weighted average of all such occurrences represents the best estimate of future operating costs.

4. Results must be repeatable from run to run. The probabilistic technique produces the best projection of the future; accurate forecasts are now possible in reasonable computer run times.

A simple example has been constructed below to provide an introduction to this technique. In this example, there is a single hour's load to be satisfied by two generating units. The value of the load is 150 MW. The generating unit to be considered first on the basis of cost, has a

capacity of 80 MW and an 80% probability of being available, while the second unit has a capacity of 100 MW and an availability of 90%.

In Figure 1-2, the loading of the first unit is depicted. The unit may be either available for service (probability 0.8) or unavailable (probability 0.2). In the event the unit is available, it will satisfy 80 MWH of load and leave 70 MWH remaining. In the event the unit is unavailable, it will supply nothing and 150 MWH will remain. The expected generation of unit 1 is therefore 64 MWH, and the expected remaining load is 86 MWH.

In Figure 1-3, the loading of the second generating unit is illustrated. Because of the two possible outcomes from the loading of the first unit, there are now four possibilities for the loading of the second unit. The calculations show that the expected generation of unit 2 is 68.4 MWH and the expected remaining load is 17.6 MWH.

If more units existed, the number of outcomes would continue to expand exponentially. For example, a relatively small system with 32 generating units would have more than 4.2 billion outcomes.

PROMOD III employs a computationally efficient algorithm that produces results identical to those obtained with direct enumeration of all availability states.

The PROMOD III algorithms include much more than a multi-state version of the probabilistic calculation illustrated above. The basic program contains dispatch logic capable of simulating the effect of unit commitment and economic dispatch carried out under detailed utility operating procedures as well as special computations for limited-energy resources including fixed-energy transactions, hydraulic resources and fixed-energy thermal units. The economic dispatch details have been deliberately omitted from the simplified discussion above. Still further complexities in the calculations arise in the extended modeling capabilities of the optional modules.

PROMOD III combines probabilistic modeling with (1) the flexibility to analyze diverse types of generating units and complex purchase and sale arrangements and, (2) the capability to reflect real world utility operating procedures. PROMOD III can quickly supply management with accurate production cost estimates for a wide variety of generation expansion scenarios or operational strategies and soon becomes an indispensable tool for the utility system planner and operational planner. The probabilistic structure, detail and accuracy also make PROMOD III the perfect tool for related applications ranging from supplying cost information for use in rate proceedings to analyzing the benefits of load management programs. PROMOD III enables utility system planners and operators to develop efficiently and accurately the ever-increasing amount of information that is being demanded by management and by regulatory agencies.

Most importantly, the information is developed consistently from analysis to analysis. Users derive additional benefit from the combined experience of the planning staffs of PROMOD III's growing utility base. PROMOD III is continually maintained and enhanced by EMA, making it responsive to new production costing applications and modeling requirements. The continuing evolution of the program and EMA's commitment to keep PROMOD III as the industry standard will extend its useful life indefinitely.

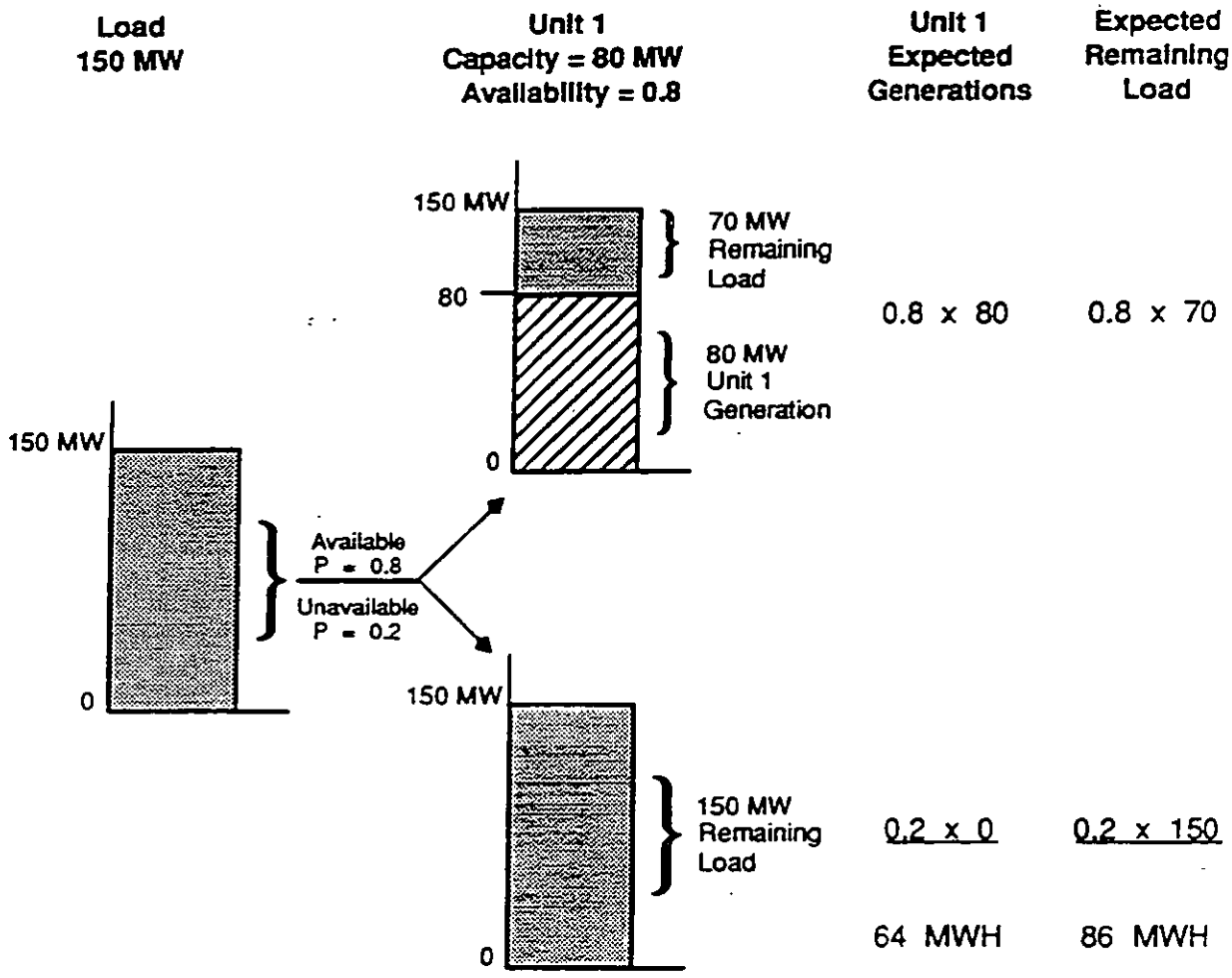


Figure 1–2. Probabilistic View of Loading One Unit

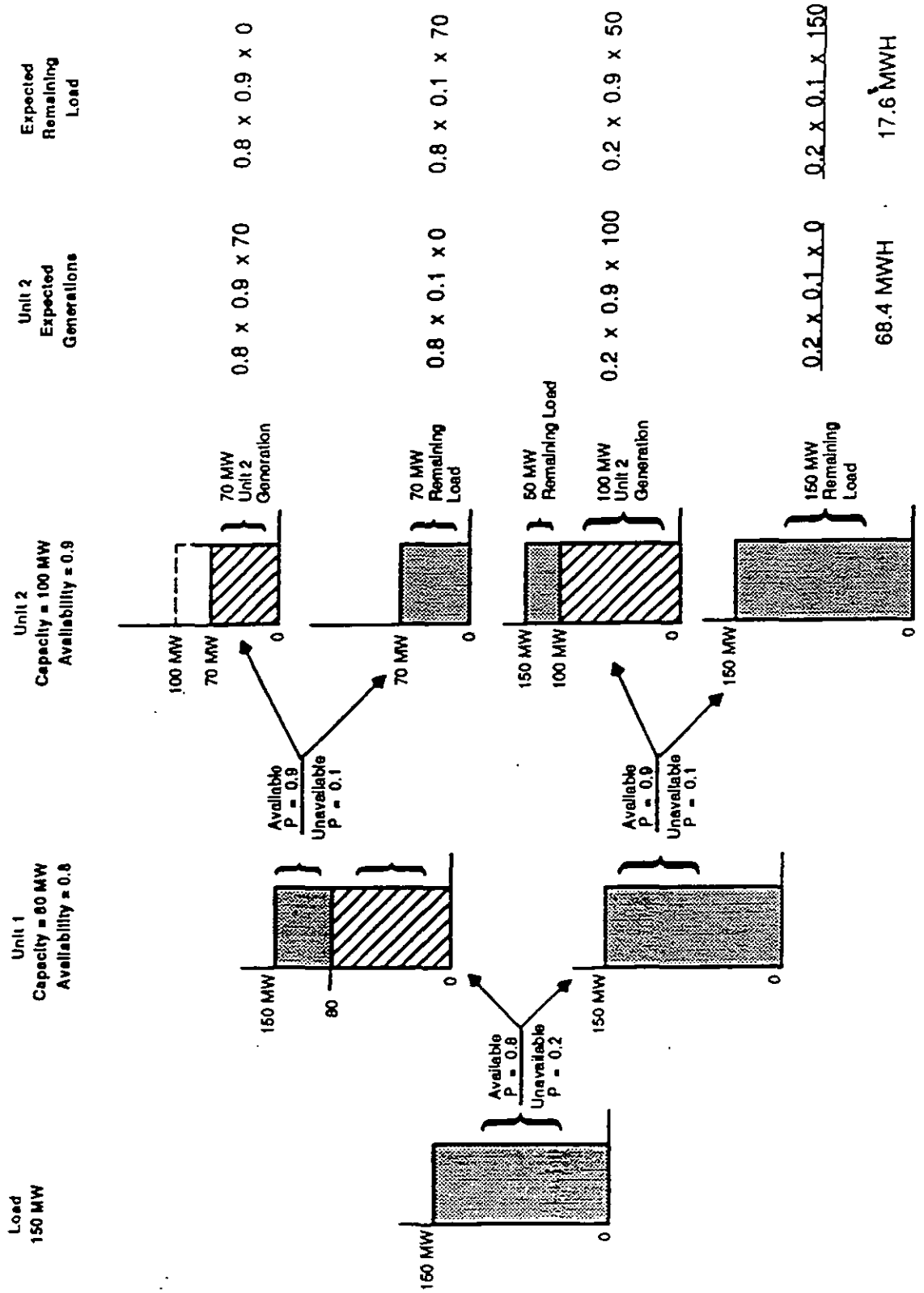
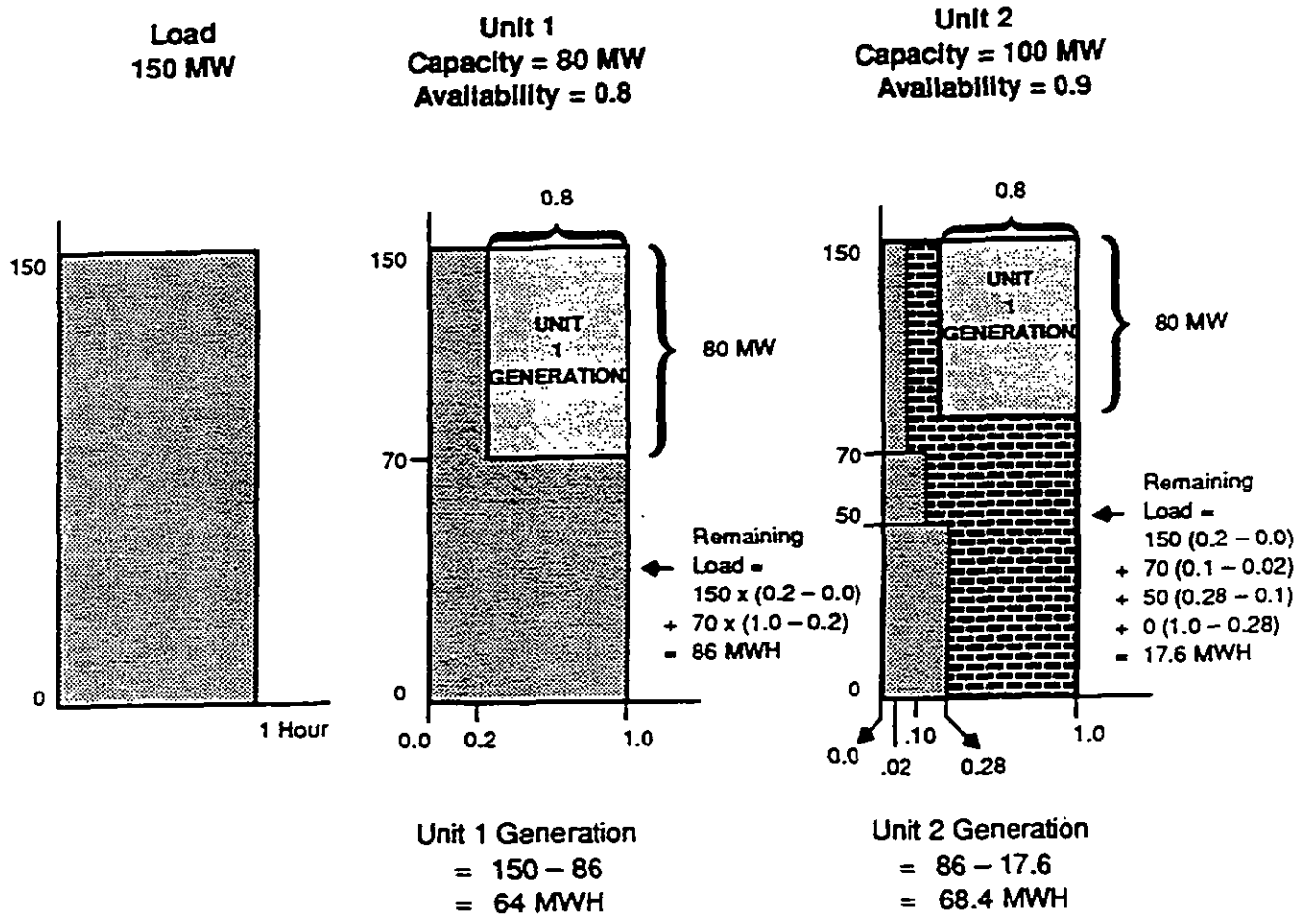


Figure 1-3. Probabilistic View of Loading Two Units



PROMOD III's Method Of Probabilistic Simulation

Duquesne Light Company

Fossil Plant Fuel Cost cents/ mmBtu

Year	Cheswick	Elrama	Sammis	Eastlake	Mansfield	SO2 Allow $/ton
1997	115.7	105.6	128.5	133.9	159.4	100
1998	118.1	106.0	132.7	119.8	164.0	108
1999	121.4	108.4	136.3	121.5	161.0	115
2000	125.1	107.6	145.1	125.1	108.8	133
2001	129.0	108.2	152.0	128.7	107.5	143
2002	131.5	111.1	155.0	132.6	110.1	153
2003	134.9	114.2	161.0	136.7	113.3	164
2004	138.9	117.5	163.5	140.6	116.5	177
2005	143.4	120.8	169.3	144.8	119.9	190
2006	148.5	124.2	165.7	149.4	123.3	204
2007	152.5	127.7	171.2	153.7	126.9	219
2008	157.6	131.4	178.3	158.3	130.5	234
2009	170.3	135.0	185.4	163.2	134.3	252
2010	177.2	138.9	193.1	167.9	138.1	271
2011	183.6	142.9	200.9	172.9	142.1	290
2012	190.0	146.9	209.1	178.4	146.1	311
2013	196.7	151.1	217.4	183.5	150.5	334
2014	203.7	155.4	226.7	189.1	154.7	358
2015	211.1	159.7	235.7	194.8	159.3	384
2016	218.5	164.4	245.8	200.6	163.8	412

Duquesne Light Company

Nuclear Plant Fuel Cost cents/ mmBtu

Year	Beaver Valley 1	Beaver Valley 2	Perry	Spent Fuel $/ MWHr
1997	47.24	40.00	57.28	1.00
1998	45.11	41.60	53.83	1.00
1999	45.39	42.07	60.15	1.00
2000	44.00	43.39	56.22	1.00
2001	43.72	44.71	62.63	1.00
2002	45.85	44.24	59.28	1.00
2003	45.48	45.46	63.68	1.00
2004	46.22	47.06	60.72	1.00
2005	49.82	46.88	64.35	1.00
2006	49.92	48.57	61.48	1.00
2007	51.86	50.73	65.31	1.00
2008	53.98	52.90	67.60	1.00
2009	56.11	55.06	70.09	1.00
2010	58.42	57.32	72.48	1.00
2011	60.92	59.58	75.16	1.00
2012	63.32	62.03	77.74	1.00
2013	65.82	64.57	80.51	1.00
2014	68.40	67.11	83.48	1.00
2015	71.09	69.84	86.35	1.00
2016		72.63	89.41	1.00
2017		75.53	92.47	1.00
2018		78.56	94.96	1.00
2019		81.70	97.53	1.00
2020		84.97	100.16	1.00
2021		88.37	102.86	1.00
2022		91.90	105.64	1.00
2023		95.58	108.49	1.00
2024		99.40	111.42	1.00
2025		103.38	114.43	1.00
2026		107.52	117.52	1.00

Duquesne Light Company

Projected General Escalation Rate (GNP Deflator)

Year	Yearly Price Increase (%)
1997	2.4
1998	2.5
1999	2.5
2000	2.5
2001	2.6
2002	2.6
2003	2.7
2004	2.7
2005	2.7
2006	2.7
2007	2.6
2008	2.6
2009	2.7
2010	2.7
2011	2.7
2012	2.7
2013	2.7
2014	2.7
2015	2.7
2016	2.7
2017	2.7
2018	2.7
2019	2.7
2020	2.7
2021	2.7
2022	2.7
2023	2.7
2024	2.7
2025	2.7
2026	2.7

Duquesne Light Company

Projected Unit Equivalent Availability (Annual %)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cheswick	67.6	80.4	80.8	77.4	84.1	80.8	70.8	77.4	84.1	80.8	77.5	84.1	70.7	77.4
Elrama 1	65.5	58.5	65.5	69.6	68.2	65.4	69.6							
Elrama 2	56.4	58.7	48.0	59.9	58.7	56.3	59.9							
Elrama 3	55.7	52.5	62.5	58.8	61.3	62.5	58.8							
Elrama 4	65.7	77.9	70.4	70.4	77.9	60.0	70.4							
Sammis	91.2	82.5	91.2	82.2	84.5	84.2	91.2	84.2	91.2	75.5	91.2	84.2	91.2	
Eastlake	73.8	55.9	79.5	70.8	70.8	79.3	71.5	66.4	69.0	70.8	71.7	79.1	70.8	72.5
Mansfield 1	82.7	89.6	72.4	89.6	82.7	89.6	82.7	89.6	69.0	89.6	82.7	89.6	82.7	89.6
Mansfield 2	85.0	92.0	77.9	88.5	85.0	92.0	85.0	92.0	74.4	88.5	85.0	92.0	85.0	92.0
Mansfield 3	90.8	85.6	90.8	81.8	78.8	83.8	90.8	83.8	90.8	87.0	73.7	83.8	90.8	83.8
Perry	93.5	83.2	93.5	83.2	93.5	83.2	93.5	83.2	93.5	83.2	93.5	83.2	93.5	83.2
Beaver 1	94.1	82.5	82.5	94.1	82.5	82.5	94.1	82.5	82.5	94.1	82.5	82.5	94.1	82.5
Beaver 2	82.5	82.5	94.1	82.5	82.5	94.1	82.5	82.5	94.1	82.5	82.5	94.1	82.5	82.5

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cheswick	84.1	80.8	77.4											
Elrama 1														
Elrama 2														
Elrama 3														
Elrama 4														
Sammis														
Eastlake														
Mansfield 1	69.0	89.6	82.7	89.6										
Mansfield 2	74.2	88.7	85.0	92.0	85.0									
Mansfield 3	90.8	74.6	86.1	83.8	90.8	83.8	90.8	90.8						
Perry	93.5	83.2	93.5	83.2	93.5	83.2	93.5	83.2	93.5	83.2	93.5	83.2	93.5	93.5
Beaver 1	82.5	94.1	82.5	82.5										
Beaver 2	94.1	82.5	82.5	94.1	82.5	82.5	94.1	82.5	82.5	94.1	82.5	82.5	94.1	94.1

Duquesne Light Company

Book Life Retirement Dates - Nuclear Plants

Beaver Valley 1	January	2016
Beaver Valley 2	January	2026
Perry	March	2026

Book Life Retirement Dates - Fossil Plants

Cheswick	January	2015
Sammis	January	2011
Eastlake	January	2012
Elrama	January	2005
Mansfield 1	January	2016
Mansfield 2	January	2017
Mansfield 3	January	2020
Brunot Island 1A, 1B, 1C	January	2012
Brunot Island 2A, 2B	January	2013

Duquesne Light Company

Projected Annual Unit Output (GWHr)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cheswick	3272	3599	3647	3528	3830	3723	3296	3652	4197	4032	3876	4195	3528	3865
Elrama 1	541	459	517	544	537	514	551							
Elrama 2	456	458	373	466	462	440	467							
Elrama 3	533	473	572	531	558	571	533							
Elrama 4	990	1131	1028	1017	1133	862	1011							
Sammis	1370	1215	1326	1212	1232	1251	1366	1271	1493	1236	1498	1378	1474	
Eastlake	1110	827	1165	1040	1052	1172	1057	1000	1120	1149	1166	1286	1149	1178
Mansfield 1	1580	1642	1344	1698	1567	1712	1594	1738	1376	1789	1657	1787	1652	1789
Mansfield 2	449	465	395	454	436	477	448	490	404	481	463	499	461	500
Mansfield 3	869	791	845	759	730	781	853	787	874	839	712	807	875	808
Perry	1343	1191	1347	1195	1343	1195	1346	1195	1343	1195	1346	1195	1343	1195
Beaver 1	3172	2781	2790	3172	2781	2781	3181	2781	2781	3172	2790	2781	3172	2781
Beaver 2	816	816	934	816	816	931	819	816	931	816	819	931	816	816

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cheswick	4211	4032	3828											
Elrama 1														
Elrama 2														
Elrama 3														
Elrama 4														
Sammis														
Eastlake														
Mansfield 1	1382	1789	1652	1769										
Mansfield 2	404	482	461	500	455									
Mansfield 3	877	719	829	808	877	808	875	869						
Perry	1346	1195	1343	1195	1346	1195	1343	1195	1347	1196	1343	1195	1347	1343
Beaver 1	2790	3172	2781	3137										
Beaver 2	934	816	816	931	819	816	931	816	819	931	816	816	934	816

Duquesne Light Company

Projected Annual Unit Production Cost ($millions)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Cheswick	68.0	66.1	69.1	70.9	77.2	75.4	84.5	81.9	93.5	94.7	95.6	106.6	110.0	110.1
Elrama 1	11.6	13.2	12.4	13.5	13.5	13.6	14.6							
Elrama 2	10.2	11.2	11.6	11.8	11.9	11.9	12.7							
Elrama 3	11.6	13.7	13.2	13.3	13.9	14.5	14.1							
Elrama 4	20.2	23.8	21.9	22.9	25.1	24.8	24.7							
Sammis	22.9	22.8	24.2	24.9	25.3	27.8	28.2	29.6	31.1	30.1	33.6	35.0	35.8	
Eastlake	21.6	19.0	23.9	23.1	24.2	26.8	26.2	26.5	29.7	31.1	32.6	36.2	34.9	36.9
Mansfield 1	37.7	40.2	29.5	31.0	30.7	32.5	33.2	35.7	34.6	38.5	38.2	41.0	40.7	43.6
Mansfield 2	10.5	11.1	8.3	8.5	8.4	8.9	9.1	9.9	9.7	10.5	10.4	11.3	11.2	12.0
Mansfield 3	19.3	18.7	14.9	14.9	15.4	15.0	17.1	16.2	17.8	18.4	18.3	18.8	20.8	19.8
Perry	25.3	27.5	25.1	28.9	30.5	30.4	32.1	31.9	33.7	33.6	36.2	35.9	38.6	38.3
Beaver 1	52.9	63.0	56.9	48.4	60.3	61.7	52.7	66.2	67.9	58.1	72.9	75.3	64.4	80.7
Beaver 2	17.8	17.0	13.7	16.6	16.9	14.8	18.1	18.5	16.1	19.8	20.5	17.9	22.0	22.7

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Cheswick	120.2	122.2	122.3											
Elrama 1														
Elrama 2														
Elrama 3														
Elrama 4														
Sammis														
Eastlake														
Mansfield 1	41.6	46.0	45.6	49.7										
Mansfield 2	11.6	12.5	12.4	13.8	13.3									
Mansfield 3	21.4	21.0	22.9	23.1	25.3	22.2	24.3	24.8						
Perry	41.3	40.8	44.0	43.6	47.1	52.9	50.1	56.4	53.5	58.2	53.3	58.2	53.5	61.2
Beaver 1	83.6	71.4	89.4	75.6										
Beaver 2	19.9	24.3	25.2	21.8	26.5	27.2	23.5	28.7	29.4	25.4	31.0	31.8	27.5	26.9

Duquesne Statement No. 9-R

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

DUQUESNE LIGHT COMPANY
DOCKET NO. R-00974104

Rebuttal Testimony
of
Mark G. Karl

Contents:

Response to Intervenor Testimony Regarding the Required Level of ECAR Planning Reserves, Modeling Issues, and Transmission Constraints Considered in Plant Shutdown Analysis

REBUTTAL TESTIMONY OF MARK G. KARL

I. Overview

Q. Please state your name and address.

A. My name is Mark G. Karl. My business address is 411 Seventh Avenue, P.O. Box 1930, Pittsburgh, Pa. 15230 -1930.

Q. Have you previously testified in this proceeding?

A. Yes. I submitted direct testimony (Duquesne Statement No. 9) and various supporting exhibits (MGK-1 through MGK-7) with the Duquesne Light Company August 1, 1997 restructuring filing.

Q. What is the purpose of your rebuttal testimony?

A. My testimony has three main purposes. First, I respond to intervenor testimony concerning their assumptions about the required level of planning reserves in ECAR. Second, I respond to specific modeling issues raised in the intervenor testimony. Third, I discuss the transmission constraints in the Duquesne system that must be considered in any shutdown of the Elrama plant, as advocated by a number of witnesses. In addition to these purposes, I respond to a number of miscellaneous issues raised in the intervenor testimony.

II. Planning Reserves in ECAR

Q. A number of intervenor witnesses have modeled or forecast market prices based on assumptions about the required or likely level of planning reserves in ECAR. Is there a specific reserve margin required in ECAR?

A. ECAR does not set specific reserve margins for its members, nor does it require its members to meet reserve margin criteria, such as a "one day in ten years" loss of load probability. ECAR is unlike PJM in this regard; in PJM, the member utilities are required to maintain specific reserve margins that are assigned by the pool. The planning reserves adopted by individual utilities within ECAR are therefore simply that: planning reserve margins adopted by individual utilities, not reserve margins required by ECAR. Traditionally, each utility set its reserve margin at a level consistent with prevailing regulatory policies regarding the appropriate level of reliability. The only mandatory generation reserve requirement is the 6% ECAR operating reserve (comprised of 3% spinning and 3% supplemental reserve). This requirement was discussed in the direct testimony of Mr. Irvin and the pricing of the associated services was discussed in the direct testimony of Mr. Lahtinen.

Q. How have the intervenors modeled the reserve margin requirements?

A. Mr. Smith for the OCA (p.4) models an 8% reserve margin as appropriate for market projections. To do so he models the value of capacity as an adder to the energy price based on the levelized carrying cost of a new combustion turbine. Mr. Falkenberg adopts the same approach and uses 15%. Mr. Russel of MAPSA does not explicitly model the effect of a reserve margin requirement but asserts that a 12% reserve margin will be required.

The 12% to 15% reserves referenced by Mr. Russell and Mr. Falkenberg are planning reserves which would typically be used by a regulated utility in the development of a Resource Plan. As indicated, however, these reserve margins,

as it relates to ECAR, are not based on regional requirements. It is inappropriate for these witnesses to assume that any particular level of reserves will be required by ECAR in the future; it may be that ECAR permits the market to determine the level of reserves that it is willing to pay for (with the exception, as indicated, of the 6% daily operating reserves).

Duquesne's position with regard to reserves is similar to that of ENRON as described in the testimony of Mr. Lynn Coles (pp.15-21). Competitors should only be expected to provide spinning reserves, and the deregulated marketplace should be allowed to set the planning reserve level. It is inappropriate to force all suppliers to meet a 'one size fits all' reserve level, and it is incorrect to assume a planning reserve level in the development of market prices where no such reserve level is required by the region.

III. Modeling Issues and Limitations of Forecasting

Q. Duquesne has argued in its direct case for a market-based approach. What concerns do you have about the forecast approach adopted by the opposing intervenor witnesses?

A. Mr. Schnitzer's direct and rebuttal testimony addresses the inherent limitations on forecasting avoided costs and market prices. Mr. Schnitzer describes at length the inability of forecasters to predict, with reasonable accuracy, future energy prices, given the inability to predict changes in technology and other factors that material effect those prices. I agree with those conclusions. My focus in this section is on a related, but conceptually distinct, issue. To explain, it is necessary to understand that Mr. Schnitzer's conclusions are valid whether or not he believes

forecasters are using the best data available (or even whether the best data available has substantial flaws). His point is that no one can accurately predict, using any data source, events 10 to 30 years into the future. My testimony focuses, instead, on the inherent flaws or limitations in many of the data sources available today, and particularly those that are utilized by the OCA and DII. Given the limitations in these data sources, I conclude that, even if one were to desire a long-range forecast of electricity prices, the data sources relied upon by these parties have substantial limitations, thereby severely limiting their utility in forecasting electricity prices.

Q. Both Mr. Smith for the OCA (p. 15) and Mr. Falkenberg for the Duquesne Industrial Intervenors (p. 41) state they obtain unit availability data from the NERC GADS database. Are there limitations on the usefulness of this data?

A. Yes. The problem with using this source is that the data for specific generating facilities is not available from NERC, since the data is provided under a confidentiality provision that states individual plant data will not be made available without the written permission of the owner. As a result, the GADS data is available only for groupings of 'similar' plants. The problem with this situation is that it is nearly impossible to find plants/ units sufficiently similar to a plant such as Elrama to accurately model its availability.

Q. In the testimony of Mr. Smith for the OCA (p. 16) he uses a 75% annual availability for both the Beaver Valley and Perry nuclear facilities. Mr. Kahal for the OCA (p. 43) cites the low availability of these units as both a rationale for

closure, and as a potential area for improvement. Are these claims regarding Duquesne's nuclear units valid?

A. No. The nuclear operations units of both Duquesne and Centerior are engaged in programs to improve the financial and operational performance of these units. Mr. Duckworth has testified to the projections associated with both the Perry Course of Action and with the Excellence 2000 program at Beaver Valley. It is particularly interesting, given the amount of testimony criticizing Duquesne for supposedly neglecting to take performance improvements into account, that in this instance Mr. Kahal has chosen to arbitrarily reduce Duquesne's nuclear availability projection to bolster his shutdown argument. In this analysis, Duquesne has built high nuclear availability numbers into its case, and should these units fail to meet these availabilities, the impact will be borne by Duquesne's shareholders through the minimum amortization commitment.

Q. Mr. Falkenberg for DII (p. 35) states that his probabilistic model requires the creation of a load duration curve. Does your analysis include such a curve and if so what was the source of your data?

A. A load duration curve typically refers to the distribution of loads throughout the year. Such a curve is a graph which depicts the number of hours in a year that system load is expected to equal a given megawatt level. With a load duration curve, the actual hourly, daily, and weekly variation in load is obscured, since duration curves are typically developed on an annual basis. If a load duration curve were to be used as input to a production cost simulation, the cost analysis could only be conducted on an annual basis. In a traditional production cost

simulation, a load duration model would produce results that would benchmark reasonably well to more detailed models such as PROMOD.

While this analysis would produce reasonably accurate annual cost data, it would not accurately predict the revenue derived from a competitive market. In competition, it is assumed all operating generators would be compensated at the hourly market price. Since there is considerable variation in the hourly price, it is essential that an hourly model be used to capture the revenue each generator will derive from the market. An annual model will not capture the actual variation of on and off peak revenue both above and below the production cost line. This simply comes down to the difference between a cost based versus a market based analysis.

The PROMOD analysis presented in testimony uses Duquesne's actual 1996 load shape. The model converts the actual hourly load data into a percentage of peak, and this shape is multiplied by Duquesne's peak load forecast to develop projected hourly loads. Duquesne's analysis therefore uses a projection of actual hourly loads derived from the 1996 load shape, not a load duration curve.

Q. Why did Duquesne choose to utilize the actual 1996 load shape for this load projection?

A. The competition statute required all data used in the calculation of stranded costs to be obtained from 'known and measurable' sources, and directed that the most current available data be used. Duquesne had considered various means of deriving ECAR load and price shapes, but any such derivation would fail the

'known and measurable' test. It was therefore decided to utilize the 1996 actual hourly loads to derive the load shape, and to utilize the 1996 system lambda to derive the market price shape. As addressed in my previous testimony, the hourly lambda only set the price shape; the actual hourly prices were derived from Duquesne's forward sale.

Q. Mr. Smith for the OCA (p. 15) uses an average of the 1995/ 1996 combined Allegheny and Duquesne load shapes in his analysis. How does that shape compare with the shape used by Duquesne?

A. Allegheny and Duquesne have very different load shapes. Allegheny has winter peaking load while Duquesne has summer peaking load. Development of a combined load shape requires an assessment of the individual customer classes of each company, and the loads of each customer class should be aggregated together to ensure that class load diversity is considered in the load projection.

Simply averaging two years together could also create a distorted shape. Since load is strongly correlated with weather, the normal procedure is to adjust the hourly loads for actual observed weather conditions. Most forecasters use an algorithm which adjusts load up or down as a function of the number of degree-days above or below normal. If loads were averaged over a number of years, the result of the average should converge with the degree-day calculation, but a two year average would not.

In addition, using the 1995 load shape in the development of a production cost based market price projection would upwardly bias the market price projection.

1995 was an all-time record load year for Duquesne and likely for many other midwestern utilities. Since that year had many days with well above normal temperatures, and as a result above normal loads, using that load shape would over-utilize many intermediate and peaking load facilities. If that load shape is 'locked into' the analysis and projected forward, the resulting analysis would predict higher than average load requirements and market prices. It appears that Mr. Falkenberg for the DII may have 'locked in' the 1995 load shape, while it is clear that Mr. Smith for the OCA 'locked in' his 1995/ 1996 average shape.

Q. Are there any other issues which must be considered regarding the choice of load shape for this analysis?

A. Yes. The discussion in the above response regarding the issues of load diversity and the need to address customer class load shapes was directed to the analysis of the combined Duquesne/ Allegheny system by Mr. Smith. These issues are significantly more important in the analysis of all of ECAR conducted by Mr. Falkenberg. Although Mr. Falkenberg obtained his load data from ECAR, and ECAR does attempt to correct for the effects of load diversity in its forecast, no single unified load forecast for the ECAR region exists. The ECAR forecast is an aggregation of all the individual company submissions.

Another significant caveat exists regarding the load shape used in this analysis. It is normal practice to use a single shape for the duration of a production cost study. Strictly speaking, this is incorrect, since different customer classes grow at different rates, and since each class has its own load characteristics, the overall load shape changes over time. Under traditional utility regulation this effect is not

a large problem, but as the market deregulates it is likely that different customer classes will respond to retail choice in vastly different ways. The result is that system load shapes are likely to change dramatically as customers respond to opportunities in the marketplace. These changes are impossible to predict. By using a static load shape to predict future market prices, the analysis fails to capture the true nature of the deregulated market.

Q. Is it correct that other important inputs into a production cost analysis are the heat rate and the operating characteristics of the generating plants in the study.

A. Yes.

Q. Are the heat rates used in the production cost analyses of Mr. Smith and Mr. Falkenberg reasonable?

A. Mr. Smith uses the as-operated heat rates which he obtains from FERC Form 1. He argues that this data reflects real world operating factors, and is the best indication of the performance which can actually be expected from the unit. While this argument has some merit, the problem with as-operated heat rates is that they are only accurate for levels of output near those in the year the data was reported. If the production cost model operates the unit differently than in the data year, the predicted fuel cost could differ substantially from the cost which really would be observed at that level of output.

Mr. Falkenberg uses the EIA Form 860 for full load heat rates as his heat rate input data. While the full load heat rate is a better choice for this analysis, once again, use of a single heat rate throughout the output range is incorrect, as is the

implicit assumption that output is continuously variable over the output range. While this assumption would result in lower cost operation for the regional dispatch, thereby moving results toward a lower market price, it also neglects the impact of unit must run status, minimum load blocks, and discrete versus continuously variable output increments.

Q. Fuel prices are another major input to a production cost study. Are the fuel prices used by the intervenor witnesses reasonable?

A. Mr. Smith obtains base year fuel data from the testimony of this witness and from testimony filed in the West Penn restructuring case, supplemented by FERC data. These data sources were utilized since Mr. Smith only modeled the joint Duquesne/ Allegheny system. Mr. Falkenberg obtained his base fuel data for the ECAR region from FERC Form 423 and Form 1. Both of these are reasonable sources of data for these analyses; however as with heat rate data, this fuel data is only accurate for levels of output close to the base data year.

Most fuel contracts contain both fixed and variable price components, and the fuel supply portfolio for an individual plant is likely to contain a mix of contracts involving different volumes and price points. If calculated plant outputs deviate significantly from base year levels, the calculated fuel cost is likely to differ from the cost which actually would be observed at that level of output. This is another example of the problems with the use of production cost analyses to determine a market price.

For fuel escalation, Mr. Smith uses escalation rates obtained from DRI's spring 1997 forecast, while Mr. Falkenberg uses the 1997 EIA Annual Energy Outlook. Either of these forecasts are reasonable sources of escalation data for coal or nuclear fuel. The difficulty with these forecasts lies in their natural gas price projections. Although Duquesne's gas price forecasts are more thoroughly addressed in the testimony of Mr. Schnitzer, Duquesne has found that the gas forecasts have consistently predicted market prices and escalation rates substantially in excess of the actual market price. Essentially, over the years, the forecasts have anticipated a surge in market prices when 'the gas bubble bursts'. This price surge has consistently been three to five years after the forecast date, and each time the forecast is updated the surge date is delayed. In reality the bubble hasn't burst, and over the past eight years the forward market has more accurately predicted market prices.

Q. Regarding gas prices, Mr. Weisenmiller for Hospital Shared Services (p. 128) points out a discrepancy between the gas prices used in Duquesne's Integrated Resource Plan and the prices used by Mr. Schnitzer. Please explain this discrepancy.

A. At present, the only use of natural gas on the Duquesne system is as light off fuel and flame stabilization at the Cheswick and Elrama plants. Cheswick is also equipped for gas co-firing which will be used to help this plant meet NOx standards. Since these are relatively low volume and intermittent uses, it is difficult to obtain the type of favorable contract which could be expected for fully gas fired plant. The other use of gas in the Integrated Resource Plan was as a fuel source for proxy 'future combustion turbines.' Without good contract data to rely

upon, Duquesne has historically obtained gas price forecasts from organizations such as DRI and WEFA for use in the Integrated Resource Plan.

However, Duquesne believes that use of market price evidence for gas contracts as provided by Mr. Schnitzer is preferable to the use of public gas price forecast data as part of a stranded cost analysis. This is consistent with Duquesne's proposals for a market-based approach to determining stranded costs in this proceeding.

Q. Operating and maintenance cost projections for Duquesne's facilities are addressed by Mr. Smith and Mr. Kahal for the OCA and by Mr. Weisenmiller for Hospital Shared Services. Duquesne's projections are compared to benchmark data and O&M cost reduction targets are proposed. Please comment on these targets.

A. Mr. Smith (p. 15) states that he obtained variable O&M costs from assumptions provided by Philadelphia Electric in their restructuring proceeding. Mr. Kahal (pp. 20-21) states he feels it is reasonable to factor some productivity improvement into the O&M forecast, then later in his testimony assumes a 40% reduction in non-fuel O&M. Dr. Weisenmiller (p. 17) proposes that Duquesne factor in reductions to bring the company up to 'best practices', then later (p. 62-64) benchmarks Duquesne's costs to the rest of ECAR.

The key to performing meaningful benchmarking is the development of relevant performance measures and the selection of a relevant comparison panel. Within Duquesne's own system, a comparison of Elrama O&M costs to those of

Mansfield 1 is irrelevant, even though both are scrubbed coal units located in Southwest Pennsylvania. Elrama is a four unit plant at 470 MW, while Mansfield 1 is one of three 800 MW units. Elrama will never achieve the level of O&M performance that could be expected of Mansfield. In determining the potential for cost reduction at Elrama, this facility must be compared to comparable units.

With regard to the potential for cost reductions, Mr. Duckworth has provided testimony concerning the 'Perry Course of Action', and the Beaver Valley 'Excellence 2000' program. Mr. Nelson has testified to Duquesne's fossil 'Vision 2000' program. The benefits associated with these programs are already built into this analysis.

Q. Dr. Weisenmiller (pp. 129-132) has questioned the difference between the inflation forecast provided in your prior testimony and the inflation used by Mr. Clayton and Mr. Schnitzer. He also has questioned the validity of the forecast. Please explain the discrepancy between the Duquesne witnesses and explain why Duquesne considers the forecast to be valid.

A. Duquesne obtained the forecast of inflation from Wharton Econometric Forecasting Associates (WEFA), a commonly used and reputable econometric forecasting service. The forecast is the Gross National Product Implicit Price Deflator (GNPIPD), and the forecast was given to intervenors in discovery. This forecast was provided to Mr. Clayton, who simply rounded the yearly fluctuations to a single inflation rate of 2.5%. Mr. Schnitzer used the same inflation rate used in Mr. Clayton's analysis. In the PROMOD production cost model, the analyst used the escalation stream directly from WEFA. The impact on final results

between an escalation stream which moves between 2.4% and 2.7% versus a 2.5% flat rate is unlikely to be material.

Q. The final major input to the cost-based market analyses is the capital cost associated with new capacity. Mr. Weisenmiller (p. 123) has pointed out a discrepancy between the assumed cost of new capacity in Duquesne's Resource Plan, and the costs in the testimony of Mr. Schnitzer. Please explain this discrepancy.

A. This discrepancy is similar to that discussed above regarding gas price forecasts. The new combustion turbine units included in Duquesne's Resource Plan were not actually intended to be constructed. The Resource Plan clearly stated that these units were simply proxies for future competitive solicitations. As such, they were intended to represent an upper boundary price. There was not a detailed construction estimate prepared for these facilities as part of the Integrated Resource Planning process. Duquesne believes that the range of costs presented by Mr. Schnitzer represents an appropriate cost estimate for new capacity.

Q. Mr. Falkenberg (p. 16) states that a production cost analysis to forecast market prices requires a forecast of capacity additions in a competitive market. He obtains this forecast from the ECAR OE-411. Is this an accurate projection of capacity additions in the competitive market.

A. Review of the OE-411 seems to indicate that utilities have a tendency to report future units to meet some internally preferred reserve margin target, and that these targets are not consistent. In addition, a single market would likely build fewer units to meet regional reliability criteria, instead of a reserve target, because of

diversity benefits. This reserve margin issue has already been discussed in this testimony.

The real problem with using the OE-411 data is that this data represents the regulated status quo, not the competitive market. The data reported in the OE-411 is prepared by regulated utilities with an obligation to serve, and the data is typically drawn from each utilities Integrated Resource Plan. The units proposed for addition are regulated units, with a cost-of-service guarantee. In a competitive marketplace generation suppliers might build entirely different units. They may offer enhanced incentives for customers to accept interruptable service, and customers may freely choose different reliability and therefore different reserve levels. The OE-411 data will be largely irrelevant in a competitive generation market.

Q. With regard to the valuation of existing assets, Dr. Weisenmiller (pp. 101-102) discusses the value of the Brunot Island facility. On those pages he claims that Duquesne plans to exploit the value of Brunot Island by building new capacity on this site. Is this true?

A. No, this statement is not true and has been constructed by taking a number of issues out of context. Dr. Weisenmiller, at p.102:2-6 states "According to the Company's IRP filed in September, 1997, Duquesne expects to restore to commercial operation Brunot CT units, 'to support.....long-term off system sales,' presumably at deregulated rates, after the year 2000, and to reactivate a CC facility in 2007, after the transition period contemplated by the Act."

I will address each of these issues in turn. Duquesne's annual resource plan was filed with the Pennsylvania Utility Commission in May of 1997, not in September of 1997. Regarding the 1997 IRP, the PaPUC, Office of CEEP issued a letter stating that for 1997, since Pennsylvania utilities were filing restructuring plans that would address many of the issues contained in the IRP, it would be acceptable to simply update the 1996 plan to include 1996 actual operational data. A complete plan did not have to be developed separate from the restructuring filing, and no such plan was developed.

In the case of Duquesne, the May 1997 filing consisted of a copy of the 1996 plan with a set of updated data tables from the appendix of that report. None of that data was optimized for changes in the market which occurred since that plan was filed in May 1996, which would include the change from an obligation-to-serve market to a competitive market. A copy of the letter from CEEP was provided to HSS in response to interrogatories.

Dr. Weisenmiller seems also to imply that Duquesne is secretly planning to reactivate Brunot Island after the transition to competition is complete, to capture deregulated sales revenue to the sole benefit of shareholders. As evidence he includes the quote "to support.....long-term off-system sales". It was difficult to locate this quote in the resource plan, but it turned up as a footnote to table IRP-ELEC-3A. The full quote reads "Duquesne expects the Brunot Island Simple Cycle Combustion Turbines to be restored to commercial operation in 2001, 2003, and 2005 to support retail load growth and long term off-system sales." The portion of the quote Dr. Weisenmiller apparently forgot to include in testimony,

refers to a reactivation "to support retail load growth" which should be a clear indication that this plan was developed for a regulated, not a deregulated market.

Further evidence that this plan is out of date comes from the reference to planned reactivation of the simple cycle turbines in 2001, 2003, and 2005. However, Brunot Units 2A and 2B were actually reactivated in the summer of 1996, as part of the Fort Martin sale agreement. To determine what Duquesne's plans actually were, and are, regarding Brunot Island and other future capacity, perhaps it would be useful to review the entire plan rather than just the Appendix.

As stated above, the plan referenced in Dr. Weisenmillers' testimony was optimized for a 1996 regulated market, not a 1997 deregulated market. Still, it is instructive to review this document to reveal Duquesne's thinking with regard to new generating capacity ***prior*** to the passage of deregulation legislation in Pennsylvania. The following paragraphs are extracted directly from Duquesne's 1996 IRP, Section 10 - Evaluation and Integration of Resources, under the heading "Preferred Supply Side Plan", with emphasis added.

> Duquesne's Brunot Island Combined Cycle (BICC) facility is expected to be utilized to provide peaking and intermediate service capacity **for Duquesne's retail customers and will also serve as back-up capacity for long-term firm bulk power sales**. The combined summer rating of the BICC combustion turbines and steam turbine will be 267 MW. For current planning purposes the BICC facility is assumed to return to service in stages beginning in the summer of 1997. Two of the three combustion turbines, each rated 45 MW summer capacity and 56 MW winter capacity, are expected to be returned to service in 1997. The remaining combustion turbine and the steam turbine generator are expected to be returned to service in 2001. **The anticipated reactivation of BICC assumes that each component meets a least-cost resource test. However, depending on the actual rate of growth in peak demand, the success of DSM programs and the level and timing of the**

implementation of long-term firm bulk power sales, the reactivation schedule for BICC can be advanced or delayed with minimal impact on the least-cost resource plan.

In the long term, in order to continue to move in the direction of an optimized capacity mix, any additional future capacity acquisitions and/or projects are expected to be limited to peaking resources. A gas turbine peaking facility having a summer capacity rating of 140 MW has been established as representative of the Company's preferred supply-side resource for the purpose of establishing the Company's avoided capacity cost. The identification of this peaking facility is presented for planning purposes only and should not be assumed to be a commitment by the Company to pursue this resource at the exclusion of other alternatives.

Duquesne intends to aggressively pursue additional DSM programs which meet market-based avoided cost tests. In addition, the avoided cost of the gas turbine peaking facility establishes a cost cap for the acquisition of non-utility generation and bulk purchases of energy and/or peaking capacity from other utilities, marketers or other potential suppliers. Based on this cost cap, Duquesne intends to pursue all least-cost opportunities to acquire peaking resources, such as firm purchases from other utilities, diversity exchange agreements with other utilities, non-utility generation facilities and/or competitive procurement solicitations, in order to defer or eliminate the need for the construction by Duquesne of any power generation facilities.

The timing of the addition of peaking resources will be affected by the actual experience in load growth, the actual results of the Company's DSM programs, the Company's ability to purchase power from other utilities and the availability of new cost-effective cogeneration and renewable resource generation. Based on the use of a gas turbine having a summer rating of 140 MW as a proxy unit to represent the addition of peaking resources, the 1995 preferred resource plan includes the addition of peaking resources in the years 2009 and 2015. As discussed earlier, the Company intends to vigorously pursue all least-cost opportunities which will defer or eliminate the need for the addition of peaking facilities.

To forestall any attempt to portray the "long-term firm off-system sales" described in the passages above as deregulated sales, these sales were contemplated as taking the same form as the GPU-Phillips reactivation project,

which Dr. Weisenmiller references on p. 103 of his testimony. That sale was structured such that Duquesne would earn return on and of new capital, depreciation of embedded capital, and sale profits were to be returned to ratepayers.

As stated previously, this IRP was developed in 1996, prior to passage of the retail choice legislation. That plan has, of course been superseded by Duquesne's current restructuring filing, and that filing clearly shows the remaining cold reserved units at Brunot Island as stranded. At this time, Duquesne has no plan to build, reactivate, construct, cause to be constructed, or otherwise plan to add generating capacity at Phillips, Brunot Island, or anywhere on the Duquesne system.

IV. Elrama Transmission Issues

Q. A number of intervenors have questioned the economic viability of Elrama and other Duquesne generating units. Please describe the impacts on Duquesne's transmission system which would arise from a permanent shutdown of the Elrama facility.

A. As Mr. Clayton's rebuttal testimony demonstrates, when the proposed shutdowns are subjected to a proper avoidable cost analysis, only the Elrama unit is still subject to questions of economic viability. The preliminary shutdown analysis set out in Mr. Clayton's Exhibit DJC-13 evaluated Elrama as a generating unit only. Assuming a shutdown of Elrama would raise serious issues for Duquesne's transmission system.

Q. Have you looked at these issues?

A. Yes. This Elrama shutdown issue has been reviewed with Duquesne's transmission planning group. The Elrama station provides both reactive and real power to support the southeast side of Duquesne's transmission system. The Elrama-Mitchell transmission tie line is one of Duquesne's primary interconnections with the Allegheny Power system, and during peak periods, Elrama also provides significant support to the Allegheny system in that area. The Elrama station serves as a first contingency in Duquesne's transmission planning. Assuming no other system faults occur, at peak, the system should remain stable without Elrama. However, any other transmission or generation fault could result in an inability to serve customers.

Q. Has Duquesne done any load flow modeling of the impact of the loss Elrama?

A. Yes. Preliminary load flow studies have been done to simulate the loss of Elrama. The transmission upgrade to fully replace Elrama would require extension of a 345kV line from the Collier Substation to the Elrama Substation. Without extension of the 345kV system, Elrama could be replaced with 200 Mvar of capacitors for reactive support and 100 MW of generation to supply real power. In addition to capacitors and generation, the Elrama-Mitchell tie would have to be opened on peak to back off flows from Duquesne to Allegheny. This would increase operating costs on the APS system.

Q. Please describe the transmission line extension required to replace Elrama.

A. To replace the Elrama station without any additional generation resources, a new 345 kV line would be required from the existing Collier substation to Elrama.

The most direct route for this line would run through Upper Saint Clair and Mount Lebanon, but due to property values and anticipated fierce political resistance, this route is infeasible. The most likely routing for this line would follow the rivers, and in a best case scenario, railroad rights-of-way could be procured for this purpose. This line extension would require significant modification of the Elrama substation, with the addition of transformers and controls. Starting from scratch, the lead time for this project would be at least 4 or 5 years, and Elrama could not be closed until the line is completed. Any right-of way problems would add significantly to the lead time and cost of the project.

Q. Are there other options to deal with these Elrama transmission issues?

A. Yes. By installing 200 Mvar of capacitors on the system, the reactive power problem can be alleviated. The system would still need at least 100 MW of generation at the substation site, and there are at least three potential options for addressing this need. The first option would be to allow Elrama Unit 4 to remain in operation, while closing Units 1, 2, and 3. The second option would be to relocate the Brunot Island units 2A and 2B to the Elrama substation. These units are rated 56 MW (ISO), and together would provide 112 MW of generation. No environmental or other permitting issues associated with this move have yet been addressed. The final option would require installation of a new 100 MW turbine at this site. No permitting issues associated with installation of a new emission source have yet been addressed.

Q. Has the company reached a final decision regarding the shutdown of Elrama?

A. No. As discussed in Mr. Marshall's testimony, Duquesne has committed to file a detailed shutdown analysis with the Commission by the end of 1998.

V. Miscellaneous Intervenor Issues

Q. In the testimony of Mr. Schoengold (pp. 4-9) for ENV, he argues that all existing generating facilities in Pennsylvania should be required to meet environmental new source performance standards, and that all out of state generation selling to Pennsylvania should also meet these standards. What would be the impact of such a requirement?

A. The imposition of such a requirement would force Pennsylvania utilities to invest hundreds of millions of dollars in environmental controls that would reduce the operational efficiency of generation facilities, and dramatically increase the cost of generation in the state. Many otherwise viable older generating units in Pennsylvania would be incapable of meeting new source standards. These units would have to be shut down and replaced with new capacity at significantly higher cost. Out of state generation would not mitigate the cost increases, since no out-of-state generator would invest the enormous sums necessary to sell to Pennsylvania. The result would be that Pennsylvania would become isolated from the competitive marketplace. Implementation of this requirement is ill-advised.

Q. Mr. Schoengold (pp. 4-9) also requests that utilities be required to offer incentives for renewable generation resources. Is this a reasonable requirement?

A. No. If this generation makes economic sense it will be built. If there is a premium market available for renewable generation from customers willing to pay

for this generation, it will be built. An opportunity now exists for the free market to decide if customers actually are willing to pay more for "clean" power. The market should decide what level of environmental control in excess of existing federal clean air standards customers are willing to purchase.

Q. On pp. 16-18 Mr. Schoengold states that Duquesne should in the future use "targeted area planning". Please respond to that request.

A. The Integrated Resource and Transmission Planning units within Duquesne are unfamiliar with the term "targeted area planning". However, from reading the proposal of Mr. Schoengold, it seems that this term may be summarized as referring to a consideration of the transmission cost and constraints associated with capacity expansion, and a recognition that it may be beneficial to locate generation resources closer to load to avoid the need for construction of additional transmission resources. Duquesne refers to this process generically as a "distributed generation" analysis.

Distributed generation has not been much of an issue on the Duquesne system, since the transmission system is relatively small, and recent load growth has not required much in the way of transmission or generation expansion. Duquesne has invested in small pilot and demonstration programs involving distributed generation technology such as fuel cells. If the market had remained regulated, when Duquesne eventually would have considered transmission or generation expansion, these location related issues and the benefits of distributed generation would have been considered. Although the role of utility planning is unclear in a deregulated market, because the consideration of these location issues makes

economic as well as environmental sense, it is likely that they will still be considered in some form by whomever performs the planning function.

Q. Are there any other matters you wish to discusss?

A. Yes. I am sponsoring certain revised exhibits to my direct testimony. These exhibits were circulated to the parties on October 16, 1997 as part of Duquesne's corrections to its stranded cost calculations. For convience, the entire package of revisions is included in Duquesne's rebuttal case as Ex. DJC-21, including my revised exhibits.

Q. Does this conclude your testimony?

A. Yes.

R-00974104, R00974104C0001-C0002

Duquesne Statement No. 14-R

12/18/97

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

DUQUESNE LIGHT COMPANY
DOCKET NO. R-00974104

Rebuttal Testimony
of
Joseph P. Flynn, Jr.

Contents:

Response to Intervenor Testimony Regarding
Universal Service Issues

REBUTTAL TESTIMONY OF JOSEPH P. FLYNN JR.

I. INTRODUCTION

Q. Please state your name and business address.

A. Joseph P. Flynn Jr., One Oxford Centre, MS 16-10, Pittsburgh, PA 15279.

Q. For whom do you work and in what capacity?

A. I am Duquesne Light Company's Director, Customer Programs.

Q. Have you previously testified in this proceeding?

A. No, I have not. I did, however, prepare the Company's Universal Service Plan submitted on November 3, 1997.

Q. What is your experience with the design and implementation of universal service type programs?

A. From 1980-1986, I was the US Department of Energy's Director of Weatherization Assistance Programs. In that capacity, I oversaw the work of 10 Federal regional offices, 50 state offices and the District of Columbia, and approximately 1,000 local agencies. I streamlined program regulations, increased production with an emphasis on quality, and initiated energy-related for-profit business development opportunities for the program's non-profit operators.

I joined Duquesne Light in November 1988 as Weatherization Coordinator responsible for the design, development, and implementation of the Company's low-income usage reduction program. In 9 years, the Smart Comfort Program has been recognized by the Pennsylvania Governor's Energy Office, the US Department of Energy, the Edison Electric Institute, and The Results Center for program innovation and results.

In 1994, I was given the responsibility for developing the Company's pilot customer assistance program (CAP). This 3-year pilot was approved by the Pennsylvania

Public Utility Commission in October 1994 and enrolled its first participant in September 1995.

Both the Smart Comfort program and the pilot CAP utilize community-based organizations (CBOs) and other contractors.

I have often been asked to make presentations at state and national conferences on low-income usage reduction.

Q. What is the purpose of your testimony?

A. I will respond to the testimony relating to universal service issues raised by Ms. Nancy Brockway on behalf of the Pennsylvania Office of Consumer Advocate (OCA); Mr. Roger D. Colton on behalf of the City of Pittsburgh, the Pittsburgh Branch of the NAACP, Low-income Advocate Parties, and Citizen Power, Inc.; Mr. Craig R. Kuennen on behalf of the Community Action Association of Pennsylvania (CAAP); Mr. Gayle Muench on behalf of Enron Power Marketing Inc. (Enron); Mr. John A. Wilson on behalf of the Community Action Association of Pennsylvania (CAAP); and Mr. Paul J. Yarolin on behalf of the Pennsylvania Public Utility Commission's (PUC) Office of Trial Staff (OTS).

Q. Mr. Flynn, please summarize your testimony.

A. The goal of the Company's universal service and energy conservation programs is to cost-effectively ensure that low-income, payment troubled customers have access to affordable energy. To achieve this goal, the Company will work with eligible customers to establish affordable payment arrangements which maintain electric service and move them toward self-sufficiency in paying their electric bill.

The Company will meet the unique needs of individual low-income, payment troubled customers by providing an array of services rather than limiting its solutions to prescribed, one size fits all programs. This array will include, but not be limited

to, usage reduction and payment assistance programs as well as the full range of customer protections called for in Chapter 56.

Duquesne Light recognizes that customers are not easily divisible into "programs" and has begun to combine the efforts of its Smart Comfort program with those of its pilot Customer Assistance Program (CAP). The Company has attempted to offer its low-income, payment troubled customers appropriate "services" to deal with their unique situations. It will continue to emphasize holistic solutions to individual customers' problems rather than achieving enrollment targets or reaching spending targets in specific programs.

While raising a number of other issues which are addressed in this testimony, the intervenors' two main points of contention are that the Company has neither sized nor funded universal service appropriately. Neither assertion has any merit.

In general, intervenors argue for a larger eligible population than does the Company by using census or other data sources and relying only on income criteria. Similarly, they argue for increased funding based on either an inflated estimate of need and program operating costs or on an arbitrary, unsupported percentage of operating revenue.

The Company estimated its eligible population based on a needs assessment conducted using program eligibility criteria approved by the PUC. The funding level corresponds to the PUC's Guidelines and is sufficient to meet the commitment contained in Duquesne Light's universal service goal. If additional funding should be required, the Company will approach the PUC for relief from its rate cap to meet the need.

In summary, the Company has been and will continue to be a leader in providing customer-focused, quality-driven, results-oriented universal service and energy

conservation programs in a cost-effective manner. Its Universal Service Plan reflects this record and meets the requirements of the Guidelines on Universal Service and Energy Conservation Programs. Duquesne Light requests that its plan be approved without change.

II. Pennsylvania Public Utility Commission Guidelines

Q. Please identify the policies, protections, and services described in the PUC's Guidelines on Universal Service and Energy Conservation Programs.

A. At page 29 of the Guidelines, the following existing policies, protections and services are identified:

1. The requirements of 52 Pa. Code Chapter 56 (Standards and Billing Practices for Residential Utility Service);

2. The requirements of 52 Pa. Code Chapter 58 (Low-Income Usage Reduction programs) *or other comparable program* (emphasis added);

3. The Commission's Policy Statement at 52 Pa. Code § 69.261 et seq. (Customer Assistance Programs) *or other comparable program* (emphasis added);

4. The Commission's Secretarial letter dated November 30, 1992 (CARES programs) *or other comparable program* (emphasis added);

5. The administration of hardship funds;

6. The Commission's Policy Statement at 52 Pa. Code § 69.251 (Plain Language); and

7. The Secretarial letters identified in Appendix C relating to collection activities.

Also, three proposed universal service and energy conservation policies, protections, and services are identified on page 30 of the Guidelines:

1. Provider of last resort;

2. Renewable resources; and

3. Consumer education.

Q. What eligibility guidelines did the PUC establish?

A. At page 31 of the Guidelines, the following statement appears:

"In general, these universal service and energy conservation programs shall be available to electric customers whose household income is at or below 150% of federal poverty guidelines *and who meet other non-income criteria"* (emphasis added).

On pages 32-34, the following additional eligibility criteria appear:

Chapter 56 regulations apply to all residential electric customers.

Low-Income Usage Reduction Program (LIURP) eligibility is a two-part requirement based on income and high energy usage.

Customer Assistance Program (CAP) eligibility requires an applicant to be a verified ratepayer or new applicant; have verified household income at or below 150% of the Federal poverty guidelines, and be payment troubled, i.e., be a household which has failed to maintain one or more payment arrangements. When determining if a CAP applicant is payment troubled, an electric distribution company (EDC) should select one of the following priorities for payment troubled:

A household whose housing and utility costs exceed 45% of the household's total income. Housing and utility costs are defined as rent or mortgage/taxes and gas, electric, water, oil, telephone, and sewage;

A household who has $100 or less disposable income per month after subtracting *all* household expenses from all household income;

A household who has a reasonable arrearage as defined by the EDC; or

A household who has received a termination notice or who has failed to maintain one or more payment arrangements.

Customer Assistance and Referral Evaluation Services (CARES) eligibility may be targeted to special needs customers which may include those who have experienced a family crisis such as loss of income, divorce, disability, or major illness.

Hardship fund eligibility shall be determined by the administrators of the hardship funds.

Plain language policy statement applies to all residential customers.

Secretarial letters related to collection activity express direction for all residential customers.

III. Existing Duquesne Light Universal Service Policies, Protections, and Services

Q. Please describe any existing policies, protections, and services offered by Duquesne Light which meet the definition of "universal service and energy conservation" contained in the Electricity Generation Customer Choice and Competition Act (the "Competition Act").

A. The Company currently offers the following universal service policies, protections, and services: Chapter 56 policies and protections; Smart Comfort, its LIURP; a pilot CAP; CARES; and a hardship fund administered by the Dollar Energy Fund. The Company applies the plain language requirements to its customer communications and follows the various Secretarial letters related to collection activity.

Q. Do these activities comply with PUC requirements?

A. Yes. The Company's billing and collection practices are regularly reviewed by the Commission through its complaint and mediation processes. The Company's Smart Comfort and pilot CAP were approved in detail by the Commission and are subject to the PUC's on-going review. In its recent Activity Report, the PUC's Bureau of Consumer Services indicated that Duquesne Light's CARES program "reflect(s) the guidelines in the Commission's Secretarial letter." The Company has been a long-time participant in the Dollar Energy Fund. The Company conducts a plain language review before issuing its customer communications.

Q. What funding level does the Company propose for funding universal service and energy conservation programs in the future?

A. Duquesne Light is committed to maintaining existing funding support for universal service programs. Should it determine that additional needs exist requiring additional funding, the Company will seek Commission approval for rate cap relief to collect those moneys through its universal service charge.

Q. Is this funding level consistent with the PUC's Guidelines?

A. Yes, it is. On page 28 of the Guidelines, the PUC notes "that neither the Act nor these guidelines specify any particular spending level for universal service and energy conservation as a whole. No inherent increase or decrease in spending is mandated, provided that the total level of resources directed to universal service and energy conservation is 'appropriate' and the benefits are made 'available.'"

The Company's proposed funding level meets this test.

IV. Duquesne Light's Universal Service Program Proposal

Q. Has the Company proposed a Universal Service Program?

A. Yes. It was served on the parties to this proceeding on November 3, 1997, and it is attached to my rebuttal testimony as Exhibit JPF - 1.

Q. What is the goal of the Company's universal service and energy conservation programs?

A. The goal of the Company's universal service and energy conservation programs is to cost-effectively ensure that low-income, payment troubled customers have access to affordable energy.

To achieve this goal, the Company will work with eligible customers to establish affordable payment arrangements which maintain electric service and move them toward self-sufficiency in paying their electric bill. The Company believes that its responsibility to offer assistance is matched by the customer's responsibility to use electricity wisely and efficiently and to make agreed upon payments for its consumption.

Q. Did the Company conduct a needs assessment as required by the Guidelines?

A. Yes, the Company conducted the required needs assessment using its customer information system, which contains income and expense information provided by its customers. The Company sought to identify the number of its customers who are low-income and payment troubled, as defined by the Commission.

Q. What were the results of this assessment?

A. The detailed results can be found in the Company's November 3, 1997 universal service program filing. In short, the Company identified 115,055 customers who are "low-income, payment troubled." Of these, 5,731 appeared eligible for its CAP; 21,226 appeared eligible for Smart Comfort. When a 3-month delinquent balance eligibility requirement is added, the total eligible pool drops from 115,055 to 26,277. The Company did not conduct an analysis of the impact of this requirement on its CAP/Smart Comfort pool.

Based on its CAP and Smart Comfort enrollment experience, the number of customers enrolling in CAP may be as low as 2,349; the number accepting Smart Comfort may be as low as 12,000.

Q. How does the Company respond to those parties who disagree with the Company's findings regarding the level of need?

A. Ms. Brockway and Messrs. Colton, Kuennen and Wilson suggest that the Company is not addressing the universe of need as they define it. Typically, they use census or other data sources to establish a much larger number of eligible customers based only on income criteria.

Neither the Competition Act nor the Guidelines for Universal Service and Energy Conservation Programs require that *all* customers with household income at or below 150% of the Federal poverty guideline be eligible for *all* universal service and energy conservation policies, protections, and services.

Section 2804 of the Competition Act requires that such activities be "appropriately funded and available in each distribution territory . . . subject to the administrative oversight of the Commission which will ensure that the programs are operated in a cost-effective manner."

The Commission's Guidelines specifically include "other non-income criteria" in the definition of eligibility. Accordingly, the Company has included such criteria to enable it to better target its resources and to maximize the likelihood of accomplishing its stated universal service goal. CAP eligibility, for example, requires a minimum balance, a 45% or greater expense to income ratio, and 12 months residency at the current address. Smart Comfort requires a range of daily use and a minimum number of payments in the year preceding service. A fuller discussion of eligibility criteria for Duquesne's universal service and energy conservation programs can be found in its Universal Service Plan, attached as Exhibit JPF - 1.

Q. How does the Company respond to those parties who disagree with the Company's findings regarding funding requirements?

A. Ms. Brockway and Messrs. Colton, Kuennen, and Wilson all call for significantly increased funding of Duquesne Light's universal service and energy conservation programs. Typically, this call is based on an excessively inflated estimate of the universe of need and program operating costs.

As stated above, the Company disagrees with an approach to estimating need based solely on income. Nowhere in the original CAP policy statement, the Competition Act, or the PUC's Guidelines on Universal Service and Energy Conservation is there an expectation that *all* low-income customers receive the complete range of "universal services." The standard is "appropriate" and "available" and that is what Duquesne Light proposes to meet.

The Company has established additional non-income criteria, which were approved by the PUC, for its two largest funded programs, Smart Comfort and CAP. It intends to continue using these criteria.

The Company's funding level for Smart Comfort was negotiated with the PUC. It has been sufficient to meet the number of customers seeking its assistance. There is no indication of a current need to raise the amount allocated for this program.

Similarly, CAP funding was based on an estimate of costs associated with the pilot. Operating costs, including write-offs, have been lower than estimated despite reaching full enrollment. In fact, the expansion of the program planned for the Spring of 1998 will not require an increase in the annual operating budget.

Other universal service programs are also sufficiently budgeted.

If the Company determines that the funding is insufficient to meet its universe of need, then it will approach the PUC and seek relief from the rate cap for the additional funds. At the current time, there is no indication that this step will be necessary.

Q. What steps will the Company take should it require additional funding for Universal Service and Energy Conservation Programs?

A. If the Company determines that it needs funds beyond those currently allocated for universal service and energy conservation programs, it will request that the PUC permit it to exceed the rate cap to recoup these costs.

Q. How does the Company respond to the description of its universal service proposal as "dramatically different in approach" and "risky?"

A. The Company is proud of the fact that its efforts are recognized as "dramatically different in approach." They are that way for a good reason -- the Company is

committed to finding ways to work with its low-income, payment troubled customers to enable them to maintain electric service while maximizing the revenue collected. This commitment to cost-effective program design was the basis for the redirection of the Company's successful Smart Comfort program from heating to baseload -- a change which itself was "dramatically different in approach" from all other electric utilities and an approach which is today being adopted by many if not all such utilities.

For too long, programs have been evaluated on "head count" criteria. The Company wishes to move from a "one size fits all" paradigm of program management to one which focuses its resources on the needs of individual customers. The approach outlined in our universal service plan does this.

As to risk, the Company does not accept the premise that CAP is a "tried and true" approach to assisting customers. The pilot which the Company began in 1995 has shown promise of delivering cost-effective results but neither it nor its evaluation is yet completed. If begun today, the pilot would be implemented differently. Controlled risk, i.e., risk with a potential upside, is part of doing business successfully.

The Company finds the three risks identified by Ms. Brockway on pages 11-12 of her testimony to be without merit.

First, she believes that the Company does not match its commitment to tailored customer services with an adequate budget commitment.

Response: Earlier, I described the Company's response to the issue of program funding. The Smart Comfort Program has for 5 years been customer focused, quality driven, and results oriented. The Company's approach to universal service will be similarly driven. Based on its needs assessment, the Company believes that the proposed budget is sufficient to deliver on its commitment.

Second, she believes that the failure to adopt target enrollment and benefit amounts leaves too much uncertainty about actual levels of CAP service under the Plan.

Response: In Section 2803 of the Act, "universal service and energy conservation" is defined as "policies, protections and services that help low-income customers to maintain electric service." (Emphasis added.)

Building on this definition and the PUC's goals found on page 42 of the Guidelines, the Company's goal is "to cost effectively ensure that low-income, payment troubled customers have access to affordable energy."

None of these goal statements implies or requires enrollment targets for any universal service and energy conservation policy, protection, or service.

In the listing of universal service and energy conservation programs in its Guidelines, the PUC identifies the Commission's Policy Statement at 52 Pa. Code § 69.261 et seq. (Customer Assistance Programs) *or other comparable program* (emphasis added) as a requirement. There are no required "target enrollment and benefit amounts." The Company has long supported this language as a way to permit continued development of alternative approaches to the issue of affordability and collectability.

CAP is a tool which works for some, not all "eligible" participants. There are numerous other approaches to establishing "affordable" payments. The Company intends to create "an array of services" aimed at "affordability." A CAP enrollment target does not guarantee more commitment to maintaining electric service than does the Company's goal.

Third, she believes that some of the concepts for "additional services" proposed in the Plan sound like punitive or counterproductive measures that degrade the quality of service a participant receives.

Response: The Company rejects the notion that its "additional services" are "punitive or counterproductive." Its goal, again, is "to cost-effectively ensure that low-income, payment troubled customers have access to affordable energy." It is committed to working with customers to establish "affordable payments." Nothing contained in its proposal is or will be administered in a "punitive or counterproductive" manner. That service limiters and pre-payment meters are disliked by some is not a reason for the Company to revise its proposal.

Earlier in her testimony, Ms. Brockway states that "(i)t is possible that Duquesne's holistic approach will be successful." She goes on to state that the "plan does not contain adequate assurances that it will be operated in such a way as to meet the objectives of the statute and the Commission's (final order)." Given the above view of risk, the Company is hard put to offer "adequate assurances." It should be remembered that the Company will be required to regularly report to, and its performance will be periodically reviewed by, the PUC. The Company simply believes that a fair reading of its plan and a review of its past practice would demonstrate its commitment to its stated goal and alleviate the concerns of most parties.

Q. How does the Company respond to the CAP program elements recommended by Ms. Brockway, on behalf of the Office of Consumer Advocate?

A. Beginning on page 29 of her testimony, Ms. Brockway identifies 13 program elements to be included in a CAP. Many of these, she acknowledges, are already incorporated in Duquesne Light's CAP plan. I will respond to each point she makes.

1. A copayment calculated to require only what is affordable, e.g., 5% of income from general use customers, and 8% of income from primary electric heating customers.

Response: The Company's pilot CAP, with PUC approval, offers 4 alternate payment plans -- percent of income, percent of bill, minimum payment, and average

annual payment. The first three are contained in the PUC's original CAP guidelines. The fourth recognizes that CAP participants should not necessarily be able to pay less in CAP than they paid in the year prior to enrollment. In addition, the Community Based Organization (CBO) enrolling the CAP applicant may propose an alternate payment if, in its judgment, none of the calculated payments is appropriate.

The Company believes that this approach provides adequate opportunities to establish "affordable" payment arrangements.

2. Optimal use of low-income community-based organizations for outreach, intake, and service delivery.

Response: Ms. Brockway acknowledges that this point is incorporated into Duquesne's plan.

3. Responsiveness to, and interaction with, participants in the CAP, particularly during the first year of any given program.

Response: Ms. Brockway acknowledges that this point is incorporated into Duquesne's plan.

4. Reasonable efforts to achieve a 50% participation rate of the eligible low-income households.

Response: Ms. Brockway sets an enrollment target of 24,000 households over three years. This number does not square with the Company's estimate of need. Rather, it is based on the number of customers which could be accommodated if the budget was set at 0.5% of gross operating revenues (a number for which she provides no further justification) and per customer costs matching those of the pilot's experience to date.

The issue here seems to be the definition of "eligible." The Company's needs assessment, using eligibility criteria approved by the PUC for its pilot, identified less

than 6,000 potentially eligible households. Given its experience in verifying eligibility and in customers' enrollment patterns, the Company estimates that about 2 in 5 will actually enroll, or about 40% of those eligible.

5. Overall CAP billing deficiency budget sufficient to meet the need.

Response: Again, it is asserted that the Company's budget cannot meet the need, though the "need" is undefined. Experience to date suggests that the combination of payments, energy assistance, and usage reduction has worked to constrain the amount of billing deficiency being written-off for CAP participants, including those who default. Until such time as the Company determines that its participant estimates are low, its budget estimates are reasonable. It sees no reason to adjust its budget to meet an undetermined future possibility which may not materialize.

6. Eligibility limited to customers with incomes at or below 150% of the Federal Poverty Guidelines.

Response: Ms. Brockway acknowledges that this point is incorporated into Duquesne's plan.

7. Targeted program offering and program to payment-troubled households among the eligible population.

Response: The Company is waiting for the results of its pilot impact evaluation to determine areas where it can better target its CAP. Another interim report is due to Duquesne Light in late January 1998. The final impact evaluation is due in 1999. When its results are available, the Company will review its customer targeting approach, and conduct another round of CAP enrollment in the Spring of 1998 based on lessons learned.

Regarding the concerns voiced by Ms. Brockway about the income to expense ratio and Duquesne's eligibility requirement for a $500 bill delinquency, it should again

be noted that these eligibility requirements were approved by the PUC. Their purpose was and is to target available resources to those with a demonstrated need.

The income to expense ratio is one of several approaches to priority setting endorsed by the PUC in its Guidelines. It has the advantage of treating a customer's electric bill as an important obligation, not as the last bill to be paid. Its virtually cost-free calculation is performed electronically within the Company's customer information system, is based on customer-provided information, and is available on-line to the CBOs implementing CAP. CBOs are able to verify customer income and expenses during the customer's enrollment visit. This verification results in an immediate recalculation of the income to expense ratio and the customer's CAP payment options.

The purpose of the $500 delinquency was to ensure continued eligibility for energy assistance payments, a key element in the cost-effective delivery of the program. Even as energy assistance eligibility requirements change, the screen is still useful to enable the Company to better target its resources.

CAP is not for everyone who is low-income. The Company believes other approaches may be more cost-effective when dealing with low delinquencies. It proposes to provide these under its approach to universal service. In fact, these alternative approaches may enable the Company to reach more customers than would CAP.

8. Coordination with effective LIURP services to achieve potential usage (and related bill) reduction via persistent savings measures.

Response: Ms. Brockway acknowledges that this point is incorporated into Duquesne's plan.

9. Benefits available regardless of the supplier of generation to the customers.

Response: Duquesne Light CAP participants who choose an alternate supplier will receive assistance in dealing with their non-generation electric charges. Like the PUC, we encourage alternate suppliers to develop and offer universal service programs for their low-income customers with their own resources.

10. Incentives for customers to maintain on-time, full payments of their copayment obligations.

Response: As indicated by Ms. Brockway, the Company offers frozen arrearage forgiveness for full and timely payments. It also writes off billing deficiency balances. However, the Company's believes that a $5 payment toward a customer's arrearage as part of a CAP payment is reasonable when it is included in a payment arrangement.

11. Advisory input from key stakeholders on an ongoing and effective basis.

Response: Ms. Brockway acknowledges that this point is incorporated into Duquesne's plan.

12. Coordination and cooperation with stakeholders in other service areas, to achieve cross-fertilization of design concepts and evaluation material, and efficiencies in service delivery.

Response: The Company has, and will continue to, support appropriate opportunities for the exchange of ideas. It will continue to work with its stakeholders, CBOs and the PUC to improve its universal service plan and the beneficial impact it has on its low-income, payment troubled customers.

It is important to note that such coordination and cooperation among "stakeholders in other service areas" is likely to become less frequent in an era of competition. Yesterday's colleagues are today's competitors. A company's approach to supplying quality customer service is becoming more and more proprietary as competition for customers increases.

13. Periodic evaluation against the goals of universal service.

Response: It was and is premature to file a detailed evaluation plan at this time. The Company agrees that an evaluation plan should be developed before new or expanded programs are implemented. This is the method it used when changing its approach to LIURP and when implementing its pilot CAP. The Company would hope, however, that this time, unlike with the pilot CAP, it is able to complete its evaluation before additional changes are mandated.

Q. How does the Company respond to the changes to its universal service program recommended by Mr. Colton, on behalf of the City of Pittsburgh, the Pittsburgh Branch NAACP, et al.

A. Mr. Colton is unclear in consistently identifying his "recommendations." At several locations in his testimony, he presents "recommendations" for "universal service" and for "LIURP." In Exhibit RDC-7, he provides a "Summary of Universal Service Recommendations" containing references to "universal service" and to "LIURP." However, not all recommendations are restated in the summary.

A basic difficulty with Mr. Colton's testimony is that he seems to equate "universal service" with CAP, or rate affordability, but does not include LIURP or other appropriate policies, protections, or services in his definition. It is more commonly accepted that "universal service and energy conservation" programs encompass the list found on pages 29-30 of the Commission's Final Order Re: Guidelines for Universal Service and Energy Conservation Programs.

"Universal Service and Energy Conservation" is defined in the statute as:

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 services 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. (Punctuation added.)

It is upon this definition that the Company has built its approach to "universal service."

I will respond to the list of recommendations contained in Exhibit RDC-7. In doing so, I am not necessarily agreeing to any other recommendations which may be found elsewhere in Mr. Colton's testimony.

1. Define universal service as affordable service for all customers, including low-income customers.

Response: Neither the Electric Generation Customer Choice and Competition Act nor the Guidelines for Universal Service and Energy Conservation Programs require that all customers with household income at or below 150% of the Federal poverty guideline be eligible for all universal service and energy conservation policies, protections, and services.

Section 2804 of the act requires that such activities be "appropriately funded and available in each distribution territory . . . subject to the administrative oversight of the Commission which will ensure that the programs are operated in a cost-effective manner." The Commission's Guidelines specifically include "other non-income criteria" in the definition of eligibility.

As described earlier in my testimony, the Company's universal service goal and its eligibility criteria are consistent with the Act and the Guidelines and do not need to be changed.

2. Define "affordable" service as having two components, including an "absolute" component and a "relative" component.

Response: The Company's pilot CAP, with PUC approval, offers 4 alternate payment plans -- percent of income, percent of bill, minimum payment, and average annual payment. The first three are contained in the PUC's original CAP guidelines. The fourth recognizes that CAP participants should not necessarily be able to pay less in CAP than they paid in the year prior to enrollment. In addition, the CBO enrolling the CAP applicant may propose an alternate payment if, in its judgment, none of the calculated payments is appropriate.

The Company believes that this approach provides adequate opportunities to establish "affordable" payment arrangements which enable low-income customers to "have enough" electricity and "to bear the cost without serious detriment."

3. Adopt an "income supplement" component to the rate affordability program, including implementation of a BOSS system and implementation of an EITC promotion.

Response: This concept is worthy of further review. The BOSS system appears to systematize referrals to other social service support. Whether it actually provides an "income supplement" appears to lie in the definition. The Company currently relies upon the CBOs engaged in Smart Comfort and CAP to make appropriate referrals of customers to other sources of support.

Similarly, Duquesne relies upon CBOs to remind program participants of the opportunity to apply for the EITC. An expansion of Duquesne's EITC efforts into a larger campaign will be considered.

4. Adopt an expansion of the company's rate affordability program, to be funded at $14.750 million.

Response: As discussed elsewhere in this testimony, the Company does not believe that funding proposals which require set levels of dollars or persons in each program are appropriate.

5. Contract administration of the universal service program to a non-profit community-based organization.

Response: Mr. Colton has not given any valid reason to accept this proposal. In fact, on page 16 of his testimony, he answers, "No" when asked "So you are not criticizing the structure or operation of the Duquesne Light Smart Comfort Program?" The same management team leading that effort also leads CAP, the apparent equivalent of "universal service." The use of CBOs will continue as long as they remain cost-effective means of delivering these services.

Although not contained in his summary, Mr. Colton's proposed creation of a LIURP Oversight Committee does require comment. As part of its Universal Service Plan, the Company will create an advisory committee to assist in the design, implementation, and evaluation of its universal service activities. It will not, however, turn over program management approval authority to a third party as recommended by Mr. Colton.

6. Maintain CARES and Hardship Fund efforts at existing funding levels, provided that Duquesne shareholders continue their existing level of matching funds for the Hardship Fund.

Response: Duquesne has already addressed this concern. In the November 3, 1997 filing of its proposed universal service plan, the Company indicated its commitment to continue funding CARES at current levels and to maintain its Dollar Energy Fund contribution at present levels at least through 1998.

7. Adopt an expansion of the company's LIURP efforts, to be funded at 0.20% of total gross revenues ($2.214 million).

Response: As discussed elsewhere in this testimony, the Company does not believe that funding proposals which require set levels of dollars or persons in each program are appropriate.

8. Make an explicit tie between LIURP and the rate affordability program, by automatically referring all high use participants in the rate affordability program for LIURP treatments.

Response: The Company has already begun efforts to strengthen the linkage between its Smart Comfort and CAP efforts. CAP participants are referred to Smart Comfort for appropriate in-home service. CAP and Smart Comfort staff meet regularly to discuss better ways of targeting their individual efforts in contacts with CAP participants. They have also observed each other's customer interactions. This interaction will continue under universal service.

9. Assure personal follow-up with high use rate affordability participants to ensure that those de facto electric heating or water heating cases are receiving the services they need in order to get their central heating or water heating restored.

Response: Both the Company's CAP and Smart Comfort programs contain provisions for regular follow-up with its participants. This will continue into the future.

10. Incorporate a renewable pilot project as part of the company's LIURP efforts.

Response: As discussed in its universal service plan, the Company will investigate new technologies that appear promising, but will not include a renewable pilot program at this time.

11. Adopt the recommended 11-part consumer education program.

Response: The Company's response to this proposal will be found in Mr. Hoffmann's rebuttal testimony.

Q. How does the Company respond to the recommendation of Mr. Wilson, on behalf of the Community Action Association of Pennsylvania, to establish separate budgets for Electric Competition Consumer Information and Customer Assistance, Training and Technical Assistance, and Research and Development?

A. Mr. Wilson, at page 7 of his testimony, sets the stage for his argument to establish these funding categories when he discusses the need for DQE to fund and provide "these programs . . . through the same agencies that provide existing low income energy services." Later on the same page he speaks of "the network of independent low income assistance agencies."

Duquesne Light delivers its Smart Comfort and pilot CAP programs through CBOs which are *not* part of this network. Our success in both programs comes from the emphasis we place on continued communication, training, and exploration of new approaches and technologies with our Smart Comfort and CAP contractors, the vast majority of whom are not part of Mr. Wilson's "network." The strength of the Company's low-income assistance programs, in fact, lies in its close and continuing working relationship with those contractors who support its efforts.

The Company will not establish separate budgets as suggested by Mr. Wilson. Rather, it will continue to provide the resources to enhance the capability of its internal and external staff.

Q. How does the Company respond to the recommendations of Mr. Muench, on behalf of Enron Power Marketing, Inc., regarding the portability and pro-rata allocation of universal service support to each component of a low-income customer's electric bill?

A. I note that Mr. Colton also supports "portability." The Company believes that the observations of both Mr. Muench and Mr. Colton are based on a misconception about the source of "universal service support." This "support," e.g., program operating costs and frozen arrearage and billing deficiency write-offs, comes from Duquesne Light's ratepayers and shareholders. Further, on page 40 of its Guidelines, the PUC has determined that "Universal service and LIHEAP benefits should be assigned to the EDC." Finally, absent a contrary determination by the PUC, the Company will

be the provider of last resort. Therefore, there is no basis for any "pro-rata allocation" of this support.

Nor is there any "support" which is portable. The Company's low-income customers who choose an alternate electric supplier will continue to incur transmission and distribution costs. The Company will continue to offer them an opportunity to participate in its universal service and energy conservation programs.

Should an alternate supplier wish to assist low-income customers to pay the generation portion of their bill, then that alternate supplier may wish to establish its own universal service and energy conservation programs with its own resources.

Q. How does the Company respond to the recommendation of Mr. Yarolin, on behalf of the Office of Trial Staff, that the universal service charge be shown as a separate line item on the customer's bill?

A. I note that Mr. Colton takes an opposite position on the issue of separating the charge as a line item on the bill. The Proposed Rulemaking Order Re: Customer Information Disclosure for Electricity Providers, 52 Pa. Code, Chapter 54, Docket No. L-00970126, defines Distribution Charges as follows:

Basic service charges for delivering electricity to the home or business. These charges include basic service under section 56.15(4) (relating to Billing Information) and universal service.

Therefore, Duquesne proposes to include universal service charges in the bundled Distribution Charge consistent with this proposed rulemaking.

Q. How does the Company respond to the comments or recommendation of Ms. Brockway and Messrs. Colton and Yarolin on the appropriate method for charging and collecting the universal service charge?

A. The Company's desired approach to collecting the universal service charge is by rate class on a per kWh basis based on allocated distribution costs for each rate class.

Ms. Brockway has her own preferred alternative but states that the Company's proposal "would appear not to be inconsistent with the Commission's directives in the *Final Order.*"

Mr. Colton asserts that the Company should recover its costs "through distribution charges" which should "remain bundled." The Company's approach is based on distribution costs and I agree that it should remain bundled.

Mr. Yarolin prefers that the charge be collected as a fee on a per customer basis rather than cents/kWh. While operationally simple, the Company does not believe that this approach is the most equitable way of distributing or sharing the costs of universal service. The effect would be to have a low-income family and a major corporation making the same monthly payment. Therefore, there is no reason to change Duquesne's proposed method of charging and collecting the universal service charge.

Q. How does the Company respond to those calling for it to initiate renewable energy projects, particularly photovoltaic demonstration projects?

A. In its discussion of its Final Order establishing the Guidelines for Universal Service and Energy Conservation programs, the Commission states that it "will include language to allow for pilots" but "will not require the inclusion of any particular renewables program." The Company concurs with this permissive approach.

As to the specific photovoltaic proposal propounded by Ms. Brockway, the Company does not believe that its universal service goal is furthered by the expenditure of moneys on a technology which, by the proponent's own analysis, is not cost-effective and which has a payback more than 3 times that of its current efforts. It is worth

noting that 1995 meteorological data for the Greater Pittsburgh Airport shows that Pittsburgh, well known as a cloudy city, received 42% possible sunshine, meaning that it was cloudy 58% of the time. With so little sunshine in the Pittsburgh area, a photovoltaic demonstration has little likelihood of being successful, let alone being cost-effective.

Q. Does this conclude your rebuttal testimony?

A. Yes, it does.

Exhibit JPF - 1

DUQUESNE LIGHT COMPANY
Universal Service and Energy Conservation Programs

I. INTRODUCTION

A. Legislative and Regulatory Requirements

In The Electricity Generation Customer Choice and Competition Act, the General Assembly found and declared that:

> The Commonwealth must, at a minimum, continue the protections, policies and services that now assist customers who are low-income to *afford electric service*. (Emphasis added.)

Later in the Act, the General Assembly said:

> The public 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.

Still later, the General Assembly defined Universal Service and Energy Conservation as:

> 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 services 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. (Punctuation added.)

Finally, the General Assembly charged the Pennsylvania Public Utility Commission (PUC) with ensuring "that universal service and energy conservation policies, activities and services are *appropriately funded and available* in each electric distribution territory (emphasis added).

The PUC issued its Final Order Re: Guidelines for Universal Service and Energy Conservation Programs on July 11, 1997. In these Guidelines, the Commission put forth its goals, its requirements in implementing the above legislative mandates, and the general structure for electric distribution companies to follow in submitting their universal service and energy conservation programs plan.

The PUC's goals, as found in the Guidelines, are:

> To protect low-income consumers (sic) health and safety by ensuring that electric service is available;
> To provide for affordable service by making available payment assistance to low-income customers;
> To assist low-income consumers conserve energy and reduce residential utility bills; and
> To ensure that universal service and energy conservation program components are cost-effective.

Against this backdrop, Duquesne Light submits its Universal Service and Energy Conservation Programs plan.

B. Duquesne Light Company Overview

The Company has been and will continue to be a leader in providing customer-focused, quality-driven, results-oriented universal service and energy conservation programs in a cost-effective manner. This commitment is best demonstrated by its award winning Smart Comfort program.

> The goal of the Company's universal service and energy conservation programs is: to cost-effectively ensure that low-income, payment troubled customers have access to affordable energy.

To achieve this goal, the Company will work with eligible customers to establish affordable payment arrangements which maintain electric service and move them toward self-sufficiency in paying their electric bill.

We continue to believe that to be meaningful universal service[1] should impose both a requirement on the electric distribution companies (EDC) "to offer assistance" and a responsibility on customers "for wise consumption and prompt payment." This is particularly true because the universal service charge is non-bypassable and will be paid by all low-income customers. We are encouraged, therefore, by the PUC's assertion that "the consequences of nonpayment should be loss of service."

We will meet the unique needs of individual low-income, payment troubled customers by providing an array of services rather than limiting our solutions to prescribed, one size fits all programs.

At Duquesne Light, we recognize that customers are not easily divisible into "programs" and have begun to combine the efforts of our Smart Comfort program with those of our pilot Customer Assistance Program (CAP). We have attempted to offer our low-income, payment troubled customers appropriate "services" to deal with their unique situation. We will continue to emphasize holistic solutions to customers' problems, not achieving enrollment targets in specific programs.

In the following sections of this paper, we will identify Duquesne Light's existing policies, protections, and services; provide an assessment of the expected needs for the identified services; identify existing funding; and discuss Duquesne Light's approach to meeting the legislative and regulatory requirements for providing universal service.

II. DETAILED ITEMIZATION OF EXISTING POLICIES, PROTECTIONS AND SERVICES

In addition to the following universal service programs, all customers, including those who are low-income and payment troubled, receive the appropriate protections of Chapter 56. We will continue, though perhaps with modification, all of these universal service activities. The primary delivery vehicles for all these services have been community-based organizations (CBOs). We will continue to use CBOs as long as they remain a cost-effective means of service delivery.

A. Pilot Customer Assistance Program

Duquesne Light is in the third year of its pilot CAP. The pilot program targets customers who have been a resident at their current address for one year, have gross household income less than 150% of the

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[1] Through the remainder of the paper, unless specified otherwise, "universal service" includes energy conservation programs.

poverty level, have housing expenses more than 45% of their gross income, and have at least a $500 arrearage on their electric bill. In this pilot, the customer's arrearage at the time of enrollment will be written off over three years if the customer makes full and timely monthly payments. The program also helps the customer to lower electric consumption so that at the end of the program the customer can have an affordable electric bill.

Funding--$550,000/year

Participant level--1,600

B. CARES

The purpose of Duquesne Light's *HELP Program* (CARES) is to assist payment troubled customers and customers with special needs obtain necessary social service support and assistance. The program targets customers whose income is less than 150% of the poverty guidelines and senior citizens, although no needy customer will be turned away. The goal is to have an outreach worker or community agency act as an intermediary between the customer and the Company in an effort to link the customer to the necessary social service programs that will enhance the customer's ability to pay for electric service. An outreach worker contacts referred customers and, if necessary, makes a home visit to the customer. Referrals are made by Duquesne Light, other utilities, community based agencies, the PUC, and word of mouth.

Funding--$60,000/year

Participants--approximately 4,500/year

C. Smart Comfort

Smart Comfort is Duquesne Light's low-income usage reduction program (LIURP). It targets customers who have been a resident at their current address for one year, whose gross household income is less than 150% of the poverty level, and whose electric usage is 125% above the average customer usage. This program evolved from strictly weatherization to an "end use" strategy. As such, reduction measures include cost effective appliance and lighting replacements.

Funding--$700,000/year

Participants--approximately 700/year

D. Hardship Fund

Duquesne Light's hardship fund is a partnership with the Dollar Energy Fund.

Funding--The company's stockholders match customer contributions up to $325,000 annually. In addition, the Company contributes 10% of the total contributions ($65,000 in 1996) to provide administrative support.

Participants--approximately 2,500/year

E. Consumer Credit Counseling Service

Duquesne Light has contracted with Consumer Credit Counseling Service (CCCS) to provide counseling and debt management support to our customers who are in serious financial trouble. The program offers free help to debt-troubled consumers to rehabilitate their finances and assists the Company in maintaining customer loyalty and avoiding losses to charge-off or bankruptcy.

Funding: $6,000

Participants--approximately 710/year

F. New Requirements

As stated in the Guidelines, the Act introduces three additional efforts: provider of last resort, renewable resources, and consumer education.

1. Provider of Last Resort

Duquesne Light will fill this role by default unless the PUC approves an alternate provider of last resort. We expect that low-income, payment troubled customers will be afforded the opportunity to obtain electricity from alternate suppliers like all other customers. Should they cease obtaining electricity from an alternate supplier, we will sell them electricity until such time as they choose another alternate supplier.

2. Renewable Resources

Duquesne Light has no existing renewable resource programs in place nor does it have plans for any at this time. As we continually look for new technologies for our Smart Comfort program, we will explore such approaches if we determine there is a likelihood of successfully integrating them into our energy conservation programs.

3. Consumer Education

Participants in Duquesne Light's universal service programs have been permitted to enter the customer choice pilot[2] and will be permitted to choose alternate generation suppliers when retail choice is phased in for all customers beginning in 1999. We will use CBOs to explain the options and decisions necessary to fully participate in choice.

Our basic outreach strategy with universal service participants will be to utilize points of individual contact to answer questions and explain the options available to them. As appropriate we will use multi-lingual communication and other targeted educational opportunities.

III. NEEDS ASSESSMENT

We have used DISCuS, our customer information system, as the source of information in conducting our needs assessment.

We initially ran three queries: the total population which is low income and payment troubled as defined in the Guidelines; the subset of the total population which meets existing CAP eligibility criteria; and the subset of the total population which meets existing Smart Comfort eligibility criteria. Later, we asked for data on low-income, payment troubled customers with a current balance equal to or greater than three times their average bill.

These are the results of that assessment. Please note that the initial table showing a potential universal service customer pool of 115,055 is based on the Guidelines' definition of low-income (at or below 150% of the federal poverty guideline) and payment troubled (a customer who has failed to maintain one or more payment arrangements.) This number includes customers who are and have been current but who, at one time, broke a payment arrangement with us.

We currently have 25,413 active low income customers who are delinquent. It is from this customer pool that universal service participation should and is most likely to come.

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[2] Thirteen were chosen in the lottery.

Total Low-Income, Payment Troubled Customers								
Poverty Level	# Eligible Customers	Annual Bills ($000)	Annual Payments ($000)	Annual Energy Asst Payments ($000)	Current Account Balance ($000)	Current Arrearage Balance ($000)	Annual Electric Usage (000 kWh)	Daily Electric Usage (kWh)
0-50%	68,221	58,117	48,610	1,029	14,659	9,638	434,237	17
51-100%	24,733	20,242	16,353	775	12,857	11,013	152,244	17
101-150%	22,101	19,040	16,696	216	9,700	7,921	144,178	18
Total	115,055	97,399	81,659	2,020	37,216	28,572	730,659	
Low-Income, Payment Troubled Customers with a Current Account Balance equal to or greater than 3 times the average bill								
Poverty Level	# Eligible Customers	Annual Bills ($000)	Annual Payments ($000)	Annual Energy Asst Payments ($000)	Current Account Balance ($000)	Current Arrearage Balance ($000)	Annual Electric Usage (000 kWh)	Daily Electric Usage (kWh)
0-50%	9,129	7,011	4,238	648	9,210	8,542	51,193	15
51-100%	9,858	8,309	5,892	480	11,220	10,411	62,549	17
101-150%	7,290	6,339	5,130	139	7,900	7,272	47,868	18
Total	26,277	21,659	15,260	1,267	28,330	26,225	161,610	
CAP Eligible (from Total Eligible Count)								
Poverty Level	# Eligible Customers	Annual Bills ($000)	Annual Payments ($000)	Annual Energy Asst Payments ($000)	Current Account Balance ($000)	Current Arrearage Balance ($000)	Annual Electric Usage (000 kWh)	Daily Electric Usage (kWh)
0-50%	2,255	2,284	1,532	248	3,639	3,425	17,063	21
51-100%	2,294	2,313	1,801	183	3,811	3,589	17,921	21
101-150%	1,182	1,227	1,045	48	1,864	1,741	9,328	22
Total	5,731	5,824	4,378	479	9,314	8,755	44,312	
Smart Comfort Eligible (from Total Eligible Count)								
Poverty Level	# Eligible Customers	Annual Bills ($000)	Annual Payments ($000)	Annual Energy Asst Payments ($000)	Current Account Balance ($000)	Current Arrearage Balance ($000)	Annual Electric Usage (000 kWh)	Daily Electric Usage (kWh)
0-50%	12,119	12,268	10,689	235	3,204	2,107	99,456	22
51-100%	4,644	4,715	4,083	210	3,192	2,754	37,712	22
101-150%	4,463	4,552	4,204	59	2,270	1,839	36,706	23
Total	21,226	21,535	18,976	504	8,666	6,700	173,874	
Eligibility is based on income as reported/verified and the PUC's definition of 'payment troubled,' i.e. having had at least one broken payment arrangement.								

In filling our pilot CAP, we found that only 41% of customers referred to a CBO actually enrolled in the program. Nearly 2 in 5 of those referred, expressed no interest or failed to keep an appointment. 1 in 5 were rejected for being over income or having an income to expense ratio below that required.[3]

[3] In initially determining eligibility, we used the income provided by the customer in their last contact with the company. To enroll a customer, the CBO actually verified income and expenses,

Similarly, in Smart Comfort we find that we must schedule 50 appointments to visit 30 customers. Keeping in mind that this is a voluntary program usually unrelated to immediate payment problems, the 21,226 potentially eligible customers might produce approximately 12,000 visits.

As warranted, we will phase-in program expansion over the three years in which choice is introduced to our customers. We will modify eligibility requirements and administrative procedures as we continue to learn from our implementation experience and evaluations.

IV. CURRENT UNIVERSAL SERVICE AND ENERGY CONSERVATION EXPENDITURES

Duquesne Light is committed to maintaining existing funding support for universal service programs as directed in The Electricity Generation Customer Choice and Competition Act. In 1996, approximately $12,275,000 was allocated for these programs and is the amount which will be recovered in the non-bypassable universal service charge. The 1996 budget and actual expenditures are shown below.

Universal Service and Energy Conservation Policy, Activity, and Service		
Policy, Activity, and Service	**1996 Budget**	**1996 Actual**
Pilot Customer Assistance Program[4]	$550,000	$385,163
CARES	$60,000	$59,538
Smart Comfort (LIURP)	$700,000	$788,460
Hardship Funds--Administration	$65,000	$65,000
Low Income Collection Costs, including labor [5]	N/A	$5,000,000
Low Income Write-offs [6]	N/A	$5,804,226
Consumer Credit Counseling Services	$6,000	$6,335

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catching any discrepancies.

[4] Expenses include, but are not limited to program start-up, labor, equipment, programming and evaluation costs. Billing deficiency write-offs are included here. Frozen arrearage write-offs are included below in Low-income write-offs.

[5]The amount expended for low income collections is part of the overall collection budget. Duquesne Light does not divide the budget into low-income vs. non-low-income. Based on this, the listed funding amount is estimated in a manner similar to the Equitable Gas top down approach which is recommended in the Final Order on Universal Service and Energy Conservation Programs. The $5,000,000 includes allocated expenses such as mainframe computer operation time, building rents, utilities, etc. These amounts may not be available to fund other programs. All Duquesne Light labor costs associated with supporting all of the listed low income programs, except Smart Comfort and CAP, are included in this number.

[6] Budgeted write offs are based on actual write offs in prior years. Write offs associated with low income customers is not a criteria for budgeting future expected write offs. Based on this, Duquesne Light is unable to provide this data.

V. UNIVERSAL SERVICE AND ENERGY CONSERVATION PROGRAMS OPERATIONS

A. Overview

The Company is committed to continuing to provide customer-focused, quality-driven, results-oriented universal service programs in a cost-effective manner.

The goal of our universal service and energy conservation programs is:

> To cost-effectively ensure that low-income, payment troubled customers have access to affordable energy.

To achieve this goal, the Company will work with eligible customers to establish affordable payment arrangements which maintain electric service and move them toward self-sufficiency in paying their electric bill.

Universal service programs are not for everyone. Generally, they will be targeted to low-income, payment troubled customers. These people will generally have gross household income at or below 150% of poverty and have at least one broken payment arrangement, as defined in the Guidelines.

We do not intend to offer stand alone programs,i.e. our goal is not to achieve an enrollment target for a given program. Rather, we will attempt to build a bridge that enables an eligible customer to move out of a collection mode and become a regular paying customer.

To be meaningful, universal service should impose both a requirement on the EDCs "to offer assistance" and a responsibility on customers "for wise consumption and prompt payment." This is particularly true because the universal service charge is non-bypassable and will, therefore, be paid by all low-income customers. Like the PUC, we believe that "the consequences of nonpayment should be loss of service."

Universal service participants must learn that failure to maintain their agreement will result in swift and sure consequences, following the procedures in Chapter 56, including termination of service with a full catch-up payment and, potentially, a security deposit needed to restore service. The PUC, then, will be a partner in this process by affirming through its actions its statement that "the consequence of nonpayment should be the loss of service." Customers must know that universal service policies, protections, and services are the "best game in town" and that failure to maintain an agreement will be not be supported by the PUC.

We further believe that the best way to meet the unique needs of individual low-income, payment troubled customers is by providing an array of services rather than limiting solutions to prescribed, one size fits all programs. However, when we work with customers to meet their unique needs, we expect the customers to fully participate and work toward self-sufficiency,i.e. the ability to make a full, affordable payment for their electric service.

In meeting with community-based stakeholders, an overriding concern of theirs was that we not make customers dependent on us for assistance. Rather, they asked that we provide improved communications and training for them so they can work with customers to move them toward self-sufficiency.

At Duquesne Light, we have begun to increase the impact of our Smart Comfort and pilot CAP activities by combining their efforts in recognition of the fact that our customers are not easily divided into "programs." We have attempted to offer them the appropriate "services" which deal with their unique situation. We will

continue to emphasize holistic solutions to customers' problems rather than enrolling numbers in specific programs.

B. An Array of Services

Duquesne Light will establish an array of services to enable its staff and supporting CBOs to work with individual customers to meet their individual needs in establishing and making regular, affordable payments to maintain electric service.

Existing services will form the foundation of the array. We will monitor enrollment and performance as we do currently. Our purpose, however, will be to blend the impact of the services to maximize benefits to the customer and the Company rather than fill slots in a program. Similarly, we will blend universal service funding into one operating fund from which services will be supported.

We expect to build upon the experience we are gaining in the integrated delivery of CAP and Smart Comfort as we go forward into the competitive future.

C. Duquesne Light Policies, Protections, and Services

1. Policies

It is the general policy of Duquesne Light Company to work with low-income, payment troubled customers to enable them to maintain electric service by making affordable payment arrangements. Such payment arrangements will be based on the customer's household income and will require the customer's active participation in controlling their electric use and obtaining available energy assistance grants.

Universal service programs have been and will continue to be designed to assist low-income, payment troubled customers to maintain electric service. The way into these programs will be through an effort to make affordable payments. These programs will not be available merely on the basis of income but will be used to make electricity affordable, to return customers to a "current" state as soon as possible, and/or to head-off a customer's payment problems before they occur.

2. Protections

Low-income, payment troubled customers, like all customers, are covered by Chapter 56 and will receive the appropriate protections contained therein. Continued participation in any universal service program offered by Duquesne Light will require the customer's active participation and maintenance of all agreements. As suggested by the PUC, the consequence of nonpayment may be loss of service.

3. Services

a. Basic Existing Services

The three primary universal service programs i.e. CAP, CARES, and LIURP (Smart Comfort) will continue and be funded at current levels. Modifications will be made as appropriate to increase and/or re-target their beneficial impacts.

We will offer CAP and Smart Comfort as part of an integrated effort to enable eligible customers to maintain electric service. We will monitor, evaluate, and report on performance but will not strive to enroll a target number in any one program. We will attempt to maximize the positive impact of these programs on as many customers as possible, recognizing that customers do not usually have easily compartmented energy problems.

We are committed to current funding of our Dollar Energy Fund partnership through 1998. Future funding will depend on business conditions at that time.

b. Potential Opportunities

Duquesne Light will continue its efforts to identify new services and programs which will enable its low-income, payment troubled customers to make affordable payments for the electric service they use.

Examples may include matching programs which more rapidly reduce arrearage balances or creative payment arrangements which recognize temporary customer problems. Our intent is to take into account a customer's past performance with us while finding ways to increase revenues collected and reducing collection costs.

In addition, we will continue to explore the introduction of new energy conservation measures and may choose to explore alternate metering or usage control devices which will help make the customer's payment for electric service more affordable.

D. Program Operations

To maximize the beneficial impact of universal service programs, Duquesne Light will continue to augment the efforts of its own staff with those of CBOs.

Customer service representatives will be trained in the programs' costs, benefits, and targeted audience. These representatives will take time with the customers to better understand their needs in order to offer those services which will enable the customer to have and maintain an affordable payment for electric service.

CBOs will verify income and expenses for any customer receiving service resulting in a payment which is less than the current bill.[7] They may be involved in the direct delivery of some programs e.g. Smart Comfort. They will provide case management support to customers enrolled in CAP who choose to select alternate generation suppliers and refer universal service participants to other social service agencies and forms of assistance.

E. Cost Recovery

The following table identifies the universal service charge per kWh for each rate class under Duquesne's current tariff. The charges were calculated based on the allocated distribution costs for each rate class. Rate classes GS/GM, GMH, GLH, GL and L pertain to both commercial and industrial class customers. Rate class HVPS pertains to industrial customers.

Rate Class	Description	Charge per kWh
RS	Residential Service	$0.0018
RH	Residential Service Heating	$0.0014
RA	Residential Service Add-On Heat Pump	$0.0014
GS/GM	General Service Small and Medium	$0.0011
GMH	General Service Medium Heating	$0.0010
GLH	General Service Large Heating	$0.0005
GL	General Service Large	$0.0005

[7] A current bill includes the budget payment plan.

L	Large Power Service	$0.0005
HVPS	High Voltage Power Service	$0.0003
AL	Architectural Lighting	$0.0013
SE	Street Lighting Energy	$0.0047
MTS	Municipal Traffic Signals	$0.0010
SM	Street Light Municipal	$0.0093
SH	Street Lighting Highway	$0.0028

F. *Reporting and Evaluation*

Duquesne Light will provide appropriate bi-annual reports to the PUC. Similarly, we will meet the required evaluation guidelines.

G. *Advisory Panels*

In developing this plan, we sought the assistance of CBOs in our service territory. Some of them have worked with us in CAP and Smart Comfort; others have not. We will establish an advisory panel made up of similar organizations, customer representatives, and Company staff to advise us on the scope, design, and administration of our universal service programs.

VI. CONCLUSION

Duquesne Light will continue to be a leader in the development and delivery of universal service to low-income, payment troubled customers.

We will continue to fund universal service policies, protections, and services at current levels.

Our goal is to cost-effectively ensure that low-income, payment troubled customers have access to affordable energy. To achieve this goal, the Company will work with eligible customers to establish affordable payment arrangements which maintain electric service and move them toward self-sufficiency in paying their electric bill.

We will expect participating customers to use electricity wisely and to make prompt and full payments. Failure to comply with our programs' requirements will return a customer to routine collections procedures with the real likelihood of termination of service for failure to maintain a payment arrangement. In this, we will expect the support of the PUC in affirming its position that "the consequences of nonpayment should be loss of service."