

ORIGINAL



City of Pittsburgh

Department of Law

Tom Murphy
Mayor

Jacqueline R. Morrow
City Solicitor

January 8, 1998

VIA EXPRESS U.S. MAIL DELIVERY

RECEIVED

James J. McNulty
Prothonotary
Pennsylvania Public Utility Commission
P. O. Box 3265
North Office Building
Harrisburg, Pennsylvania 17105-3265

JAN 8 1998

PA PUBLIC UTILITY COMMISSION
PROTHONOTARY'S OFFICE

**RE: Application of Duquesne Light Company for Approval of a Restructuring Plan (Under Section 2806 of the Pennsylvania Public Utility Code);
Docket No. R-00974104**

Dear Mr. McNulty:

In accordance with Section 1 of the Sixth Interim Order of Administrative Law Judge John H. Corbett, Jr., presiding official in the above-captioned matter, please find enclosed for filing, on behalf of the City of Pittsburgh, Pennsylvania, two (2) copies of the City's testimony and exhibits (City Statement No. 1 and City, *et al.*, Statement No. 2) in the above-captioned proceeding. **N.B.:** Please note that City Statement No. 2 is being filed on behalf of the City of Pittsburgh, as well as three other parties to this proceeding: the Pittsburgh Branch of the National Association for the Advancement of Colored People ("Pittsburgh NAACP"), the Low-Income Advocate Parties, and Citizen Power, Inc.

As directed at Section 1, paragraph (g) of Judge Corbett's abovementioned Order, the testimony and exhibits are accompanied by a copy of the First Joint Stipulation as provided and signed by counsel for the Duquesne Light Company, duly executed by the undersigned, on behalf of the City of Pittsburgh.

Thank you,

DOCUMENT
FOLDER

Sincerely,

Rodney R. Akers
Assistant City Solicitor

41

Enclosures

CC: The Honorable John H. Corbett, Jr. (w/ Stipulation only)
Parties of Record (w/ Stipulation only)

ORIGINAL

RECEIVED

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

JAN 8 1998

PA PUBLIC UTILITY COMMISSION
PROTHONOTARY'S OFFICE

Pennsylvania Public Utility)
Commission,)

v.)

Docket No. R-00974104

Duquesne Light Company)
Application to approve)
restructuring plan pursuant)
to 66 Pa. C.S. § 2806(d))

FIRST JOINT STIPULATION

Pursuant to an agreement of all parties to this case and as required by the Sixth Interim Order issued by the Presiding Judge on December 30, 1997, Duquesne Light Company ("Duquesne") and the intervenor parties hereby agree and stipulate to the following:

1. Each party to this Stipulation agrees that the testimony and exhibits itemized on the Stipulation Exhibits attached hereto shall be admitted into the record of this case.

2. Each party to this Stipulation agrees to waive its right to cross-examine the witnesses sponsoring the testimony and exhibits itemized on the Stipulation Exhibits attached hereto.

DOCKETED

JAN 15 1998

**DOCUMENT
FOLDER**

3. Each party to this Stipulation agrees to execute a copy of this Stipulation by causing counsel of record for each party (or the party itself if that party is unrepresented by counsel) to place its signature on the appropriate line below. Each party further agrees to file an executed version thereof with the Commission's Secretary and Prothonotary at the time it submits two copies of its testimony and exhibits to the Secretary and Prothonotary, as prescribed by the Sixth Interim Order.

Counsel for Duquesne Light:



 John S. Moot

Counsel for Intervenor Party:



 Rodney R. Akers

Name of Intervenor Party:

CITY OF PITTSBURGH

Dated: January 7, 1998

**FIRST JOINT STIPULATION
INDICES OF TESTIMONY & EXHIBITS**

<u>Exhibit No.</u>	<u>Description</u>
1	City of Pittsburgh
2	Duquesne Industrial Intervenors (DII)
3	Enron Power Marketing, Inc. (ENRON)
4	Environmentalists (ENV)
5	Hospital Shared Services & Administrative Resources, Inc. (HSS/ARI)
6	International Brotherhood of Electrical Workers (IBEW)
7	Mid-Atlantic Power Supply Association (MAPSA)
8	New Energy Ventures (NEV)
9	Office of Business Advocate (OSBA)
10	Office of Consumer Advocate (OCA)
11	Office of Trial Staff (OTS)
12	Pennsylvania Retailers Association (PRA)

**FIRST JOINT STIPULATION
EXHIBIT NO. 1**

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

DUQUESNE LIGHT COMPANY

**Application of Duquesne Light Company
for Approval of a Restructuring Plan
Under Section 2806 of the Public Utility Code
Docket No. R-00974104**

**CITY OF PITTSBURGH
INDEX OF TESTIMONY AND EXHIBITS**

Exhibit	Brief Description
City Statement No. 1	Direct Testimony of Christopher D. Seiple (addressing issues pertaining to the Company's general overview/recovery plan and stranded costs).
City Exhibit No. 1	Resource Data International Background & History.
City Exhibit No. 2	RDI Market & Competitor Intelligence
City Exhibit No. 3 (incl. Tables 1-3)	Capacity Factor Analysis
City Exhibit No. 4	Delivered Output Analysis
City Exhibit No. 5	Early Plant Shutdown Savings Analysis
City of Pittsburgh, <i>et al.</i> Statement No. 2	Direct Testimony of Roger D. Colton (addressing issues pertaining to universal service, low income programs, energy conservation, consumer education, and phase-in).
Exhibit RDC-1	Resume of Roger D. Colton
Exhibit RDC-2	Summary of Colton electricity restructuring experience.
Exhibit RDC-3	Summary of Colton experience pertaining to design of low-income affordability programs.
Exhibit RDC-4	Number and Percent of LIHEAP Recipients by Income Range and Annual Electric Burdens.
Exhibit RDC-5	Recommendations pertaining to utility universal service programs which can help increase incomes of low-income consumers.
Exhibit RDC-6	Estimate of Universal Service Costs at 50 Percent CAP Participation.

Exhibit RDC-7	Summary of Universal Service Recommendations.
Exhibit RDC-8	Recommendations for Consumer Research section of an Education Plan
Exhibit RDC-9	Model 4-Phase Consumer Education Program
Exhibit RDC-10	Proposed Evaluation Process for Consumer Education Activities
Exhibit RDC-11	Summary of Consumer Education Recommendations
Exhibit RDC-12	Proposed Budget for Universal Service Programs

**FIRST JOINT STIPULATION
EXHIBIT NO. 2**

**DUQUESNE INDUSTRIAL INTERVENORS
INDEX OF TESTIMONY AND EXHIBITS**

Page 1 of 4

Exhibit	Description	Date Identified	Date Admitted
DII Statement No. 1	Direct Testimony of Stephen J. Baron (Summary of Stranded Cost Analysis; Regulatory Policy Issues; Rate Design Issues)		
Exhibit SJB-1	Expert Testimony Appearances		
Exhibit SJB-2	DII Summary of Recommended Stranded Costs		
Exhibit SJB-3	Example of DII Stranded Generation Sharing Analysis		
Exhibit SJB-4	DII Calculation of Adjusted Rate of Return		
Exhibit SJB-5	DII Summary of Estimated CTC Revenues by Rate Class		
Exhibit SJB-6	DII Load-weighted Market Prices		
Exhibit SJB-7	DII Unbundling Analysis for Rate RS		
Exhibit SJB-8	DII Unbundling Analysis for Rate L		
Exhibit SJB-9	DII Unbundling Analysis for Rate HVPS		

**DUQUESNE INDUSTRIAL INTERVENORS
INDEX OF TESTIMONY AND EXHIBITS**

Page 2 of 4

Exhibit	Description	Date Identified	Date Admitted
DII Statement No. 1R	Rebuttal Testimony of Stephen J. Baron (Universal Service Cost Recovery Mechanism; Issues Regarding the Calculation of Market Prices and Stranded Cost; Response to OCA Regarding Unbundling Issues)		
DII Statement No. 1S	Surrebuttal Testimony of Stephen J. Baron (Responses to Company Witnesses Regarding Divestiture, Stranded Cost Sharing, CTC Calculation, and Rate Design Issues; Response to OSBA Witness Regarding CTC Calculation and Recovery)		
DII Statement No. 2	Direct Testimony of Randall J. Falkenberg (Calculation of Company Generation Stranded Cost; Analysis of Duquesne and ECAR Market Prices)		
Exhibit RJF-1	Qualifications of Randall J. Falkenberg		
Exhibit RJF-2	Production Cost Model Studies and Benchmarks		
Exhibit RJF-3	Comparison of Market Price Model Results of K&A Model v. MAPS, IPM and PMDAM		
Exhibit RJF-4	DII Calculation of Company's Annual Revenue Requirements for Generation		
Exhibit RJF-5a	DII Total Generation Stranded Cost Calculation		
Exhibit RJF-5b	DII Calculation of Net Present Value of Contribution Margins		
Exhibit RJF-5c	DII Summary of Market Prices, Fuel Cost, Operating Margin and Generation by Plant		

**DUQUESNE INDUSTRIAL INTERVENORS
INDEX OF TESTIMONY AND EXHIBITS**

Page 3 of 4

Exhibit	Description	Date Identified	Date Admitted
DII Statement No. 2S	Surrebuttal Testimony of Randall J. Falkenberg (Updated Calculation of Generation Stranded Costs; Responses to Company Witnesses Regarding Market Price Forecasts)		
Exhibit RJF-6a	DII Updated Total Generation Stranded Cost Calculation		
Exhibit RJF-6b	DII Updated Calculation of Net Present Value of Contribution Margins		
Exhibit RJF-6c	DII Updated Summary of Market Prices, Fuel Cost, Operating Margin and Generation by Plant		
DII Statement No. 3	Direct Testimony of Lane Kollen (Regulatory Assets; Transition Costs; Fossil Decommissioning; Nuclear Decommissioning; Securitization)		
Exhibit LK-1	Resume of Lane Kollen		
Exhibit LK-2	Excerpts from Company Exhibits Illustrating Double Counting of FAS 109 Asset Related to Perry and Beaver Valley 1		
Exhibit LK-3	Excerpt from Company First Quarter 1997 SEC 10-Q Related to Deferred Coal		
Exhibit LK-4	Net Present Value of Deferred Rate Synchronization Costs at 12/31/98		
Exhibit LK-5	Duquesne Nuclear Decommissioning for Stranded Cost and Revenue Requirement (Beaver Valley 1, Beaver Valley 2, and Perry)		

**DUQUESNE INDUSTRIAL INTERVENORS
INDEX OF TESTIMONY AND EXHIBITS**

Page 4 of 4

Exhibit	Description	Date Identified	Date Admitted
DII Statement No. 3S	Surrebuttal Testimony of Lane Kollen (Responses to Company Witnesses Regarding Stranded Cost Methodology, Unamortized Debt Costs, Beaver Valley 2 Sale/Leaseback Refinancing Premium, Preaccrued Nuclear Outages, Deferred Employee Costs, Deferred Coal SFAS 106, Deferred Rate Synchronization Costs, Fossil Decommissioning, Securitization)		
DII Cross Exh. 1	Response of Company Witness Hoffmann to Environmentalists' Interrogatories Set I, Number 23	12/18/97	12/18/97
DII Cross Exh. 2	Response of Company Witness Hoffmann to On-the-Record Data Request Concerning Customer Segment Contribution to Non-Coincident Peak Load		
DII Cross Exh. 3	Response of Company Witness Hoffmann to On-the-Record Data Request Concerning Mining, Construction, and Agriculture Customer Segments		

On-the-Record Data Request

Witness: Hoffmann

Page 1 of 1

DUQUESNE LIGHT COMPANY

On-the-Record Data Requests

3. Provide a non-coincident peak calculation in form that is analogous to the coincident peak calculation provided in response to Data Request ENV-1-23.

Response:

Attached is a modified version of DLC's response to ENV-1-23 which list the non-coincidental peak load contribution for each customer group/segment associated with the proposed phase-in methodology.

Non-Coincidental Peak Load Contribution by Customer Class and Segment

Customer Class	Customer Group/Segment	Non-Coincidental Peak Contribution	Percentage Contribution to Non-Coincidental Peak
Residential	Group A - Accumulated Wealth	41	1.14%
	Group B - Mainstream Families	374	10.42%
	Group C - Mainstream Singles	273	7.60%
	Group D - Conservative Classics	49	1.36%
	Group E - Sustaining Families	49	1.36%
	Group F - Sustaining Singles	65	1.82%
	Group G - All Others	21	0.58%
	Subtotal Residential	871	24.28%
Commercial	Utility Services	155	4.33%
	Wholesale Trade	53	1.47%
	Retail Trade - Food	71	1.99%
	Retail Trade - Restaurants	85	2.36%
	Retail Trade - Merchandise	177	4.94%
	Office Buildings	399	11.13%
	Healthcare	142	3.95%
	Education	214	5.98%
	Services	283	7.89%
	Government	82	2.29%
	Small Business	324	9.04%
	Subtotal Commercial	1,986	55.36%
Industrial	Industrial - Chemical	68	1.88%
	Industrial - Plastic	14	0.39%
	Industrial - Glass	39	1.08%
	Industrial - Steel	449	12.52%
	Industrial - Other	161	4.48%
	Subtotal Industrial	730	20.36%
	TOTALS	3,587	100.00%

On-the-Record Data Request

Witness: Hoffmann

Page 1 of 1

DUQUESNE LIGHT COMPANY

On-the-Record Data Requests

4. Provide breakdown of numbers for mining, construction and agriculture segments on FAH-4 in a manner comparable to that provided in response to ENV-1-23.

Response:

The market segments listed on FAH-4 as "Mining" and "Construction" are classified as "Industrial-Other" on the response to ENV-1-23. Similarly, "Agriculture" was classified within the "services" market segment.

**FIRST JOINT STIPULATION
EXHIBIT NO. 3**

PENNSYLVANIA PUBLIC UTILITY COMMISSION

v.

DUQUESNE LIGHT COMPANY

Application for Approval of a Restructuring Plan
Pursuant to 66 Pa. C.S. § 2806(d)
Docket No. R-00974104

ENRON POWER MARKETING, INC.
INDEX OF TESTIMONY AND EXHIBITS

Exhibit	Description	Date Identified	Date Admitted
Enron Cross Examination Exhibit No. 1	CFR Uniform System of Accounts: Accounts 908 and 909.	12/17/97	12/17/97
Enron Statement No. 1	Direct Testimony of James D. Steffes General overview of competitive services; the Portland General Code of Conduct.		
Exhibit 1 JDS-1	Market share of utilities/affiliates in Retail Access Programs.		
Exhibit 1 JDS-2	Portland General Electric Company Tariff Code of Conduct.		
Exhibit 1 JDS-3	Market share of affiliates in Retail Access Programs.		
Enron Statement No. 2	Direct Testimony of Paul D. Reising Rates for unbundled services of Transmission, Ancillary, Energy Delivery and Revenue cycles separately computed and stated.		
Exhibit 2 PDR-1	Educational and employment background of P.D. Reising.		
Exhibit 2 PDR-2	Definition and Description of Ancillary Services.		

Exhibit 2 PDR-3	Summary of Functional Costs.		
Exhibit 2 PDR-4	EPMI Proposed Class Rates		
Exhibit 2 PDR-5	EPMI Class Cost Summary		
Exhibit 2 PDR-6	pro forma Distribution Services Tariff		
Exhibit 2 PDR-7	Energy Delivery Rate Design		
Enron Statement No. 3	Direct Testimony of Jeffrey A. Brown Non-wire services, metering, meter-reading, billing and information services. "Open architecture" communication systems.		
Exhibit 3 JAB-1	Customer Account Services: Billing System Opportunities (representative example)		
Exhibit 3 JAB-2	Customer Account Services: Third Party Billing Services (representative example)		
Exhibit 3 JAB-3	Non-Wire Products and Services: "Endless Possibilities"		
Exhibit 3 JAB-4	Non-Wire Communications Network: Conceptual Model		
Exhibit 3 JAB-5	Metering and Billing Cycle		
Enron Statement No. 4	Direct Testimony of Gayle Muench Unbundling of billing and bill format; billing options ("Supplier Complete Bill Option"); phase-in of competition; customer selection and "slamming"; customer information ("Customer Education Program"); Duquesne's Universal Service Program in a competitive environment.		
Exhibit 4 GM-1	DQE Position on Competition		
Exhibit 4 GM-2	DQE Overview of Competition		
Enron Statement No. 5	Direct Testimony of Lynn R. Coles "Pro Forma Supplier Tariff." Access to point-to-point transmission service. EDC charges; minimum contract periods; planning reserves.		

Exhibit 5 LRC-1	Summary of educational background and general experience in electric utility industry.		
Exhibit 5 LRC-2	Proposed Electric Generation Supplier Tariff.		
Exhibit 5 LRC-3	GPU Market Line: Energy market prices; viability payments, all-in market line; market clearing prices.		
Enron Statement No. 1.1	Surrebuttal Testimony of James D. Steffes Response to Duquesne witnesses Hoffman and Allison.		
Enron Statement No. 2.1	Surrebuttal Testimony of Paul D. Reising Responses to rebuttal testimony of Duquesne witness Lahtinen; IBEW witness Moran; and OCA witness Alexander.		
Exhibit 2.1 PDR-8	Revised functional cost of service summary.		
Exhibit 2.1 PDR-9	Revised versions of class-based T & D charges (original Exhibit 2 PDR-4).		
Exhibit 2.1 PDR-10	Revised versions of voltage differentiated rates (original Exhibit 2 PDR-5).		
Enron Statement No. 3.1	Surrebuttal Testimony of Jeffrey A. Brown Responses to Duquesne witness Allison; and IBEW witnesses Schmidt and Moran.		
Enron Statement No. 4.1	Surrebuttal Testimony of Gayle Muench Responses to Duquesne witnesses Allison, Hoffman and Flynn; OCA witness Alexander; and IBEW witness Moran.		
Enron Statement No. 5.1	Surrebuttal Testimony of Lynn R. Coles Responses to rebuttal testimony of IBEW witness Moran; and witnesses Irvin and Karl.		

**FIRST JOINT STIPULATION
EXHIBIT NO. 4**

Roger E. Clark, Esq.

Attorney for The Environmentalists

905 Denston Drive
Ambler, PA 19002-3901
phone: 215.643.2164
fax: 215.628.2630
e-mail: rclark@libertynet.org

January 7, 1998

John Moot
Skadden, Arps, Slate, Meagher & Flom LLP
1440 New York Avenue, N.W.
Washington, D.C. 20005-2111

Re: Duquesne Light Company Application for
Approval of a Restructuring Plan,
Docket No. R-0097104.

Dear Mr. Moot:

Thank you for catching our oversight regarding Roger Colton's surrebuttal testimony. In accordance with the Sixth Interim Order issued by Judge Corbett on December 30, 1997, I am sending you the following updated index of the Environmentalists' testimony and exhibits in the above-referenced proceeding:

Exhibit	Description	Date Identified	Date Admitted
Environmentalists' Statement No. 1	Direct Testimony of David Schoengold		
Ex. DS-1	Resume of David Schoengold		
Ex. DS-2	<i>Environmentalists' Vision for the New Electricity Marketplace</i>		
Ex. DS-3	Return on the Investment to Date for Stockholders		
Ex. DS-4	Total Return to Date for Stockholders		
Ex. DS-5	Methodology for Determining Total Return Of and On Investment for Stockholders Through End of Transition Period		
Ex. DS-6	Proposed Draft for Net Billing Tariff		

Environmentalists' Index of Testimony and Exhibits

January 7, 1998

Page 2

Environmentalists' Statement No. 1-S	Surrebuttal Testimony of David Schoengold		
Environmentalists' Statement No. 2	Direct Testimony of Bruce Biewald		
Ex. BEB-1	Resume of Bruce Biewald		
Ex. BEB-2	Graph of TLG Decommissioning Estimates: 1977-1995		
Ex. BEB-3	<i>Full Environmental Disclosure for Electricity: Tracking and Reporting Key Information, March 1997</i>		
Ex. BEB-4	Better Choice Plan - Three Examples		
Environmentalists' Statement 2-S	Surrebuttal Testimony of Bruce Biewald		
Ex. BEB-5	Economic Analysis of Duquesne Light Company's Perry 1 Investment		
Ex. BEB-6	Economic Analysis of Duquesne Light Company's Beaver Valley 2 Investment		
Ex. BEB-7	Assumptions for Economic Analysis for Perry 1 and Beaver Valley 2		
City of Pittsburgh et al. Statement No. 2 (cosponsored with the Environmentalists)	Direct Testimony of Roger Colton		
Ex. RDC-1	Resume of Roger Colton		
Ex. RDC-2	Summary of Roger Colton's Restructuring Work		
Ex. RDC-3	Summary of Roger Colton's Energy Efficiency Work		
Ex. RDC-4	Number and Percentage of LIHEAP Recipients by Income Range		

Environmentalists' Index of Testimony and Exhibits

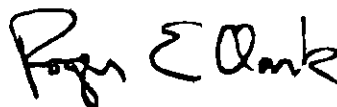
January 7, 1998

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Ex. RDC-5	Summary of the BOSS and Earned Income Tax Credit Outreach		
Ex. RDC-6	Estimate of Universal Service Program Costs		
Ex. RDC-7	Summary of Universal Service Recommendations		
Ex. RDC-8	Summary of Consumer Research Section of Consumer Education Plan		
Ex. RDC-9	Four Phase Consumer Education Program		
Ex. RDC-10	Consumer Education Evaluation Process		
Ex. RDC-11	Summary of Consumer Education Recommendations		
Ex. RDC-12	Proposed Universal Service Budget		
City of Pittsburgh et al. Statement No. 3-S (cosponsored with the Environmentalists)	Surrebuttal Testimony of Roger Colton		
Ex. RDC-1-S	Memorandum of Residential Mobility and the Low Income Consumer		
Ex. RDC-2-S	Prepayment Meters and Low Income Consumers		

I have also sent this document to you by e-mail at "jmoot@skadden.com". Copies of this letter are being served on all parties of record by facsimile.

Sincerely,



Roger E. Clark

Attorney for the Environmentalists

Copies: All parties of record

**FIRST JOINT STIPULATION
EXHIBIT NO. 5**

**HSS AND ARI
INDEX OF TESTIMONY AND EXHIBITS**

Exhibit	Description	Date Identified	Date Admitted
	Prepared Direct Testimony of Dr. Robert B. Weisenmiller, Volume I		
RBW-1	Supplemental Response to Item Nos. HSS-1-001, 21 (Supp.), etc. (corrections to Duquesne's case-in-chief)		
RBW-2	Skadden, Arps letter forwarding narrative prepared by Northbridge Group regarding discovery requests HSS-3-008 and HSS-3-009		
RBW-3	"Generating Assets," April 1995 (Duquesne study re: possible sales of its generating assets)		
RBW-4	Chart, "Best Practices Reduce Total Personnel By 45%"		
RBW-5	Duquesne Fossil Generating Business Unit, Development of a GENCO, Dec. 1996		
RBW-6	Presentation to Project Lead Team - Project Update, July 15, 1996		
RBW-7	Presentation to Project Lead Team - Preliminary Valuation and Operating Cost Allocation, August 5, 1996		
RBW-8	Presentation to Project Lead Team - Asset Valuation and Strategic Options, August 16, 1996		
RBW-9	Presentation to Project Lead Team - Regulatory Recommendations and GENCO Structure, Sept. 13, 1996		
RBW-10	CS First Boston, Materials Prepared for Discussion, Nov. 21, 1996		
RBW-11	Charts, "Generating Costs For Duquesne"		
RBW-12	Table, To Go Cost of Generation, etc.		
RBW-13	Chart, Duquesne System Lambda, 1996		
RBW-14	Duquesne Response to Interrogatory No. HSS-1-72/73 (revised) and attachments (re: RFP bids, etc.)		
RBW-15	Duquesne letter regarding RFPs and bid forms		

Exhibit	Description	Date Identified	Date Admitted
RBW-16	Duquesne Response to Interrogatory No. HSS-1-016 (revised) (Testimony of D.W. Marshall, Investigation into Electric Power Competition, I-940032, filed Nov. 6, 1995)		
RBW-17	West Penn Power Docket No. R-00973981 Interrogatories (AYP Energy, Inc.'s RFP bids)		
RBW-18	Duquesne Response to Interrogatory No. OCA-3-016 (current ECR charge is 12.822 mill/kWh)		
RBW-19	Duquesne Response to Interrogatory No. HSS-1-026		
RBW-20	Excerpts from Alexander Galatic, Written Rebuttal Testimony on Behalf of West Penn Power Company		
RBW-21	Duquesne's Response to HSS-1-015 (revised) -- Protected Materials		
RBW-22	Duquesne's Response to HSS-1-015 (revised) -- Protected Materials		
RBW-23	Duquesne Response to Interrogatory No. OCA-3-001 (credit rating reports)		
RBW-24	Table, Utility Comparison		
RBW-25	Chart, Ranking of DLCo & APS Coal Plants with PJM Coal Plants, Based on Total Expenditures per Net MWh - 1995		
RBW-26	A Report on The Review of Potential Stranded Costs, Duquesne Light Company, August 1997		
RBW-27	Duquesne Response to Interrogatory No. DH-1-28 (settlement agreement between GE and <i>inter alia</i> , Duquesne)		
RBW-28	Executive Summary, Duquesne Light Company (1996 rating agency presentation)		
RBW-29	Tables, DQE 12-month Results; Continued Earnings and Dividend Growth; Consistent Financial Performance -- NatWest Securities Mid-Atlantic/New England Utility Seminar, Sept. 23, 1997		
RBW-30	Duquesne Financial, Sales and Operating Information (1996 rating agency presentation)		
RBW-31	Duquesne Rating Agency Presentation, August 1996		

Exhibit	Description	Date Identified	Date Admitted
RBW-32	Duquesne Response to Interrogatory Nos. HSS-3-01 and HSS-3-02 (explanation of ratepayer benefits)		
RBW-33	Duquesne Response to Interrogatory No. OCA-1-007 (regulatory assets and decommissioning expenses)		
RBW-34	Duquesne Response to Interrogatory No. HSS-1-044 (regulatory assets in rate base)		
RBW-35	Duquesne Response to Interrogatory No. HSS-1-043 (Supp.) (authorization for claimed regulatory assets: excerpts from 860378 order)		
RBW-36	Duquesne Response to Interrogatory No. HSS-1-043 (Supp.) (authorization for claimed regulatory assets: excerpts from R-870222 order)		
RBW-37	Duquesne Response to Interrogatory of David Hughes Set I, Item No. DH-1-10 (excerpts from Duquesne's 1995 and 1995 Form 10-Ks)		
RBW-38	Duquesne Response to Interrogatory No. HSS-1-030 (revised) (excerpts from Ft. Martin amended proposal re: deferred costs)		
RBW-39	Excerpts from Duquesne 1996 Form 10-K		
RBW-40	Excerpts from Duquesne Response to Interrogatory No. DH-1-18 (Feb. 17, 1983 letter to Duquesne Shareholders)		
RBW-41	Duquesne Response to Interrogatory No DH-1-10 (excerpts from Duquesne's 1995 and 1995 Form 10-Ks)		
RBW-42	Duquesne Response to Interrogatory No. OCA-1-040 (Brunot Island rate base treatment)		
RBW-43	Duquesne Response to Interrogatory No. OCA-3-042 (Brunot Island and Phillips units--no plans to return cold service units to service)		
RBW-44	Duquesne Response to Interrogatory No. ENV-1-024 (excerpts from Sept. 1997 Integrated Resource Plan)		
RBW-45	Duquesne Response to Interrogatory No. HSS-3-03 (excerpts from Pennsylvania PUC Order in P-900485)		
RBW-46	Duquesne Response to Interrogatory No. OCA-1-018 (future use or sale of Brunot Island and Phillips units)		

Exhibit	Description	Date Identified	Date Admitted
RBW-47	Duquesne Response to Interrogatory No. OCA-1-008 (Chart, Annual Amortization Amounts)		
RBW-48	Table, All-In Costs of Combined Cycle Plants		
RBW-49	Duquesne Response to Interrogatory No. HSS-1-091 (Schnitzer's natural gas market price forecasts)		
RBW-50	Tables, Wellhead (lower 48) Natural Gas Price Projections (1995)		
RBW-51	Duquesne Response to Interrogatory No. HSS-2-38 (gas transportation costs forecast)		
RBW-52	Duquesne Response to Interrogatory No. HSS-2-34 (2.5% inflation factor sources)		
RBW-53	Table, Percent Change from Previous Period—GDP PPD		
RBW-54	Excerpts from Duquesne Resource Planning Report, July 1, 1996		
RBW-55	Presentation to Project Lead Team - Preliminary Recommendations, August 30, 1996		
RBW-56	Presentation to DQE, Inc. Regarding the Sale of Certain Generating Assets, June 16, 1995		
RBW-57	Table, Comparison of Estimates of Market-Clearing Prices		
	Prepared Surrebuttal Testimony of Dr. Robert B. Weisenmiller, Volume IV		
RBW-58	Presentation to Gary Brandenberger - Draft Presentation for Fall Planning Council, Sept. 5, 1996 (Metzler)		
RBW-59	Presentation to Gary Brandenberger - Draft Presentation for Fall Planning Council, Sept. 5, 1996 (Metzler)		
RBW-60	Petition of Duquesne to discontinue normal operation of Phillips Power Station, South Heights, Pennsylvania		
RBW-61	Calpine Acquires 120 MW Gas-Fired Facility, Non-Nuclear Electric Power Generation, etc.		

Exhibit	Description	Date Identified	Date Admitted
RBW-62	Errata to Prepared Testimony of Dr. Robert B. Weisenmiller		

ERRATA

The following corrections should be made to the testimony of Dr. Robert B. Weisenmiller:

(a) **Prepared Direct Testimony:**

1. At page 41, line 12, after "effect." insert "~~See~~ Exh. RBW-18."
2. At page 118, line 16, change "West Penn's" to read "Duquesne's".
3. At page 123, line 5, change "EIA, Penelec, PECO, AYP" to read "EIA, Penelec, AYP".

(b) **Prepared Surrebutal Testimony:**

1. At page 1, add the following entities to the list of HSS and ARI members sponsoring Dr. Weisenmiller's testimony:

South Hills Health System (all locations)
University of Pittsburgh Medical Center (all locations)

**FIRST JOINT STIPULATION.
EXHIBIT NO. 6**

**SYSTEM COUNCIL U-10, INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS
INDEX OF TESTIMONY AND EXHIBITS**

<i>Exhibit</i>	<i>Description</i>	<i>Date Identified</i>	<i>Date Admitted</i>
IBEW Statement No. 1	Rebuttal Testimony of Timothy Moran (Generation suppliers should not be allowed to provide metering, billing, and other customer service functions. Duquesne should not be required to sell or shut down any of its power plants.)		
Schedule TM-1	Rebuttal testimony of William Schmitt from the PP&L Restructuring Case		
Schedule TM-2	Number of Duquesne Light Company employees by year from 1986-1996 (HSS-2-017)		
Schedule TM-3	Duquesne Light Company Distribution of Salaries and Wages for 1996 (FERC Form 1, pages 354-355)		

**FIRST JOINT STIPULATION
EXHIBIT NO. 7**

PENNSYLVANIA PUBLIC UTILITY COMMISSION
v.
DUQUESNE LIGHT COMPANY

Application for Approval of a Restructuring Plan
Pursuant to 66 Pa. C.S. §2806(d)
Docket No. R-00974104

INDEX OF MAPSA TESTIMONY AND EXHIBITS

<i>Exhibit</i>	<i>Description</i>	<i>Date Identified</i>	<i>Date Admitted</i>
MAPSA Statement No. 1	Direct Testimony of Whitfield A. Russell (Addressing competitive issues raised by Duquesne's Customer Choice Plan)		
Exhibit WAR-1	Whitfield A. Russell Curriculum Vitae		
Exhibit WAR-2	Chart Showing Monthly Firm Available Transmission Capacity for Allegheny Power		
Exhibit WAR-3	1996 Duquesne System Lambda		
Exhibit WAR-4	Calculation of Duquesne CGC Based Upon 1999 CCGT [1]		
Exhibit WAR-5	ERRATA to Prepared Direct Testimony of Whitfield A. Russell		
MAPSA Statement No.1-SR	Prepared Surrebutal Testimony of Whitfield A. Russell		

**FIRST JOINT STIPULATION
EXHIBIT NO. 8**

**INDEX OF TESTIMONY AND EXHIBITS
OF INTERVENOR NEV EAST, L.L.C.,
SUBMITTED PURSUANT TO SIXTH INTERIM ORDER**

<i>Statement/Exhibit</i>	<i>Description</i>
NEV Statement No. 1	Direct Testimony of David Magnus Boonin (regarding the unbundled rate for generation, CTC methodology, unbundling of all tariffs, and billing and metering issues)
Exhibit NEV/DMB #1	Resume of David Magnus Boonin
Exhibit NEV/DMB #2	Chart setting forth methodology for reconciling the CTC
NEV Statement No. 2	Direct Testimony of Nancy I. Day (regarding the importance of unbundling distribution services to the formation of a competitive energy market)
Exhibit NEV/NID #1	Resume of Nancy I. Day

*Pursuant to the December 30, 1997 Order of Administrative Law Judge John H. Corbett, Jr. and agreement of the parties, the foregoing testimony will be admitted into the record by stipulation and without cross-examination.

**FIRST JOINT STIPULATION
EXHIBIT NO. 9**

OFFICE OF SMALL BUSINESS ADVOCATE
INDEX OF TESTIMONY AND EXHIBITS

Statement/Exhibit	Description
OSBA Statement No. 1*	Direct testimony and Exhibit of Brian Kalcic (recommending adjustments in Duquesne's distribution-related revenue requirements and its rate redesign plan, and offering comments on Duquesne's proposed Phase-In plan.)
OSBA Exhibit No. 1* (with Schedules BK-1, BK-2 and BK-3)	Schedules summarizing Duquesne's functionalized revenue requirements including OSBA's proposed adjustments
OSBA Statement No. 1R**	Rebuttal Testimony and Exhibit of Brian Kalcic (addressing issues raised by other witnesses regarding the pace of stranded cost recovery, the determination of CTC, allocation of universal service costs and proposals for phase-in)
OSBA Exhibit No. 1R** (Schedule BK-1R)	Amortization of DII recommended stranded costs over 4 versus 7 years
OSBA Statement No. 1S***	Surrebuttal Testimony of Brian Kalcic (responding to Co. witness Lahtinen regarding use of realized rather than claimed rate of return for unbundling rates and DII witness Baron regarding allocation of CTC revenue responsibility to all classes)

* Served November 7, 1997

** Served December 2, 1997

*** Served December 11, 1997

**FIRST JOINT STIPULATION
EXHIBIT NO. 10**

**OFFICE OF CONSUMER ADVOCATE
INDEX OF TESTIMONY AND EXHIBITS**

<i>Exhibit</i>	<i>Description</i>	<i>Date Identified</i>	<i>Date Admitted</i>
OCA Statement No. 1	Direct Testimony of Matthew L. Kahal (Evaluation of Duquesne's proposed stranded cost plan)		
Schedule MIK-1	OCA Overall Stranded Cost Summary		
Schedule MIK-2	Excess Pre-Tax Earnings During Transition Period		
Schedule MIK-3	Retail Rate Comparisons for 1996		
Schedule MIK-4	DRI vs. Duquesne Inflation Rate Forecasts		
Schedule MIK-5	Derivation of the Discount Rate		
Schedule MIK-6	Productivity Enhancement Savings		
Schedule MIK-7	PECO and West Penn Power Life-Extension Costs for Coal Plants		
Schedule MIK-8	Cheswick Life Extension Costs and Net Benefits		
Schedule MIK-9	Generation Net Merger		
OCA Statement No. 18	Surrebuttal Testimony of Matthew L. Kahal (Response to Rebuttal Testimony on stranded cost issues)		
Schedule MIK-1 UPDATE	OCA Overall Stranded Cost Summary		
Schedule MIK-6 UPDATE	Productivity Enhancement Savings		
Schedule MIK-10	Projected Pre-Tax Operating Losses During Transition		
OCA Statement No. 2	Direct Testimony of Douglas C. Smith (Market Price Analysis)		
Exhibit DCS-1	Resume of Douglas C. Smith		
Exhibit DCS-2A	New Combined Cycle Non-Fuel Cost Assumptions		

Exhibit DCS-2B	New Combustion Turbine Non-Fuel Cost Assumptions		
Exhibit DCS-3	Spring 1997 DRI Fuel Price Escalation Rates		
Exhibit DCS-4	APS-DQL Market Price Estimate		
Exhibit DCS-5	DQL Weighted Generation Price		
OCA Statement No. 2S	Surrebuttal Testimony of Douglas C. Smith (Response to rebuttal testimony on market price issues)		
OCA Statement No. 3	Direct Testimony of Thomas S. Catlin (Regulatory asset issues, nuclear and fossil decommissioning, taxes and other transition costs)		
Schedule TSC-1	Summary of Regulatory Assets and Other Transition Expenses		
Schedule TSC-2	Summary of Decommissioning Funding Requirements as of 12/31/98		
OCA Statement No. 3S	Surrebuttal Testimony of Thomas S. Catlin (Response to rebuttal testimony on preaccrued nuclear outage costs and unamortized debt costs)		
OCA Statement No. 4	Direct Testimony of Lee Smith (Rate design, unbundling, cost allocation, and CTC design)		
Exhibit LS-1	Summary of Qualifications and Experience		
Exhibit LS-2	Calculation of Market Price		
Exhibit LS-3	1996 Administrative & General Expenses		
Exhibit LS-4	Retail Cost of Service CTC Proposal		
Exhibit LS-5	Retail CTC/Calculation of Levelized CTC		
Exhibit LS-6	Unbundled Rate Design Residential - Rate RS		
OCA Statement No. 4S	Surrebuttal Testimony of Lee Smith (Response to testimony on treatment of ancillary service costs, line losses, A&G adder, and rates of return)		
Exhibit LS-7	Revised LS-4 (Retail Cost of Service)		

Exhibit LS-8	Revised LS-2 (Calculation of Market Price)		
Exhibit LS-9	Revised LS-5 (Retail CTC)		
Exhibit LS-10	Revised LS-6 (Unbundled Rate Design)		
OCA Statement No. 5	Direct Testimony of Barbara Alexander (Consumer education and consumer protection issues)		
Exhibit BA-1	Resume of Barbara Alexander		
Exhibit BA-2	Vermont Consumer Information and Education Plan		
Exhibit BA-3	California Statewide Consumer Education Plan		
Exhibit BA-4	Massachusetts Department of Public Utilities Code of Conduct		
OCA Statement No. 5R	Rebuttal Testimony of Barbara Alexander (Response to testimony on provision of generation services to default customers and supplier-only bill option)		
OCA Statement No. 5S	Surrebuttal Testimony of Barbara Alexander		
Exhibit BA-S-1	Executive Summary of New Hampshire Pilot Program Survey Report		
Exhibit BA-S-2	CAPUC Fact Sheets on Consumer Education Plan		
Exhibit BA-S-3	Recommendations of the Maine Consumer Education Advisory Board		
OCA Statement No. 6	Direct Testimony of Nancy Brockway (Universal Service Issues)		
Exhibit NB-Duq-1	Resume and Curriculum Vitae of Nancy Brockway		
Exhibit NB-Duq-2	Duquesne Estimation of Potential CAP Eligible Customers		
Exhibit NB-Duq-3	Universal Service Costs - Per kWh Allocator		
Exhibit NB-Duq-4	Development of Non-Production Revenue Allocator		

OCA Statement No. 6S	Surrebuttal Testimony of Nancy Brockway (Universal Service Issues)		
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**FIRST JOINT STIPULATION
EXHIBIT NO. 11**

**FIRST JOINT STIPULATION
EXHIBIT NO. 11**

Pennsylvania Public Utility Commission

v.

Duquesne Light Company

Docket No. R-00974104

Index* of OTS Testimony And Exhibits Not Yet Admitted

Exhibit	Description	Date Identified	Date Admitted
OTS Statement No. 3	Direct Testimony of Paul M. Yarolin (concerning Universal Service and rate unbundling)		
OTS Cross Examination Exhibit No. 3	On-the-Record Data Request Response (O'Brien Number 1) concerning the difference in balances associated with cold reserve units		
OTS Cross Examination Exhibit No. 4	On-the-Record Data Request Response (O'Brien Number 4) concerning recovery of decommissioning costs		
OTS Cross Examination Exhibit No. 5	On-the-Record Data Request Response (O'Brien Number 5)** concerning recovery of decommissioning costs		

* OTS reserves the right to request admission of additional exhibits upon receipt of all responses to On-the-Record Data Requests.

** OTS has requested that this On-the-Record Data Request Response be supplemented to properly respond to the request.

**FIRST JOINT STIPULATION
EXHIBIT NO. 12**

**PENNSYLVANIA RETAILERS ASSOCIATION
INDEX OF TESTIMONY**

EXHIBIT	DESCRIPTION	DATE IDENTIFIED	DATE ADMITTED
PRA Statement No. 1	Direct Testimony of Chris K. Albrecht (Phase-in Procedure for retail competition)		

v.
DUQUESNE LIGHT COMPANY

JAN 8 1998

**Application of Duquesne Light Company
 for Approval of a Restructuring Plan
 Under Section 2806 of the Public Utility Code
 Docket No. R-00974104**

PUBLIC UTILITY COMMISSION
 PROTHONOTARY'S OFFICE

**CITY OF PITTSBURGH
 INDEX OF TESTIMONY AND EXHIBITS**

Exhibit	Brief Description
City Statement No. 1	Direct Testimony of Christopher D. Seiple (addressing issues pertaining to the Company's general overview/recovery plan and stranded costs).
City Exhibit No. 1	Resource Data International Background & History.
City Exhibit No. 2	RDI Market & Competitor Intelligence
City Exhibit No. 3 (incl. Tables 1-3)	Capacity Factor Analysis
City Exhibit No. 4	Delivered Output Analysis
City Exhibit No. 5	Early Plant Shutdown Savings Analysis
City of Pittsburgh, <i>et al.</i> Statement No. 2	Direct Testimony of Roger D. Colton (addressing issues pertaining to universal service, low income programs, energy conservation, consumer education, and phase-in).
Exhibit RDC-1	Resume of Roger D. Colton
Exhibit RDC-2	Summary of Colton electricity restructuring experience.
Exhibit RDC-3	Summary of Colton experience pertaining to design of low-income affordability programs.
Exhibit RDC-4	Number and Percent of LIHEAP Recipients by Income Range and Annual Electric Burdens.
Exhibit RDC-5	Recommendations pertaining to utility universal service programs which can help increase incomes of low-income consumers.
Exhibit RDC-6	Estimate of Universal Service Costs at 50 Percent CAP Participation.

Exhibit RDC-7	Summary of Universal Service Recommendations.
Exhibit RDC-8	Recommendations for Consumer Research section of an Education Plan
Exhibit RDC-9	Model 4-Phase Consumer Education Program
Exhibit RDC-10	Proposed Evaluation Process for Consumer Education Activities
Exhibit RDC-11	Summary of Consumer Education Recommendations
Exhibit RDC-12	Proposed Budget for Universal Service Programs

ORIGINAL
COMMONWEALTH OF PENNSYLVANIA
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Duquesne Light Company :
for Approval of a Restructuring Plan Under : Docket No. R-00974104
Section 2806 of the Public Utility Code :

RECEIVED

JAN 8 1998

PA PUBLIC UTILITY COMMISSION
PROTHONOTARY'S OFFICE

Prepared Direct Testimony of

Christopher D. Seiple

On Behalf Of the

City of Pittsburgh, Pennsylvania

DOCUMENT
FOLDER

DOCKETED
JAN 15 1998

Dated: November 6, 1997

City Statement No. 1

TESTIMONY OF CHRISTOPHER D. SEIPLE

Q. Please state your name.

A. My name is Christopher D. Seiple.

Q. By whom are you employed?

A. I am employed by Resource Data International, Inc., known as "RDI".

Q. What is your business address?

A. 1320 Pearl Street, Suite 300, Boulder, Colorado 80302.

Q. What is your title at RDI?

A. I am a Principal in the business and a Consultant with respect to economic issues pertaining to the electric utility industry.

Q. Please describe the business of RDI.

A. RDI provides and analyzes market and competitive information to the energy industry. RDI has the most advanced and complete data base covering all fuel sources and users of energy, the transportation systems that serve them, and the macro - and micro-economic linkages that tie them together. Some of our clients subscribe to one or more of our various data bases or publications. Many clients ask us to perform consulting projects that requires the analysis of some aspect of the energy industry.

Q. What is Exhibit 1 to your testimony?

A. Exhibit 1 is an RDI publication that explains the background and history of RDI and what RDI does.

Q. Who owns RDI?

A. RDI was privately owned until late in August of this year when it was acquired by Pearson, plc, which owns the *Financial Times* newspaper.

Q. Who are the customers and clients for RDI's products and services?

A. Many of the world's largest electric utilities, financial institutions, coal companies and railroads are among our client base for our informational products as well as our consulting services. For instance, Exhibit 2 to my testimony is a recent listing of our database subscribers. We also provide various consulting services to many of our database subscribers.

Q. What do you do at RDI?

A. My area of expertise is the economic analysis of the electric utility industry. I consult with our clients concerning power market analysis, competitive strategy development, energy economic and policy analysis, energy modeling and forecasting and industry restructuring planning and policy.

Q. What is your educational background?

A. I have a B.A. in Political Science and a B.A. in Russian Studies, both from Muhlenberg College in Pennsylvania and an M.S. in Energy Management and Policy from the University of Pennsylvania and the French Institute of Petroleum.

Q. Please describe your recent professional experience with respect to the restructuring of the electric utility industry.

A. During the past three years I have led a team of experts at RDI that has conducted extensive analysis of the financial, regulatory, and public policy issues surrounding transition costs created by electric industry restructuring. This same team has also performed extensive evaluations of the market value of generation assets, the dynamics that will drive a deregulated generation market, and how public policy may shape the formation of a competitive generation sector. In 1995 we published the first nationwide estimates of potential transition costs in our study, *Retail Power Markets in the U.S.* We subsequently updated the results of this study in December of 1996. Our updated study also includes an in-depth analysis of methods for quantifying transition costs, guidelines for designing transition cost recovery mechanisms, and a review of regulatory actions in other jurisdictions related to transition cost issues. This work was the basis of our testimony that was recently provided to the United States Senate regarding competition in the electric utility industry. Numerous state public utility commissions and state regulatory bodies have relied upon our analysis in making decisions concerning quantification of transition costs and the design of transition cost recovery mechanisms in their own jurisdictions.

Q. Have you published any articles on the electric utility industry?

A. Yes. I am frequently asked to be a contributor of articles on economic issues involving the electric utility industry to industry publications such as Public Utilities Fortnightly and Coal Age Magazine. In addition, one of my duties at RDI is to manage the research and analysis of our syndicated publications concerning the electric utility industry.

Q. Please give me a few examples of published articles or studies you have authored or have been responsible for.

A. As an example, one of the recent studies that I supervised and published focused on electric utility mergers and acquisitions. This syndicated study addressed a number of topics, including: research and analysis of the key factors driving recent mergers; the key

determinants of an attractive merger candidate; impacts of mergers on horizontal market power; and, the strategic benefits of mergers.

Q. Have you given any electric utility industry presentations?

A. Yes, I have given a number of presentations in my areas of expertise, including, for example:

- A presentation on "Overview of the Emerging Competitive Generation Market" to the Independent Petroleum Producers Association of Mountain States
- A presentation on "Understanding the Dynamics of Unbundled Generation Markets" before the National Association of Business Economists
- I was a participant on a panel discussion on "Recovery of Stranded Assets" to the National Association of Energy Economists
- A presentation on "Anticipating Future Electric Price Scenarios in a Deregulated Environment" for the Center of Business Intelligence.

Q. Have you testified as an expert witness before?

A. Yes. I gave expert testimony to the Illinois Retail Wheeling Task Force on designing stranded cost recovery mechanisms.

Q. What have you done in preparation for your testimony?

A. I have reviewed and analyzed, along with others at RDI subject to my supervision, the complete Duquesne Light Company ("Duquesne") restructuring plan, including testimony, filed at this Docket Number, as well as selected discovery responses in this matter.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is fivefold. First, I will address Duquesne's previous mitigation efforts, putting them into perspective in terms of overall rates to show that Duquesne's mitigation efforts have not resulted in significant rate competitiveness for its customers. Second, I will show that Duquesne has not made an adequate prima facie showing that stranded costs will remain beyond 2005. In fact, pursuant to Duquesne's plan there is a very real possibility that Duquesne could over-recover its stranded costs and achieve a benefit. Therefore, Duquesne should not be entitled to a rate cap through 2005. Third, I will critique Duquesne's proposed stranded cost calculation methodology and show that it may impair the formation of a competitive market and that it also provides little incentive for Duquesne to minimize costs and hence mitigate stranded costs. Fourth, I will show how Duquesne's proposed stranded cost recovery plan minimizes some of the traditional risk faced by the utility's investors, contrary to the concept of a competitive market. Finally, I will provide some suggestions for alternative

recovery mechanisms that will provide greater benefits to consumers, help promote the formation of a competitive generation sector, and provide Duquesne with greater incentives to mitigate stranded costs through cost reductions.

I. Duquesne's Mitigation Efforts Have Not Resulted In Significant Rate Competitiveness For Its Customers.

Q. Are Duquesne's current retail rates competitive?

A. No they are not. As is well known, Duquesne's customers historically and currently pay some of the highest rates in the country. Duquesne's rates to residential customers are 25% higher than the comparable average for Pennsylvania. Duquesne's commercial rate is 42% higher than the comparable figure for its neighboring utility, West Penn Power. Similarly, Duquesne's industrial rate is 33% higher than West Penn Power's equivalent rate.

Q. Mr. Clayton has testified on behalf of Duquesne that "Duquesne's commercial rates compare favorably to the ECAR and MAAC average and its industrial rates are below average in the ECAR and MAAC regions." (page 18). Is this testimony accurate?

A. No it is not. My analysis of 1996 FERC Form 1 information, depicted on Table 1 of my testimony, reveals that Duquesne's average commercial rate is 17% higher than the ECAR region's average rate for investor-owned utilities. Also, Duquesne's industrial rate is 37% higher than the average rate for investor-owned utilities. Another way to look at it is that of the 29 investor-owned utilities in ECAR, only three have higher industrial rates than Duquesne. Of the 27 investor-owned utilities in ECAR supplying power to commercial users, only five have higher rates than Duquesne.

Q. Why are Duquesne's current rates important to this Proceeding?

A. Duquesne's current rates are important to consider when analyzing Duquesne's claimed past mitigation efforts in order to ascertain whether, under Section 2808(c)(4) of the *Electricity Generation Customer Choice and Competition Act* ("Customer Choice Act"), its mitigation efforts ". . . has been commensurate with the magnitude of the electric utility's generation-related transition or stranded costs."

Q. Has Duquesne undertaken significant mitigation efforts?

A. No. In his testimony, Mr. Clayton states that between 1989 and 1998, Duquesne will have already mitigated \$340 million in stranded costs through various mitigation strategies. This implies mitigation efforts of \$34 million per year, or only 3% of Duquesne's total revenues. And despite Duquesne's stated past commitment to reducing stranded costs, Duquesne's mitigation efforts have been of only marginal benefit to its customers, as its customers in all classes still continue to pay some of the highest rates in the region. In other words, Duquesne's minimal mitigation measures were absolutely required by the financial condition of the Company and the level of rates they were already charging

customers. Future mitigation efforts will need to be significantly more aggressive if consumers are to benefit at all during the transition to competition.

II. Duquesne Has Not Made An Adequate Prima Facie Showing That Stranded Costs Will Remain Beyond 2005 And Should Not Be Entitled To A Rate Cap Beyond 2005.

Q. Will Duquesne's customers continue to pay these high rates through the transition period?

A. Under Duquesne's restructuring plan, they will. As it currently stands, Duquesne has proposed to freeze rates through the year 2005 at 1996 levels, so that as long as a customer consumes the same amount of electricity as it consumed in 1996, its electricity rate will remain exactly the same.

Q. What is Duquesne's rationale to support the rate cap through 2005?

A. Duquesne claims it is entitled to the rate cap through 2005 because, in accordance with Section 2804(4)(v) of the Customer Choice Act:

- Any excess earning achieved under the cap will be utilized to mitigate transition or stranded costs for the benefit of ratepayers; and,
- The market value of its generation assets beginning in 2006 is below the book value of generation and generation-related regulatory assets.

Q. How does Duquesne estimate the market value of its generation assets beginning in 2006?

A. Duquesne developed a discounted cash flow model.

Q. Please explain Duquesne's model.

A. In this model, Duquesne assumes that the price of electricity will be equal to the levelized cost of a new combined cycle power plant in this time frame. Duquesne analyzes two scenarios that are based on different cost assumptions regarding the construction of a new combined cycle plant. Duquesne also assumes costs and plant operating parameters. In sum, its analysis shows that in the low market price scenario Duquesne would actually have to pay someone to purchase any of its coal fired power plants, resulting in remaining stranded costs of \$582 million in the year 2006. In the high market price scenario, Duquesne calculates that an investor would only be willing to pay an average of 151 \$/kW for its coal fired power plants, resulting in total stranded costs of \$8 million. It concludes that under a wide range of price scenarios, Duquesne will still have stranded costs and therefore is entitled to the rate cap.

Q. Are the administrative techniques used by Duquesne for calculating stranded costs flawed?

A. Yes.

Q. In its filing regarding stranded costs in the year 2006, did Duquesne ignore the best evidence available as to the market value of its power plants?

A. Yes.

Q. Please explain.

A. In his testimony, Mr. Schnitzer wisely asserts that "a market-based determination of stranded costs is inherently superior to an administrative determination." (page 3). I strongly agree with Mr. Schnitzer, but regret that he did not apply his own logic to benchmarking Duquesne's stranded cost. In its filing regarding stranded costs in the year 2006, Duquesne ignored the best evidence available regarding the market value of its power plants that it has - that is its sale of its own Fort Martin Unit 1. This is an actual sale where the value of the asset was determined by the market. Duquesne sold its 50% share of this unit to AYP Energy ("AYP"), an unregulated subsidiary of Allegheny Power System, Inc. ("APS"). AYP plans to operate this plant as a merchant plant - that is, the plant will not be in APS' rate base, but will instead have to make a profit in a deregulated market selling at market determined prices. AYP paid a total of \$170 million dollars for a 50% share of Unit 1, which is approximately \$615/kW or \$130 million (pre-tax) in excess of the remaining book value of the plant. The value of this asset sale is in stark contrast to Duquesne's estimate of the market value of its other coal fired power plants. In its low electricity price scenario, Duquesne actually estimates that it would have to pay someone to own its plants. As Mr. Schnitzer testified, administrative techniques are a poor method for estimating the value of power plants and Duquesne should have used actual evidence of value instead.

Q. Do you agree with Duquesne's assumptions in its analysis of stranded costs?

A. No. Duquesne's assumptions are either too conservative or are erroneous.

Q. Please explain.

A. Duquesne's estimates vary widely from actual market evidence because it has made either too conservative or erroneous assumptions. The Cheswick power plant provides a good example of the flaws in Duquesne's analysis of the market value of the power plants after the year 2005. In the low market price scenario, Duquesne assumes that the plant has a negative market value, and that it could not even give away this plant for free.

There are several faulty assumptions made in this analysis. First, in the analysis shown in Exhibit DJC-3 (Page 45), Duquesne assumes that the average annual capacity factor of the Cheswick power plant between 2006 and 2014 will be 80%. Mr. Karl in his testimony states, "Annual unit capacity factor is assumed to equal that unit's equivalent availability." This statement implies that the annual average availability of the unit should therefore be 80%. However, Mr. Nelson's testimony (Exhibit RLN-7) projects that the average equivalent availability factor of the Cheswick power plant during 2006-2014 will be 86%.

Adjusting the net margin calculations to reflect the equivalent availability factors provided by Mr. Nelson, who states that the information included in his direct testimony is true and correct, results in an increase of \$14 million dollars to the market value of the power plants in the low price scenario. In the high market price scenario, this results in an increase of almost \$28 million in the market value of the Cheswick power plant. The results of this analysis are presented in Exhibit 3.

Q. Are there other flawed assumptions in Duquesne's analysis?

A. Yes. A second flawed assumption in Duquesne's market value calculation relates to the difference between the actual output of the plant and the "Delivered Output" Duquesne calculates to estimate the revenue the plant will receive. For the Cheswick power plant, Duquesne assumes that 6% of the unit's output will not be available to sell into the market. Duquesne does not state why it makes this assumption, but may have been done to reflect losses in the transmission and distribution system. The flaw in this assumption is that it is not consistent with the assumptions made by Mr. Schnitzer in his calculation of the electricity prices beyond the year 2005. Mr. Schnitzer calculates a "ceiling price" for electricity by estimating the long-run marginal cost of electricity supplies, or in other words by estimating the cost of adding a new combined cycle power plant to the grid. In his analysis, Mr. Schnitzer calculates this cost by dividing all of the costs of the power plant by the annual output of the plant based on an 84% capacity factor. He does not, however, adjust this calculation for any losses in the transmission or distribution system. Instead, he is calculating the revenue that the plant would need to receive at the entry to the transmission system before any losses occur. Therefore, Duquesne should calculate each plant's projected revenue in a similar manner in its margin analysis. If Duquesne corrects this flawed assumption, the value for the Cheswick power plant would increase by another \$10.2 million in the low electricity price scenario. In the high electricity price scenario, the change results in an increase of \$20 million dollars in the market value of the Cheswick power plant. This analysis is presented in Exhibit 4.

Q. Are there other errors in Duquesne's analysis?

A. Yes. Another assumption that Duquesne makes that may vastly understate the value of its generation assets is that the units will be retired at the end of their financial life. This assumption understates the future contributions to profits that the units will make. While I recognize there is some cost associated with extending the life of the plant, life extensions at coal fired power plants, in most cases, will bring additional profits to the plants, thus reducing overall stranded costs.

Q. What other mistakes have you found in Duquesne's analysis?

A. One of the major weaknesses of administrative valuation techniques that Mr. Schnitzer points out in his testimony is that it is very difficult to forecast future market prices. I agree with this assertion and also agree with his claim that one of the most widely ignored aspects of forecasting is that "Costs and hence prices are usually projected assuming that technology never improves, costs never decline, and efficiency gains are never realized. This type of 'fixed technology' estimate has historically proven to be very inaccurate."

(Page 8). Unfortunately, Duquesne makes this very mistake in its own administrative determination of stranded costs, assuming that the competitive pressures of a deregulated market will not result in any technological innovation that will help it to reduce its operation and maintenance and overhead costs at its plants. Duquesne also assumes that the pressures of a competitive market will not result in any efficiency gains. By not accounting for potential substantial reductions in operating costs and overhead, Duquesne has overstated its stranded costs.

- Q. Is it possible that actual market price in 2006 will be higher than Mr. Schnitzer's low electricity price scenario?
- A. Yes. Mr. Schnitzer testifies that "the actual market price is likely to be lower" (Page 30) than the price in the low electricity price scenario. He cites a number of factors that could drive prices lower, concluding that "it is not a certainty that any of these factors will play a role between now and 2006, but there are many of them, they are not mutually exclusive, and they all operate to drive prices down." (Page 31). Mr. Schnitzer's analysis of whether or not the actual market price will be lower than the low electricity price scenario fails to consider what is probably the single most important factor affecting the price of electricity in the long-term.
- Q. What is that?
- A. The impact of future gas prices.
- Q. Please explain.
- A. Mr. Schnitzer's forecast of electricity prices is based upon the cost of supplying new electricity with a combined cycle power plant. In his low price scenario, more than 50% of the cost of the power plant, and hence the price of electricity, is comprised of gas supply costs. If gas prices are higher than the projections provided by Mr. Schnitzer, then the cost of electricity will rise.
- Q. May gas prices be higher than those projected by Mr. Schnitzer?
- A. Yes.
- Q. Why?
- A. There are several factors that will put upward pressure on gas prices. First, deregulation of the electric industry is likely to create a strong demand for new combined cycle gas fired power plants. Already independent power producers have announced that they plan to build more than 5,000 MW of combined cycle gas fired power plants over the next five years in the New England market. There is also at least another 2,500 MW of new gas fired generation planned in Western markets. This trend towards increased gas fired generation will likely be accelerated by premature shutdown of nuclear power plants that cannot survive in a deregulated market. There is also a risk that increased environmental regulations could further accelerate the amount of gas-fired capacity added to the grid.

These significant increases in the demand for gas are likely to put upward price pressure on gas markets.

Q. Do you agree with Mr. Schnitzer's use of the results of a recent solicitation of power to show that electricity prices are likely to be lower than the prices in his low electricity price scenario?

A. No.

Q. Why not?

A. The results of this solicitation show, according to Mr. Schnitzer, that the "market" currently anticipates that spot market prices for electricity will range from 17.8 to 25.6 \$/MWh between 1998 and 2005. If Mr. Schnitzer's analysis were correct and the market were currently anticipating such spot market prices, then Duquesne would best minimize its stranded costs by shutting down all of its coal fired power plants. Table 2 to my testimony shows the total future cost of production at Duquesne's power plants. This forecast is based on the generation output levels supported by Mr. Karl and cost information supported by various Duquesne witnesses. The costs included in this analysis are only the ongoing costs. These costs include future fuel expenses, generation operation and maintenance expenses, and the replacement capital costs required to keep the plant operating or to extend the plant's life. I also have included in this analysis the corporate overhead expenses that can be attributed to generation. Economic theory holds that in an open market, a generator would shut down its plant if its potential revenue is less than its ongoing costs. To do otherwise would result in additional losses, regardless of the initial investment in the plant.

According to the testimony submitted by the various Duquesne witnesses, Duquesne is proposing to run all of its power plants during the transition period, even though its average expenditures will be nearly 50% more than the cost of purchasing power. If Duquesne believes in its own expert testimony, it needs to justify why it is not shutting down some of its power plants. According to the price projections submitted by Mr. Schnitzer, Duquesne could avoid nearly \$1.158 billion dollars in expenditures over the 1998-2005 time frame by shutting down its coal fired power plants and two of its nuclear plants (See Exhibit 5). Of course, if Duquesne were to shut down all of its plants, the market price of power would rise, reducing these savings. Still, this discrepancy calls into question the assumption that power will trade at these projected prices and suggests that prices in a truly deregulated market are likely to be higher. It also calls into serious question the level of commitment Duquesne has made to accelerating its amortization and depreciation.

Q. What are your conclusions regarding Duquesne's prima facie showing of stranded costs?

A. In my opinion, under Section 2804(4)(v) of the Customer Choice Act, the PUC should refuse to grant Duquesne's request to cap customer rate through 2006.

Q. Why is that?

A. First, Duquesne's own analysis, when corrected for flawed assumptions, shows that by 2006, it is unlikely that Duquesne will have any remaining stranded costs. Second, if Duquesne's estimates of the market price during the transition period are correct based on its solicitation to sell power, it can reduce its costs substantially simply by shutting down some of its least efficient plants. If this additional cost savings were used to accelerate amortization and depreciation of generation assets, Duquesne will even further reduce any stranded costs it claims would remain in 2006. Third, Duquesne's valuation of its plants does not seem at all consistent with the evidence provided by the recent sale of the Fort Martin plant to AYP, where AYP was willing to pay more than \$600/kW for a plant that must compete in the competitive wholesale power market.

Q. On or about October 20, 1997, Duquesne provided the parties in this matter with eleven (11) revised exhibits as well as modified workpapers and revised responses to interrogatories. Included was a six-page explanation of the changes. Have you reviewed all of these revisions?

A. I have only had the opportunity to review the six-page explanation.

Q. What does this explanation claim?

A. Duquesne claims that the revisions simply correct mathematical errors it made.

Q. Is this so?

A. I have not had an opportunity to review the exhibits, workpapers and other materials in order to verify Duquesne's contentions.

Q. What is the net effect of Duquesne's corrections of its own data?

A. Its estimated stranded costs at the end of 2005 change dramatically.

Q. How?

A. Based on the low market scenario, they are reduced from \$582 million to \$423 million.

Q. How about the high market price scenario?

A. Duquesne's stranded costs at the end of 2005 go from \$8 million to a stranded cost *benefit* of \$233 million.

Q. What conclusions do you draw from these new Duquesne numbers?

A. These numbers support my contentions that Duquesne has not made an adequate prima facie showing that it will have stranded costs after 2005 and that it is entitled to a rate cap through 2005.

These numbers also support the need for an early asset sale that I explain later in my testimony, rather than a 2003 arbitration to value assets and fix the competitive transition charge ("CTC").

Q. Does Duquesne's plan protect its customers from over-recovery?

A. No.

Q. Why not?

A. Duquesne has not changed its proposal concerning its 2003 arbitration. I disagree with the arbitration procedure in the first instance, and this procedure does not ensure that Duquesne will be given adequate incentives to mitigate its stranded costs to benefit its customers.

Q. How can the Pennsylvania Public Utility Commission protect ratepayers against over-recovery?

A. By refusing a rate cap through 2005 and by adopting the other suggestions I make in my testimony, assuming that Duquesne will not forego its arbitration procedure and will not conduct an asset sale in the manner that I suggest later in my testimony.

***III. Duquesne's Proposed Stranded Cost Calculation
Methodology Impairs The Formation Of A Competitive
Market And Provides Little Incentives To Minimize
Stranded Costs.***

Q. Can a stranded cost recovery mechanism impair the formation of a competitive market?

A. Yes.

Q. How?

A. For example, a stranded cost recovery mechanism could impair the formation of a competitive market if for some reason the recovery mechanism makes a high cost power plant run in place of a lower cost plant, or when it makes it profitable for a utility to beat out a new entrant that has lower total costs.

Q. How do you analyze whether the recovery mechanism impairs the formation of a competitive market?

A. To begin to analyze the impacts of a recovery mechanism, one must first distinguish between sunk costs and avoidable costs, and ascertain whether competitive decisions will be made based on avoidable costs.

Q. Please explain the difference between the two and how decisions are made in a competitive market.

A. Sunk costs include past investment costs or contractual obligations that have already been incurred, or for which the utility retains an obligation. Avoidable costs are future expenditures which have not yet been incurred but which must be expended on a going forward basis to keep the plants available and running, including the costs of actually generating power. Avoidable costs can be broken down into two categories – fixed incremental costs and variable incremental costs. Fixed incremental costs are those costs which are incurred regardless of the level of generation at a plant, such as fixed operation and maintenance (O&M) expenses, fuel inventory costs, incremental capital, incremental administrative and general and taxes. Variable incremental costs are those day-to-day costs of actually generating power, which include variable O&M, fuel costs, consumed emission credits, and other costs that vary with the level of generation. In a properly functioning competitive market, all decisions regarding whether or not to supply power and who should supply power will be based on the avoidable costs only.

Q. Does Duquesne's methodology impair the formation of a competitive generation market?

A. Yes.

Q. How?

A. We can analyze this by making a few simplifying assumptions and examining the costs of the Elrama power plant in relation to Duquesne's projection of market prices based on its recent solicitation to sell power.

Table 3 shows Duquesne's forecast of avoided costs and its forecast of market prices and plant output at the Elrama power plant for the years 1998-2004. The avoided costs included in this analysis are fuel, variable O&M, fixed O&M, overhauls costs, taxes that are not related to income taxes, administration and general O&M costs allocated to production, and capital expenditures. If Duquesne shut down this power plant, all of these costs could be avoided. In the year 1998, Duquesne forecasts that the market price of power will be \$17.80 per MWh. Therefore, if Duquesne can produce power for a cost lower than \$17.80 per MWh (including only its avoidable costs), it should produce the power. If Duquesne could produce the power for \$16.80 per MWh, it would generate operating profits of \$2.3 million dollars. In its forecast, however, Duquesne estimates that its avoidable costs will be \$36.0 per MWh. Incurring these avoidable costs and selling power at a significant loss will result in an operating loss of \$43 million in 1998. If Duquesne simply shut down the plant, it would be better off, because it would not incur any losses. In a properly functioning competitive market, Duquesne would base its

decision to spend these avoidable costs based on the expected return it would obtain on those expenditures. Any sunk costs will be irrelevant to its decision regarding future sales.

Q. What simplifying assumptions have you made in this analysis?

A. This analysis is a simplification only because the future market price is not known with certainty and shutting down a plant from year to year may involve some costs that must be factored into the analysis. Also, the analysis should not always consider just one year because it may be profitable to incur certain capital expenditures in one year because the return may be profitable over a longer period of time. The point is still true, however, that avoidable costs are the basis for efficient competition. Also, in the case of the Elrama power plant, it is clear that the plant should be shut down based on the information supplied by Duquesne because the projected operating losses total \$239 million dollars over the remaining life of the plant.

Q. How do avoided costs relate to the design of a stranded cost recovery mechanism?

A. In order to provide a utility with an incentive to minimize stranded costs and to ensure that an efficient, competitive generation market develops, the utility must be responsible for all of its avoided costs. As an example, consider again the case of the Elrama power plant. Duquesne is suggesting in its restructuring filing that it will spend \$585 million over the next seven (7) years to supply its customers with 17,729 GWh. Based on Duquesne's estimates of future market prices, Duquesne could buy this power from the market and resell it to its customers for only \$370 million dollars. This would save its customers \$215 million over a seven year period, and hence reduce overall stranded costs. The design of Duquesne's rates and its stranded cost recovery mechanism should ensure that it has incentives to buy this power and shut down the power plant instead. The mechanism should also ensure that Duquesne bears the risk of earning a return on future capital expenditures, rather than its traditional captive rate base. Also, in this case, if Duquesne kept the power plant running and sold power at the market price, it would prevent other more efficient generators that have a lower cost than the Elrama power plant from entering the market.

Q. Does Duquesne's current proposal provide it with incentives to minimize cost?

A. Only to a very limited degree.

Q. How?

A. Duquesne has committed to \$1.7 billion in total amortization and depreciation of generation related assets during the transition period. If Duquesne's capped rates will not generate enough revenue to cover its costs and this proposed level of depreciation and amortization, then shareholders will not receive their 11.5% return on equity. Therefore, Duquesne has an incentive to maximize its revenues and minimize its cost to the extent it

can achieve this level of amortization and depreciation along with a 11.5% return on equity (“ROE”).

Q. Does Duquesne's ROE spillover mechanism provide it with increased incentives to minimize costs?

A. Unfortunately this mechanism does not provide Duquesne with increased incentives to reduce its costs or to mitigate stranded costs.

Q. Please explain.

A. Duquesne's proposed mechanism would work as follows: Duquesne has proposed to establish a collar on its earnings of + or - ½% around its claimed ROE of 11.5%. If the Company's earnings exceed 12%, it would establish a deferred revenue credit account which would ultimately be used to fund accelerated amortization. If earnings fall below 11%, an adjustment to the deferred revenue account will be made to increase the Company's earning to the 11% ROE level or to eliminate the credit and balance in the account which ever is smaller. If at any time during the transition period, the balance in the deferred revenue credit account when added to the cumulative amount of depreciation and amortization of generating and regulatory assets was equal to the total minimum amount of committed depreciation and amortization, the final market-based valuation would be triggered.

This mechanism stipulates that any revenues that exist in the deferred revenue credit account must be credited to accelerate depreciation and amortization of generation related assets. Consider the example where Duquesne reduces its expenditures below forecasted levels and has a credit of \$200 million as of 2003. For the sake of illustration, also assume that Duquesne will have \$200 million dollars in stranded costs at the end of 2005. It is important to recognize in this example that Duquesne has proposed to extend the rate cap beyond 2005 to recover any stranded costs which remain after 2005, based on the final market-based determination of stranded costs in mid-2003. If Duquesne used the extra \$200 million dollars to further accelerate amortization and depreciation, all of the benefit would go to customers, it would have written off all of its stranded costs that would have remained in 2005, and therefore it will no longer be entitled to its proposed rate cap to recover remaining stranded costs. Duquesne could use the money for other purposes, however. For instance, it could increase capital expenditures so that it reduces capital expenditures that would have to be made after 2005 when its plants are competing in a competitive market. It could also sell its power at below market prices to capture market share, knowing that it has \$200 million it could use to offset any other losses. Either of these actions would not impact overall return to shareholders. Therefore, Duquesne does not have any significant incentive to ensure that excess earnings are provided to current ratepayers. It also has only very limited incentive to compete in the power market on the basis of avoided costs. As this analysis illustrates, \$200 million dollars of the revenue credit could be used to defray avoidable costs, and Duquesne does not need to justify its expenditures of avoidable costs against the revenues it would receive in a competitive

power market.

Q. Does the ability not to have to justify avoidable expenditures against market revenue impair the formation of a competitive market?

A. Yes.

Q. How?

A. For instance, the Elrama power plant has an average forecast avoided cost of \$35 per MWh over the period 1998-2004. Duquesne has shown in its testimony that it can achieve its committed level of amortization and depreciation even spending this amount of money to produce power at the Elrama power plant. However, according to Duquesne's own testimony (Mr. Schnitzer), a new plant could be built and operated at a lower cost. The fact that Duquesne could keep this plant running, sell at market prices around \$20 per MWh, and still recover more than \$30 per MWh from its ratepayers through stranded cost charges, will impede the ability of any new generator to enter the market and compete with the Elrama power plant.

Q. Does Duquesne's plan prevent the formation of a competitive market?

A. Yes. Duquesne's plan continues to rely upon continued cost of service regulation.

Q. Pursuant to its plan, will Duquesne have to compete for sales?

A. No. Duquesne will not be subjected to competitive forces for another nine (9) years.

***IV. Duquesne's Proposed Stranded Cost Recovery Plan
Minimizes The Traditional Risk Faced By Utility Investors.***

Q. In his testimony regarding the utility's risk profile and an appropriate cost of capital, Mr. Makholm concludes that "On balance, it is my opinion that the fixed customer charge will have little or no effect on Duquesne's risk, particularly when other aspects of Duquesne's stranded cost recovery proposal are considered." The other factor he cites is the commitment of Duquesne to a minimum schedule of accelerated amortization and depreciation. Do you agree with Mr. Makholm?

A. No, I do not agree.

Q. Why not.

A. First, Duquesne has redesigned its rates so that its fixed charges are significantly higher. For instance, in the past a residential customer who purchased 200 kWh in a month would pay a charge of \$29.70 to Duquesne. If the weather was mild and the customer's

consumption dropped 20% from historic levels, the customer's overall bill would fall by 16%. Due to the redesigned rates that have higher fixed charges, the customer's bill will fall by only 8%. Because a small drop in revenues can cause a large drop in profits, this change in rate structure significantly reduces the risk faced by Duquesne related to consumption and hence revenue levels.

Second, Mr. Makholm is correct that Duquesne has taken on some slight risk in that it has committed to a level of depreciation and amortization. However, the risk that it will not be able to achieve this level of depreciation and amortization is minimal. As I have already shown, Duquesne could minimize its costs from the cost levels shown in its analysis just by shutting down the Elrama power plant and purchasing power instead. Also, it can keep any excess earnings in one year to offset losses in another year. Therefore, I do not believe Mr. Makholm is correct to assume that this results in any great increase in risk for Duquesne. On the other hand, Duquesne is requesting that at the end of the transition period, based on its final market valuation, Duquesne will be able to extend the rate cap beyond 2005 to recover any remaining stranded costs. In other words, Duquesne is asking for a guarantee that outside of its minimum commitment levels, its investors will be assured of earning a full return on their investment – even if this means punishing rate payers by extending the rate cap beyond the period allowed by the Customer Choice Act. Due to this proposed assurance of recovery of stranded costs and the risk mitigated by the new rate design, Duquesne should be willing to accept some lower level of return to provide some benefit to customers.

V. There Are Other Recovery Mechanisms That Will Provide Greater Benefits To Consumers, Promote Competition And Provide Greater Incentives To Mitigate Stranded Costs.

- Q. Are there methods by which Duquesne's proposed stranded cost recovery mechanism can be redesigned to provide its customers with greater benefits?
- A. Yes.
- Q. Do these methods give Duquesne incentives to minimize its costs?
- A. Yes.
- Q. Pursuant to these other methods, would efficient competitive generation markets develop?
- A. Yes.
- Q. Please describe the method you prefer to accomplish these goals.
- A. The most preferable method would have Duquesne commit to selling off a substantial portion of its generating assets to determine market value.

Q. What would be the benefit of such a sale?

A. The sale would offer the benefits of: (1) a more immediate transition to a competitive power market where all assets must compete on the basis of avoided cost; (2) better methodology for valuing assets than an arbitration; and (3) a more credible estimate of stranded costs than the estimates offered by Duquesne which vary widely from its actual sale of the Fort Martin unit to AYP.

Q. When should this sale occur?

A. This sale of assets would preferably occur at the same time retail choice is phased-in in Pennsylvania.

Q. Please explain the benefits you identified earlier?

A. Duquesne goes to great lengths to explain the superiority of a market based approach to valuing generating assets. I agree with its analysis. Duquesne, however, urges the Pennsylvania Public Utility Commission (“Commission”) to allow an arbitration panel to set the value of its assets in 2003, based on “actual market prices contained in consummated market transactions in the relevant market, such as futures contracts, forward contracts, or asset sales.” (Page 47 of Mr. Schnitzer’s Testimony)

There are three major parameters that must be considered in estimating the market value of an asset. The first parameter is the expected revenue stream. The second parameter is the expected cost and performance of the asset. The third parameter is the risk associated with achieving the first two factors. Duquesne argues that an arbitration panel should set the value based on market determined forecasts of prices. Duquesne, however, ignores all of the uncertainty and error associated with the forecasts of future costs and operating parameters. The panel, therefore, will still have to evaluate the costs and operating parameters of the assets. It also will have to provide its own estimates of the risks involved with purchasing the assets. Because of the uncertainty associated with these second two factors, I believe the interaction of multiple buyers and sellers in the market place will provide a more accurate valuation of the assets.

I also would urge Duquesne to adopt a sale of its assets that will occur prior to the implementation of retail wheeling in the Commonwealth – much earlier than the 2003 valuation date. If the sale occurs earlier, then the assets can be taken out of rate base and forced to compete in competitive power markets. Only the known and measurable stranded costs (the difference between the sales price and the remaining net book value) that result from the sale will need to be recovered from ratepayers. Then every plant will be forced to compete in power markets on the basis of avoided costs. Another benefit of an immediate sale is that Duquesne’s consumers will have a better estimate of whether or not stranded costs will remain after 2005. Duquesne’s estimates of the value of its assets differ very widely from the price seen in its actual sale of an asset to AYP. An actual sale

of a substantial portion of its assets would provide a much more credible estimate of stranded costs.

Q. Do you believe that electricity markets are too immature to perform a market valuation before the introduction of retail wheeling in Pennsylvania?

A. Absolutely not. The market is fully capable of valuing assets now. Duquesne's asset sale of the Fort Martin power plant already proves that an asset can successfully be valued in the ECAR market. A second plant in Pennsylvania was recently sold when Williams Energy Group purchased a Hazelton Power Plant from Continental Energy Associates. Numerous assets sales are expected to occur around the country over the next several years. The New England Electric System ("NEES") already has sold, successfully, more than 4,000 MW of capacity in an auction. It is also important to note that the sale price of NEES' assets exceeded the expectation of most analysts. Other utilities that have announced major asset sales are as follows:

Boston Edison Company (2,000 MW)
Commonwealth Energy Systems (1000 MW)
Central Maine Power (1000 MW)
General Public Utilities (5,300 MW)
Pacific Gas & Electric (7,340 MW)
Southern California Edison (10,000 MW)

Q. Can the PUC require an asset sale?

A. According to Section 2804(5) of the Customer Choice Act the Commission "may permit, but shall not require, an electric utility to divest itself of facilities or to reorganize its corporate structure." I urge Duquesne to commit to selling a substantial portion of its assets for the reasons noted above. However, if Duquesne does not make such a commitment, I urge the PUC to consider making other changes in Duquesne's stranded cost recovery plan so that customers in its service territory receive some benefit from competition.

Q. What are the changes you would recommend?

A. If Duquesne is not willing to sell some or all of its assets, there are two other ways to ensure that the utility has incentives to mitigate stranded costs and that efficient competition will occur in generation markets. One method is to not guarantee full recovery of stranded costs, but instead only give Duquesne a fair opportunity to recover stranded costs. Such a proposal seems to be in the spirit of the Customer Choice Act. Given Duquesne's current proposals, two steps would be needed to achieve this goal. First, Duquesne cannot be allowed to continue its rate cap beyond 2005. If Duquesne is allowed to continue its rate cap, it will only have a limited incentive to reduce its costs during the transition period because it will know that it can recover any remaining stranded costs after 2005. This would not be fair to ratepayers. Further, there is no good

reason for Duquesne to continue to recover a CTC from customers, and a continued CTC would put the Pittsburgh region at a distinct competitive disadvantage in its ongoing attempts to retain and attract new industries, businesses, and residents.

- Q. What is the other method to assure incentives to mitigate and to assure efficient competition?
- A. The second way to ensure that Duquesne will have incentives to mitigate stranded costs is to require an increased level of minimum amortization and depreciation over the transition period. First, Duquesne should accept a lower base level return on equity in return for being able to increase its fixed charges and for being given a fair opportunity to recover its stranded costs. In some other jurisdictions, such as California and Rhode Island, this level of return has been set at the utility's cost of debt. Next, Duquesne's analysis of the minimum level of amortization and depreciation should be adjusted to determine how much can be depreciated and amortized and still achieve the new return on equity. Third, this analysis needs to be further adjusted so that the utility does not spend \$35 per MWh at a plant like Elrama when it can purchase power instead at a much lower cost. Finally, a slight adjustment needs to be made to the ROE spillover mechanism. Instead of using all profits above the return on debt level to accelerate depreciation of stranded costs, there should be a sharing of the increased profits where 50% of the excess profits are used to reward shareholders and 50% is used to accelerate depreciation of generation related assets, up to an 11.5% return on equity. Above an 11.5% return on equity, 90% of the excess profits should be provided to customers and 10% to shareholders.
- Q. What benefits do these adjustments present?
- A. These adjustments have several benefits. First, the reduced return on equity will provide a greater level of accelerated amortization and depreciation than currently proposed by Duquesne, providing much greater benefits to customers. Second, the increased level of accelerated amortization and depreciation will likely lead to a much quicker transition to competition and an earlier end to the rate caps. Finally, the sharing of profits above the reduced return on equity provides Duquesne with strong incentive to continue reducing its costs, thus further benefiting customers.
- Q. If these changes in the plan that you propose are not made, what benefits will the current Duquesne ratepayers see from the restructuring plan Duquesne has filed?
- A. Little, if any, measurable impact. Certainly, there will be no significant benefit in favor of Duquesne ratepayers.

VI. Conclusions

Q. Please summarize your conclusions.

A. In summary, I strongly urge the Commission to reject Duquesne's assertion of a prima facie showing that stranded costs will remain beyond the year 2005. I also urge the Commission to either encourage Duquesne to divest itself of a portion of its generation assets through an auction, or, at a minimum, require Duquesne to adopt the stranded cost recovery mechanism outlined above and commit to a much greater level of accelerated amortization and depreciation over the transition period. Otherwise, current Duquesne ratepayers will see no real benefit from the legislative creation of competition, Duquesne will have minimal incentive to reduce its costs, and Duquesne may actually have incentive to increase some of its costs, knowing that it will be able to recover, or even over-recover, these costs later through its proposed true-up mechanism and rate caps.

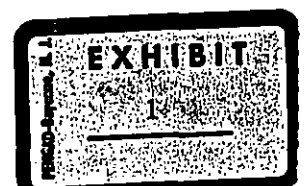
Background and History

Resource Data International, Inc., (RDI), provides reliable market and competitor information to the energy industry. Many of the world's largest coal companies, railroads, financial institutions and electric utilities are among its client base. RDI focuses on all fuels in the energy industry -- covering all United States sources and users of energy, the transportation systems that serve them, and the macro- and micro- economic linkages that tie them together.

INCORPORATED IN 1981 and headquartered in Boulder, Colorado, RDI's initial product, COALDAT®, a mine and market analysis system for the coal industry, has become the industry standard for fuel supply, transportation and demand analysis. RDI is continuously engaged in the design, research, development and maintenance of natural resources supply-demand-transaction databases. COALDAT and FUELDAT® (all-fuels data encompassing all of RDI's coal information) are applications of RDI's innovative methodology for collecting and disseminating supply-demand data. POWERDAT®, RDI's newest database, links the wealth of the fuels databases with detailed, interrelated utility financial and wholesale/bulk power supply and demand to provide the most advanced electric industry examination tool available.

THE CORE OF RDI'S BUSINESS is the collection, validation, maintenance and dissemination of reliable and consistent data on a continuous basis. Expert validation, correction and refinement of data give them a significant product advantage over other services. This requires a staff of highly talented professionals with expertise in the substantive areas of the database (energy economics, geology, geography, mining engineering, electric utilities, contracts, marketing, etc.). This experience gives customers a high level of confidence in the accuracy of the information they use in the course of daily operation, eliminating the need for large in-house research staffing.

RDI'S BASIC PRODUCT LINES consist of detailed computerized information on coal properties, fuels, products, customers and transactions. Special computer software enables clients to easily manipulate and utilize data to enhance their effectiveness in the marketplace. The software systems are designed to facilitate interactive use by middle- and upper-management personnel regardless of previous computer training. *(continued)*



Background and History Continued...

CLIENTS ENCOMPASS all links in the commodity chain: Producers, consumers, transporters, sales companies, lenders, investment bankers, equipment suppliers and government agencies. Licensed customers can use the database on their own mainframes, through PC usage or by delivered printed reports. RDI also provides custom reporting and expert consulting services, and distributes regularly published data reports to subscribers.

Finally, RDI provides intensive customer support and is dedicated to building long-term relationships with clients. This enables users to become more efficient and effectively utilize the wealth of information in the databases and staff supported applications and services.

RDI Consulting Services

Since 1981, Resource Data International, Inc. (RDI) has been recognized as the "industry standard" in energy data management, consulting, and market information. Its client base consists of many of the world's largest energy resource companies, electric and gas utilities, financial institutions, and railroads.

QUALIFICATIONS

RDI's staff consists of professionals with extensive experience in the fields of energy economics, econometrics and forecasting, market research and analysis, mining and mineral engineering, contract analysis, strategic planning, and computer systems design and applications. RDI's personnel have provided a broad range of consulting services to its clients, including strategic planning, acquisition support, fuel supply and market analysis, contract assessment, transportation analysis, price forecasting, litigation support, and public policy analysis.

EXPERIENCE

RDI's consulting experience focuses on all fuels in the energy industry. The scope of its expertise includes United States and off-shore suppliers and consumers of energy, the markets that drive them, the macro- and micro-economic linkages that influence them, and the transportation systems that serve them.

EXPERTISE

The core of RDI's expertise is the collection, validation, maintenance, and dissemination of reliable and consistent data on a continuous basis. This expertise gives the Company a significant advantage over other consulting firms who do not have RDI's extensive data resources. RDI also provides custom reporting and distributes regularly published data reports to subscribers.

RDI Consulting Services Areas of Expertise

COAL & TRANSPORTATION

- marketing and pricing practices analyses
- utility burn/capacity/dispatch analyses
- utility and industrial market analysis
- contract analysis and formulation
- coal quality and combustion analyses
- competitor intelligence and analysis
- export/import market review
- market share assessments

STRATEGIC ANALYSIS

- mine acquisition/divestiture strategies
- wholesale power market analysis
- acid rain compliance analysis
- energy supply & demand forecasts
- strategic planning & analysis
- legislative impact analysis
- fuel supply procurement
- strategic policy planning
- basin studies

FINANCIAL & PRICING ANALYSES

- FOB mine, transportation and delivered price analyses
- fuel supply procurement analyses and audits
- financial analysis of mine and coal projects
- rail, barge, truck, vessel and terminal rates
- valuation and analysis of contracts/buy-outs
- valuation of reserves/mines/companies
- mine and transportation cost modeling
- fuel supply bid evaluations
- coal pricing forecasts

LITIGATION AND ARBITRATION SUPPORT

- litigation/arbitration strategies development
- expert witness testimony and litigation support

Electric Utility Strategic & Competitive Studies

- For a midwestern investor owned utility, a study of the current and projected wholesale power market with a "two-wheel" market reach.
- For a large New York investor owned utility, a wholesale power market assessment for all entities (private, public and co-op) in the northeastern United States.
- For a Rocky Mountain area investor owned utility, a wholesale power market assessment for all WSCC and selected MAPP electric utilities.
- For a major midwestern electric utility holding company, a wholesale power market assessment and review of potential acquisition targets.
- For a western investor owned utility, research concerning electricity contracts and rates for all U.S. steel mills as well as a profile of potential competitors in the utility's own industrial market.
- In-depth competitor profiles have been completed for various electric utility companies including a midwestern IOU, the non-regulated subsidiary of a north central IOU, and a southeastern IOU.
- For a mid-Atlantic investor owned utility, developed a database of unit-level production costs for all other utilities in the northeast.
- For several utilities, power marketers, and independent power producers, detailed surveys of power contracts with muni's and co-op's for the purpose of assessing market expansion and/or market protection.
- Bi-annual, multi-client studies in the areas of bulk power markets in the U.S., mergers and acquisitions in the U.S. electric utility industry and an acid rain handbook.
- Litigation support for two complex cases involving an analysis of market power in the wholesale power market.
- For a large Western municipal utility, a detailed review of their 5 year strategic plan in the light of the new competitive dynamics in the WSCC.
- For a major coal producer, an analysis of the potential benefits of nighttime pricing of coal

- For one of the biggest coal generators in the country, a scenario analysis of future market prices, market dynamics, and competitive positioning in wholesale markets over the next 10 years.
- For an independent power producer, an analysis of transmission flows, available transmission capacity, and transmission pricing in a defined market area.
- For a Canadian utility, an analysis of the competitive impacts of opening up the Canadian retail market to U.S. utilities.
- For a Southeast U.S. utility, a review of wholesale market dynamics for the next 10 years and identification of market opportunities.
- For an independent power producer, a review of the economics the power markets within SERC. This review was utilized to help justify the internal decision to obtain financings for a merchant plant in the Southeast.
- For a major Northeast utility, a review of the economics of a fuel switching project in which the fuel price could possibly be tied to the price of purchased power in the wholesale market.

Coal Market Studies & Acquisition Support

For a major eastern coal producer, studied the impact of PRB and Western bituminous coals on Central Appalachia coal markets.

Analyzed the impact on coal markets related to the potential merger of the Union Pacific and Southern railroads for various parties.

For a major western land holding company, studied the markets for Northern Powder River Basin coal. Analysis was conducted to assist the company's Board of Directors assess the "value" of their property in the current market.

For a major eastern utility, analyzed the company's current position relative to competing utilities on the basis of coal supply contracts and rail rates, both in the current and projected deregulated market environments.

Conducted studies of the demand for upgraded Powder River Basin coal products for multiple companies.

For two major barge companies analyzed the market for barge-delivered coal.

For two midwestern coal producers, analyzed the benefits of maintaining a position in the coal industry.

For a major U.S. oil company contemplating investment in a clean coal technology demonstration plant, conducted a market evaluation study of an upgraded coal product produced in Northern Appalachia.

For a major eastern land holding company, studied the ramifications of the company maintaining its coal land ownership position in Kentucky and Tennessee and determined benchmarks for lease terms.

Conducted a strategic analysis of coal and petcoke markets available to a major barge company.

For a midwestern coal producer assessing the feasibility of constructing a coal transloading facility, analyzed the markets for coal transloading and blending services in the region.

For a midwestern coal producers, analyzed the current and future markets in support of the company's strategic planning related to the future of specific mining operations.

continued,

Coal Market Studies & Acquisition Support Cont.

from previous page

For a major U.S. coal producer, performed a market evaluation study of an upgraded western coal product from a coal gasification demonstration plant.

For an eastern coal mining and marketing firm, performed a market analysis in support of a potential acquisition in eastern Kentucky which involved new transportation options for the producer.

For a legal firm (in support of a major transportation carrier), performed an analysis of the proposed merger of the Union Pacific and Chicago Northwestern Railroads.

For a minerals and mining firm entering the coal industry, performed a series of market analyses in support of an acquisition program.

In support of a major U.S. coal investment for a large European coal producer, conducted a two part study concerning the outlook for U.S. coal as well as an evaluation of a U.S. coal producer.

For a coal subsidiary of a major eastern utility, performed market studies in support of an acquisition program.

For a major western producer, in support of an integrated acquisition program, conducted an analysis of all western coal producing regions, including an assessment of the market potential, transportation options and costs, mining costs, and current federal coal royalties.

Evaluated the mining costs and markets at a group of Rocky Mountain coal mines which are potential suppliers to a major Western utility's power plant.

For an independent midwestern coal producer, analyzed the market opportunities for a potential western acquisition.

For a major western railroad, performed a detailed supply and demand study of Colorado and Utah coal properties.

For a major midwestern producer, assessed the market potential for a proposed property acquisition in the Illinois Basin.

continued

Coal Market Studies & Acquisition Support Cont.

from previous page

For a major U.S. steel and coal company, examined the impacts of a potential contract loss and investigate options ranging from new acquisitions to divestiture.

For a major eastern coal producer, performed several market assessments for proposed acquisitions in Central Appalachia.

For a top-five national coal company, assessed a variety of acquisition strategies and made appropriate recommendations.

Conducted a market study and forecasted the demand and competitive environment dynamics facing a proposed beneficiated steam coal product for one of the largest Great Plains lignite producers.

A market study of the feasibility of constructing and operating a coal transfer and blending facility for a Midwestern state economic development agency. The study included forecasting coal prices for both mine-run and blended coal products.

Litigation Support

For a group of western utilities, provided expert support related to production cost, transportation, and market issues in a dispute with a coal supplier.

For the Navajo Nation, provided expert support related to royalty issues in a dispute with the United States.

For an international steel producer, provided expert support in a metallurgical price issue related to tax impositions.

For a midwestern coal producer, provided expert support in a contract price dispute with a major local utility.

For a western utility, provided expert witness testimony in an arbitration regarding the fair market value of northern Powder River Basin coal.

For a major eastern utility, provided expert support in an arbitration related to the utility's purchase of power from a non-utility generator.

For a major U.S. coal producer, provided expert analysis in a contract price dispute with a western utility.

For the Navajo Nation, provided expert testimony in Federal court related to coal taxation issues in a dispute with the Hopi Tribe.

For a western coal producer, provided analysis of the potential market value of a Colorado coal property related to a partnership dissolution.

In a Federal court case involving possible reserve contamination, provided expert witness testimony related to the fair market value of coal.

For a Central Appalachia coal producer/broker, performed an analysis of current "Market Price" for use in contract negotiations with a major Asian utility.

For two separate midwestern utility contracts, determined the fair market value of Illinois Basin coal.

In a utility bankruptcy case, provided expert support in determining fair market price of western coal.

For several electric utilities and coal producers, established "market price indexing mechanisms" for new and re-opened contracts.

continued

Litigation Support, cont.

from previous page

For a western coal producer, gave testimony concerning the fair market value of a major acquisition and property trade.

For a major national coal company, analyzed force majeure implications relative to the Clean Air Act.

For a western Indian tribe, provided litigation support relative to the demand and markets for Powder River Basin coal.

For a major investment firm, provided testimony concerning a fairness opinion relating to the valuation of several Western coal properties.

For a cogeneration subsidiary of a coal company, testified concerning fuel prices and demand for electric power.

For an eastern coal company, provided expert support in determining market price for contract negotiations.

Policy Analysis

For a national policy analysis group, conducted a study of the electricity production costs attainable from, and the capability issues associated with, the latest coal, natural gas, and non-hydroelectric renewable energy technologies.

For a western-based "think tank," assessed the costs and implications of controlling CO2 emissions in the U.S.

For an eastern railroad, assessed the impacts of potential global warming legislation on its markets.

For several coal producers and electric utilities, assessed the impact of proposed acid rain legislation.

For the Western Governors Association, performed a study of the export potential for Western coal.

For the Western Coal Traffic League, produced an analysis of the economic and fiscal impacts of federal royalty guidelines at the federal, state and local levels.

For a large coal producer, performed an assessment of federal coal royalty rates including trade off analysis for switching production away from affected federal leases to adjacent private leases.

For a western coal supplier, analyzed the federal energy policy goals that encouraged development of the western coal industry.

Ronald L. McMahan, President

Dr. McMahan is the President of Resource Data International, Inc. (RDI), which he founded in 1982. He is an experienced energy economist whose practical understanding of industry issues has made him one of the nation's leading experts in the areas of litigation support, energy markets, mergers and acquisitions, and strategic analysis. Additionally, he is a recognized leader in the area of energy policy, regularly advising corporate executives, industry associations, governors and federal policy-makers. He publishes and speaks widely, and is a regular author of RDI's monthly "Market Watch" column published in *Coal Magazine*, and is executive editor of RDI's bi-weekly "Trends" column in *Public Utilities Fortnightly*.

Prior to founding RDI, Dr. McMahan served as Director of the western regional office of Abt Associates, Inc., a Cambridge, MA-based economic consulting firm. Dr. McMahan also served as Special Consultant to the President's Commission on Coal.

Dr. McMahan served as a member of the faculty at the University of Colorado where he was Director of the University's Coal Research Project for four years. He received the University's Award for Teaching Excellence in 1978 and in the same year was recognized for Excellence in Research for his work on the economic history of the U.S. coal industry. As part of his research, Dr. McMahan produced a five-part television series for the Corporation for Public Broadcasting funded by the National Endowment for the Humanities.

Dr. McMahan received his B.A. in Physics from the University of Colorado in 1968 and subsequently served as a Lieutenant in the U.S. Navy. He later returned to the University of Colorado and received his Ph.D. in 1977, specializing in Economic History.

In addition to his professional pursuits, Dr. McMahan has held several part-time and honorary academic appointments including Lecturer in Telecommunications and Society at the University of California at San Diego (1980), member of the faculty of the Colorado School of Mines Executive Training Institute (1981) and Adjunct Professor at Regis College (1979).

Market & Competitor Intelligence

RDI Database Subscribers (July, 1997)

ELECTRIC UTILITIES

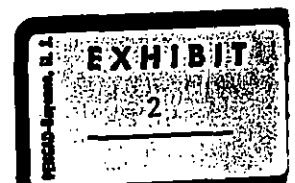
Allegheny Power Service Corp.
American Electric Power
Arizona Electric Power Coop.
Arizona Public Service
Associated Electric Coop.
Austin Electric Dept.
Basin Electric Power
BC Hydro
Big Rivers Electric
Bonneville Power Admin.
Carolina Power & Light
Centerior Energy
Central & South West Services
Central Louisiana Electric
Chugach Electric Assoc.
CINergy
Citizens Utilities Co.
City Utilities of Springfield
Commonwealth Edison
Commonwealth Energy System
Consolidated Edison
Consumers Energy
Cooperative Power
Dairyland Power
Dayton Power & Light Co.
Delmarva Power
Detroit Edison
Duke Power
Duquesne Light
East Kentucky Power Coop.
Edison International
Electricities of N.C.
Entergy Services
Florida Power
Florida Power & Light Co.
Gainesville Regional Utilities
Green Mountain Power

Hoosier Energy
Houston Lighting & Power
Hydro-Quebec
Idaho Power
IES Utilities
Indianapolis Power & Light
Jacksonville Electric Authority
Kansas City Power & Light
Kentucky Utilities
Lansing Board of Water & Light
Louisville Gas & Electric
Manitoba Hydro
MidAmerican Energy
Minnesota Power
Montana Power
Montana-Dakota Utilities
N.C. Electric Membership Corp.
Nebraska Public Power District
Nevada Power
New York Power Authority
New York State Electric & Gas
Niagara Mohawk
Northeast Utilities
Northern Indiana PSC
Northern States Power
Oglethorpe Power
Ohio Edison
Oklahoma Gas & Electric Co.
Old Dominion Electric Coop.
Omaha Public Power District
Ontario Hydro
Otter Tail Power Company
PacifiCorp
PECO Energy
Pennsylvania Power & Light
Platte River Power Authority
Potomac Electric Power Co.
PSC of Colorado

PSC of New Mexico
Public Service Electric & Gas
Salt River Project
Santee Cooper
Sask Power
Seattle City Light
Seminole Electric Coop.
South Carolina Electric & Gas
Southern Company Services
TECO Energy
Tennessee Valley Authority
Texas Utilities
TransAlta Energy
Tri-State G & T Association
Tucson Electric
United Power Association
UtiliCorp United
Virginia Power
Western Area Power Admin.
Western Resources
Wisconsin Electric Power
Wisconsin Power & Light
Wisconsin Public Service

NON-UTILITIES

ABB Power T&D Co.
Air Products & Chemicals
Cal Energy
C.C. Pace Resources
Cogentrix
NRG Energy
Tenaska Power Services Co.
TransCanada Energy Ltd.
U.S. Generating Company
Westinghouse Electric



POWER MARKETERS

AIG Trading Corporation
Calpine Corporation
Citizens Power
CNG Energy Services
Coral Power, LLC
Delhi Energy Services
Duke/Louis Dreyfus
Dupont Power Marketing
El Paso Energy
Electric Clearinghouse
Englehard Power Marketing
Enron Capital & Trade
Entergy Power Marketing
Equitable Power Services
Heartland Energy Services
Koch Power Services
LG&E Power
Midcon Management Services
NorAm Energy Services
NP Energy
PanEnergy Corp.
Pipeline Power Partners
Power Co. of America
Powerex
Sonat Power Marketing
Southern Energy, Inc.
Valero Power Services
Vastar Power Marketing
Vitol Gas & Electric
Western Power Services
Williams Energy Services

FINANCIAL & CONSULTING

A.T. Kearney
Andersen Consulting
Barclays de Zoete Wedd
CIBC Wood Gundy

Columbus Group
Coopers & Lybrand
CSC Planmetrics
Deloitte & Touche, LLP
Ernst & Young, LLP
First Chicago Leasing
Fitch Investors Group
Merrill Lynch
Metzler & Associates
Morgan Stanley
Oppenheimer & Co.
PMG Advisory Group
Salomon Brothers
Systematic Solutions
Utilities International
Utilities Systems Assoc.

COAL COMPANIES

A.T. Massey Coal Company
Amvest Coal Sales
Anker Energy
Arch Coal Sales
ARCO Coal Company
Ashland Coal
Coastal Coal
Consol
Costain Coal, Inc.
Cyprus Amax Coal Sales
Drummond Coal
Electric Fuels Corp.
Exxon Coal & Minerals
Freeman United
Gatliff Coal
James River Coal
Kennecott Energy
Kerr McGee Corp.
Kiewit Mining Group
Mapco

North American Coal
Ohio Valley Coal
Peabody Holding
Peter Kiewit
Pittsburg & Midway Coal
Rochester & Pittsburgh Coal
Solar Sources
Stern Bros.
Union Pacific Resources
Westmoreland Coal
Zeigler Coal Company

RAILROADS

Burlington Northern
Conrail
CP Rail
CSX Transportation
Norfolk Southern
Union Pacific Rail

OTHER

American Public Power Assn.
Black & Veatch
Bureau of Land Management
EPRI
FERC
Gas Research Institute
Illinois Dept. of Commerce
NRECA
NREL
NYMEX
Oakridge National Labs
Rural Utilities Service
Sargent & Lundy, LLC
United Miners Workers Assn.
U.S. Army Corps of Engineers
U.S. Enrichment Corporation
Weir International

TABLE 1: 1996 RETAIL RATES IN ECAR (\$/MWH)

COMPANY NAME	RATE (\$/MWH)		
	RESIDENTIAL	COMMERICAL	INDUSTRIAL
Ohio Valley Electric Corp.	-	-	18.36
Alcoa Generating Corp.	-	-	19.35
Kentucky Utilities Co.	45.88	44.17	34.17
PSI Energy, Inc.	60.84	47.65	34.76
Kingsport Power Co.	48.91	49.71	34.69
Appalachian Power Co.	55.81	50.75	36.35
Kentucky Power Co.	48.59	50.78	30.01
Louisville Gas & Electric Co.	59.82	54.69	36.26
Southern Indiana Gas	67.73	55.01	35.37
Wheeling Power Co.	66.13	55.30	34.96
Ohio Power Co.	66.43	55.36	31.84
Union Light, Heat & Power Co.	61.00	57.61	43.16
West Penn Power Co.	67.99	58.57	44.53
Indiana Michigan Power Co.	66.88	58.63	42.88
Monongahela Power Co.	73.18	60.60	40.00
Indianapolis Power & Light Co.	59.95	62.08	44.11
Potomac Edison Co.	70.46	63.99	35.35
Columbus Southern Power Co.	78.33	64.60	48.09
Edison Sault Electric Co.	61.06	64.91	39.02
Cincinnati Gas & Electric Co.	76.91	67.91	45.96
Dayton Power & Light Co.	85.89	69.44	49.10
Consumers Energy Co.	79.93	73.62	54.24
Pennsylvania Power Co.	94.39	77.17	48.20
Duquesne Light Co.	121.71	82.85	57.69
Detroit Edison Co.	92.54	85.03	51.44
Northern Indiana Public Service	99.96	85.84	45.96
Ohio Edison Co.	103.53	93.73	59.70
Cleveland Electric Illuminating	113.42	96.69	65.73
Toledo Edison Co.	114.69	108.18	58.73
Weighted Average:	77.11	71.01	42.23



TABLE 2: FORECAST POWER PRODUCTION COSTS

ONGOING PRODUCTION COSTS (¢/kWh)

PLANT NAME	1998	1999	2000	2001	2002	2003	2004	2005
CHESWICK	3.15	2.52	2.77	2.77	2.77	3.32	4.91	3.18
SAMMIS	2.22	2.79	2.35	3.21	3.29	3.08	2.76	3.31
EASTLAKE	2.43	3.18	2.63	3.54	3.68	3.12	3.52	3.98
ELRAMA	3.50	3.56	3.65	3.49	3.33	3.63	3.44	0.00
MANSFIELD 1	2.91	3.35	3.47	2.58	2.72	2.70	3.14	3.07
MANSFIELD 2	2.89	3.34	3.086	2.99	2.70	2.65	3.09	2.93
MANSFIELD 3	2.86	3.27	2.59	2.78	3.24	2.73	3.06	3.03
MARKET PRICE	1.78	1.87	1.97	2.08	2.19	2.31	2.43	2.56

Note: Market price projections are provided by Mr. Schnitzer in Exhibit MMS-4



TABLE 3: DUQUESNE'S PROJECTIONS OF AVOIDED COSTS AT ELRAMA

	1998	1999	2000	2001	2002	2003	2004
CAPACITY (MW)	487	487	487	487	487	487	487
CAPACITY FACTOR	59%	59%	58%	60%	63%	56%	60%
OUTPUT (GWH)	2,521	2,521	2,490	2,558	2,690	2,388	2,561
MARKET PRICE (\$/MWH)	17.80	18.70	19.70	20.80	21.90	23.10	24.30
TOTAL REVENUES (1000 \$)	42,182	44,317	46,115	50,019	55,379	51,843	58,489
AVOIDABLE COSTS							
FUEL COST (1000 \$)	41,139	44,969	44,085	45,740	49,449	45,133	49,901
VARIABLE O&M (1000 \$)	2,420	2,420	2,451	2,583	2,786	2,541	2,798
FIXED O&M (1000 \$)	16,715	13,774	14,037	15,131	14,857	15,146	15,415
OVERHAUL (1000 \$)	-	3,800	1,700	-	-	3,000	-
FICA (1000 \$)	588	530	595	598	595	616	623
PROPERTY TAX (1000 \$)	623	623	623	623	623	623	623
CAP STOCK TAX (1000 \$)	651	651	651	651	651	651	651
NON-PRODUCTION O&M (1000 \$)	12,288	11,994	13,144	13,231	12,950	12,614	12,205
CAPITAL EXPENDITURE (1000 \$)	10,826	5,551	8,201	5,312	2,366	1,139	667
TOTAL AVOIDED COST (\$/MWH)	36.0	35.6	36.5	34.9	33.3	36.3	34.4
OPERATING LOSS (1000 \$)	43,067	39,995	39,372	33,849	28,898	29,620	24,394
OPERATING LOSS (\$/MWH)	18.2	16.9	16.8	14.1	11.4	13.2	10.1

EXHIBIT
TABLE 3

Duquesne Light -- Margin Analysis with Incorrect Capacity Factors

PV of Fossil Plants

(\$ in Millions)

@ \$33.8/mwh in 2006 with escalations @ 2.5%

<u>CHESWICK</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>AVERAGE</u>
kwh Market Price (cents)	33.8	34.7	35.5	36.4	37.3	38.3	39.2	40.2	41.2	
Unit Output (gwh)	4,197	4,032	3,876	4,195	3,528	3,865	4,211	4,032	3,828	
Corrected Capacity Factor	91%	86%	90%	85%	89%	84%	76%	91%	86%	86%
Original Capacity Factor	84%	81%	78%	84%	71%	77%	84%	81%	77%	80%
Delivered Output (gwh)	3,946	3,790	3,644	3,943	3,316	3,633	3,959	3,790	3,599	
Revenues	133.46	131.39	129.49	143.63	123.82	139.05	155.29	152.38	148.31	
<u>Fuel-Related Expenses</u>										
Fuel Costs	80.67	79.96	79.61	93.04	80.65	92.73	105.72	104.98	103.48	
Total Fuel	80.67	79.96	79.61	93.04	80.65	92.73	105.72	104.98	103.48	
<u>Non-fuel O&M Expenses</u>										
Variable O&M	3.93	3.88	3.83	4.25	3.67	4.13	4.61	4.54	4.42	
Fixed O&M	9.56	11.72	11.87	10.13	11.03	12.40	10.53	12.83	12.98	
Overhaul	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>12.50</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	
Subtotal	13.49	15.60	15.70	14.38	27.20	16.53	15.14	17.37	17.40	
Carbon Injection Costs	3.01	2.80	2.81	3.09	2.52	2.93	3.33	3.13	3.07	
FICA	0.48	0.51	0.51	0.46	0.48	0.54	0.56	0.59	0.57	
Property Tax	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	
Cap Stock Tax	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	
Total Non-fuel	18.70	20.63	20.74	19.65	31.92	21.72	20.75	22.81	22.76	
Capital Expenditures	5.19	5.34	5.50	5.67	15.05	4.53	3.14	1.66	1.06	
Direct Expenses	104.56	105.93	105.85	118.36	127.62	118.98	129.61	129.45	127.30	
Direct Margin	28.90	25.46	23.64	25.28	(3.80)	20.07	25.68	22.94	21.01	
Overhead Allocation	17.70	19.98	19.63	21.63	23.77	22.35	25.16	26.54	25.43	
Expenses Incl. Corp O/H	122.26	125.91	125.48	139.99	151.39	141.33	154.77	155.99	152.73	
Margin After Corp O/H	11.20	5.48	4.01	3.65	(27.57)	(2.28)	0.52	(3.60)	(4.42)	
	6.55	3.21	2.35	2.13	(16.13)	(1.33)	0.30	(2.11)	(2.59)	
<u>Costs per kwh (cents)</u>										
Fuel	2.04	2.11	2.18	2.36	2.43	2.55	2.67	2.77	2.88	
Variable O&M	0.10	0.10	0.11	0.11	0.11	0.11	0.12	0.12	0.12	
Fixed O&M	0.24	0.31	0.33	0.26	0.33	0.34	0.27	0.34	0.36	
Overhaul	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	
Carbon Injection Costs	0.08	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.09	
Other Fixed Costs	0.06	0.06	0.06	0.06	0.07	0.06	0.06	0.06	0.06	
Capital Expenditures	<u>0.13</u>	<u>0.14</u>	<u>0.15</u>	<u>0.14</u>	<u>0.45</u>	<u>0.12</u>	<u>0.08</u>	<u>0.04</u>	<u>0.03</u>	
Direct Expense	0.61	0.69	0.72	0.64	1.42	0.72	0.60	0.65	0.66	
Direct Margin	0.73	0.67	0.65	0.64	(0.11)	0.55	0.65	0.61	0.58	
Overhead Allocation	0.45	0.53	0.54	0.55	0.72	0.62	0.64	0.70	0.71	
Expenses Incl. Corp O/H	3.10	3.32	3.44	3.55	4.57	3.88	3.91	4.12	4.25	
Margin After Corp O/H	0.28	0.14	0.11	0.09	(0.83)	(0.06)	0.01	(0.10)	(0.12)	
NPV of Margin after O/H	(1.99)									
NPV of Decommissioning	23.60									
NPV OF NET MARGIN	(25.59)									



Duquesne Light -- Margin Analysis with Corrected Capacity Factors

PV of Fossil Plants
(\$ in Millions)

@ \$33.8/mwh in 2006 with escalations @ 2.5%

CHESWICK	2006	2007	2008	2009	2010	2011	2012	2013	2014	AVERAGE
kwh Market Price (cents)	33.8	34.7	35.5	36.4	37.3	38.3	39.2	40.2	41.2	
Unit Output (gwh)	4,529	4,309	4,474	4,254	4,419	4,199	3,790	4,529	4,309	
Corrected Capacity Factor	91%	86%	90%	85%	89%	84%	76%	91%	86%	86%
Original Capacity Factor	84%	81%	78%	84%	71%	77%	84%	81%	77%	80%
Delivered Output (gwh)	4,257	4,051	4,205	3,999	4,154	3,947	3,562	4,257	4,051	
Revenues	144.00	140.44	149.45	145.67	155.09	151.06	139.74	171.17	166.93	
Fuel-Related Expenses										
Fuel Costs	87.04	85.47	91.88	94.35	101.02	100.74	95.14	117.92	116.47	
Total Fuel	87.04	85.47	91.88	94.35	101.02	100.74	95.14	117.92	116.47	
Non-fuel O&M Expenses										
Variable O&M	4.24	4.15	4.42	4.31	4.60	4.49	4.15	5.10	4.97	
Fixed O&M	9.56	11.72	11.87	10.13	11.03	12.40	10.53	12.83	12.98	
Overhaul	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	
Subtotal	13.80	15.87	16.29	14.44	28.13	16.89	14.68	17.93	17.95	
Carbon Injection Costs	3.25	2.99	3.24	3.13	3.16	3.18	3.00	3.52	3.46	
FICA	0.48	0.51	0.51	0.46	0.48	0.54	0.56	0.59	0.57	
Property Tax	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	
Cap Stock Tax	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Total Non-fuel	19.25	21.09	21.76	19.75	33.48	22.33	19.96	23.76	23.70	
Capital Expenditures	5.19	5.34	5.50	5.67	15.05	4.53	3.14	1.66	1.06	
Direct Expenses	111.48	111.90	119.14	119.78	149.55	127.60	118.23	143.33	141.24	
Direct Margin	32.52	28.54	30.31	25.89	5.54	23.46	21.51	27.84	25.70	
Overhead Allocation	17.70	19.98	19.63	21.63	23.77	22.35	25.16	26.54	25.43	
Expenses Incl. Corp O/H	129.18	131.88	138.77	141.41	173.32	149.95	143.39	169.87	166.67	
Margin After Corp O/H	14.82	8.56	10.68	4.26	(18.23)	1.11	(3.65)	1.30	0.27	
	8.67	5.01	6.25	2.49	(10.67)	0.65	(2.14)	0.76	0.16	
Costs per kwh (cents)										
Fuel	2.04	2.11	2.18	2.36	2.43	2.55	2.67	2.77	2.88	
Variable O&M	0.10	0.10	0.11	0.11	0.11	0.11	0.12	0.12	0.12	
Fixed O&M	0.22	0.29	0.28	0.25	0.27	0.31	0.30	0.30	0.32	
Overhaul	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	
Carbon Injection Costs	0.08	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.09	
Other Fixed Costs	0.05	0.06	0.05	0.05	0.05	0.06	0.06	0.05	0.06	
Capital Expenditures	0.12	0.13	0.13	0.14	0.36	0.11	0.09	0.04	0.03	
Direct Expense	0.57	0.65	0.65	0.64	1.17	0.68	0.65	0.60	0.61	
Direct Margin	0.76	0.70	0.72	0.65	0.13	0.59	0.60	0.65	0.63	
Overhead Allocation	0.42	0.49	0.47	0.54	0.57	0.57	0.71	0.62	0.63	
Expenses Incl. Corp O/H	3.10	3.32	3.44	3.55	4.57	3.88	3.91	4.12	4.25	
Margin After Corp O/H	0.35	0.21	0.25	0.11	(0.44)	0.03	(0.10)	0.03	0.01	
NPV of Margin after O/H	11.96									
NPV of Decommissioning	23.60									
NPV OF NET MARGIN	(11.64)									

Duquesne Light -- Margin Analysis with Incorrect Delivered Output

PV of Fossil Plants

(\$ in Millions)

@ \$33.8/mwh in 2006 with escalations @ 2.5%

<u>CHESWICK</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
kwh Market Price (cents)	33.8	34.7	35.5	36.4	37.3	38.3	39.2	40.2	41.2
Unit Output (gwh)	4,197	4,032	3,876	4,195	3,528	3,865	4,211	4,032	3,828
Corrected Capacity Factor	91%	86%	90%	85%	89%	84%	76%	91%	86%
Original Capacity Factor	84%	81%	78%	84%	71%	77%	84%	81%	77%
Delivered Output (gwh)	3,946	3,790	3,644	3,943	3,316	3,633	3,959	3,790	3,599
Revenues	133.46	131.39	129.49	143.63	123.82	139.05	155.29	152.38	148.31
<u>Fuel-Related Expenses</u>									
Fuel Costs	80.67	79.96	79.61	93.04	80.65	92.73	105.72	104.98	103.48
Total Fuel	80.67	79.96	79.61	93.04	80.65	92.73	105.72	104.98	103.48
<u>Non-fuel O&M Expenses</u>									
Variable O&M	3.93	3.88	3.83	4.25	3.67	4.13	4.61	4.54	4.42
Fixed O&M	9.56	11.72	11.87	10.13	11.03	12.40	10.53	12.83	12.98
Overhaul	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>12.50</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
Subtotal	13.49	15.60	15.70	14.38	27.20	16.53	15.14	17.37	17.40
Carbon Injection Costs	3.01	2.80	2.81	3.09	2.52	2.93	3.33	3.13	3.07
FICA	0.48	0.51	0.51	0.46	0.48	0.54	0.56	0.59	0.57
Property Tax	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Cap Stock Tax	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>	<u>0.88</u>
Total Non-fuel	18.70	20.63	20.74	19.65	31.92	21.72	20.75	22.81	22.76
Capital Expenditures	5.19	5.34	5.50	5.67	15.05	4.53	3.14	1.66	1.06
Direct Expenses	104.56	105.93	105.85	118.36	127.62	118.98	129.61	129.45	127.30
Direct Margin	28.90	25.46	23.64	25.28	(3.80)	20.07	25.68	22.94	21.01
Overhead Allocation	17.70	19.98	19.63	21.63	23.77	22.35	25.16	26.54	25.43
Expenses Incl. Corp O/H	122.26	125.91	125.48	139.99	151.39	141.33	154.77	155.99	152.73
Margin After Corp O/H	11.20	5.48	4.01	3.65	(27.57)	(2.28)	0.52	(3.60)	(4.42)
	6.55	3.21	2.35	2.13	(16.13)	(1.33)	0.30	(2.11)	(2.59)
<u>Costs per kwh (cents)</u>									
Fuel	2.04	2.11	2.18	2.36	2.43	2.55	2.67	2.77	2.88
Variable O&M	0.10	0.10	0.11	0.11	0.11	0.11	0.12	0.12	0.12
Fixed O&M	0.24	0.31	0.33	0.26	0.33	0.34	0.27	0.34	0.36
Overhaul	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00
Carbon Injection Costs	0.08	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.09
Other Fixed Costs	0.06	0.06	0.06	0.06	0.07	0.06	0.06	0.06	0.06
Capital Expenditures	<u>0.13</u>	<u>0.14</u>	<u>0.15</u>	<u>0.14</u>	<u>0.45</u>	<u>0.12</u>	<u>0.08</u>	<u>0.04</u>	<u>0.03</u>
Direct Expense	0.61	0.69	0.72	0.64	1.42	0.72	0.60	0.65	0.66
Direct Margin	0.73	0.67	0.65	0.64	(0.11)	0.55	0.65	0.61	0.58
Overhead Allocation	0.45	0.53	0.54	0.55	0.72	0.62	0.64	0.70	0.71
Expenses Incl. Corp O/H	3.10	3.32	3.44	3.55	4.57	3.88	3.91	4.12	4.25
Margin After Corp O/H	0.28	0.14	0.11	0.09	(0.83)	(0.06)	0.01	(0.10)	(0.12)
NPV of Margin after O/H									
NPV of Decommissioning									
NPV OF NET MARGIN									

(1.99)

23.60

(25.59)



Potential Savings from Early Plant Shutdown

	PRODUCTION COSTS (c/kWh)							
	1998	1999	2000	2001	2002	2003	2004	2005
CHESWICK	3.15	2.52	2.77	2.77	2.77	3.32	4.91	3.18
SAMMIS	2.22	2.79	2.35	3.21	3.29	3.08	2.76	3.31
EASTLAKE	2.43	3.18	2.63	3.54	3.68	3.12	3.52	3.98
ELRAMA	3.50	3.56	3.65	3.49	3.33	3.63	3.44	0.00
MANSFIELD 1	2.91	3.35	3.47	2.58	2.72	2.70	3.14	3.07
MANSFIELD 2	2.89	3.34	3.06	2.99	2.70	2.65	3.09	2.93
MANSFIELD 3	2.86	3.27	2.59	2.78	3.24	2.73	3.06	3.03
BEAVER VALLEY 1	1.94	3.01	2.80	2.06	2.95	3.03	2.21	3.26
PERRY	3.47	4.70	3.69	4.73	4.20	4.86	4.31	5.06
WEIGHTED AVERAGE:	2.81	3.17	3.01	2.97	3.14	3.28	3.46	3.41
MARKET PRICE	1.78	1.87	1.97	2.08	2.19	2.31	2.43	2.56

	FORECAST OUTPUT LEVELS (GWh)							
	1998	1999	2000	2001	2002	2003	2004	2005
CHESWICK	3,076	3,384	3,428	3,317	3,600	3,499	3,098	3,433
SAMMIS	1,288	1,142	1,247	1,139	1,158	1,176	1,284	1,194
EASTLAKE	1,044	778	1,095	977	989	1,102	994	940
ELRAMA	2,370	2,370	2,341	2,405	2,529	2,244	2,407	0
MANSFIELD 1	1,486	1,544	1,263	1,596	1,473	1,610	1,499	1,634
MANSFIELD 2	422	437	372	427	410	449	422	460
MANSFIELD 3	817	744	795	713	687	734	802	740
BEAVER VALLEY 1	2,982	2,614	2,622	2,982	2,614	2,614	2,990	2,614
PERRY	1,262	1,120	1,266	1,123	1,262	1,123	1,266	1,123

	SAVINGS FROM SHUTTING DOWN PLANTS (1000 \$)								TOTAL
	1998	1999	2000	2001	2002	2003	2004	2005	
CHESWICK	42,014	21,834	27,483	22,914	20,830	35,310	76,675	21,136	268,195
SAMMIS	5,687	10,547	4,685	12,895	12,745	9,050	4,193	8,959	68,760
EASTLAKE	6,751	10,195	7,198	14,318	14,748	8,935	10,803	13,353	86,300
ELRAMA	40,683	39,995	39,372	33,849	28,898	29,620	24,394	0	236,811
MANSFIELD 1	16,804	22,783	18,896	7,917	7,772	6,231	10,660	8,264	99,327
MANSFIELD 2	4,696	6,421	4,031	3,862	2,109	1,533	2,803	1,711	27,167
MANSFIELD 3	8,797	10,436	4,909	4,994	7,234	3,098	5,010	3,491	47,968
BEAVER VALLEY 1	4,656	29,758	21,696	0	19,832	18,754	0	18,396	113,092
PERRY	21,395	31,718	21,824	29,746	25,327	28,601	23,759	28,081	210,451
TOTAL:	151,482	183,686	150,094	130,495	139,496	141,132	158,296	103,392	1,158,071



ORIGINAL

CITY OF PITTSBURGH ET AL. STATEMENT NO. 2

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

APPLICATION OF DUQUESNE LIGHT COMPANY FOR
APPROVAL OF ITS RESTRUCTURING PLAN
UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE

DOCKET NO. R-00974104

RECEIVED

JAN 8 1998

PA PUBLIC UTILITY COMMISSION
PROTHONOTARY'S OFFICE

PREPARED DIRECT TESTIMONY AND
EXHIBITS OF

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DOCKETED

JAN 15 1998

SUBMITTED ON BEHALF OF:
THE CITY OF PITTSBURGH
PITTSBURGH BRANCH, N.A.A.C.P.
LOW-INCOME ADVOCATE PARTIES
CITIZEN POWER, INC.

**DOCUMENT
FOLDER**

NOVEMBER 7, 1997

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1 Q. PLEASE STATE YOUR NAME AND ADDRESS.

2 A. My name is Roger Colton. My address is 34 Warwick Road, Belmont, MA
3 02178.

4 Q. FOR WHOM DO YOU WORK AND IN WHAT CAPACITY?

5 A. I am a principal in the firm of Fisher, Sheehan & Colton, Public Finance and
6 General Economics (FSC). I provide technical assistance to a variety of public
7 utilities, state agencies and consumer organizations on rate and customer
8 service issues involving telephone, water/sewer, natural gas and electric utilities.
9 My resume is attached as Exhibit RDC-1.

10 Q. FOR WHOM ARE YOU PROVIDING THIS TESTIMONY?

11 A. I am appearing today to provide this testimony on behalf of four parties, the City
12 of Pittsburgh, the NAACP's Pittsburgh Branch, the LIAP low income group of
13 intervenors, and Citizen Power, Inc.

14 Q. PLEASE DESCRIBE YOUR INVOLVEMENT WITH THE DEBATES
15 CONCERNING RESTRUCTURING THE ELECTRIC INDUSTRY.

16 A. I have been involved with electric restructuring throughout the nation. My work
17 has been with state and local governments, with the federal government, and
18 with a variety of community-based organizations. A description of my
19 involvement with electric restructuring issues is attached as Exhibit RDC-2. I
20 also testified earlier this year before this Commission in the PECO Energy
21 restructuring case, R-00973953.

1 **Q. PLEASE DESCRIBE YOUR EXPERIENCE WITH THE DESIGN OF LOW-**
2 **INCOME UTILITY AFFORDABILITY PROGRAMS.**

3 A. I have been involved with designing low-income affordability programs for nearly
4 15 years. I have worked with electric and natural gas utilities, with state utility
5 commission staff, with community-based organizations, and with state
6 weatherization and fuel assistance offices to develop and implement affordable
7 rate programs, fuel assistance programs, and low-income energy efficiency
8 programs in nearly 25 states. A description of my involvement with the design of
9 *low-income affordability programs* is attached as Exhibit RDC-3.

10 **Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY TODAY.**

11 A. The purpose of my testimony is to review Duquesne Light Company's universal
12 service proposal as well as those aspects of its consumer education proposal
13 relating to low-income consumers. After an introduction, my testimony is divided
14 into three parts:

15 Part I: assesses the Duquesne Light universal service program and
16 makes recommendations;

17 Part II: assesses the Duquesne Light consumer education program and
18 makes recommendations; and

19 Part III: summarizes the recommendations I make.

20 In brief, my testimony concludes that the Commission should direct Duquesne
21 Light to do the following with its universal service program: to adopt a rate

1 The failure to achieve universal service for home energy generally, and electricity
2 in particular, is substantively different from failing to achieve universal service for
3 telephone service, personal lines of insurance and even health care. Allowing a
4 competitive electric industry to yield penetration levels, service levels, and rate
5 levels that mirror these other competitive industries for low-income consumers
6 would be an unacceptable result.

7 **Q. WHAT CRITERIA SHOULD THE PUC APPLY IN DECIDING WHETHER TO**
8 **APPROVE, DISAPPROVE OR MODIFY DUQUESNE LIGHT'S PROPOSED**
9 **UNIVERSAL SERVICE PLAN?**

10 A. In light of the recognition that competitive markets impede rather than promote
11 universal service, the Pennsylvania PUC should assess the Duquesne Light
12 programs to determine whether Duquesne programs serve to attain and maintain
13 affordable service within the electric industry. In applying this criterion,
14 affordable service cannot be measured by reference to customers as a whole.
15 Instead, for there to be affordable service, there must be affordable service in
16 each sub-market as well as for consumers as a whole.

17 **PART I: UNIVERSAL SERVICE FOR LOW-INCOME CONSUMERS**

18 **A. Overview**

19 **Q. PLEASE EXPLAIN WHY LOW-INCOME CONSUMERS GENERATE**
20 **UNIVERSAL SERVICE CONCERNS.**

1 A. Low-income consumers tend to bear non-sustainable energy burdens (bills as a
2 percentage of income). Because of these non-sustainable burdens -- by "non-
3 sustainable," I mean burdens which cannot be paid in a consistently full and
4 timely fashion -- low-income consumers can be expected to experience arrears,
5 be subject to credit and collection efforts, have their service disconnected, and
6 be forced to make budget decisions between competing household necessities
7 (e.g., heat or eat).

8 **Q. WHAT ELECTRIC BURDENS DO LOW-INCOME CONSUMERS OF**
9 **DUQUESNE LIGHT FACE?**

10 A. According to the Duquesne Light FERC Form 1, the average residential bill for its
11 electric heating tariff was \$1,132. The average residential bill for the Company's
12 non-heating tariff was \$780. Adjusting those bills to take into account the
13 reduced consumption associated with poverty results in heating and non-heating
14 bills of \$1,080 and \$720 respectively. Given an average income for households
15 at or below 150 percent of the Poverty Level in Pittsburgh of roughly \$7,000, the
16 low-income heating customer experiences an energy burden of 14%, while the
17 non-heating customer experiences a burden of 9%.¹

18 Use of an average burden in this analysis, however, masks the problems which
19 the lowest income households experience. The energy burdens experienced by

¹Electric space heating is less than 10% of the low income customers of this company. My exhibit RDC-6 reflects the low saturation.

1 households at various income ranges are set forth in Exhibit RDC-4. As this
2 exhibit shows, substantial numbers of consumers live in these lower income
3 brackets.

4 **Q. PLEASE EXPLAIN WHY THESE ENERGY BURDENS ARE NON-**
5 **SUSTAINABLE.**

6 A. According to the U.S. Department of Housing and Urban Development (HUD), a
7 household experiencing total shelter costs in excess of 30 percent of income is
8 likely to be over-extended. Total shelter costs include housing (rent or mortgage)
9 plus the cost of all utilities except telephones. A consumer who pays nine or 10
10 percent or more for his or her electric costs is not going to experience total
11 shelter costs of 30 percent or less. Likewise, a consumer who pays 14 or 15
12 percent for heating bills will not be able to limit total shelter costs to 30 percent of
13 income.

14 **Q. WHAT IS THE UNIVERSAL SERVICE RESPONSE TO THESE NON-**
15 **SUSTAINABLE ENERGY BURDENS?**

16 A. The appropriate universal service response is to increase the affordability of the
17 electric bill. In this context, I define "affordable" in the same way the Federal
18 Communications Commission (FCC) did in its May 1997 "universal service" order
19 to implement the Telecommunications Act of 1996. The FCC decided that the
20 concept of "affordability" includes both an "absolute" ("to have enough or the

1 means for") and a "relative" ("to bear the cost of without serious detriment")
2 component. According to the FCC, "both the absolute and relative components
3 must be considered in making the affordability determination required under the
4 statute." In implementing these policy decisions, the "affordability" of Duquesne
5 Light's universal service program should be judged by whether service under the
6 program offers a level of affordability consistent with the PUC's percentage of
7 income payment plan matrix in the CAP regulations within the consumption
8 constraint set out immediately below.

9 **Q. WHAT CONSUMPTION CONSTRAINT WOULD YOU ESTABLISH?**

10 A. A Universal Service Program should not be exclusively focused on consumption.
11 It is reasonable, assuming that a consumer has received all available energy
12 efficiency treatment, to limit the actual consumption that is eligible for support.
13 Because of the natural variability of consumption amongst households around a
14 mean, such a limit should not be placed at or below average usage. A
15 reasonable rule is that universal service should not completely underwrite the
16 cost of electric consumption greater than 120% of the average median
17 residential consumption for the rate class, size and type of dwelling in which the
18 service is provided for households who have received (or been offered) energy
19 efficiency treatment.

20 **Q. HOW DO YOU INCREASE THE AFFORDABILITY OF LOW-INCOME**

1 **ELECTRIC BILLS?**

2 A. There are only two basic ways for Duquesne Light to increase the affordability of
3 low-income electric bills. It can either increase the income of such customers or
4 it can decrease their bills.

5 **Q. HOW MIGHT DUQUESNE LIGHT INCREASE THE INCOME OF LOW-INCOME**
6 **CUSTOMERS?**

7 A. The Duquesne Light universal service program should emulate the utility
8 programs such as those I have briefly described in Exhibit RDC-5 to help
9 increase the incomes of low-income consumers.

10 **B. Rate Affordability Program (CAP)**

11 **Q. HOW MIGHT DUQUESNE LIGHT LOWER THE UTILITY BILLS OF A LOW-**
12 **INCOME CUSTOMER TO INCREASE AFFORDABILITY?**

13 A. Only two ways exist to lower a utility bill. You can either (1) decrease the price,
14 or (2) decrease the consumption. Efforts to increase affordability in these two
15 ways are what lie at the heart of the Pennsylvania CAP and LIURP programs
16 respectively. They should be the basis for the Duquesne Light universal service
17 program.

18 **Q. WHAT WOULD IT COST FOR DUQUESNE LIGHT TO LOWER THE PRICE OF**
19 **ELECTRIC BILLS TO THE BURDEN PREVIOUSLY RECOMMENDED BY THE**

1 **PENNSYLVANIA PUC?**

2 A. I estimate the cost of such an affordable rate program to be \$14.750 million.
3 The derivation of that estimate is set forth in Exhibit RDC-6. The net costs of this
4 program will need to be determined after a review of the Duquesne Light
5 universal service program which the Company was to have been filed on or
6 about November 1, 1997.²

7 **Q. WHY DO YOU RECOMMEND THIS LEVEL OF FUNDING FOR THE**
8 **DUQUESNE LIGHT RATE AFFORDABILITY PROGRAM?**

9 A. According to the most recent American Housing Survey, **the Pittsburgh**
10 **metropolitan area has nearly 100,000 housing units occupied by**
11 **households with incomes of less than 150 percent of the federal Poverty**
12 **Level. In contrast, the existing Duquesne Light rate affordability *pilot***
13 **program reaches only 1,200 low-income consumers.** That level of effort
14 makes no meaningful contribution to universal service, or affordable service, for
15 low-income consumers in Pittsburgh. I do not believe that the General
16 Assembly's directive that existing levels of effort form the minimum level of
17 universal service effort in a utility's restructuring plan was meant to freeze
18 universal service efforts at this pilot level, particularly given its clear inadequacy.

²The computer spreadsheet model which I used to calculate RDC-6 in this case is available in electronic form to any rate case party by emailing me at the address on the front of the testimony, and indicating the docket number. Counsel has instructed me to make the model available immediately, without the necessity of written discovery.

1 Q. WHAT RATE IMPACT WOULD FUNDING SUCH A PROGRAM HAVE ON
2 DUQUESNE LIGHT CUSTOMERS?

3 A. The rate impact on consumers depends on the consumption base over which the
4 costs of the rate affordability program is spread. For all of the reasons I outline
5 below, limiting rate recovery strictly to residential customers is inappropriate.

6 Q. SHOULD THE RATE AFFORDABILITY BENEFITS BE LIMITED TO THE
7 DISTRIBUTION COMPANY, IN THIS CASE DUQUESNE?

8 A. No. Giving energy suppliers access to those benefits will promote competition
9 for low income consumers. Some call this "portability". This is a concept I urge
10 the Commission to embrace.

11 Q. WHY SHOULD ALL CUSTOMERS CONTRIBUTE TO THE RATE
12 AFFORDABILITY PROGRAM YOU PROPOSE?

13 A. From the perspective of local government, the obligation to support universal
14 service is not an obligation that has been imposed upon a utility by the
15 government. Instead, it is an obligation to which utilities have submitted
16 themselves, one they have voluntarily taken on. The obligation is an explicit *quid*
17 *pro quo* that was exacted in exchange for substantial -- and continuing -- public
18 benefits. So long as the utility enjoys the fruits of that exchange, it should abide
19 by the obligations that were bargained for as part of the exchange.

20 In particular, electric utilities have been granted two sets of public perquisites: (1)
21 the right to exercise eminent domain; and (2) the right to use the public's streets,

1 alleys and public ways as transportation corridors. In accepting these public
2 perquisites, electric utilities have dedicated their property so supported to a
3 public use, including the support of universal service.

4 **Q. WHY DOES THIS DISCUSSION SUPPORT HAVING ALL CLASSES HELP**
5 **PAY FOR UNIVERSAL SERVICE SUPPORT?**

6 A. Four reasons support this conclusion. First, utilities are unique in that they are
7 granted the right to use city streets as well as the right to exercise the power of
8 eminent domain. Second, those public benefits have a distinct value, which is
9 positive; indeed, the right to eminent domain is not only *valuable*, but is essential
10 to public utilities. This value inures to the benefit of all ratepayers. If a utility
11 could not use eminent domain, in other words, the increased costs that would
12 arise as a result would be borne by all ratepayers. All end users gain the benefit.
13 Third, a commitment to universal service is simply the compensation to the
14 public for having provided these public benefits. There has been an exchange of
15 consideration. On the one hand, electric utilities are provided the right to use
16 public streets and to exercise eminent domain. On the other hand, the utilities
17 "pay" for these grants through a commitment to universal service. Finally,
18 offering unaffordable service is the functional equivalent of denying service
19 altogether. Accordingly, a commitment to universal service implies a
20 commitment to affordable service. In sum, having obtained the benefits of the
21 bargain, all end users should be required to help fulfill the responsibility part of

1 the bargain. To allow otherwise would be to grant the benefit while forgiving the
2 costs.

3 **Q. HAS ANYONE ELSE REACHED THIS SAME CONCLUSION?**

4 A. Yes. According to the Practicing Law Institute:

5 Local governments are realizing the unique value of public rights-
6 of-way for which they act as trustee. Public rights-of-way are
7 acquired and paid for through government action, usually the
8 exercise of a jurisdiction's eminent domain powers. Thus, the
9 public rights of way are the most valuable property rights in the
10 hands of government. . .Local governments must receive fair
11 compensation for granting use of the rights-of-way. Otherwise,
12 government is merely subsidizing the businesses of private rights-
13 of-way users. . .Traditional users of the public rights-of-way were
14 deemed to provide public compensation in the form of universal
15 service and regulated rates. . .With traditional users of public rights-
16 of-way, compensation for use of the public rights-of-way was
17 passed onto the end consumer through rate regulation and other
18 public benefits like universal service, rather than being paid directly
19 by the governments, the actual owner of the public rights-of-way.³

20 **Q. ARE YOU SUGGESTING THAT THE COMMISSION CONTRADICT THE**
21 **UNIVERSAL SERVICE ALLOCATIONS PROVIDED BY THE COMPETITION**

³ Nicholas Miller and Kristen Niven, "What is the Emerging Role of Local Governments in This New World of Telecommunications," in ***Cable Television Law 1996: Competition in Video and Telephony***, at 12 - 13 (1996: Practicing Law Institute). See also, Peter Fox-Penner (1997). ***Electric Utility Restructuring: A Guide for the Competitive Era***, 329, Public Utility Reports: Arlington, VA ("Others argue that the obligation to provide for universal service is not one imposed upon the industry, but rather an obligation that the utility industry has voluntarily accepted as part of its franchise agreement. This obligation is one that serves as the industry's "payment" for the grant of substantial public benefits provided to it. So long as the utilities enjoy the fruits of that exchange, they must abide by the obligations that were bargained for as part of that exchange.").

1 **ACT?**

2 A. I am not suggesting that the Commission violate the law. To the extent,
3 however, that the statute provides the Commission with the discretion to
4 increase its universal service support in furtherance of the public interests I have
5 discussed, I urge it to so exercise its discretion. I do note that the Act's definition
6 of public utility makes it clear that merely providing energy, as an alternative
7 supplier, does not entitle an energy company to Pennsylvania's eminent domain
8 powers.⁴ Only the wires company, in this case Duquesne, has that power.⁵ This
9 underscores the importance of insuring a fair exchange — universal service for
10 the eminent domain power.

11 **Q. HOW DO YOU PROPOSE THE UNIVERSAL SERVICE FUNDING BE**
12 **RECOVERED?**

13 A. The Company should recover its universal service costs through distribution
14 charges. The universal service costs currently reflected in customer rates, as

⁴The Act amended the definition of "public utility" in 66 Pa. C.S. §102 to exclude the non-local distributor energy suppliers: "The term. . . 'public utility'. . . does not include: . . . (vi) electric generation supplier companies except for the limited purposes as described in sections 2809 (relating to requirements for electric generation suppliers) and 2810 (relating to revenue neutral reconciliation). "Public utilities" ordinarily have eminent domain powers.

⁵Pennsylvania law restricts the power of eminent domain to public purposes. Pa. Const. art 1 § 10. A public utility which has received a certificate of public convenience, 66 Pa.C.S. § 1104, can use the alternate "quick take" provisions of the Business Corporation Law to condemn property, 15 Pa.C.S. § 1511. For example, transmission-related condemnation can proceed through a PUC proceeding. 52 PA. CODE §§ 57.71-.77, rather than an ordinarily longer civil trial.

1 well as any future universal service charges, shall remain bundled and shall not
2 separately appear as line items on customer bills.

3 **Q. PLEASE EXPLAIN THE MANNER IN WHICH YOU PROPOSE TO**
4 **ADMINISTER THE UNIVERSAL SERVICE FUNDS.**

5 A. Duquesne Light should contract out the administration and delivery of universal
6 service programs to an experienced non-profit, community-based organization
7 with both a strong track record in the provision of energy assistance,
8 conservation and education programs, and the ability to leverage significant
9 amounts of additional public and private resources to help resolve the energy
10 problems of Duquesne's low income customers. These programs should
11 include: budget counseling, home repair, heating system repair, job development
12 and placement, and related services.

13 **C. Low-Income Energy Efficiency (LIURP).**

14 **Q. WHAT DO YOU RECOMMEND WITH RESPECT TO LOW-INCOME ENERGY**
15 **EFFICIENCY SPENDING?**

16 A. I recommend that Duquesne Light devote 0.20 percent of its annual gross
17 revenues to spending on low-income energy efficiency programs through LIURP.
18 Given Duquesne Light's gross revenues of \$1.1 billion in 1996, I recommend a
19 total LIURP expenditure of \$2.214 million.

1 **Q. WHY DO YOU RECOMMEND THIS LEVEL OF FUNDING?**

2 A. Energy efficiency can be an effective tool to use in reducing low-income energy
3 needs for many households. In fact, the plight of many of the households most
4 significantly in need can be addressed through increased efficiency in usage. It
5 is generally recognized that energy efficiency is a more efficient means of
6 addressing low-income energy needs over the long term than providing fuel
7 assistance or rate relief. Energy efficiency provides continuing benefits year-in
8 and year-out. Fuel assistance and rate relief, on the other hand, provides
9 assistance to help pay current utility bills (including arrears in some cases); each
10 year, a new round of assistance must be provided.

11 Energy efficiency is an important supplement to a rate affordability program even
12 in a non-electric heat situation. Even when electricity is not used for space
13 heating, electric bills can represent 60 percent or more of a low-income
14 household's total energy bill. As a result, the LIURP program is a particularly
15 important element to universal service for Duquesne Light.

16 In contrast to this demonstrated need, while the Duquesne Light LIURP effort is
17 nationally recognized as being state-of-the-art in saving energy (achieving
18 energy savings of 30 and 40%), it nonetheless reaches only a small fraction of
19 low-income homes per year (reported to be 600 - 650 homes per year). That
20 level of effort is an inadequate response to the clearly effective efforts by
21 Duquesne Light to help address affordability, and inability-to-pay problems,

1 through energy efficiency investments.

2 Q. **SO YOU ARE NOT CRITICIZING THE STRUCTURE OR OPERATION OF THE**
3 **DUQUESNE LIGHT SMART COMFORT PROGRAM?**

4 A. No. I am suggesting that it be expanded to reach additional customers. An
5 independent evaluation of the Duquesne Light program concluded that: "Through
6 [its] new approach to low-income energy use, Duquesne converted its
7 weatherization program into a groundbreaking customized program that has
8 since set the standard for low-income energy usage reduction in Pennsylvania."⁶
9 According to this evaluation, Smart Comfort is expected to achieve an annual
10 usage reduction of 40% or better. The evaluation concluded, to the Company's
11 credit:

12 Implementing low-income programs. . . may well not be the first choice of
13 utilities in this age of increasing competition. Yet Duquesne has shown
14 that through creative program design, these programs can be delivered in
15 a cost-effective manner. . . To its credit, Smart Comfort has clearly
16 demonstrated impressive energy savings with equally impressive cost
17 effectiveness.

18 Q. **WHAT IS THE SECOND CHANGE YOU PROPOSE FOR THE DUQUESNE**
19 **LIGHT SMART COMFORT PROGRAM?**

20 A. Targeting utility-financed energy efficiency improvements to high use participants
21 in the rate affordability program will improve both the effectiveness and the cost-
22 effectiveness of that program. There is a clear overlap between the interests of

⁶ The Results Center (1996). *Duquesne Light Company: Smart Comfort Program*, at 6, IRT Environment: Boulder, CO.

1 the affordable energy programs and those of the energy efficiency programs.
2 Accordingly, I recommend that Duquesne Light's rate affordability program
3 include an automatic referral to LIURP for all high users (those whose
4 consumption exceeds the average for their rate class). In addition, I recommend
5 that the rate affordability program include personal follow-up, particularly to
6 ensure that those de facto electric heating or water heating cases are receiving
7 the services they need in order to get their central heating or water heating
8 restored.

9 In addition, the Company should provide in-person interviews to all successful
10 CAP Rate applicants whose annualized average monthly electrical consumption
11 is in excess of 110% of subsidized levels to (1) educate them on energy
12 conservation and (2) furnish them with referrals to organizations which might
13 assist them to reduce their energy consumption. These educational interviews
14 should be provided by an independent contractor employing for the purpose
15 PACE-certified energy educators. Such interviews shall be a LIURP measure
16 and, as with other LIURP measures, will be subject to independent evaluation to
17 determine their cost-effectiveness under the Commission's existing standard of a
18 simple payback of seven years or less. The cost of conducting such interviews
19 should be deemed part of the LIURP funding levels.

20 **Q. DO YOU PROPOSE ANY ADDITIONAL CHANGE TO THE DUQUESNE LIGHT**
21 **LIURP EFFORT?**

1 A. Yes. Duquesne Light should implement a pilot program in renewable energy
2 applications -- like wind or solar power -- in retrofits or new construction or both,
3 which is designed to cost effectively apply existing, proven renewable
4 technologies in homes that may be already energy efficient. This pilot should be
5 designed to help close the affordability gap for low income customers.

6 **Q. WHY SHOULD DUQUESNE LIGHT PURSUE SUCH A PROGRAM?**

7 A. The rationale for such a program is much the same as the rationale for delivering
8 energy efficiency in the first place. As I wrote more than 15 years ago:

9 The conceptual basis for providing full energy services is quite easy to
10 grasp. The concept is simply that providing electricity and natural gas is
11 not an end in itself. Supplying energy is rather a means to provide results
12 such as heat, light and motion. What a utility company does for its
13 customers is to wash the dishes and heat the house. Thus, providing hot
14 water through a solar collector or providing a warm house through
15 insulation constitutes the same utility service as providing the natural gas
16 or electricity necessary to accomplish the same end results ... As an
17 energy service, financing a solar water heater is no different from
18 increasing the supply of natural gas or electricity to accomplish the same
19 result ... In this framework, utility companies would evaluate the various
20 alternative services and provide whichever one was the least costly.⁷

21 This statement is as true today as it was in 1982. The goal of LIURP should be
22 to cost-effectively reduce low-income energy consumption. That goal might be
23 accomplished through the offer of energy efficiency or energy conservation
24 measures. Alternatively, that goal might be accomplished through the
25 installation of renewable technologies. The goal remains the same, and whether

⁷ Roger Colton, "Mandatory Utility Financing of Conservation and Solar Measures," 3 *Solar Law Reporter* 767 (1982).

1 it is accomplished through conservation measures or renewables should be
2 irrelevant to the purposes of the program.

3 **Q. DO YOU RECOMMEND A SPECIFIC ADMINISTRATIVE STRUCTURE FOR**
4 **THE COMPANY'S LIURP EFFORT?**

5 A. Yes. I recommend the establishment of a LIURP Oversight Committee. The
6 make-up of the LIURP Oversight Committee should include interested consumer
7 and public representatives with experience in energy conservation. While the
8 Company would be represented on the Committee the non-Company members
9 should retain a majority vote. The LIURP Oversight Committee should meet as
10 needed, but not less than four times per year. The Company should provide
11 Committee members, in advance of each meeting date, the following current
12 information and documents regarding the LIURP program: financial reports;
13 evaluation reports; a narrative of program successes and challenges, as
14 measured against the stated objectives. The duties of the LIURP Oversight
15 Committee should include the development of a program performance standard
16 and the review and approval of: the RFP for the LIURP contractors, the selection
17 of the LIURP contractors, the LIURP evaluation plan, the RFP for the
18 independent evaluator(s), the evaluator selection, all draft and final evaluation
19 reports, and other program design and implementation matters.

20 **D. Summary.**

1 Q. CAN YOU SUMMARIZE YOUR RECOMMENDATIONS AS TO THE CHANGES
2 WHICH SHOULD BE MADE TO DUQUESNE LIGHT'S UNIVERSAL SERVICE
3 PROGRAM?

4 A. Yes. A summary of my recommendations for Duquesne Light's universal service
5 program is set forth as Exhibit RDC-7.

6 Q. HOW, IF AT ALL, SHOULD A POSSIBLE MERGER BETWEEN WEST PENN
7 POWER AND DUQUESNE LIGHT AFFECT THE UNIVERSAL SERVICE
8 PROGRAMS OF THE TWO UTILITIES?

9 A. Basic merger law requires that a merger, at the least, result in no adverse
10 impacts on consumers. In addition, merger approval should only be granted if a
11 merger, in fact, generates net positive benefits to ratepayers. Based on this law,
12 and as a matter of good policy, the merger of these two companies should only
13 be approved if, at the least, the universal service program of the least favorable
14 company be raised to the same level as the universal service program of the
15 more favorable company. In this instance, I mean that West Penn's LIURP
16 program should be brought up to the standards and performance levels of the
17 Duquesne program, and both enhanced to the levels I have suggested. The
18 Commission should in no way countenance changes in the Duquesne program
19 that might diminish its effectiveness.

20 In addition, as discussed in detail above, Duquesne Light's LIURP program

1 delivery mechanism, in particular, has proven to be highly effective and cost-
2 effective. It should be maintained and expanded should the merger be
3 approved.

4 While I don't mean to turn my testimony to the issues to be addressed in the
5 Commission's merger docket, I address the matter here because, in my view, the
6 Commission's decisions aiding Duquesne's low income customers could be
7 reversed through post-merger activities of a new, and remotely-located owner
8 with a poor track record in LIURP delivery. Without the measures I propose, low-
9 income customers will see their universal service benefits diluted and will,
10 therefore, experience an adverse, and unlawful, impact as a result of the merger.

11 II. Consumer Education.

12 **Q. ARE THERE ANY GENERAL PRINCIPLES THAT GUIDE YOUR APPROACH**
13 **TO CONSUMER EDUCATION IN A RESTRUCTURED ELECTRIC INDUSTRY?**

14 A. Yes. First, there is a significant difference between three types of activity: (1)
15 engaging in marketing; (2) providing information; and (3) providing education.
16 What is needed from Duquesne Light at this point is consumer education, *not*
17 merely information provision, and not merely marketing. Second, the actual
18 delivery of education is but one part of a consumer education program. An
19 effective education program must incorporate a significant planning component,
20 a significant evaluation component, and a significant component where

1 Duquesne Light adjusts its education efforts based on the feedback it develops
2 as to program effectiveness.

3 **A. Marketing, Information and Education.**

4 **Q. PLEASE EXPLAIN THE DISTINCTION YOU DRAW BETWEEN PROVIDING**
5 **INFORMATION, PROVIDING EDUCATION, AND ENGAGING IN MARKETING.**

6 A. The May 8, 1997 statement of Commissioner Brownell makes the distinction
7 quite well. Therein, she states that "education can be distinguished from
8 information when a customer is able to take the information and use it to make
9 better decisions ... information does not qualify as education... [C]onsumer
10 education involves efforts to provide consumers with skills and knowledge to
11 allocate their resources wisely in the marketplace." In contrast, as
12 Commissioner Brownell stated, "the ultimate goal of marketing clearly is to
13 promote the sales of goods and services. . . .Marketing can be described as the
14 process of planning and executing the conception, pricing, promotion and
15 distribution of ideas, goods and services to create exchanges that satisfy
16 individual and organizational goals."

17 **Q. HAS THERE BEEN ANY CONSIDERATION OF THE DIFFERENCE BETWEEN**
18 **CONSUMER INFORMATION AND CONSUMER EDUCATION IN**
19 **PENNSYLVANIA IN PARTICULAR?**

20 A. Yes. In 1988, Drew Hyman, from Penn State University, considered this issue

1 within the context of low-income fuel assistance. The Penn State report found
2 that "most consumers do not have *effective knowledge* about those [energy
3 assistance] programs which exist." (emphasis added). Moreover, Penn State
4 concluded that consumer education can fill in the missing gaps in consumer
5 knowledge and teach consumers to use the information available to them in an
6 effective manner. This concept of "effective knowledge" is one contribution the
7 Penn State research has made. "Effective knowledge" involves not only
8 conveying information, but teaching consumers how to use that information as
9 well. According to the Penn State work, consumers must know how to act upon
10 the information they are given.

11 The Duquesne Light consumer education program should be overseen as
12 described in the consumer education proposal below to ensure that the program
13 truly concentrates on education, not on mere marketing or information
14 distribution.

15 **Q. DO YOU HAVE ANY OTHER SUGGESTION ON HOW TO INCREASE THE**
16 **EFFECTIVENESS OF CONSUMER EDUCATION?**

17 A. Yes. Excessive reliance upon a media campaign as a mechanism for consumer
18 education is not likely to be successful. Professor Brenda Dervin⁸ states that
19 one "well-established premise of public communication/education campaign

⁸Communications Department, Ohio State University, Columbus, OH.

1 design [is] that mass mediated messages are rarely effective." According to
2 Professor Dervin, media-based campaigns tend to have low penetration levels,
3 with a typical public service announcement campaign producing awareness rates
4 as low as 5 - 10%. What is needed is an added focus on community-based
5 education as well. The community education proposal I outline below includes a
6 substantial emphasis on community-based education.

7 **B. Planning the Consumer Education Program.**

8 **Q. PLEASE EXPLAIN THE PLANNING THAT YOU RECOMMEND BE MADE A**
9 **PART OF THE DUQUESNE LIGHT CONSUMER EDUCATION PROGRAM.**

10 A. A consumer education program begins many steps before the actual provision of
11 education. In order to determine what type of program should be adopted,
12 substantial planning must occur before the design and development of the
13 program ever begins. The first step in the Duquesne Light education program
14 should be a consumer research step. A consumer research section of the
15 education plan should involve the four inquiries set forth in Exhibit RDC-8.
16 Moreover, in engaging in each of these steps, there is a need for Duquesne Light
17 to segment its research and analysis by relevant consumer groups. Such groups
18 may be demarcated by age, race/ethnicity, socio-economic status, or some other
19 factor.

20 The second step should involve setting goals, objectives, strategies and tactics.

1 Basic planning calls for broad policy goals to next be translated into objectives.
2 Objectives are then matched with specific strategic approaches which are then
3 implemented through specific tactics. Objectives are to be: (a) attainable; and
4 (b) measurable. Without these attributes, it is impossible to know to what extent,
5 if at all, your strategies and tactics are working. An adequate planning process
6 finally would allow a measurement of whether the objective has been
7 accomplished and, if not, enable the planner to trace that failure to a specific
8 strategy or tactic that did not do what it was intended to do.

9 The third step in planning a consumer education program is to decide, based on
10 all of the above, what needs to be said. A four phase consumer education
11 program, modeled after the program proposed in Vermont, would include those
12 elements set forth in Exhibit RDC-9.

13 Finally, the Duquesne Light education program planning process should decide,
14 again based on everything that's been said above, on the *mechanisms* for
15 delivering its education. Delivery includes a determination, for example, of
16 whether to use the mass media or to use community-based outreach; whether to
17 use direct mailings; and the like.

1 **C. The Role of Evaluation and Adjustment.**

2 **Q. PLEASE EXPLAIN THE APPROPRIATE EVALUATION COMPONENT OF A**
3 **CONSUMER EDUCATION PROGRAM FOR DUQUESNE LIGHT.**

4 A. Duquesne Light provides no mechanism to evaluate and adjust its consumer
5 education program as it is implemented. Given the inadequacies of the
6 Company's process of setting goals, objectives, strategies and tactics, I
7 recognize that it is impossible for it now to set forth an appropriate monitoring,
8 feedback and adjustment process. Without measurable objectives, for example,
9 it is not possible to determine whether the education program is accomplishing
10 what it was intended to accomplish, let alone decide whether any failure that
11 might exist flows from a strategic miscalculation or an error in tactics. Moreover,
12 without being able to trace a tactic back through a strategy to a measurable
13 objective, it is impossible to determine whether a failed tactic flows from a design
14 failure or an implementation failure.

15 What the Duquesne Light consumer education program should thus have is a
16 monitoring effort designed to determine:

- 17
- 18 1. Whether the objectives are being met, and to what extent;
 - 19 2. If not, where the consumer education process is breaking down; and
 - 20 3. What should be changed in the education process to respond to the
21 findings in 1 and 2 immediately above.

22 A procedure for evaluation and adjustment within a planning process is set forth
23 in Exhibit RDC-10. Only after Duquesne Light completes each of the steps

1 outlined in Exhibit RDC-10 is it ready to sit down and develop its consumer
2 education program. Only after each step is completed does West Penn Power
3 (1) know what education needs to occur; (2) know what needs to be done in
4 order to educate rather than simply to provide information; (3) know how to reach
5 different consumers with different messages; and (4) know how to evaluate and
6 modify its program if the program falls short of expected or desired outcomes.

7 In sum, Duquesne Light must determine specifically what it is trying to
8 accomplish and specifically how it intends to accomplish it. It can only at that
9 point develop its consumer education program. Its program would include tasks,
10 timelines, dates for deliverables, and resource commitments in furtherance of its
11 planning and evaluation efforts.

12 **D. Proposal for Duquesne Light Consumer Education Program.**

13 **Q. GIVEN YOUR DISCUSSION ABOVE, WHAT DO YOU RECOMMEND THE**
14 **COMMISSION DO RELATIVE TO DUQUESNE LIGHT'S CONSUMER**
15 **EDUCATION PROGRAM?**

16 **A.** The Pennsylvania PUC should adopt the 11-step plan set forth in Exhibit RDC-
17 11.

18 **III. Summary of Recommendations.**

19 **Q. PLEASE SUMMARIZE THE CHANGES TO THE DUQUESNE LIGHT**

1 **UNIVERSAL SERVICE PROGRAM THAT YOU RECOMMEND BE MADE.**

2 A. I recommend the following for Duquesne Light's universal service program: (1)
3 an expansion of the rate affordability program to at least 50 percent of the
4 eligible population; (2) a engagement in outreach efforts to promote income-
5 enhancing activities such as implementation of a BOSS system and promotion of
6 the EITC; (3) recovery of the costs of the rate affordability program from all
7 customer classes; and (4) administration of the rate affordability program through
8 a private non-profit third party entity. In addition, I recommend the following for
9 the Duquesne Light LIURP efforts: (1) an expansion of program funding to
10 0.20% of total gross revenues; (2) the creation of an explicit tie between the rate
11 affordability program and LIURP, including the referral to LIURP of any "high
12 use" rate affordability participant; (3) assurance of personal follow-up with high
13 use rate affordability participants to ensure that those de facto electric heating or
14 water heating cases are receiving the services they need in order to get their
15 central heating or water heating restored; and (4) the initiation of a renewable
16 resource pilot program component to LIURP. I also urge special attention to
17 survival of the present high-performing program in the event of a merger.

18 **Q. CAN YOU SUMMARIZE THE UNIVERSAL SERVICE BUDGET THAT YOU**
19 **PROPOSE FOR DUQUESNE LIGHT?**

20 A. Yes. A summary of the budget is included as Exhibit RDC-12.

1 Q. PLEASE SUMMARIZE THE CHANGES TO THE DUQUESNE LIGHT
2 CONSUMER EDUCATION PROGRAM THAT YOU RECOMMEND BE MADE.

3 A. An 11-part consumer education proposal was set forth in Exhibit RDC-11.

4 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

5 A. Yes it does.

6 C:\PENNRG\LITIG\TODAY\6DUQTE-1.WPD

Before the
Pennsylvania Public Utility Commission

Duquesne Light Company
Restructuring Plan

Docket R-00974104

Resume of Roger D. Colton

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EDUCATION:

J.D. (Order of the Coif), University of Florida, 1981

M.A. (Economics), McGregor School, Antioch University (1993)

B.A., Iowa State University (1975)

PROFESSIONAL EXPERIENCE:

Fisher, Sheehan and Colton, Public Finance and General Economics: 1985 - present.

As a co-founder of this public interest economics consulting partnership, Colton provides services in a variety of areas, including: regulatory economics, poverty law and economics, public benefits, environmental and natural resource economics, fair housing, community development, energy efficiency, utility law and economics (energy, telecommunications, water/sewer), government budgeting, health care economics, and planning and zoning.

Colton has testified in state and federal courts in the United States and Canada, as well as before regulatory bodies in more than two dozen states. He is particularly noted for creative program design and implementation within tight budget constraints. Colton has published seven books and more than 50 journal articles on a wide range of legal and economic subjects.

National Consumer Law Center (NCLC): 1986 - 1994

As a staff attorney with NCLC, Colton worked on low-income energy and utility issues. He pioneered cost-justifications for low-income affordable energy rates, as well as developing models to quantify the non-energy benefits (e.g., reduced credit and collection costs, reduced working capital) of low-income energy efficiency. He designed and implemented low-income affordable rate and fuel assistance programs across the country. Colton was charged with developing new practical and theoretical underpinnings for solutions to low-income energy problems.

Community Action Research Group (CARG): 1981 - 1985

As staff attorney for this non-profit research and consulting organization, Colton worked primarily on energy and utility issues. He provided legal representation to low-income persons on public utility issues; provide legal and technical assistance to consumer and labor organizations; and provided legal and technical assistance to a variety of state and local governments nationwide on natural gas, electric, and telecommunications issues. He routinely appeared as an expert witness before regulatory agencies and legislative committees regarding energy and telecommunications issues.

PROFESSIONAL AFFILIATIONS:

- Member: Board of Directors, Vermont Energy Investment Corporation.
- Member: Board of Directors, Affordable Comfort, Inc.
- Member: Editorial Advisory Board, International Library, *Public Utility Law Anthology*.
- Member: Fair Housing Commission (Belmont, MA).
- Member: ASHRAE Guidelines Committee, GPC-8, *Energy Cost Allocation of Comfort HVAC Systems for Multiple Occupancy Buildings*
- Member: National Advisory Committee, U.S. Department of Housing and Urban Development, Calculation of Utility Allowances for Public Housing.

PROFESSIONAL ASSOCIATIONS:

- National Association of Housing and Redevelopment Officials (NAHRO).
- Association for Enterprise Opportunity.
- Association of Energy Engineers, Energy Marketing Section.
- Iowa State Bar Association.
- Association for Institutional Thought.
- National Community Reinvestment Coalition.
- National Association of Human Rights Workers.

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EXHIBIT RDC-2

Roger Colton is an attorney and an economist who has done substantial work both in the area of electric industry restructuring and in the area of consumer protection. Colton was hired by the National Council on Competition in the Electric Industry, a joint project of the National Association of Regulatory Utility Commissioners and the National Conference of State Legislatures, to prepare that organization's evaluation of the impact of restructuring on "small users," including residential and small business customers. He has completed a report for Oak Ridge National Laboratory on the obligation to serve in a restructured electric industry. He has been hired by Oak Ridge to consider federal regulation of non-energy industries to assess the lessons that might be learned for the electric industry. He is also currently working with the University of St. Thomas (St. Paul) to assess the impacts of restructuring on particular neighborhoods in Minneapolis/St. Paul.

Roger routinely provides assistance to public officials regarding restructuring issues. He was hired by the Vermont legislature as well as the Maryland Office of Peoples Counsel to provide restructuring consulting. He was hired by the New Hampshire state association of community action agencies to help develop a funding mechanism for low-income programs in the New Hampshire PUC's consideration of electric restructuring. Colton has testified in the Philadelphia Electric restructuring proceeding on behalf of a statewide coalition of environmental groups and has been hired by the New Jersey Division of Ratepayer Advocate to testify in that state's restructuring dockets regarding universal service issues. He has provided briefings on restructuring to legislators and regulators in Ohio, Wisconsin, Maryland, Georgia, Indiana, Vermont, Massachusetts and New Hampshire.

Roger writes widely on restructuring issues. In addition to his work for Oak Ridge and the National Council, Roger has prepared a 28-part set of "occasional papers" in FSC's *Electric Competition and the Small User: A Guide for Cities, Consumers & Low-Income Advocates*. His book *Funding Stranded Benefits: A State Data Book* sets forth 12 funding scenarios for recovering low-income program costs for every state in the country (plus D.C.). His 15-part series *Electric Restructuring and the Low-Income Consumer*, prepared for the Iowa Community Action Association, was just distributed to over 300 media outlets nationwide.

Roger is also active in developing funding for low-income energy assistance. He has authored reports on how to structure a "wires charge" in ten states for a variety of clients, including the Missouri Department of Natural Resources, Iowa Department of Human Resources (Weatherization Division), Colorado Energy Assistance Foundation, Ohio Legal Services, Louisville Legal Aide, Oklahoma Community Action Association, Indiana Citizen Action Campaign, and others.

Finally, Roger is active in experimentation with residential and low-income aggregation methodologies. He has been retained as a consultant to help low-income advocates organize an aggregation initiative in Philadelphia. He is part of the technical development team helping to design state and regional full energy service co-operatives in New England. He has been hired to develop a model aggregation proposal in Minnesota for local community action agencies, and to provide advice on developing an aggregation proposal in Colorado.

Finally, Roger has been active in working with and for low-income advocates in electric merger proceedings. He represented a national coalition of ten low-income advocacy groups before FERC in that federal proceeding to establish new federal electric merger guidelines. He has testified as an expert witness on low-income issues in merger proceedings regarding Public Service Company of Colorado, Baltimore Gas and Electric Company, Northern States Power Company, Atlantic City Electric and IES Industries.

Roger Colton an attorney and an economist who has done substantial work in the area of low-income energy efficiency and affordable rates.

Energy efficiency: At present, Roger is working with the Iowa Bureau of Weatherization to develop a utility-based "linked deposit" program in that state. He is working with a variety of community action agencies to delivery Home Energy Rating System (HERS) audits to First Time Home Buyer programs in Indiana, New Hampshire, Maine, Iowa and Pennsylvania. Colton is also presently working as a sub-contractor to help design a low-income energy efficiency programs for Public Service Electric and Gas (PSE&G).

Colton is noted for his innovative work in the area of low-income energy efficiency. His publications include the book *Energy Efficiency and the Low-Income Consumer: Planning, Designing and Financing* (Flying Pencil Publications: 1995); *Financing Energy Efficiency in Affordable Housing Programs*, presented at the 1996 annual meeting of the National Association of Housing and Redevelopment Officials; *Changing Paradigms for Delivering Energy Efficiency to the Low-Income Consumer by Competitive Utilities: The Need for a Shelter-Based Approach*, presented at the May 1996 meeting of the National Association of State Energy Officials; *Securing Private Investment in Low-Income Energy Efficiency: Breaking the Reliance on Government and Utility Programs*, presented to the 16th World Energy Engineering Conference (1993); *The Economics of Pursuing Energy Efficiency in Affordable Housing*, presented to the 14th International Making Cities Livable Conference (1993); *Linked Deposits as a Utility Investment in Energy Efficiency for Low-Income Housing*, prepared for the 1994 National Regulatory Information Conference; and *Models of Public and Private Investment in Energy Efficiency for Low-Income Housing*, presented at the American Council for an Energy Efficient Economy 1994 Summer Study on Energy Efficiency in Buildings.

In 1996, Roger completed under contract to the Vermont Department of Public Service a proposed structure for the Residential Energy Efficiency Investment Partnership (REEIP), an institution that would combine the resources of the state's utilities, the state Weatherization Assistance Program (WAP), the state Housing Finance Agency (VHFA), and others into a single program to address the energy efficiency needs of low-income multi-family units. Roger worked under contract with the Florida Housing Coalition to help develop leveraged resources for low-income energy efficiency. His proposal for the Land and Water Conservation Fund (LAWCON) was adopted by the Colorado PUC as the Public Service Company of Colorado Power Partners program.

Roger is a member of the Board of Directors of the Vermont Energy Investment Corporation (VEIC) as well as the Board of Directors of Affordable Comfort, Inc. (ACI).

Affordable rates: Colton is the national expert in low-income rate programs. He designed the original Rhode Island Percentage of Income Payment Plan (PIPP) for Providence Gas Company and Narragansett Electric. He designed the pilot PIPP precursor to the Montana Power Company low-income rate discount; the Philadelphia Gas Works pilot precursor to the PGW Customer Responsibility Program (CRP); and the Massachusetts Electric Company percentage of income plan. Colton served as the consultant to Houston Lighting and Power Company and Gulf Coast Legal Foundation in the design of a "shadow billing" pilot program for direct vendor section 8 payments and has served as the consultant to Entergy's development of a low-income rate in Texas. Colton was the witness for the Maine PUC's Customer Assistance Division in the establishment of the Maine Electric Lifeline Program and worked under contract with the Washington Gas Light Company (D.C.) to serve as the consultant to a collaborative expansion and revision to that company's Residential Essential Service (RES) rate. Colton is now under contract to help design the low-income affordable rate pilot projects for Public Service Company of Colorado.

Public assistance: Colton serves as a consultant on energy assistance programs. He provided consultation to the U.S. Department of Housing and Urban Development in its development of a handbook for local housing authorities on how to set utility allowances for public and assisted housing. He currently is serving as part of the advisory committee for the U.S. Department of Health and Human Services (HHS) to establish

performance measurements for the federal LIHEAP program.

EXHIBIT RDC-4

Number and Percent of LIHEAP Recipients by Income Range and Annual Electric Burdens									
	All Households	Under \$2000	\$2000 - \$3999	\$4000 - \$5999	\$6000 - \$7999	\$8000 - \$9999	\$10,000 - \$11,999	\$12,000 - \$14,999	\$15,000+
Percent	100%	1.6%	13.0%	27.7%	20.9%	16.4%	8.4%	6.8%	5.2%
Number	313,830	5,021	40,798	86,931	65,590	51,468	26,362	21,340	16,319
Burden	xxx	73%	24%	15%	10%	8%	7%	5%	5%

Programs serving to increase incomes that should be emulated by the company include:

BOSS:

The company should implement a Benefits Outreach and Screening Software (BOSS) initiative through its customer service centers and telephone service centers. Through BOSS, company customer service personnel can help payment-troubled customers identify those public benefit programs for which they are eligible. Having a utility provide assistance through BOSS is merited because it makes no sense for a customer who is having problems paying their utility bill to *not* be getting the benefits for which they are eligible. While some people quite rightfully question what a utility can offer that the entire range of social service agencies can not, there are several answers to that. First, unlike social service agencies, the company has a continuing contact with these households. Every month, at a minimum, the company sends these households a bill. This constant contact does not occur with social services agencies. Second, the company has a way to target its outreach. Rather than doing comprehensive mailings to *all* low-income consumers, or buying blanket radio and television ads, the company can say to customers in payment-trouble and/or facing service disconnections: "You owe us money. Rather than having your service disconnected in the near future, please contact us and let us help find you assistance to keep your service on."

Despite the existence of dozens of federal, state and local public and private assistance programs, low-income households face many obstacles and barriers as they search for independence and self-sufficiency. Information about assistance programs is inconsistently distributed. The application process is often an intimidating mass of program rules and regulations that are barriers to program participation. Some of the barriers that exist to program participation include:

- o A lack of a centralized location at which to apply for public assistance, whether such assistance is cash, volunteer services, or employment and job training opportunities;
- o Different eligibility criteria, such as income and asset criteria, amongst the various programs;
- o Different methods for determining income and assets for household and family units;
- o Lengthy, repetitive and complex application forms.

Many agencies have an in-depth knowledge of a few resources, but it is virtually impossible for any single agency to be proficient in the complexities and current changes in the rules and regulations of all programs.

BOSS is a computer software screening tool that allows a utility to help its low-income consumers navigate this process. BOSS not only reduces the complexity and time required to identify assistance programs for which utility customers may be eligible, but also greatly increases the ability of customer assistance representatives to ensure that eligible low-income utility customers (or those with special needs) obtain all the services to which they are entitled. BOSS has the capability of screening an array of health and human services programs, community resources, volunteer services, employment and job training opportunities, and utility assistance programs. Nationwide, BOSS has the following capabilities:

- o To screen low-income households for potential eligibility for a wide array of community resources, volunteer services, and employment and job training opportunities;
- o Print a resource eligibility report for each person that lists the programs for which that person is eligible, telephone numbers of the contact person, addresses, times to apply, and required documentation; and
- o Use scanning technology to store brochures and other agency forms so that information about any agency is available at any site.

In October 1996, Public Service Electric and Gas (New Jersey) agreed to implement the BOSS system for its service territory. Companies such as Baltimore Gas and Electric and Northern States Power Company (Wisconsin) have also found the BOSS system to be extremely effective in directing new assistance dollars to low-income payment-troubled customers. Overall, BOSS is currently in place at over 400 sites in 23 states.

EARNED INCOME TAX CREDIT:

One program that is not explicitly an "energy assistance" program, but which delivers extensive benefits to low-income households to use for paying home energy bills, involves the efforts of many utilities to promote participation in the federal Earned Income Tax Credit (EITC). Some utilities have become extremely aggressive in promoting the enrollment by low-income households in the EITC. One utility, Public Service Electric and Gas Company (PSE&G), in New Jersey, found that the additional resources represented by the EITC would help alleviate many bill payment (and inability-to-pay) problems by low-income customers. According to PSE&G research, more than nine of ten (9 of 10) households receiving EITC refunds use those refunds to pay household bills. PSEG, in conjunction with a variety of public and private agencies, undertook an extensive promotion to enroll eligible households in the federal Earned Income Tax Credit (EITC). The goal of the promotion was to increase enrollment by at least five percent. Given PSE&G's promotion of the EITC in New Jersey, New Jersey's number of EITC recipients increased by 4.9 percent. According to PSE&G, as of July 31, 1994, in 1994 alone, New Jersey low-income residents had received \$60,000,000 more in EITC benefits than they had received by August 29 of 1993. This is 35 percent higher than the national average for the same period.

PSE&G spearheaded the efforts in that state to encourage income-eligible households to apply for the EITC. PSE&G created and funded a "1-800" hotline to promote the EITC. Outreach activities used to publicize New Jersey's hotline were both creative and effective. Some of that utility's activities included:

- o Over 100,000 flyers were produced by PSE&G and distributed by community volunteers.
- o 750 municipal buses carried posters "advertising" the PSE&G EITC number.
- o An EITC commercial sponsored by PSE&G was played just before New Jersey lottery drawings. It started with: "If you found a lottery ticket worth \$2,000, would you throw it away?"
- o PSE&G helped sponsor public service announcements by Governor Christie Whitman and Senator Bill Bradley to spread the message.
- o Collaborating with the New Jersey Division of Motor Vehicles, PSE&G produced inserts advertising the EITC through 350,000 vehicle registration renewal form mailings. It was headlined "Drive Yourself to a Treasure."

In addition, PSE&G reported that with the company's assistance:

- o Over 3.5 million envelope stuffers, flyers, and posters were distributed to reach potential EITC recipients.
- o An additional 1.1 million flyers describing EITC were delivered to parents of the state's public school children.

This effort is an indirect, but substantial, source of "fuel assistance" for low-income households. According to one article published by an Edison Electric Institute (EEI) staffperson, 25 percent of the low-income households receiving EITC credits used their credits to pay current utility bills while an additional 30 percent used their credits to pay past-due utility bills.

**Estimate of Universal Service Program Costs
at 50 Percent CAP Participation**

Cost of General Use Customers							
Income Range	Low-Income Bill	CAP Percent	Affordable Bill	Difference	Number of Gen. Use HHs		Cumulative Shortfall
					Total	Income Range	
Under \$2000	\$736	5%	\$50	\$686	90,000	5,940	\$4,075,410
\$2-3999	\$736	5%	\$150	\$586	90,000	6,570	\$3,850,651
\$4-5999	\$736	5%	\$250	\$486	90,000	14,400	\$6,999,783
\$6-7999	\$736	5%	\$350	\$386	90,000	14,670	\$5,664,029
\$8-9999	\$736	5%	\$450	\$286	90,000	15,390	\$4,403,018
\$10-11,999	\$736	5%	\$550	\$186	90,000	9,450	\$1,758,608
\$12-14,999	\$736	5%	\$675	\$61	90,000	10,260	\$626,845
\$15,000+	\$736	5%	\$750	\$0	90,000	13,410	\$0
Sub-Total General Use							\$27,378,344

Cost of Electric Space Heating Customers							
Income Range	Space Htg Bill	CAP Percent	Affordable Bill	Difference	No. of Space Heating HHs		Cumulative Shortfall
					Total	Income Range	
Under \$2000	\$1,086	13%	\$130	\$956	10,000	660	\$630,884
\$2-3999	\$1,086	13%	\$390	\$696	10,000	730	\$507,996
\$4-5999	\$1,086	13%	\$650	\$436	10,000	1,600	\$697,416
\$6-7999	\$1,086	13%	\$910	\$176	10,000	1,630	\$286,692
\$8-9999	\$1,086	13%	\$1,170	\$0	10,000	1,710	\$0
\$10-11,999	\$1,086	13%	\$1,430	\$0	10,000	1,050	\$0
\$12-14,999	\$1,086	13%	\$1,755	\$0	10,000	1,140	\$0
\$15,000+	\$1,086	13%	\$1,950	\$0	10,000	1,490	\$0
Sub-Total Space Heating							\$2,122,988

Sub-Total General Use	\$27,378,344
Sub-Total Space Heating	\$2,122,988
Total General Use and Space Heating	\$29,501,332
50 Percent Participation	\$14,750,666

Summary of Universal Service Recommendations

1. Define universal service as affordable service for all customers, including low-income customers.
2. Define "affordable" service as having two components, including an "absolute" component and a "relative" component.
3. Adopt an "income supplement" component to the rate affordability program, including implementation of a BOSS system and implementation of an EITC promotion.
4. Adopt an expansion of the company's rate affordability program, to be funded at \$14.750 million.
5. Contract administration of the universal service program to a non-profit community-based organization.
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.
7. Adopt an expansion of the company's LIURP efforts, to be funded at 0.20% of total gross revenues (\$2.214 million).
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.
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.
10. Incorporate a renewable pilot project as part of the company's LIURP efforts.
11. Adopt the recommended 11-part consumer education program.

EXHIBIT RDC-8

A consumer research section of the education plan should involve four primary inquiries, including:

1. What do people know about restructuring (thus informing decisions about what people need to learn). Basic adult education concepts counsel that education most readily occurs when it is *learner* and *learning* focused rather than *teaching* and *teacher* focused.
2. Who do people turn to for information and how do they get their information? Do they read it, or watch it, or listen to it? Do they get it from the media, through the mail, or from their neighbors and friends?
3. Who are major influencers of behavior and opinion? From whom do people take their "cues," neighbors, fellow workers, city/government officials, social organizations? This inquiry differs in that it looks at behavior rather than at information sources.
4. Who do different information sources reach? Do particular radio stations reach particular audiences? Conversely, does the local newspaper systematically "miss" some definable or discrete population? Do discrete populations rely more on one source than any other?

EXHIBIT RDC-9

A four phase consumer education program, modeled after the program proposed in Vermont, would include:

- Phase 1: Understanding Restructuring -- Phase 1 would be designed to explain to customers the expected changes in the electric industry resulting from restructuring. Its objective would be to raise the aided and unaided awareness of restructuring to predetermined levels by a date certain.
- Phase 2: Getting Ready for Choice -- Phase 2 would be designed to explain to customers the need to make a choice and to educate consumers both about their household energy consumption and about their options in energy sources (including energy efficiency). Messages would include, for example, how to evaluate the total bills (rather than looking simply for the least expensive rates); how to evaluate green power claims; what types of consumer protections might exist; and how to consider the environment impacts of power choices.
- Phase 3: Making a Good Choice -- Phase 3 would be designed to educate consumers to help them through the choice-making process. It would educate consumers on what types of offers they might expect to see, what consumers should do in response to various offers, what information to look for in particular, and who to call with questions.
- Phase 4: Continuing to Make Good Choices -- Phase 4 would educate consumers on how to evaluate their home energy bill on a continuing basis. This phase would allow consumers to use their bills as a feedback on what they are doing with their own household energy consumption. It would educate consumers about how to understand their consumption patterns.

EVALUATION PROCESS

There are eleven steps that Duquesne Power should consciously follow in an evaluation process:

1. **Articulate expected/desired performance:** Within the context of consumer education, the desired performance is established by the program objectives. Objectives should be attainable and measurable.
2. **Measure actual performance:** Actual performance is an empirically demonstrable fact. Obtaining this measurement is key to establishing the baseline of information upon which to make decisions as to future program operation.
3. **Review expected performance in light of actual performance:** Rather than simply saying: "our performance goal was not met," it seems reasonable to interject a point where the company asks: given what we know now, was our expectation reasonable in the first place? It is possible that the appropriate response to a shortfall between actual performance and desired performance is to modify the expectation rather than seeking to improve the performance.
4. **Determine the extent to which actual performance falls short of expected/desired performance:** This involves the development of information. If the company does not know how "what is" differs from "what ought to be," it will be difficult, if not impossible, to make appropriate decisions as to policy.
5. **Determine the cause(s) of the shortfall between what "is" and what "ought to be":** Identifying what *causes* the shortfall between what "is" and what "ought to be" is important to the implementation of appropriate remedies.
6. **Develop remedies:** For each cause identified in Step 5 above, the company should develop an appropriate remedy. A remedy removes or modifies the cause, thus eliminating or minimizing the shortfall in performance.
7. **Identify needed changes:** For each remedy proposed in Step 6, the company needs to know what changes should be made to bring that remedy about. This step requires information. It would be difficult, if not impossible, to develop a remedy if the company does not know what changes need to be made to implement that remedy.
8. **Determine the resources needed to make the change:** As a subset, determine whether those resources are both available and appropriate.

9. **Review expected performance in light of changes that have been proposed:** This step closes the loop. If the changes do not result in improved performance, they should not be made. This step differs from measuring the actual performance given the implementation of changes. This is not an implementation or evaluation step. It is a planning step. The company should be able to say: "*if* this particular change, *then* this particular result." The result should be an improvement in performance.
10. **Adopt the appropriate changes:** One important aspect here is to retain the option of "make no changes."
11. **Begin the evaluation process anew:** Finally, the process should start over again by articulating the expected or desired performance given the changes that have been adopted. That takes the company back to the top of the chart. The review should be an ongoing dynamic process.

SUMMARY OF CONSUMER EDUCATION RECOMMENDATIONS

- Step 1:** Commit \$50,000 to hire a consultant to do a market segmentation analysis.
- Step 2:** Commit \$50,000 to engage a consultant to develop a complete, adequate and appropriate set of consumer education goals, objectives, strategies and tactics.
- Step 3:** Commit \$25,000 to retain a consultant to develop a Community-Based Participation Plan consistent with the goals, objectives, strategies and tactics, and market research information. The use of community-based organizations has been explicitly endorsed by the PUC.
- Step 4:** To agree to a four phase substantive consumer education message consisting of the four phases described in the testimony.
- Step 5:** To develop a consumer education program specifically directed at educating consumers about how energy efficiency and consumer choice operate together.
- Step 6:** To allocate its budget of \$24.161 million to the tactical programs identified by the consultants in Steps 2 through 5, consistent with the market research information. This should involve: (a) a proactive plan of outreach; (b) a dedicated consumer education staff; (c) an outreach plan that is culturally appropriate.
- Step 7:** To commit \$1 million a year for 1998 through 2000 to capitalize a Consumer Education Trust Fund structured broadly as follows:
- a. An independent board of trustees, consisting of persons skilled in consumer education, community outreach, and community involvement, including at least two members from or representing the low-income community;
 - b. To provide funding on an application basis for specific projects that:
 - i. Demonstrably serve an identifiable population at risk of being underserved by the consumer education program;
 - ii. Present a unique approach to consumer education offering special benefits; or
 - iii. Propose a new and/or innovative approach to consumer education that requires and merits testing on a pilot basis.

- Step 8:** To create a dedicated consumer education staff of not fewer than two professionals (along with necessary support staff) to provide community outreach, education and training.
- Step 9:** To commit \$50,000 a year for the years 1997 through 2000 to retain a consultant to develop and implement a monitoring, feedback and adjustment process for the Consumer Education Program.
- Step 10:** To create an independent Consumer Education Advisory Panel to advise the company as to its ongoing Consumer Education Program and to provide advice and consent on the selection of the recommended consultants.
- Step 11:** To re-submit the final consumer education program to the PUC for review and approval.

EXHIBIT RDC-12

Proposed Budget	
Program	Budget
CARES	\$60,000
Hardship Fund	\$65,000 /a/
Income-Enhancement Programs	\$400,000
Affordability Rate	\$14,750,000
LIURP	\$2,214,000
NOTES:	
Assumes existing shareholder match continues.	

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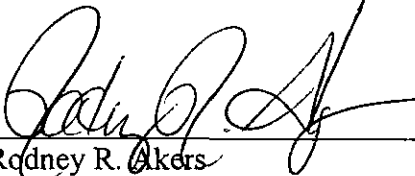
**COMMONWEALTH OF PENNSYLVANIA
BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Application of Duquesne Light Company :
for Approval of a Restructuring Plan Under : Docket No. R-00974104
Section 2806 of the Public Utility Code :

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a true copy of the foregoing document upon the participants by hand or by First Class U.S. Mail Delivery, postage prepaid, as indicated on the attached service listing, in accordance with the requirements of § 1.54 (relating to service by a participant), and in accordance with the directive of Administrative Law Judge John H. Corbett, Jr. in his Sixth Interim Order dated December 30, 1997.

Dated this 8th day of January 1998.



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