DII STATEMENT NO. 2-S

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION, ET. AL	)	
V.	)	
DUQUESNE LIGHT COMPANY FOR APPROVAL OF ITS RESTRUCTURING PLAN UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE	)	DOCKET NO. R-00974104

SURREBUTTAL TESTIMONY

AND EXHIBITS OF

RANDALL J. FALKENBERG

ON BEHALF OF THE

DUQUESNE INDUSTRIAL INTERVENORS

BOC Gases
General Motors Corp.
J&L Specialty Steel, Inc.
LTV Steel Company, Inc.
Nabisco Inc.
Nova Chemicals, Inc.
USX Corporation - US Steel Group

J. KENNEDY AND ASSOCIATES, INC.
ATLANTA, GEORGIA

DECEMBER 1997

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION, ET. AL	)	
V.	)	
DUQUESNE LIGHT COMPANY FOR APPROVAL OF ITS RESTRUCTURING PLAN UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE	)	DOCKET NO. R-00974104

SURREBUTTAL TESTIMONY OF RANDALL J. FALKENBERG

Q. Please state your name and business address.

A. Randall J. Falkenberg, Suite 475, 35 Glenlake Parkway, Atlanta, Georgia 30328.

Q. Have you previously submitted testimony in this proceeding?

A. Yes. I am the same Randall J. Falkenberg who filed direct testimony in this proceeding.

Q. What is the purpose of this surrebuttal testimony?

A. I will present an updated calculation of DLC's stranded costs reflecting the 1998 Annual Energy Outlook ("AEO") fuel price forecast prepared by EIA, and new information

contained in the Gas Turbine World 1997 Handbook. I will also respond to several points made by Mr. Schnitzer.

Update of EIA Forecast and Gas Turbine World Data Confirms Original Results

Q. Please describe Exhibit No.___(RJF-6).

A. This is an updated calculation of DLC's stranded costs based on EIA's latest (November 1998) fuel price forecast. The new forecast predicts substantially higher gas price escalation rates than the AEO-1997 forecast used in my original direct testimony. Based on my discussions with the EIA fuel experts, and my review of the forecast itself, I believe that the primary reasons for this increase in gas prices is the increase in actual prices during 1996 and EIA's recognition of the increasing demand for natural gas in the electric generation sector. The 1998 AEO forecast increases the real rate of escalation to 1.9% compared to 1% in the 1997 AEO forecast.[1] The new EIA forecast also predicts higher escalation rates for oil but lower ones for coal.

Q. Please comment on the updated data from the Gas Turbine World 1997 Handbook.

---

[1] While this may seem like a substantial increase, most of it has already taken place due to the large gas price increases that took place in 1996.

A. The Gas Turbine World 1996 Handbook was one of the source documents relied upon by various witnesses in this case. However, the publication has now been updated and reports lower costs for CCs, but demonstrates little change in the cost estimates for new CTs. I have updated my analysis to reflect a lower cost for combined cycle plants ($530/kW) and also slightly lowered the CT cost estimate. I am still somewhat skeptical of using these low estimates because, as the publication continues to note, markets for this type of capacity are now experiencing a price war. I do not expect this to persist indefinitely.

Q. Did you change any other items in your updated analysis?

A. I corrected my calculation of the real fixed charge rate. My original calculation had an inflation rate assumption that was inconsistent with the rest of my analysis. This adjustment slightly raised my real fixed charge rate. I also corrected a minor mistake in my calculation of O&M expenses for the year 2001 in my the analysis.

Q. Please summarize your updated analysis.

A. Some of the items discussed above (higher gas and oil prices, and the corrected real fixed charge rate) increased market prices, while others (lower coal prices and lower merchant

plant costs) decreased prices. On net, the effect was to *decrease* DLC's stranded generation costs to $925 million.

Q. Does this figure represent a new recommendation by DII?

A. No. I present this update simply to demonstrate the reasonableness of my original recommendation and to show how robust our results are, in light of updated data. However, I would insist that if the Commission decides to make any adjustment to DII's recommended stranded costs, that they be applied to this new base figure.

Q. Do you have any comments regarding the rebuttal testimony of Mr. Schnitzer?

A. I believe that Mr. Schnitzer's analysis of market prices on page 20 demonstrates that my post- 2005 price forecast is reasonable compared to Mr. Schnitzer's price range based on his analysis of long run marginal costs ("LRMC") and the OCA forecast. Mr. Schnitzer's only substantial criticism of my price forecast is that he considers prices in early years to be "too high." However, later in his testimony he concludes (and I agree) that based on our methodology the prices in the transition period make little difference in determining the length of time required to recover the CTC. While I question Mr. Schnitzer's LRMC forecast, it is apparent that we don't have much of a debate concerning future market

prices. Mr. Schnitzer's analysis should dispel any suggestion that my price forecast was biased or result oriented. It also moots any other technical criticisms, such as those of DLC witness Karl that might be made regarding the model or my market price assumptions.

Q. Does this conclude your testimony?

A. Yes.

DII STATEMENT NO. 2-S

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION, ET. AL	)	
V.	)	
DUQUESNE LIGHT COMPANY FOR APPROVAL OF ITS RESTRUCTURING PLAN UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE	)	DOCKET NO. R-00974104

SURREBUTTAL EXHIBITS OF

RANDALL J. FALKENBERG

ON BEHALF OF THE

DUQUESNE INDUSTRIAL INTERVENORS

BOC Gases
General Motors Corp.
J&L Specialty Steel, Inc.
LTV Steel Company, Inc.
Nabisco Inc.
Nova Chemicals, Inc.
USX Corporation - US Steel Group

J. KENNEDY AND ASSOCIATES, INC.
ATLANTA, GEORGIA
DECEMBER 1997

Exhibit No. ___(RJF-6a)
Duquesne Light Company
TOTAL STRANDED COST CALCULATION

Net Present Value of Contribution Margins	$53,943
Total Adjusted NPV	$53,943
Book Value less ITC	$979,130
Stranded Generation Cost	$925,187

NUG Obligation Stranded Costs

Scenario: EIA FUEL PRICE Escalation

Exhibit No.___(RJF-6b)

CALCULATION OF NET PRESENT VALUE OF CONTRIBUTION MARGINS

		Capacity					Capacity	Energy	PSH								Net Margin
	Year	Large Units	CTs	PSH	Total	Capacity Charges	Revenue $1,213,919	Margins $2,064,661	Magins $0	Total Costs $3,186,381	O&M $1,483,774	Cap. Add $290,629	Other Tax $155,878	A&G $981,202	Emission $274,899	After Tax $53,943
	1999	2468	54	0	2522	48.50	$122,321	$100,120	$0	$332,102	$135,500	$34,102	$28,800	$114,000	$19,700	($109,661)
	2000	2468	54	0	2522	49.71	$125,379	$109,324	$0	$320,289	$120,500	$35,289	$28,700	$115,800	$20,000	($85,586)
	2001	2468	54	0	2522	50.96	$128,513	$124,232	$0	$339,083	$128,200	$30,883	$28,800	$125,800	$25,400	($86,337)
	2002	2468	54	0	2522	52.23	$131,726	$144,152	$0	$345,778	$129,200	$29,878	$28,900	$129,600	$28,200	($69,900)
	2003	2468	54	0	2522	53.54	$135,019	$171,597	$0	$359,725	$134,200	$35,125	$29,000	$133,400	$28,000	($53,109)
	2004	2468	54	0	2522	54.88	$138,395	$203,462	$0	$397,133	$133,600	$68,833	$28,900	$135,900	$29,900	($55,276)
Disc. Rate	2005	1994	54	0	2048	56.25	$116,194	$192,730	$0	$321,128	$116,800	$23,828	$27,100	$125,500	$27,900	($13,204)
7.83%	2006	1994	0	0	1994	55.33	$110,334	$234,027	$0	$264,865	$149,550	$23,895	$0	$60,780	$30,640	$79,496
10.53%	2007	1994	0	0	1994	51.49	$102,680	$260,430	$0	$265,613	$147,640	$21,793	$0	$63,210	$32,970	$87,497
Tax Rate	2008	1994	0	0	1994	60.57	$120,780	$263,102	$0	$280,489	$159,910	$19,019	$0	$65,400	$36,160	$103,393
41.49%	2009	1994	0	0	1994	62.09	$123,800	$279,053	$0	$287,021	$163,800	$18,541	$0	$67,970	$36,710	$115,831
	2010	1994	0	0	1994	63.64	$126,895	$292,270	$0	$295,819	$160,120	$28,959	$0	$70,360	$36,380	$123,346
	2011	1807	0	0	1807	65.23	$117,869	$271,841	$0	$288,626	$165,980	$18,636	$0	$65,680	$38,330	$101,084
	2012	1621	0	0	1621	66.86	$108,380	$272,257	$0	$256,924	$150,120	$15,994	$0	$61,190	$29,820	$123,713
Post 2014	2013	1621	0	0	1621	66.97	$108,561	$295,974	$0	$250,271	$141,100	$15,931	$0	$63,090	$30,150	$154,264
Inflation	2014	1621	0	0	1621	66.88	$108,420	$314,810	$0	$272,954	$158,500	$14,944	$0	$65,430	$34,080	$150,278
2.50%	2015	1059	0	0	1059	68.56	$72,602	$212,464	$0	$188,815	$118,640	$12,825	$0	$43,590	$11,760	$98,251
	2016	446	0	0	446	70.27	$31,341	$92,416	$0	$91,305	$62,680	$4,865	$0	$18,010	$5,750	$32,451
	2017	274	0	0	274	72.03	$19,736	$60,089	$0	$89,205	$65,420	$3,925	$0	$16,410	$3,450	($9,381)
	2018	274	0	0	274	73.83	$20,229	$61,592	$0	$82,394	$57,090	$4,024	$0	$17,070	$4,210	($573)
	2019	274	0	0	274	75.67	$20,735	$63,131	$0	$94,754	$68,540	$4,124	$0	$17,770	$4,320	($10,888)
	2020	274	0	0	274	77.57	$21,253	$64,710	$0	$75,967	$57,840	$4,227	$0	$13,900	$0	$9,996
	2021	274	0	0	274	79.50	$21,784	$66,328	$0	$78,043	$59,240	$4,333	$0	$14,470	$0	$10,069
	2022	274	0	0	274	81.49	$22,329	$67,987	$0	$79,551	$60,050	$4,441	$0	$15,060	$0	$10,765
	2023	274	0	0	274	83.53	$22,887	$69,684	$0	$88,972	$66,760	$4,552	$0	$15,660	$0	$5,599
	2024	274	0	0	274	85.62	$23,459	$71,427	$0	$77,626	$56,660	$4,666	$0	$16,300	$0	$17,260
	2025	274	0	0	274	87.76	$24,046	$73,214	$0	$90,893	$69,140	$4,783	$0	$16,970	$0	$8,367
	2026	274	0	0	274	89.95	$24,647	$75,043	$0	$87,362	$64,800	$4,902	$0	$17,660	$0	$12,328
	2027	274	0	0	274	92.20	$25,263	$76,920	$0	$89,546	$66,420	$5,025	$0	$18,102	$0	$12,637
	2028	274	0	0	274	94.51	$25,895	$78,842	$0	$91,785	$68,081	$5,150	$0	$18,554	$0	$12,952
	2029	274	0	0	274	96.87	$26,542	$80,815	$0	$94,080	$69,783	$5,279	$0	$19,018	$0	$13,277

NPV of Net Margins After Tax

Exhibit No. ____ (RJF-6b)

Large Units
Capacity mW

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Ebarna 4	Ebarna 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ebarna 1	Ebarna 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.88	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	2488	161	113	385	562	171	109	187	110	186	62	228	97	97
2000	2488	161	113	385	562	171	109	187	110	186	62	228	97	97
2001	2488	161	113	385	562	171	109	187	110	186	62	228	97	97
2002	2488	161	113	385	562	171	109	187	110	186	62	228	97	97
2003	2488	161	113	385	562	171	109	187	110	186	62	228	97	97
2004	2488	161	113	385	562	171	109	187	110	186	62	228	97	97
2005	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2006	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2007	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2008	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2009	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2010	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2011	1807	161	113	385	562	0	0	0	110	186	62	228	0	0
2012	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2013	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2014	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2015	1059	161	113	385	0	0	0	0	110	0	62	228	0	0
2016	448	161	113	0	0	0	0	0	110	0	62	0	0	0
2017	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2018	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2019	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2020	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2021	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2022	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2023	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2024	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2025	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2026	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2027	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2028	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2029	274	161	113	0	0	0	0	0	0	0	0	0	0	0

Large Unit Output Report

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Ebarna 4	Ebarna 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ebarna 1	Ebarna 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.88	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	16870	1071	807	2752	3965	1273	812	1379	809	1267	352	1241	480	442
2000	16897	1071	807	2752	3965	1273	812	1379	809	1268	354	1252	486	451
2001	16821	1071	807	2752	3965	1273	812	1380	812	1292	370	1308	508	471
2002	16902	1071	807	2752	3965	1273	812	1380	813	1293	381	1345	523	487
2003	17024	1071	807	2752	3965	1273	812	1381	815	1298	395	1401	548	508
2004	17125	1071	807	2752	3965	1273	812	1382	815	1299	408	1449	565	527
2005	13965	1071	807	2752	3965	0	0	1382	816	1299	410	1483	0	0
2006	14023	1071	807	2752	3965	0	0	1382	817	1302	420	1507	0	0
2007	14075	1071	807	2752	3965	0	0	1382	818	1304	429	1947	0	0
2008	14113	1071	807	2752	3965	0	0	1383	818	1305	435	1577	0	0
2009	14143	1071	807	2752	3965	0	0	1383	819	1307	439	1600	0	0
2010	14163	1071	807	2752	3965	0	0	1383	820	1308	442	1615	0	0
2011	12798	1071	807	2752	3965	0	0	0	821	1308	445	1628	0	0
2012	11502	1071	807	2752	3965	0	0	0	822	0	447	1638	0	0
2013	11512	1071	807	2752	3965	0	0	0	822	0	449	1648	0	0
2014	11521	1071	807	2752	3965	0	0	0	822	0	451	1653	0	0
2015	7556	1071	807	2752	0	0	0	0	822	0	451	1653	0	0
2016	3151	1071	807	0	0	0	0	0	822	0	451	0	0	0
2017	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2018	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2019	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2020	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2021	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2022	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2023	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2024	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2025	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2026	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2027	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2028	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2029	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0

Fuel Cost $ (1000)

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Chosnic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.86	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2015	2015	2004	2004
1999	162505	8405	5883	20592	38904	13298	8784	15153	9085	14412	4129	14686	5770	5424
2000	163809	8585	6030	21107	38947	13313	8784	15171	9072	14424	4164	14836	5856	5530
2001	168029	8730	6181	21635	39511	13505	8921	15400	9235	14692	4413	15715	6208	5881
2002	171917	8897	6335	22178	40085	13701	9050	15631	9376	14922	4804	16406	6480	6154
2003	176196	7070	6494	22731	40868	13899	9182	15867	9538	15190	4850	17329	6858	6522
2004	180431	7247	6656	23298	41255	14101	9317	16103	9687	15432	5072	18191	7212	6859
2005	145597	7428	6822	23882	41853	0	0	16336	9825	15652	5180	18618	0	0
2006	149016	7614	6993	24479	42515	0	0	16599	9998	15934	5394	19492	0	0
2007	152382	7804	7168	25091	43186	0	0	16866	10163	16203	5586	20315	0	0
2008	155868	7999	7347	25718	43869	0	0	17134	10331	16474	5754	21042	0	0
2009	158925	8200	7531	26361	44562	0	0	17406	10513	16787	5908	21677	0	0
2010	162097	8405	7719	27020	45266	0	0	17684	10884	17041	6044	22234	0	0
2011	147102	8615	7912	27695	45978	0	0	0	10840	17282	6163	22717	0	0
2012	132249	8830	8110	28387	46496	0	0	0	10990	0	6276	23160	0	0
2013	134715	9051	8312	29098	47125	0	0	0	11142	0	6390	23587	0	0
2014	137185	9277	8520	29825	47760	0	0	0	11298	0	6497	24008	0	0
2015	91663	9504	8732	30572	0	0	0	0	11582	0	6658	24615	0	0
2016	37368	9742	8951	0	0	0	0	0	11871	0	6824	0	0	0
2017	19160	9985	9175	0	0	0	0	0	0	0	0	0	0	0
2018	19839	10235	9404	0	0	0	0	0	0	0	0	0	0	0
2019	20131	10492	9639	0	0	0	0	0	0	0	0	0	0	0
2020	20633	10753	9880	0	0	0	0	0	0	0	0	0	0	0
2021	21149	11022	10127	0	0	0	0	0	0	0	0	0	0	0
2022	21678	11298	10380	0	0	0	0	0	0	0	0	0	0	0
2023	22220	11580	10640	0	0	0	0	0	0	0	0	0	0	0
2024	22776	11870	10906	0	0	0	0	0	0	0	0	0	0	0
2025	23344	12168	11178	0	0	0	0	0	0	0	0	0	0	0
2026	23929	12471	11458	0	0	0	0	0	0	0	0	0	0	0
2027	24527	12783	11744	0	0	0	0	0	0	0	0	0	0	0
2028	25140	13102	12038	0	0	0	0	0	0	0	0	0	0	0
2029	25767	13429	12338	0	0	0	0	0	0	0	0	0	0	0

Fuel Cost $/mWh

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Chosnic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.86	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2015	2015	2004	2004
1999	9.75	9.88	7.29	7.48	9.81	10.45	10.82	10.99	11.21	11.20	11.73	11.83	12.02	12.27
2000	9.81	9.13	7.47	7.67	9.82	10.48	10.83	11.00	11.21	11.22	11.76	11.85	12.05	12.26
2001	9.98	9.26	7.66	7.86	9.96	10.61	10.99	11.16	11.37	11.37	11.93	12.02	12.22	12.49
2002	10.17	9.44	7.85	8.06	10.11	10.76	11.15	11.33	11.53	11.54	12.08	12.20	12.39	12.64
2003	10.35	8.60	8.05	8.26	10.26	10.92	11.31	11.49	11.70	11.70	12.26	12.37	12.56	12.84
2004	10.54	8.77	8.25	8.47	10.40	11.08	11.47	11.65	11.89	11.88	12.43	12.55	12.76	13.02
2005	10.43	8.94	8.45	8.68	10.56	0.00	0.00	11.82	12.04	12.05	12.63	12.73	0.00	0.00
2006	10.63	7.11	8.67	8.89	10.72	0.00	0.00	12.01	12.24	12.24	12.84	12.93	0.00	0.00
2007	10.83	7.29	8.88	9.12	10.89	0.00	0.00	12.20	12.42	12.43	13.02	13.13	0.00	0.00
2008	11.03	7.47	9.10	9.35	11.06	0.00	0.00	12.39	12.63	12.62	13.23	13.34	0.00	0.00
2009	11.24	7.66	9.33	9.58	11.24	0.00	0.00	12.59	12.84	12.83	13.46	13.55	0.00	0.00
2010	11.45	7.85	9.57	9.82	11.42	0.00	0.00	12.79	13.03	13.03	13.67	13.77	0.00	0.00
2011	11.49	8.04	9.80	10.06	11.57	0.00	0.00	0.00	13.20	13.20	13.85	13.95	0.00	0.00
2012	11.50	8.24	10.05	10.32	11.73	0.00	0.00	0.00	13.37	0.00	14.04	14.14	0.00	0.00
2013	11.70	8.45	10.30	10.57	11.89	0.00	0.00	0.00	13.55	0.00	14.23	14.34	0.00	0.00
2014	11.91	8.66	10.56	10.84	12.05	0.00	0.00	0.00	13.74	0.00	14.41	14.52	0.00	0.00
2015	12.13	8.87	10.82	11.11	0.00	0.00	0.00	0.00	14.09	0.00	14.76	14.88	0.00	0.00
2016	11.87	9.10	11.09	0.00	0.00	0.00	0.00	0.00	14.44	0.00	15.13	0.00	0.00	0.00
2017	10.20	9.32	11.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	10.46	9.58	11.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	10.72	9.80	11.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	10.99	10.04	12.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	11.26	10.29	12.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	11.54	10.55	12.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	11.83	10.81	13.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	12.13	11.08	13.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	12.43	11.36	13.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	12.74	11.64	14.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2027	13.06	11.94	14.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2028	13.39	12.23	14.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2029	13.72	12.54	15.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Market Energy Prices $/mWh

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Chesvic 1	Ekrems 4	Ekrems 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ekrems 1	Ekrems 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	15.75	15.62	15.64	15.63	15.63	15.62	15.61	15.63	15.66	15.67	16.18	16.30	16.62	16.62
2000	16.36	16.20	16.21	16.20	16.20	16.20	16.18	16.20	16.24	16.26	16.90	17.02	17.43	17.63
2001	17.37	17.20	17.21	17.20	17.20	17.19	17.17	17.19	17.22	17.25	17.91	18.06	18.58	18.92
2002	18.68	18.48	18.50	18.48	18.48	18.47	18.45	18.49	18.50	18.55	19.25	19.46	20.13	20.52
2003	20.43	20.18	20.21	20.19	20.19	20.17	20.16	20.18	20.21	20.24	21.01	21.24	22.07	22.52
2004	22.42	22.14	22.18	22.15	22.15	22.13	22.11	22.13	22.19	22.22	22.92	23.23	24.29	24.92
2005	24.23	24.06	24.08	24.06	24.06	0.00	0.00	24.05	24.06	24.14	25.00	25.29	0.00	0.00
2006	27.32	27.14	27.17	27.15	27.14	0.00	0.00	27.13	27.17	27.22	28.10	28.38	0.00	0.00
2007	29.33	29.17	29.20	29.18	29.18	0.00	0.00	29.18	29.20	29.24	29.97	30.25	0.00	0.00
2008	29.67	29.55	29.58	29.56	29.56	0.00	0.00	29.53	29.58	29.61	30.17	30.38	0.00	0.00
2009	30.97	30.86	30.89	30.87	30.87	0.00	0.00	30.84	30.89	30.92	31.44	31.56	0.00	0.00
2010	32.06	31.99	32.02	31.99	31.99	0.00	0.00	31.98	32.00	32.03	32.51	32.60	0.00	0.00
2011	32.74	32.65	32.69	32.66	32.65	0.00	0.00	0.00	32.64	32.68	33.07	33.15	0.00	0.00
2012	35.17	35.08	35.12	35.09	35.09	0.00	0.00	0.00	35.04	0.00	35.48	35.55	0.00	0.00
2013	37.41	37.33	37.37	37.34	37.34	0.00	0.00	0.00	37.30	0.00	37.70	37.77	0.00	0.00
2014	39.23	39.16	39.20	39.17	39.17	0.00	0.00	0.00	39.13	0.00	39.44	39.54	0.00	0.00
2015	40.25	40.15	40.19	40.15	0.00	0.00	0.00	0.00	40.11	0.00	40.43	40.52	0.00	0.00
2016	41.19	41.15	41.19	0.00	0.00	0.00	0.00	0.00	41.12	0.00	41.44	0.00	0.00	0.00
2017	42.20	42.18	42.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	43.25	43.24	43.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	44.34	44.32	44.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	45.44	45.42	45.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	46.58	46.56	46.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	47.74	47.73	47.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	48.94	48.92	48.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	50.16	50.14	50.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	51.42	51.39	51.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	52.70	52.68	52.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2027	54.02	54.00	54.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2028	55.37	55.35	55.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2029	56.75	56.73	56.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Market Energy Revenues ($1000)

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Chesvic 1	Ekrems 4	Ekrems 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ekrems 1	Ekrems 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	262825	16734	12621	43009	61964	19889	12678	21555	12672	20169	5695	20230	7976	7436
2000	273133	17349	13085	44590	64241	20617	13140	22348	13138	20915	5984	21310	8469	7949
2001	292258	18416	13890	47333	68191	21882	13944	23728	13966	22286	6627	23626	9438	8909
2002	315969	19791	14928	50868	73284	23514	14985	25510	15043	23982	7335	26205	10530	9994
2003	347793	21817	16308	55560	80044	25680	16366	27875	16471	26276	8299	29758	12050	11491
2004	383893	23714	17687	60951	87810	28170	17956	30587	18085	28863	9351	33863	13722	13134
2005	338327	25788	19436	66226	95409	0	0	33234	19649	31364	10250	36993	0	0
2006	383045	29065	21924	74707	107626	0	0	37498	22189	35446	11600	42780	0	0
2007	412812	31245	23567	80307	115697	0	0	40327	23883	38131	12657	46798	0	0
2008	418770	31649	23873	81347	117194	0	0	40841	24193	38640	13123	47910	0	0
2009	437976	33061	24930	84950	122384	0	0	42653	25302	40414	13803	50491	0	0
2010	454367	34256	25838	88045	126847	0	0	44228	26237	41896	14370	52649	0	0
2011	418943	34988	26374	89870	129474	0	0	0	26798	42775	14715	53973	0	0
2012	404508	37574	28341	96574	139133	0	0	0	28801	0	15803	58223	0	0
2013	430688	39979	30166	102756	148039	0	0	0	30658	0	16927	62174	0	0
2014	451995	41942	31636	107803	155309	0	0	0	32167	0	17787	65352	0	0
2015	304127	42999	32432	110503	0	0	0	0	32974	0	18233	66998	0	0
2016	129804	44074	33242	0	0	0	0	0	33799	0	18689	0	0	0
2017	76249	45176	34073	0	0	0	0	0	0	0	0	0	0	0
2018	81231	46306	34925	0	0	0	0	0	0	0	0	0	0	0
2019	83262	47464	35798	0	0	0	0	0	0	0	0	0	0	0
2020	85343	48650	36693	0	0	0	0	0	0	0	0	0	0	0
2021	87477	49866	37611	0	0	0	0	0	0	0	0	0	0	0
2022	89665	51114	38551	0	0	0	0	0	0	0	0	0	0	0
2023	91904	52390	39514	0	0	0	0	0	0	0	0	0	0	0
2024	94203	53701	40502	0	0	0	0	0	0	0	0	0	0	0
2025	96558	55043	41515	0	0	0	0	0	0	0	0	0	0	0
2026	98972	56419	42553	0	0	0	0	0	0	0	0	0	0	0
2027	101447	57830	43617	0	0	0	0	0	0	0	0	0	0	0
2028	103982	59276	44707	0	0	0	0	0	0	0	0	0	0	0
2029	106582	60757	45825	0	0	0	0	0	0	0	0	0	0	0

Energy Margins ($1000)

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.06	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	100120	10329	6738	22417	23060	6591	3891	6402	3607	5757	1566	5544	2206	2012
2000	109324	10784	7055	23483	25294	7304	4346	7175	4066	6491	1820	6474	2613	2419
2001	124232	11896	7709	25698	28680	8377	5023	8328	4751	7594	2214	7912	3232	3028
2002	144152	12894	8593	28692	33199	9613	5935	9878	5667	9060	2731	9799	4050	3840
2003	171597	14547	9812	32829	39378	11781	7184	12008	6933	11086	3449	12429	5192	4969
2004	203482	16487	11231	37852	46555	14069	8639	14484	8398	13431	4279	15472	6510	6275
2005	192730	18338	12614	42344	53556	0	0	16898	9824	15712	5070	18374	0	0
2006	234027	21451	14931	50228	65111	0	0	20899	12201	19512	6406	23288	0	0
2007	260430	23441	16399	55218	72511	0	0	23481	13720	21928	7271	26483	0	0
2008	263102	23650	16528	55629	73325	0	0	23707	13862	22168	7369	26868	0	0
2009	279053	24851	17399	58589	77822	0	0	25247	14789	23647	7895	28814	0	0
2010	292270	25851	18119	61025	81581	0	0	26545	15553	24855	8326	30415	0	0
2011	271841	26351	18462	62175	83596	0	0	0	15956	25493	8552	31256	0	0
2012	272257	26744	20231	68187	92837	0	0	0	17811	0	9584	35063	0	0
2013	295974	30928	21644	73658	100914	0	0	0	19518	0	10537	38577	0	0
2014	314810	32665	23118	77978	107548	0	0	0	20889	0	11290	41344	0	0
2015	212484	33495	23700	79931	0	0	0	0	21392	0	11575	42371	0	0
2016	92416	34332	24291	0	0	0	0	0	21928	0	11865	0	0	0
2017	60089	35191	24898	0	0	0	0	0	0	0	0	0	0	0
2018	61592	36071	25521	0	0	0	0	0	0	0	0	0	0	0
2019	63131	36972	26159	0	0	0	0	0	0	0	0	0	0	0
2020	64710	37897	26813	0	0	0	0	0	0	0	0	0	0	0
2021	66328	38844	27484	0	0	0	0	0	0	0	0	0	0	0
2022	67987	39816	28171	0	0	0	0	0	0	0	0	0	0	0
2023	69684	40810	28874	0	0	0	0	0	0	0	0	0	0	0
2024	71427	41831	29596	0	0	0	0	0	0	0	0	0	0	0
2025	73214	42877	30337	0	0	0	0	0	0	0	0	0	0	0
2026	75043	43948	31096	0	0	0	0	0	0	0	0	0	0	0
2027	76920	45047	31873	0	0	0	0	0	0	0	0	0	0	0
2028	78842	46173	32669	0	0	0	0	0	0	0	0	0	0	0
2029	80815	47328	33487	0	0	0	0	0	0	0	0	0	0	0

Unit Capacity Factors

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.06	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	77.11	75.94	81.53	81.60	80.54	84.98	85.04	84.18	83.96	78.99	64.81	62.13	56.49	62.02
2000	77.23	75.94	81.53	81.60	80.54	84.98	85.04	84.18	83.96	78.93	65.18	62.69	57.20	53.99
2001	77.50	75.94	81.53	81.60	80.54	84.98	85.04	84.24	84.27	79.29	68.12	65.49	59.78	55.43
2002	78.18	75.94	81.53	81.60	80.54	84.98	85.04	84.24	84.37	79.36	70.15	67.34	61.55	57.31
2003	78.74	75.94	81.53	81.60	80.54	84.98	85.04	84.30	84.58	79.66	72.73	70.15	64.26	59.78
2004	79.21	75.94	81.53	81.60	80.54	84.98	85.04	84.37	84.58	79.72	75.12	72.55	66.49	62.02
2005	79.95	75.94	81.53	81.60	80.54	0.00	0.00	84.37	84.68	79.72	75.49	73.26	0.00	0.00
2006	80.28	75.94	81.53	81.60	80.54	0.00	0.00	84.37	84.79	79.91	77.33	75.45	0.00	0.00
2007	80.58	75.94	81.53	81.60	80.54	0.00	0.00	84.37	84.89	80.03	78.99	77.46	0.00	0.00
2008	80.80	75.94	81.53	81.60	80.54	0.00	0.00	84.43	84.89	80.09	80.09	78.96	0.00	0.00
2009	80.97	75.94	81.53	81.60	80.54	0.00	0.00	84.43	84.99	80.22	80.83	80.11	0.00	0.00
2010	81.08	75.94	81.53	81.60	80.54	0.00	0.00	84.43	85.10	80.28	81.38	80.86	0.00	0.00
2011	80.85	75.94	81.53	81.60	80.54	0.00	0.00	0.00	85.20	80.34	81.93	81.51	0.00	0.00
2012	81.00	75.94	81.53	81.60	80.54	0.00	0.00	0.00	85.31	0.00	82.30	82.01	0.00	0.00
2013	81.07	75.94	81.53	81.60	80.54	0.00	0.00	0.00	85.31	0.00	82.87	82.41	0.00	0.00
2014	81.13	75.94	81.53	81.60	80.54	0.00	0.00	0.00	85.31	0.00	83.04	82.76	0.00	0.00
2015	81.45	75.94	81.53	81.60	0.00	0.00	0.00	0.00	85.31	0.00	83.04	82.76	0.00	0.00
2016	80.85	75.94	81.53	0.00	0.00	0.00	0.00	0.00	85.31	0.00	83.04	0.00	0.00	0.00
2017	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2027	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2028	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2029	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WORKPAPERS

OF

RANDALL J. FALKENBERG

DOCKET NO. R-00974104

Large Units
Capacity mW

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Chesvic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2000	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2001	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2002	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2003	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2004	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2005	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2006	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2007	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2008	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2009	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2010	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2011	1807	161	113	385	562	0	0	0	110	186	62	228	0	0
2012	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2013	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2014	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2015	1059	161	113	385	0	0	0	0	110	0	62	228	0	0
2016	448	161	113	0	0	0	0	0	110	0	62	0	0	0
2017	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2018	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2019	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2020	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2021	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2022	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2023	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2024	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2025	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2026	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2027	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2028	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2029	274	161	113	0	0	0	0	0	0	0	0	0	0	0

Large Unit Output Report

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Chesvic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	16670	1071	807	2752	3965	1273	812	1379	809	1287	352	1241	480	442
2000	16697	1071	807	2752	3965	1273	812	1379	809	1286	354	1252	486	451
2001	16821	1071	807	2752	3965	1273	812	1380	812	1292	370	1308	508	471
2002	16902	1071	807	2752	3965	1273	812	1380	813	1293	381	1345	523	487
2003	17024	1071	807	2752	3965	1273	812	1381	815	1298	395	1401	546	508
2004	17125	1071	807	2752	3965	1273	812	1382	815	1299	408	1449	565	527
2005	13965	1071	807	2752	3965	0	0	1382	816	1299	410	1463	0	0
2006	14023	1071	807	2752	3965	0	0	1382	817	1302	420	1507	0	0
2007	14075	1071	807	2752	3965	0	0	1382	818	1304	429	1547	0	0
2008	14113	1071	807	2752	3965	0	0	1383	818	1305	435	1577	0	0
2009	14143	1071	807	2752	3965	0	0	1383	819	1307	439	1600	0	0
2010	14163	1071	807	2752	3965	0	0	1383	820	1308	442	1615	0	0
2011	12798	1071	807	2752	3965	0	0	0	821	1309	445	1628	0	0
2012	11502	1071	807	2752	3965	0	0	0	822	0	447	1638	0	0
2013	11512	1071	807	2752	3965	0	0	0	822	0	449	1646	0	0
2014	11521	1071	807	2752	3965	0	0	0	822	0	451	1653	0	0
2015	7556	1071	807	2752	0	0	0	0	822	0	451	1653	0	0
2016	3151	1071	807	0	0	0	0	0	822	0	451	0	0	0
2017	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2018	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2019	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2020	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2021	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2022	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2023	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2024	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2025	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2026	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2027	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2028	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2029	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0

Fuel Cost $ (1000)

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	162505	6405	5883	20592	38904	13298	8784	15153	9065	14412	4129	14686	5770	5424
2000	163809	6565	6030	21107	38947	13313	8794	15171	9072	14424	4164	14836	5856	5530
2001	168026	6730	6181	21635	39511	13505	8921	15400	9235	14692	4413	15716	6206	5881
2002	171817	6897	6335	22176	40085	13701	9050	15631	9376	14922	4604	16406	6480	6154
2003	176196	7070	6494	22731	40668	13899	9182	15867	9538	15190	4850	17329	6858	6522
2004	180431	7247	6656	23299	41255	14101	9317	16103	9667	15432	5072	18191	7212	6859
2005	145597	7428	6822	23882	41853	0	0	16336	9825	15652	5180	18619	0	0
2006	149018	7614	6993	24479	42515	0	0	16599	9998	15934	5394	19492	0	0
2007	152382	7804	7168	25091	43186	0	0	16868	10163	16203	5586	20315	0	0
2008	155668	7999	7347	25718	43869	0	0	17134	10331	16474	5754	21042	0	0
2009	158925	8200	7531	26361	44562	0	0	17406	10513	16767	5908	21677	0	0
2010	162097	8405	7719	27020	45266	0	0	17684	10684	17041	6044	22234	0	0
2011	147102	8615	7912	27695	45878	0	0	0	10840	17282	6163	22717	0	0
2012	132249	8830	8110	28387	46498	0	0	0	10990	0	6276	23160	0	0
2013	134715	9051	8312	29098	47125	0	0	0	11142	0	6390	23597	0	0
2014	137185	9277	8520	29825	47760	0	0	0	11298	0	6497	24008	0	0
2015	91663	9504	8732	30572	0	0	0	0	11582	0	6658	24615	0	0
2016	37388	9742	8951	0	0	0	0	0	11871	0	6824	0	0	0
2017	19160	9985	9175	0	0	0	0	0	0	0	0	0	0	0
2018	19639	10235	9404	0	0	0	0	0	0	0	0	0	0	0
2019	20131	10492	9639	0	0	0	0	0	0	0	0	0	0	0
2020	20633	10753	9880	0	0	0	0	0	0	0	0	0	0	0
2021	21149	11022	10127	0	0	0	0	0	0	0	0	0	0	0
2022	21678	11298	10380	0	0	0	0	0	0	0	0	0	0	0
2023	22220	11580	10640	0	0	0	0	0	0	0	0	0	0	0
2024	22776	11870	10906	0	0	0	0	0	0	0	0	0	0	0
2025	23344	12168	11178	0	0	0	0	0	0	0	0	0	0	0
2026	23929	12471	11458	0	0	0	0	0	0	0	0	0	0	0
2027	24527	12783	11744	0	0	0	0	0	0	0	0	0	0	0
2028	25140	13102	12038	0	0	0	0	0	0	0	0	0	0	0
2029	25767	13429	12338	0	0	0	0	0	0	0	0	0	0	0

Fuel Cost $/mWh

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	9.75	5.98	7.29	7.48	9.81	10.45	10.82	10.99	11.21	11.20	11.73	11.63	12.02	12.27
2000	9.81	6.13	7.47	7.67	9.82	10.46	10.83	11.00	11.21	11.22	11.78	11.85	12.05	12.26
2001	9.99	6.28	7.66	7.86	9.96	10.61	10.99	11.16	11.37	11.37	11.93	12.02	12.22	12.49
2002	10.17	6.44	7.85	8.06	10.11	10.76	11.15	11.33	11.53	11.54	12.08	12.20	12.39	12.64
2003	10.35	6.60	8.05	8.26	10.26	10.92	11.31	11.49	11.70	11.70	12.28	12.37	12.58	12.84
2004	10.54	6.77	8.25	8.47	10.40	11.08	11.47	11.65	11.89	11.88	12.43	12.55	12.76	13.02
2005	10.43	6.94	8.45	8.68	10.56	0.00	0.00	11.82	12.04	12.05	12.63	12.73	0.00	0.00
2006	10.63	7.11	8.67	8.89	10.72	0.00	0.00	12.01	12.24	12.24	12.84	12.93	0.00	0.00
2007	10.83	7.29	8.88	9.12	10.89	0.00	0.00	12.20	12.42	12.43	13.02	13.13	0.00	0.00
2008	11.03	7.47	9.10	9.35	11.06	0.00	0.00	12.39	12.63	12.62	13.23	13.34	0.00	0.00
2009	11.24	7.66	9.33	9.58	11.24	0.00	0.00	12.59	12.84	12.83	13.46	13.55	0.00	0.00
2010	11.45	7.85	9.57	9.82	11.42	0.00	0.00	12.79	13.03	13.03	13.67	13.77	0.00	0.00
2011	11.49	8.04	9.80	10.06	11.57	0.00	0.00	0.00	13.20	13.20	13.85	13.95	0.00	0.00
2012	11.50	8.24	10.05	10.32	11.73	0.00	0.00	0.00	13.37	0.00	14.04	14.14	0.00	0.00
2013	11.70	8.45	10.30	10.57	11.89	0.00	0.00	0.00	13.55	0.00	14.23	14.34	0.00	0.00
2014	11.91	8.66	10.56	10.84	12.05	0.00	0.00	0.00	13.74	0.00	14.41	14.52	0.00	0.00
2015	12.13	8.87	10.82	11.11	0.00	0.00	0.00	0.00	14.09	0.00	14.78	14.89	0.00	0.00
2016	11.87	9.10	11.09	0.00	0.00	0.00	0.00	0.00	14.44	0.00	15.13	0.00	0.00	0.00
2017	10.20	9.32	11.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	10.46	9.56	11.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	10.72	9.80	11.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	10.99	10.04	12.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	11.26	10.29	12.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	11.54	10.55	12.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	11.83	10.81	13.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	12.13	11.08	13.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	12.43	11.36	13.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	12.74	11.64	14.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2027	13.06	11.94	14.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2028	13.39	12.23	14.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2029	13.72	12.54	15.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Market Energy Prices $/mWh

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2018	2011	2015	2015	2004	2004
1999	15.75	15.62	15.64	15.63	15.63	15.62	15.61	15.63	15.66	15.67	16.18	16.30	16.62	16.62
2000	16.36	16.20	16.21	16.20	16.20	16.20	16.18	16.20	16.24	16.26	16.90	17.02	17.43	17.63
2001	17.37	17.20	17.21	17.20	17.20	17.19	17.17	17.19	17.22	17.25	17.91	18.06	18.58	18.92
2002	18.69	18.48	18.50	18.48	18.48	18.47	18.45	18.49	18.50	18.55	19.25	19.48	20.13	20.52
2003	20.43	20.18	20.21	20.19	20.19	20.17	20.16	20.18	20.21	20.24	21.01	21.24	22.07	22.52
2004	22.42	22.14	22.18	22.15	22.15	22.13	22.11	22.13	22.19	22.22	22.92	23.23	24.29	24.92
2005	24.23	24.06	24.08	24.06	24.06	0.00	0.00	24.05	24.08	24.14	25.00	25.29	0.00	0.00
2006	27.32	27.14	27.17	27.15	27.14	0.00	0.00	27.13	27.17	27.22	28.10	28.39	0.00	0.00
2007	29.33	29.17	29.20	29.18	29.18	0.00	0.00	29.18	29.20	29.24	29.97	30.25	0.00	0.00
2008	29.67	29.55	29.58	29.56	29.56	0.00	0.00	29.53	29.56	29.61	30.17	30.38	0.00	0.00
2009	30.97	30.88	30.89	30.87	30.87	0.00	0.00	30.84	30.89	30.92	31.44	31.56	0.00	0.00
2010	32.08	31.99	32.02	31.99	31.99	0.00	0.00	31.98	32.00	32.03	32.51	32.60	0.00	0.00
2011	32.74	32.65	32.68	32.66	32.65	0.00	0.00	0.00	32.64	32.68	33.07	33.15	0.00	0.00
2012	35.17	35.08	35.12	35.09	35.09	0.00	0.00	0.00	35.04	0.00	35.48	35.55	0.00	0.00
2013	37.41	37.33	37.37	37.34	37.34	0.00	0.00	0.00	37.30	0.00	37.70	37.77	0.00	0.00
2014	39.23	39.16	39.20	39.17	39.17	0.00	0.00	0.00	39.13	0.00	39.44	39.54	0.00	0.00
2015	40.25	40.15	40.19	40.15	0.00	0.00	0.00	0.00	40.11	0.00	40.43	40.52	0.00	0.00
2016	41.19	41.15	41.19	0.00	0.00	0.00	0.00	0.00	41.12	0.00	41.44	0.00	0.00	0.00
2017	42.20	42.18	42.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	43.25	43.24	43.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	44.34	44.32	44.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	45.44	45.42	45.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	46.58	46.58	46.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	47.74	47.73	47.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	48.94	48.92	48.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	50.16	50.14	50.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	51.42	51.39	51.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	52.70	52.68	52.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2027	54.02	54.00	54.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2028	55.37	55.35	55.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2029	56.75	56.73	56.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Market Energy Revenues ($1000)

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2018	2011	2015	2015	2004	2004
1999	262625	16734	12621	43009	61964	19889	12875	21555	12672	20169	5695	20230	7976	7436
2000	273133	17349	13085	44590	64241	20617	13140	22346	13138	20915	5984	21310	8469	7949
2001	292258	18416	13890	47333	68191	21882	13944	23728	13988	22286	6627	23628	9438	8909
2002	315969	19791	14928	50868	73284	23514	14985	25510	15043	23982	7335	26205	10530	9994
2003	347793	21617	16306	55560	80044	25680	16366	27875	16471	26276	8299	29758	12050	11491
2004	383893	23714	17887	60951	87810	28170	17956	30587	18085	28863	9351	33663	13722	13134
2005	338327	25768	19436	66228	95409	0	0	33234	19649	31364	10250	36993	0	0
2006	383045	29065	21924	74707	107626	0	0	37498	22199	35446	11800	42780	0	0
2007	412812	31245	23567	80307	115697	0	0	40327	23883	38131	12857	46798	0	0
2008	418770	31649	23873	81347	117194	0	0	40841	24193	38640	13123	47910	0	0
2009	437978	33051	24930	84950	122384	0	0	42653	25302	40414	13803	50491	0	0
2010	454367	34256	25838	88045	126847	0	0	44229	26237	41896	14370	52649	0	0
2011	418943	34966	26374	89870	129474	0	0	0	26796	42775	14715	53973	0	0
2012	404506	37574	28341	96574	139133	0	0	0	28801	0	15860	58223	0	0
2013	430689	39979	30156	102756	148039	0	0	0	30658	0	16927	62174	0	0
2014	451995	41942	31636	107803	155308	0	0	0	32167	0	17787	65352	0	0
2015	304127	42999	32432	110503	0	0	0	0	32974	0	18233	66986	0	0
2016	129804	44074	33242	0	0	0	0	0	33799	0	18689	0	0	0
2017	79249	45178	34073	0	0	0	0	0	0	0	0	0	0	0
2018	81231	46306	34925	0	0	0	0	0	0	0	0	0	0	0
2019	83262	47464	35798	0	0	0	0	0	0	0	0	0	0	0
2020	85343	48650	36693	0	0	0	0	0	0	0	0	0	0	0
2021	87477	49866	37611	0	0	0	0	0	0	0	0	0	0	0
2022	89665	51114	38551	0	0	0	0	0	0	0	0	0	0	0
2023	91904	52390	39514	0	0	0	0	0	0	0	0	0	0	0
2024	94203	53701	40502	0	0	0	0	0	0	0	0	0	0	0
2025	96558	55043	41515	0	0	0	0	0	0	0	0	0	0	0
2026	98972	56419	42553	0	0	0	0	0	0	0	0	0	0	0
2027	101447	57830	43617	0	0	0	0	0	0	0	0	0	0	0
2028	103982	59275	44707	0	0	0	0	0	0	0	0	0	0	0
2029	106582	60757	45825	0	0	0	0	0	0	0	0	0	0	0

Energy Margins ($1000)

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	100120	10329	8738	22417	23060	6591	3891	6402	3607	5757	1566	5544	2206	2012
2000	109324	10784	7055	23483	25294	7304	4346	7175	4066	6491	1820	6474	2613	2419
2001	124232	11686	7709	25698	28680	8377	5023	8328	4751	7594	2214	7912	3232	3028
2002	144152	12894	8593	28692	33199	9813	5935	9879	5687	9060	2731	9799	4050	3840
2003	171597	14547	9812	32829	39378	11781	7184	12008	6933	11086	3449	12429	5192	4969
2004	203462	16467	11231	37652	46555	14069	8639	14484	8398	13431	4279	15472	6510	6275
2005	192730	18338	12614	42344	53556	0	0	16898	9824	15712	5070	18374	0	0
2006	234027	21451	14931	50228	65111	0	0	20899	12201	19512	6406	23288	0	0
2007	260430	23441	16399	55216	72511	0	0	23461	13720	21928	7271	26483	0	0
2008	263102	23650	16528	55629	73325	0	0	23707	13862	22166	7369	26868	0	0
2009	279053	24851	17399	58589	77822	0	0	25247	14789	23647	7895	28814	0	0
2010	292270	25851	18119	61025	81581	0	0	26545	15553	24855	8326	30415	0	0
2011	271841	26351	18462	62175	83596	0	0	0	15956	25493	8552	31256	0	0
2012	272257	28744	20231	68187	92637	0	0	0	17811	0	9584	35063	0	0
2013	295974	30928	21844	73658	100914	0	0	0	19518	0	10537	38577	0	0
2014	314810	32665	23116	77978	107548	0	0	0	20869	0	11290	41344	0	0
2015	212464	33495	23700	79931	0	0	0	0	21392	0	11575	42371	0	0
2016	92416	34332	24291	0	0	0	0	0	21926	0	11865	0	0	0
2017	60089	35191	24898	0	0	0	0	0	0	0	0	0	0	0
2018	61592	36071	25521	0	0	0	0	0	0	0	0	0	0	0
2019	63131	36972	26159	0	0	0	0	0	0	0	0	0	0	0
2020	64710	37897	26813	0	0	0	0	0	0	0	0	0	0	0
2021	66328	38844	27484	0	0	0	0	0	0	0	0	0	0	0
2022	67987	39816	28171	0	0	0	0	0	0	0	0	0	0	0
2023	69684	40810	28874	0	0	0	0	0	0	0	0	0	0	0
2024	71427	41831	29596	0	0	0	0	0	0	0	0	0	0	0
2025	73214	42877	30337	0	0	0	0	0	0	0	0	0	0	0
2026	75043	43948	31095	0	0	0	0	0	0	0	0	0	0	0
2027	76920	45047	31873	0	0	0	0	0	0	0	0	0	0	0
2028	78842	46173	32669	0	0	0	0	0	0	0	0	0	0	0
2029	80815	47328	33487	0	0	0	0	0	0	0	0	0	0	0

Unit Capacity Factors

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Elrama 4	Elrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	77.11	75.94	81.53	81.60	80.54	84.98	85.04	84.18	83.96	78.99	84.81	62.13	56.49	52.02
2000	77.23	75.94	81.53	81.60	80.54	84.98	85.04	84.18	83.96	78.93	85.18	62.69	57.20	53.08
2001	77.80	75.94	81.53	81.60	80.54	84.98	85.04	84.24	84.27	79.29	68.12	65.49	59.78	55.43
2002	78.18	75.94	81.53	81.60	80.54	84.98	85.04	84.24	84.37	79.36	70.15	67.34	61.55	57.31
2003	78.74	75.94	81.53	81.60	80.54	84.98	85.04	84.30	84.58	79.66	72.73	70.15	64.26	59.78
2004	79.21	75.94	81.53	81.60	80.54	84.98	85.04	84.37	84.58	79.72	75.12	72.55	66.49	62.02
2005	79.95	75.94	81.53	81.60	80.54	0.00	0.00	84.37	84.68	79.72	75.49	73.25	0.00	0.00
2006	80.28	75.94	81.53	81.60	80.54	0.00	0.00	84.37	84.79	79.91	77.33	75.45	0.00	0.00
2007	80.58	75.94	81.53	81.60	80.54	0.00	0.00	84.37	84.89	80.03	78.99	77.46	0.00	0.00
2008	80.80	75.94	81.53	81.60	80.54	0.00	0.00	84.43	84.89	80.09	80.09	78.96	0.00	0.00
2009	80.97	75.94	81.53	81.60	80.54	0.00	0.00	84.43	84.99	80.22	80.83	80.11	0.00	0.00
2010	81.08	75.94	81.53	81.60	80.54	0.00	0.00	84.43	85.10	80.28	81.38	80.86	0.00	0.00
2011	80.85	75.94	81.53	81.60	80.54	0.00	0.00	0.00	85.20	80.34	81.93	81.51	0.00	0.00
2012	81.00	75.94	81.53	81.60	80.54	0.00	0.00	0.00	85.31	0.00	82.30	82.01	0.00	0.00
2013	81.07	75.94	81.53	81.60	80.54	0.00	0.00	0.00	85.31	0.00	82.67	82.41	0.00	0.00
2014	81.13	75.94	81.53	81.60	80.54	0.00	0.00	0.00	85.31	0.00	83.04	82.76	0.00	0.00
2015	81.45	75.94	81.53	81.60	0.00	0.00	0.00	0.00	85.31	0.00	83.04	82.76	0.00	0.00
2016	80.65	75.94	81.53	0.00	0.00	0.00	0.00	0.00	85.31	0.00	83.04	0.00	0.00	0.00
2017	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2027	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2028	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2029	78.24	75.94	81.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

DLCO									
Capacity	(MW)								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	2468	161	113	385	562	171	109	187	110
2000	2468	161	113	385	562	171	109	187	110
2001	2468	161	113	385	562	171	109	187	110
2002	2468	161	113	385	562	171	109	187	110
2003	2468	161	113	385	562	171	109	187	110
2004	2468	161	113	385	562	171	109	187	110
2005	1994	161	113	385	562	0	0	187	110
2006	1994	161	113	385	562	0	0	187	110
2007	1994	161	113	385	562	0	0	187	110
2008	1994	161	113	385	562	0	0	187	110
2009	1994	161	113	385	562	0	0	187	110
2010	1994	161	113	385	562	0	0	187	110
2011	1807	161	113	385	562	0	0	0	110
2012	1621	161	113	385	562	0	0	0	110
2013	1621	161	113	385	562	0	0	0	110
2014	1621	161	113	385	562	0	0	0	110
2015	1059	161	113	385	0	0	0	0	110
2016	446	161	113	0	0	0	0	0	110
2017	274	161	113	0	0	0	0	0	0
2018	274	161	113	0	0	0	0	0	0
2019	274	161	113	0	0	0	0	0	0
2020	274	161	113	0	0	0	0	0	0
2021	274	161	113	0	0	0	0	0	0
2022	274	161	113	0	0	0	0	0	0
2023	274	161	113	0	0	0	0	0	0
2024	274	161	113	0	0	0	0	0	0
2025	274	161	113	0	0	0	0	0	0
2026	274	161	113	0	0	0	0	0	0
2027	274	161	113	0	0	0	0	0	0
2028	274	161	113	0	0	0	0	0	0
2029	274	161	113	0	0	0	0	0	0
GWH Out	ut Report								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	4035	265	200	683	982	307	196	330	189
2000	4042	265	200	683	982	307	196	330	189
2001	4070	265	200	683	982	307	196	331	190

2002	4089	265	200	683	982	307	196	331	191
2003	4117	265	200	683	982	307	196	332	192
2004	4140	265	200	683	982	307	196	333	192
2005	3393	265	200	683	982	0	0	333	193
2006	3409	265	200	683	982	0	0	333	193
2007	3423	265	200	683	982	0	0	333	194
2008	3437	265	200	683	982	0	0	334	195
2009	3447	265	200	683	982	0	0	334	195
2010	3456	265	200	683	982	0	0	334	196
2011	3130	265	200	683	982	0	0	0	196
2012	2813	265	200	683	982	0	0	0	197
2013	2817	265	200	683	982	0	0	0	197
2014	2821	265	200	683	982	0	0	0	197
2015	1839	265	200	683	0	0	0	0	197
2016	769	265	200	0	0	0	0	0	197
2017	466	265	200	0	0	0	0	0	0
2018	466	265	200	0	0	0	0	0	0
2019	466	265	200	0	0	0	0	0	0
2020	466	265	200	0	0	0	0	0	0
2021	466	265	200	0	0	0	0	0	0
2022	466	265	200	0	0	0	0	0	0
2023	466	265	200	0	0	0	0	0	0
2024	466	265	200	0	0	0	0	0	0
2025	466	265	200	0	0	0	0	0	0
2026	466	265	200	0	0	0	0	0	0
2027	466	265	200	0	0	0	0	0	0
2028	466	265	200	0	0	0	0	0	0
2029	466	265	200	0	0	0	0	0	0
Fuel Cos	t ($000)								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	39158	1586	1460	5111	9636	3210	2119	3624	2117
2000	39488	1626	1497	5239	9646	3214	2122	3628	2119
2001	40492	1667	1534	5370	9786	3260	2152	3691	2163
2002	41392	1708	1572	5504	9928	3307	2183	3750	2201
2003	42436	1751	1612	5642	10072	3355	2215	3814	2245
2004	43441	1795	1652	5783	10218	3404	2249	3875	2286
2005	35232	1840	1693	5928	10366	0	0	3931	2320
2006	36083	1886	1736	6076	10530	0	0	3998	2366
2007	36929	1933	1779	6228	10696	0	0	4065	2411
2008	37781	1981	1824	6384	10865	0	0	4131	2457
2009	38618	2031	1869	6543	11037	0	0	4198	2503
2010	39442	2082	1916	6707	11211	0	0	4267	2552
2011	35882	2134	1964	6874	11363	0	0	0	2593
2012	32254	2187	2013	7046	11516	0	0	0	2632

2013	32875	2242	2063	7223	11672	0	0	0	2671
2014	33507	2298	2115	7403	11829	0	0	0	2712
2015	22219	2354	2167	7589	0	0	0	0	2780
2016	9087	2413	2222	0	0	0	0	0	2849
2017	4750	2473	2277	0	0	0	0	0	0
2018	4869	2535	2334	0	0	0	0	0	0
2019	4991	2599	2392	0	0	0	0	0	0
2020	5116	2663	2452	0	0	0	0	0	0
2021	5244	2730	2513	0	0	0	0	0	0
2022	5375	2798	2576	0	0	0	0	0	0
2023	5509	2868	2641	0	0	0	0	0	0
2024	5647	2940	2707	0	0	0	0	0	0
2025	5788	3013	2774	0	0	0	0	0	0
2026	5933	3089	2844	0	0	0	0	0	0
2027	6081	3166	2915	0	0	0	0	0	0
2028	6233	3245	2988	0	0	0	0	0	0
2029	6389	3326	3062	0	0	0	0	0	0
Fuel Cos	t $/mWh								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		*2029*	*2029*	*2015*	*2014*	*2004*	*2004*	*2010*	*2016*
1999	9.71	5.98	7.29	7.48	9.81	10.45	10.83	10.99	11.2
2000	9.77	6.13	7.47	7.67	9.82	10.46	10.84	11	11.21
2001	9.95	6.29	7.65	7.86	9.97	10.61	11	11.16	11.37
2002	10.12	6.44	7.85	8.06	10.11	10.76	11.16	11.32	11.54
2003	10.31	6.6	8.04	8.26	10.26	10.92	11.32	11.49	11.71
2004	10.49	6.77	8.24	8.47	10.41	11.08	11.48	11.65	11.88
2005	10.38	6.94	8.45	8.68	10.56	0	0	11.82	12.05
2006	10.59	7.11	8.66	8.9	10.72	0	0	12.01	12.24
2007	10.79	7.29	8.88	9.12	10.89	0	0	12.2	12.43
2008	10.99	7.47	9.1	9.35	11.07	0	0	12.39	12.63
2009	11.2	7.66	9.33	9.58	11.24	0	0	12.59	12.83
2010	11.41	7.85	9.56	9.82	11.42	0	0	12.79	13.03
2011	11.46	8.05	9.8	10.06	11.57	0	0	0	13.21
2012	11.46	8.25	10.04	10.32	11.73	0	0	0	13.38
2013	11.67	8.45	10.29	10.57	11.89	0	0	0	13.57
2014	11.88	8.66	10.55	10.84	12.05	0	0	0	13.75
2015	12.08	8.88	10.81	11.11	0	0	0	0	14.09
2016	11.82	9.1	11.08	0	0	0	0	0	14.45
2017	10.2	9.33	11.36	0	0	0	0	0	0
2018	10.46	9.56	11.65	0	0	0	0	0	0
2019	10.72	9.8	11.94	0	0	0	0	0	0
2020	10.99	10.04	12.23	0	0	0	0	0	0
2021	11.26	10.29	12.54	0	0	0	0	0	0
2022	11.54	10.55	12.85	0	0	0	0	0	0
2023	11.83	10.82	13.18	0	0	0	0	0	0

2024	12.13	11.09	13.5	0	0	0	0	0	0
2025	12.43	11.36	13.84	0	0	0	0	0	0
2026	12.74	11.65	14.19	0	0	0	0	0	0
2027	13.06	11.94	14.54	0	0	0	0	0	0
2028	13.39	12.24	14.91	0	0	0	0	0	0
2029	13.72	12.54	15.28	0	0	0	0	0	0
Market P	rice $/mW								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	16.6	16.38	16.38	16.38	16.38	16.38	16.38	16.42	16.51
2000	17.51	17.24	17.24	17.24	17.24	17.24	17.24	17.28	17.41
2001	18.87	18.55	18.55	18.55	18.55	18.55	18.55	18.58	18.72
2002	20.54	20.15	20.15	20.15	20.15	20.15	20.15	20.19	20.36
2003	22.72	22.27	22.27	22.27	22.27	22.27	22.27	22.31	22.5
2004	25.11	24.6	24.6	24.6	24.6	24.6	24.6	24.63	24.84
2005	27.22	26.85	26.85	26.85	26.85	0	0	26.89	27.15
2006	30.6	30.21	30.21	30.21	30.21	0	0	30.24	30.52
2007	31.84	31.49	31.49	31.49	31.49	0	0	31.5	31.75
2008	33.05	32.74	32.74	32.74	32.74	0	0	32.75	32.97
2009	34.34	34.06	34.06	34.06	34.06	0	0	34.06	34.25
2010	34.56	34.33	34.33	34.33	34.33	0	0	34.33	34.46
2011	35.99	35.76	35.76	35.76	35.76	0	0	0	35.85
2012	38.62	38.39	38.39	38.39	38.39	0	0	0	38.46
2013	40.15	39.94	39.94	39.94	39.94	0	0	0	39.98
2014	43.03	42.82	42.82	42.82	42.82	0	0	0	42.84
2015	44.22	43.89	43.89	43.89	0	0	0	0	43.91
2016	45.15	44.99	44.99	0	0	0	0	0	45.01
2017	46.11	46.11	46.11	0	0	0	0	0	0
2018	47.27	47.27	47.27	0	0	0	0	0	0
2019	48.45	48.45	48.45	0	0	0	0	0	0
2020	49.66	49.66	49.66	0	0	0	0	0	0
2021	50.9	50.9	50.9	0	0	0	0	0	0
2022	52.17	52.17	52.17	0	0	0	0	0	0
2023	53.48	53.48	53.48	0	0	0	0	0	0
2024	54.81	54.81	54.81	0	0	0	0	0	0
2025	56.18	56.18	56.18	0	0	0	0	0	0
2026	57.59	57.59	57.59	0	0	0	0	0	0
2027	59.03	59.03	59.03	0	0	0	0	0	0
2028	60.5	60.5	60.5	0	0	0	0	0	0
2029	62.02	62.02	62.02	0	0	0	0	0	0
Market R	evenue ($	00)							
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3

Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	66969	4344	3283	11189	16085	5034	3206	5415	3122
2000	70791	4572	3455	11775	16928	5298	3375	5700	3291
2001	76786	4918	3717	12667	18210	5699	3629	6146	3561
2002	83972	5344	4039	13764	19788	6193	3944	6688	3884
2003	93547	5907	4465	15213	21871	6845	4360	7407	4315
2004	103943	6523	4930	16800	24153	7559	4818	8189	4782
2005	92359	7121	5383	18341	26369	0	0	8943	5227
2006	104317	8011	6056	20635	29665	0	0	10068	5898
2007	108985	8350	6311	21506	30918	0	0	10498	6159
2008	113574	8682	6563	22363	32150	0	0	10919	6415
2009	118364	9032	6827	23265	33446	0	0	11361	6683
2010	119443	9103	6880	23445	33706	0	0	11458	6749
2011	112646	9482	7167	24422	35110	0	0	0	7039
2012	108642	10179	7694	26218	37693	0	0	0	7563
2013	113111	10590	8005	27277	39214	0	0	0	7873
2014	121379	11354	8582	29244	42042	0	0	0	8452
2015	81321	11640	8797	29977	0	0	0	0	8661
2016	34710	11931	9017	0	0	0	0	0	8878
2017	21472	12229	9242	0	0	0	0	0	0
2018	22008	12535	9473	0	0	0	0	0	0
2019	22559	12849	9710	0	0	0	0	0	0
2020	23123	13170	9953	0	0	0	0	0	0
2021	23701	13499	10202	0	0	0	0	0	0
2022	24293	13837	10457	0	0	0	0	0	0
2023	24901	14182	10718	0	0	0	0	0	0
2024	25523	14537	10986	0	0	0	0	0	0
2025	26161	14900	11261	0	0	0	0	0	0
2026	26815	15273	11542	0	0	0	0	0	0
2027	27486	15655	11831	0	0	0	0	0	0
2028	28173	16046	12127	0	0	0	0	0	0
2029	28877	16447	12430	0	0	0	0	0	0
Profit (	$000)								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	27811	2758	1823	6077	6449	1824	1087	1790	1005
2000	31302	2945	1959	6535	7282	2084	1253	2072	1171
2001	36294	3251	2183	7296	8424	2439	1477	2455	1398
2002	42580	3636	2467	8260	9860	2886	1761	2938	1683
2003	51111	4155	2853	9571	11799	3490	2145	3593	2070
2004	60502	4728	3278	11017	13935	4155	2569	4314	2496
2005	57127	5281	3689	12413	16003	0	0	5011	2907
2006	68234	6126	4320	14558	19135	0	0	6070	3533
2007	72056	6417	4532	15278	20222	0	0	6433	3748

2008	75793	6701	4739	15979	21285	0	0	6788	3958
2009	79746	7002	4958	16722	22409	0	0	7163	4180
2010	80001	7021	4964	16738	22495	0	0	7191	4197
2011	76764	7348	5203	17548	23747	0	0	0	4446
2012	76389	7992	5681	19172	26177	0	0	0	4931
2013	80236	8348	5942	20054	27542	0	0	0	5202
2014	87872	9056	6467	21841	30213	0	0	0	5740
2015	59102	9286	6629	22389	0	0	0	0	5881
2016	25623	9518	6795	0	0	0	0	0	6029
2017	16721	9756	6965	0	0	0	0	0	0
2018	17139	10000	7139	0	0	0	0	0	0
2019	17568	10250	7318	0	0	0	0	0	0
2020	18007	10506	7501	0	0	0	0	0	0
2021	18457	10769	7688	0	0	0	0	0	0
2022	18919	11038	7880	0	0	0	0	0	0
2023	19392	11314	8077	0	0	0	0	0	0
2024	19876	11597	8279	0	0	0	0	0	0
2025	20373	11887	8486	0	0	0	0	0	0
2026	20883	12184	8698	0	0	0	0	0	0
2027	21405	12489	8916	0	0	0	0	0	0
2028	21940	12801	9139	0	0	0	0	0	0
2029	22488	13121	9367	0	0	0	0	0	0
TOTAL N	V OF MA	NS =	3	4. DISC.	TE =	7.83 TAX	RATE =	1.49	

Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
31.16	7.89	29.19	100	100
2011	2016	2015	2004	2004
186	62	228	97	97
186	62	228	97	97
186	62	228	97	97
186	62	228	97	97
186	62	228	97	97
186	62	228	97	97
186	62	228	0	0
186	62	228	0	0
186	62	228	0	0
186	62	228	0	0
186	62	228	0	0
186	62	228	0	0
186	62	228	0	0
0	62	228	0	0
0	62	228	0	0
0	62	228	0	0
0	62	228	0	0
0	62	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
31.16	7.89	29.19	100	100
2011	2016	2015	2004	2004
309	80	282	110	102
309	80	285	111	104
311	84	297	116	108

312	86	304	119	112
314	89	316	124	116
315	92	326	128	120
315	92	329	0	0
317	95	340	0	0
318	98	350	0	0
319	100	359	0	0
320	101	367	0	0
321	102	372	0	0
322	104	377	0	0
0	104	382	0	0
0	105	384	0	0
0	106	387	0	0
0	106	387	0	0
0	106	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
31.16	7.89	29.19	100	100
2011	2016	2015	2004	2004
3459	934	3336	1319	1246
3463	944	3377	1341	1272
3538	998	3567	1417	1350
3601	1037	3711	1477	1411
3675	1092	3914	1559	1491
3743	1141	4096	1635	1565
3799	1165	4190	0	0
3875	1220	4397	0	0
3951	1271	4595	0	0
4028	1319	4791	0	0
4104	1362	4970	0	0
4185	1401	5122	0	0
4254	1435	5266	0	0
0	1466	5393	0	0

0	1496	5509	0	0
0	1526	5624	0	0
0	1564	5765	0	0
0	1603	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
31.16	7.89	29.19	100	100
2011	2016	2015	2004	2004
11.2	11.74	11.83	12.02	12.27
11.21	11.75	11.84	12.04	12.29
11.37	11.92	12.02	12.21	12.47
11.54	12.1	12.19	12.39	12.65
11.71	12.27	12.37	12.57	12.83
11.88	12.45	12.55	12.75	13.02
12.05	12.63	12.73	0	0
12.24	12.83	12.93	0	0
12.43	13.03	13.13	0	0
12.63	13.24	13.34	0	0
12.83	13.45	13.55	0	0
13.03	13.66	13.77	0	0
13.21	13.85	13.95	0	0
0	14.03	14.14	0	0
0	14.22	14.33	0	0
0	14.41	14.53	0	0
0	14.77	14.89	0	0
0	15.14	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
31.16	7.89	29.19	100	100
2011	2016	2015	2004	2004
16.54	17.44	17.58	18.04	18.35
17.44	18.55	18.72	19.29	19.67
18.76	19.97	20.19	20.91	21.37
20.4	21.81	22.08	22.99	23.55
22.55	24.08	24.4	25.55	26.26
24.9	26.52	26.9	28.28	29.15
27.21	29.08	29.51	0	0
30.59	32.49	32.97	0	0
31.82	33.48	33.91	0	0
33.03	34.47	34.84	0	0
34.31	35.6	35.9	0	0
34.52	35.66	35.91	0	0
35.91	36.97	37.17	0	0
0	39.57	39.75	0	0
0	41.04	41.2	0	0
0	43.9	44.06	0	0
0	45	45.16	0	0
0	46.12	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2

31.16	7.89	29.19	100	100
2011	2016	2015	2004	2004
5108	1387	4955	1979	1862
5386	1490	5336	2149	2037
5834	1671	5993	2427	2315
6367	1869	6721	2741	2629
7078	2142	7722	3170	3053
7846	2430	8781	3627	3505
8579	2682	9714	0	0
9684	3088	11211	0	0
10114	3264	11865	0	0
10536	3435	12511	0	0
10978	3606	13165	0	0
11087	3656	13359	0	0
11565	3832	14029	0	0
0	4135	15160	0	0
0	4316	15836	0	0
0	4647	17058	0	0
0	4765	17480	0	0
0	4884	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
31.16	7.89	29.19	100	100
2011	2016	2015	2004	2004
1649	453	1620	660	616
1923	546	1960	808	765
2296	673	2426	1010	965
2765	832	3010	1264	1218
3403	1050	3808	1611	1562
4103	1289	4686	1992	1940
4780	1517	5524	0	0
5809	1869	6814	0	0
6163	1993	7270	0	0

6508	2116	7720	0	0
6874	2244	8195	0	0
6902	2255	8238	0	0
7312	2397	8763	0	0
0	2669	9767	0	0
0	2820	10327	0	0
0	3121	11434	0	0
0	3201	11716	0	0
0	3281	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

```
*******************************************************************************
*  User Name:    172 (47)                      Queue:   MWN1/8West            *
*  File Name:                                  Server:  8WEST_PS              *
*  Directory:                                  Copy:    1 of 1                *
*  Description: DLCAE98.XLS                                                   *
*                                                                             *
*******************************************************************************
*                                                                             *
*                                 #   #####  ###                              *
*                                ##       # #   #                             *
*                                 #      #      #                             *
*                                 #     #      #                              *
*                                 #    #      #                               *
*                                 #   #      #                                *
*                               ##### #     #####                             *
*                                                                             *
*******************************************************************************
*                                                                             *
*                            #     ####  #####  ###                           *
*                            #     #   #   #   #   #                          *
*                            #     #   #   #       #                          *
*                            #     ####    #      #                           *
*                            #     #       #     #                            *
*                            #     #       #    #                             *
*                            ##### #       #   #####                          *
*                                                                             *
*******************************************************************************
```

DLCO									
Capacity	(MW)								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	2468	161	113	385	562	171	109	187	110
2000	2468	161	113	385	562	171	109	187	110
2001	2468	161	113	385	562	171	109	187	110
2002	2468	161	113	385	562	171	109	187	110
2003	2468	161	113	385	562	171	109	187	110
2004	2468	161	113	385	562	171	109	187	110
2005	1994	161	113	385	562	0	0	187	110
2006	1994	161	113	385	562	0	0	187	110
2007	1994	161	113	385	562	0	0	187	110
2008	1994	161	113	385	562	0	0	187	110
2009	1994	161	113	385	562	0	0	187	110
2010	1994	161	113	385	562	0	0	187	110
2011	1807	161	113	385	562	0	0	0	110
2012	1621	161	113	385	562	0	0	0	110
2013	1621	161	113	385	562	0	0	0	110
2014	1621	161	113	385	562	0	0	0	110
2015	1059	161	113	385	0	0	0	0	110
2016	446	161	113	0	0	0	0	0	110
2017	274	161	113	0	0	0	0	0	0
2018	274	161	113	0	0	0	0	0	0
2019	274	161	113	0	0	0	0	0	0
2020	274	161	113	0	0	0	0	0	0
2021	274	161	113	0	0	0	0	0	0
2022	274	161	113	0	0	0	0	0	0
2023	274	161	113	0	0	0	0	0	0
2024	274	161	113	0	0	0	0	0	0
2025	274	161	113	0	0	0	0	0	0
2026	274	161	113	0	0	0	0	0	0
2027	274	161	113	0	0	0	0	0	0
2028	274	161	113	0	0	0	0	0	0
2029	274	161	113	0	0	0	0	0	0
GWH Out	ut Report								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	12635	806	607	2069	2983	966	616	1049	620
2000	12656	806	607	2069	2983	966	616	1049	620
2001	12750	806	607	2069	2983	966	616	1049	622

2002	12814	806	607	2069	2983	966	616	1049	622
2003	12907	806	607	2069	2983	966	616	1049	623
2004	12986	806	607	2069	2983	966	616	1049	623
2005	10572	806	607	2069	2983	0	0	1049	623
2006	10615	806	607	2069	2983	0	0	1049	624
2007	10651	806	607	2069	2983	0	0	1049	624
2008	10676	806	607	2069	2983	0	0	1049	623
2009	10696	806	607	2069	2983	0	0	1049	624
2010	10707	806	607	2069	2983	0	0	1049	624
2011	9667	806	607	2069	2983	0	0	0	625
2012	8688	806	607	2069	2983	0	0	0	625
2013	8695	806	607	2069	2983	0	0	0	625
2014	8699	806	607	2069	2983	0	0	0	625
2015	5716	806	607	2069	0	0	0	0	625
2016	2382	806	607	0	0	0	0	0	625
2017	1413	806	607	0	0	0	0	0	0
2018	1413	806	607	0	0	0	0	0	0
2019	1413	806	607	0	0	0	0	0	0
2020	1413	806	607	0	0	0	0	0	0
2021	1413	806	607	0	0	0	0	0	0
2022	1413	806	607	0	0	0	0	0	0
2023	1413	806	607	0	0	0	0	0	0
2024	1413	806	607	0	0	0	0	0	0
2025	1413	806	607	0	0	0	0	0	0
2026	1413	806	607	0	0	0	0	0	0
2027	1413	806	607	0	0	0	0	0	0
2028	1413	806	607	0	0	0	0	0	0
2029	1413	806	607	0	0	0	0	0	0
Fuel Cos	t ($000)								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	123348	4819	4423	15481	29268	10088	6665	11529	6948
2000	124322	4939	4533	15868	29301	10099	6672	11543	6953
2001	127533	5063	4647	16265	29725	10245	6769	11709	7072
2002	130428	5189	4763	16672	30157	10394	6867	11881	7175
2003	133760	5319	4882	17089	30594	10544	6967	12053	7293
2004	136988	5452	5004	17516	31037	10697	7068	12228	7401
2005	110366	5588	5129	17954	31487	0	0	12405	7505
2006	112934	5728	5257	18403	31985	0	0	12601	7632
2007	115451	5871	5389	18863	32490	0	0	12801	7752
2008	117888	6018	5523	19334	33004	0	0	13003	7874
2009	120306	6169	5662	19818	33525	0	0	13208	8010
2010	122653	6323	5803	20313	34055	0	0	13417	8132
2011	111220	6481	5948	20821	34515	0	0	0	8247
2012	99996	6643	6097	21341	34980	0	0	0	8358

2013	101839	6809	6249	21875	35453	0	0	0	8471
2014	103678	6979	6405	22422	35931	0	0	0	8586
2015	69445	7150	6565	22983	0	0	0	0	8802
2016	28302	7329	6729	0	0	0	0	0	9022
2017	14410	7512	6898	0	0	0	0	0	0
2018	14770	7700	7070	0	0	0	0	0	0
2019	15139	7893	7247	0	0	0	0	0	0
2020	15518	8090	7428	0	0	0	0	0	0
2021	15906	8292	7614	0	0	0	0	0	0
2022	16304	8500	7804	0	0	0	0	0	0
2023	16711	8712	7999	0	0	0	0	0	0
2024	17129	8930	8199	0	0	0	0	0	0
2025	17557	9153	8404	0	0	0	0	0	0
2026	17996	9382	8614	0	0	0	0	0	0
2027	18446	9617	8829	0	0	0	0	0	0
2028	18907	9857	9050	0	0	0	0	0	0
2029	19380	10103	9276	0	0	0	0	0	0
Fuel Cos	t $/mWh								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	9.76	5.98	7.29	7.48	9.81	10.45	10.83	10.99	11.2
2000	9.82	6.13	7.47	7.67	9.82	10.46	10.84	11	11.21
2001	10	6.29	7.65	7.86	9.97	10.61	11	11.16	11.37
2002	10.18	6.44	7.85	8.06	10.11	10.76	11.16	11.32	11.54
2003	10.36	6.6	8.04	8.26	10.26	10.92	11.32	11.49	11.71
2004	10.55	6.77	8.24	8.47	10.41	11.08	11.48	11.65	11.88
2005	10.44	6.94	8.45	8.68	10.56	0	0	11.82	12.05
2006	10.64	7.11	8.66	8.9	10.72	0	0	12.01	12.24
2007	10.84	7.29	8.88	9.12	10.89	0	0	12.2	12.43
2008	11.04	7.47	9.1	9.35	11.07	0	0	12.39	12.63
2009	11.25	7.66	9.33	9.58	11.24	0	0	12.59	12.83
2010	11.46	7.85	9.56	9.82	11.42	0	0	12.79	13.03
2011	11.5	8.05	9.8	10.06	11.57	0	0	0	13.21
2012	11.51	8.25	10.04	10.32	11.73	0	0	0	13.38
2013	11.71	8.45	10.29	10.57	11.89	0	0	0	13.57
2014	11.92	8.66	10.55	10.84	12.05	0	0	0	13.75
2015	12.15	8.88	10.81	11.11	0	0	0	0	14.09
2016	11.88	9.1	11.08	0	0	0	0	0	14.45
2017	10.2	9.33	11.36	0	0	0	0	0	0
2018	10.46	9.56	11.65	0	0	0	0	0	0
2019	10.72	9.8	11.94	0	0	0	0	0	0
2020	10.98	10.04	12.23	0	0	0	0	0	0
2021	11.26	10.29	12.54	0	0	0	0	0	0
2022	11.54	10.55	12.85	0	0	0	0	0	0
2023	11.83	10.82	13.18	0	0	0	0	0	0

2024	12.13	11.09	13.5	0	0	0	0	0	0
2025	12.43	11.36	13.84	0	0	0	0	0	0
2026	12.74	11.65	14.19	0	0	0	0	0	0
2027	13.06	11.94	14.54	0	0	0	0	0	0
2028	13.38	12.24	14.91	0	0	0	0	0	0
2029	13.72	12.54	15.28	0	0	0	0	0	0
Market P	rice $/mW								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	15.49	15.38	15.38	15.38	15.38	15.38	15.38	15.38	15.39
2000	15.99	15.86	15.86	15.86	15.86	15.86	15.86	15.86	15.88
2001	16.9	16.76	16.76	16.76	16.76	16.76	16.76	16.76	16.77
2002	18.11	17.94	17.94	17.94	17.94	17.94	17.94	17.94	17.95
2003	19.7	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.51
2004	21.56	21.34	21.34	21.34	21.34	21.34	21.34	21.34	21.35
2005	23.27	23.15	23.15	23.15	23.15	0	0	23.15	23.15
2006	26.26	26.14	26.14	26.14	26.14	0	0	26.14	26.14
2007	28.53	28.42	28.42	28.42	28.42	0	0	28.42	28.43
2008	28.59	28.51	28.51	28.51	28.51	0	0	28.51	28.51
2009	29.88	29.82	29.82	29.82	29.82	0	0	29.82	29.82
2010	31.28	31.23	31.23	31.23	31.23	0	0	31.23	31.23
2011	31.68	31.64	31.64	31.64	31.64	0	0	0	31.64
2012	34.06	34.01	34.01	34.01	34.01	0	0	0	34.01
2013	36.52	36.49	36.49	36.49	36.49	0	0	0	36.49
2014	38.01	37.98	37.98	37.98	37.98	0	0	0	37.98
2015	38.98	38.93	38.93	38.93	0	0	0	0	38.93
2016	39.92	39.9	39.9	0	0	0	0	0	39.9
2017	40.9	40.9	40.9	0	0	0	0	0	0
2018	41.92	41.92	41.92	0	0	0	0	0	0
2019	42.97	42.97	42.97	0	0	0	0	0	0
2020	44.05	44.05	44.05	0	0	0	0	0	0
2021	45.15	45.15	45.15	0	0	0	0	0	0
2022	46.27	46.27	46.27	0	0	0	0	0	0
2023	47.43	47.43	47.43	0	0	0	0	0	0
2024	48.62	48.62	48.62	0	0	0	0	0	0
2025	49.83	49.83	49.83	0	0	0	0	0	0
2026	51.08	51.08	51.08	0	0	0	0	0	0
2027	52.36	52.36	52.36	0	0	0	0	0	0
2028	53.66	53.66	53.66	0	0	0	0	0	0
2029	55.01	55.01	55.01	0	0	0	0	0	0
Market R	evenue ($	00)							
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3

Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	195656	12390	9338	31820	45879	14855	9469	16140	9550
2000	202342	12777	9630	32815	47313	15319	9765	16646	9847
2001	215470	13498	10173	34666	49981	16183	10315	17582	10425
2002	231998	14447	10889	37104	53496	17321	11041	18822	11159
2003	254245	15710	11841	40347	58173	18835	12006	20468	12156
2004	279949	17191	12957	44151	63657	20611	13138	22398	13303
2005	245967	18645	14053	47885	69040	0	0	24291	14422
2006	278730	21054	15868	54072	77961	0	0	27430	16301
2007	303827	22895	17256	58801	84779	0	0	29829	17724
2008	305196	22967	17310	58984	85044	0	0	29922	17778
2009	319615	24019	18103	61685	88938	0	0	31292	18619
2010	334924	25153	18958	64600	93141	0	0	32771	19488
2011	306298	25484	19207	65448	94364	0	0	0	19757
2012	295865	27395	20647	70356	101440	0	0	0	21238
2013	317578	29389	22151	75479	108825	0	0	0	22785
2014	330616	30588	23054	78559	113266	0	0	0	23715
2015	222807	31359	23635	80526	0	0	0	0	24313
2016	95094	32143	24225	0	0	0	0	0	24921
2017	57778	32947	24831	0	0	0	0	0	0
2018	59223	33771	25452	0	0	0	0	0	0
2019	60703	34615	26088	0	0	0	0	0	0
2020	62221	35480	26740	0	0	0	0	0	0
2021	63776	36367	27409	0	0	0	0	0	0
2022	65371	37277	28094	0	0	0	0	0	0
2023	67005	38208	28796	0	0	0	0	0	0
2024	68680	39164	29516	0	0	0	0	0	0
2025	70397	40143	30254	0	0	0	0	0	0
2026	72157	41146	31011	0	0	0	0	0	0
2027	73961	42175	31786	0	0	0	0	0	0
2028	75810	43229	32580	0	0	0	0	0	0
2029	77705	44310	33395	0	0	0	0	0	0
Profit (	$000)								
UNIT		Perry 1	VA 2 Bea	VA 1	Cheswic	Elrama 4	Elrama 3	WSammis	Mansfie 3
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66
Retire		2029	2029	2015	2014	2004	2004	2010	2016
1999	72309	7571	4916	16339	16611	4767	2804	4610	2602
2000	78020	7838	5097	16947	18012	5220	3093	5103	2893
2001	87938	8435	5527	18400	20256	5938	3546	5873	3354
2002	101571	9258	6126	20432	23339	6927	4174	6941	3984
2003	120485	10391	6959	23258	27579	8291	5039	8415	4862
2004	142961	11739	7953	26635	32620	9914	6070	10170	5902
2005	135601	13056	8924	29931	37553	0	0	11886	6917
2006	165796	15326	10611	35669	45976	0	0	14829	8669
2007	188375	17024	11868	39938	52289	0	0	17028	9973

2008	187308	16949	11787	39650	52040	0	0	16919	9904
2009	199308	17850	12441	41868	55413	0	0	18084	10609
2010	212270	18831	13155	44287	59086	0	0	19354	11356
2011	195078	19003	13259	44627	59849	0	0	0	11510
2012	195869	20752	14551	49015	66460	0	0	0	12880
2013	215739	22580	15901	53603	73372	0	0	0	14313
2014	226938	23609	16649	56137	77335	0	0	0	15129
2015	153362	24209	17069	57543	0	0	0	0	15511
2016	66793	24814	17496	0	0	0	0	0	15899
2017	43368	25435	17934	0	0	0	0	0	0
2018	44452	26070	18382	0	0	0	0	0	0
2019	45564	26722	18841	0	0	0	0	0	0
2020	46703	27390	19312	0	0	0	0	0	0
2021	47870	28075	19795	0	0	0	0	0	0
2022	49067	28777	20290	0	0	0	0	0	0
2023	50294	29496	20797	0	0	0	0	0	0
2024	51551	30234	21317	0	0	0	0	0	0
2025	52840	30990	21850	0	0	0	0	0	0
2026	54161	31764	22397	0	0	0	0	0	0
2027	55515	32558	22956	0	0	0	0	0	0
2028	56903	33372	23530	0	0	0	0	0	0
2029	58325	34207	24119	0	0	0	0	0	0
TOTAL N	V OF MA	NS =	8	6. DISC.	TE =	7.83 TAX	RATE =	1.49	

Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
31.16	7.89	29.19	100	100
2011	2016	2015	2004	2004
186	62	228	97	97
186	62	228	97	97
186	62	228	97	97
186	62	228	97	97
186	62	228	97	97
186	62	228	97	97
186	62	228	0	0
186	62	228	0	0
186	62	228	0	0
186	62	228	0	0
186	62	228	0	0
186	62	228	0	0
186	62	228	0	0
0	62	228	0	0
0	62	228	0	0
0	62	228	0	0
0	62	228	0	0
0	62	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
31.16	7.89	29.19	100	100
2011	2016	2015	2004	2004
978	272	959	370	340
977	274	967	375	347
981	286	1011	392	363

981	295	1041	404	375					
984	306	1085	422	392					
984	316	1123	437	407					
984	318	1134	0	0					
985	325	1167	0	0					
986	331	1197	0	0					
986	335	1218	0	0					
987	338	1233	0	0					
987	340	1243	0	0					
987	341	1251	0	0					
0	343	1256	0	0					
0	344	1262	0	0					
0	345	1266	0	0					
0	345	1266	0	0					
0	345	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2					
31.16	7.89	29.19	100	100					
2011	2016	2015	2004	2004					
10953	3195	11350	4451	4178					
10961	3220	11459	4515	4258					
11154	3415	12149	4789	4531					
11321	3567	12695	5003	4743					
11515	3758	13415	5299	5031					
11689	3931	14095	5577	5294					
11853	4015	14429	0	0					
12059	4174	15095	0	0					
12252	4315	15720	0	0					
12446	4435	16251	0	0					
12663	4546	16707	0	0					
12856	4643	17112	0	0					
13028	4728	17451	0	0					
0	4810	17767	0	0					

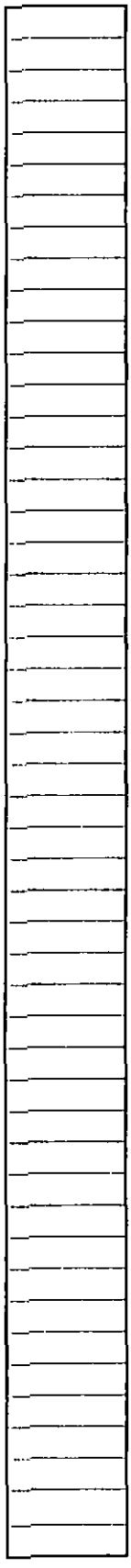
0	4894	18088	0	0					
0	4971	18384	0	0					
0	5094	18850	0	0					
0	5221	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2					
31.16	7.89	29.19	100	100					
2011	2016	2015	2004	2004					
11.2	11.74	11.83	12.02	12.27					
11.21	11.75	11.84	12.04	12.29					
11.37	11.92	12.02	12.21	12.47					
11.54	12.1	12.19	12.39	12.65					
11.71	12.27	12.37	12.57	12.83					
11.88	12.45	12.55	12.75	13.02					
12.05	12.63	12.73	0	0					
12.24	12.83	12.93	0	0					
12.43	13.03	13.13	0	0					
12.63	13.24	13.34	0	0					
12.83	13.45	13.55	0	0					
13.03	13.66	13.77	0	0					
13.21	13.85	13.95	0	0					
0	14.03	14.14	0	0					
0	14.22	14.33	0	0					
0	14.41	14.53	0	0					
0	14.77	14.89	0	0					
0	15.14	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					

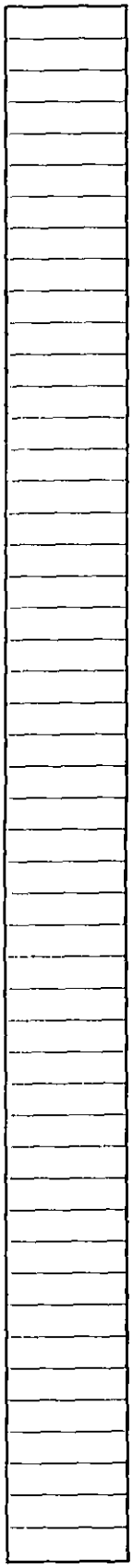
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2					
31.16	7.89	29.19	100	100					
2011	2016	2015	2004	2004					
15.4	15.84	15.92	16.2	16.37					
15.88	16.41	16.51	16.85	17.06					
16.78	17.31	17.44	17.87	18.14					
17.95	18.54	18.71	19.29	19.64					
19.52	20.11	20.31	21.06	21.52					
21.35	21.92	22.15	23.08	23.67					
23.16	23.81	24.06	0	0					
26.15	26.78	27.04	0	0					
28.43	28.98	29.19	0	0					
28.51	28.93	29.06	0	0					
29.82	30.17	30.28	0	0					
31.23	31.52	31.61	0	0					
31.64	31.87	31.94	0	0					
0	34.21	34.27	0	0					
0	36.65	36.72	0	0					
0	38.1	38.16	0	0					
0	39.05	39.11	0	0					
0	40.03	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2					

31.16	7.89	29.19	100	100					
2011	2016	2015	2004	2004					
15061	4308	15275	5997	5574					
15529	4494	15974	6320	5912					
16452	4956	17635	7011	6594					
17615	5466	19484	7789	7365					
19198	6157	22036	8880	8438					
21017	6921	24882	10095	9629					
22785	7568	27279	0	0					
25762	8712	31569	0	0					
28017	9593	34933	0	0					
28104	9688	35399	0	0					
29436	10197	37326	0	0					
30809	10714	39290	0	0					
31210	10883	39944	0	0					
0	11725	43063	0	0					
0	12611	46338	0	0					
0	13140	48294	0	0					
0	13468	49506	0	0					
0	13805	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2					
31.16	7.89	29.19	100	100					
2011	2016	2015	2004	2004					
4108	1114	3925	1546	1396					
4569	1274	4515	1805	1654					
5297	1541	5486	2222	2063					
6294	1899	6789	2786	2622					
7684	2399	8620	3581	3407					
9328	2990	10787	4518	4335					
10932	3552	12849	0	0					
13704	4538	16474	0	0					
15765	5278	19213	0	0					

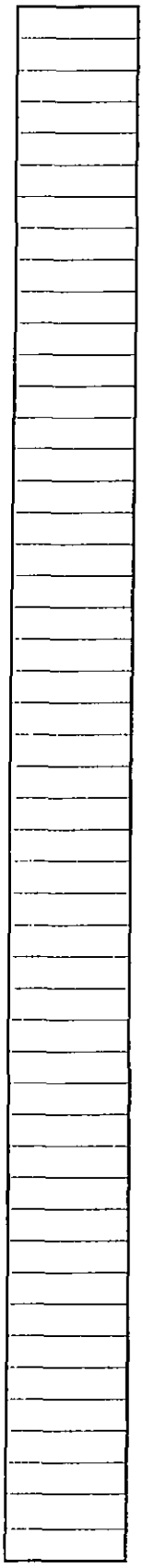
15658	5254	19148	0	0					
16773	5651	20619	0	0					
17953	6070	22178	0	0					
18182	6154	22493	0	0					
0	6915	25296	0	0					
0	7718	28251	0	0					
0	8169	29910	0	0					
0	8374	30656	0	0					
0	8584	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					
0	0	0	0	0					

Spring, Winter, Fall

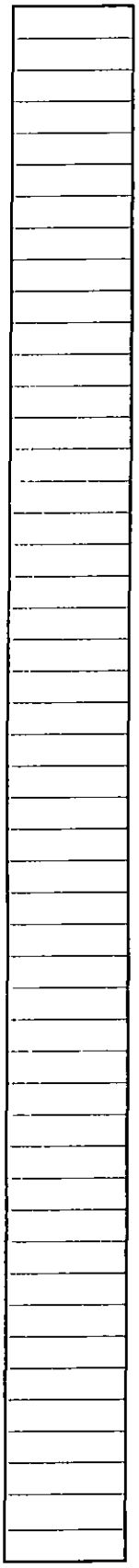




Spring, Winter, Fall

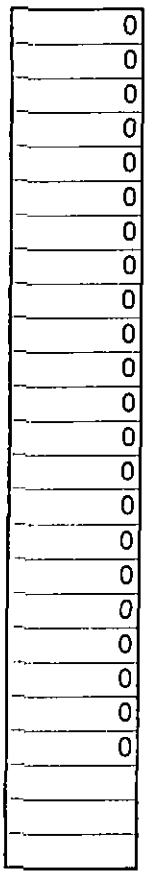


Spring, Winter, Fall



0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0

Spring, Winter, Fall



WORKPAPERS

OF

RANDALL J. FALKENBERG

DOCKET NO. R-00974104

Exhibit No.____(RJF- 3)

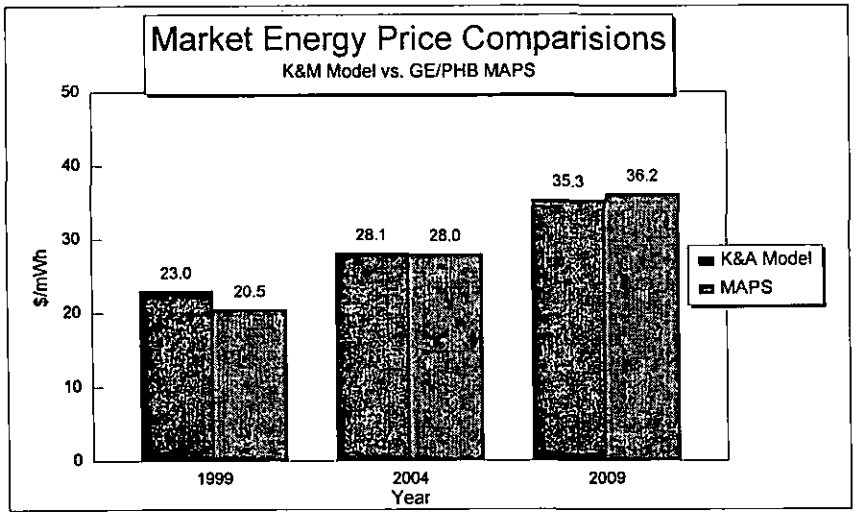
Comparison of Market Price Model Results
K&A Model vs. MAPS,IPM, PMDAM

	=======PHB Assumptions=====				=======ICF Assumptions=====				====================EDS Assumptions==================							
	----------Market Energy----------				----------Market Energy----------				----------Market Energy----------				--------Cap. & Energy----------			
Year	MAPS	K&A	$/mWh	% Diff.	IPM	K&A	$/mWh	% Diff.	PMDM	K&A	$/mWh	% Diff.	PMDM	K&A	$/mWh	% Diff.
1999	20.50	23.04	2.54	12.37%	22.18	24.34	2.16	9.7%	22.08	22.86	0.77	3.51%	25.72	26.49	0.77	3.01%
2000					23.86	25.77	1.91	8.0%	23.50	24.25	0.75	3.19%	28.23	28.98	0.75	2.65%
2001					24.59	25.73	1.14	4.6%	25.08	25.11	0.03	0.14%	31.94	31.98	0.03	0.11%
2002					25.59	26.73	1.14	4.4%	26.07	26.46	0.39	1.49%	33.30	33.49	0.18	0.55%
2003					26.44	27.23	0.79	3.0%	27.33	27.66	0.33	1.20%	34.90	34.85	-0.04	-0.13%
2004	28.00	28.12	0.12	0.43%	27.51	27.60	0.09	0.3%	28.53	28.74	0.21	0.75%	36.40	36.16	-0.24	-0.65%
2005					28.66	28.25	-0.41	-1.4%	29.45	29.90	0.45	1.52%	37.56	37.46	-0.10	-0.26%
2006					30.04	29.73	-0.31	-1.0%	30.55	31.52	0.97	3.18%	38.76	38.88	0.11	0.29%
2007					31.28	30.68	-0.60	-1.9%	31.93	32.61	0.68	2.11%	40.29	40.47	0.18	0.44%
2008					32.77	31.66	-1.11	-3.4%	33.86	33.75	-0.11	-0.33%	42.14	41.99	-0.15	-0.36%
2009	36.15	35.34	-0.81	-2.23%	33.91	33.35	-0.56	-1.7%	34.88	35.70	0.82	2.34%	43.67	43.69	0.01	0.03%
2010					35.29	34.52	-0.77	-2.2%	36.66	37.05	0.39	1.06%	45.70	45.47	-0.23	-0.51%
2011					36.43	35.77	-0.66	-1.8%	37.84	38.25	0.42	1.10%	47.26	47.18	-0.08	-0.18%
2012					37.80	37.11	-0.69	-1.8%	39.96	39.55	-0.41	-1.03%	49.00	48.99	-0.01	-0.03%
2013					39.24	39.20	-0.04	-0.1%	41.07	41.74	0.66	1.62%	50.69	50.75	0.06	0.12%
2014					40.69	40.71	0.02	0.1%	42.81	43.23	0.42	0.97%	52.93	52.73	-0.20	-0.38%
Average	28.22	28.83	0.62	2.18%	31.02	31.15	0.13	0.42%	31.98	32.40	0.42	1.32%	39.91	39.97	0.07	0.16%

	WHH-4 Pg. 3 $/mWh @ Limerick	WHH-3 Pg. 7 Variable O&M $/mWh	========K&A========= Energy $/mWh @ Limerick	$/mWh @ Incl. Var O	% Diff.
1999	20.5	1.74	21.30	23.0	12.4%
2004	28.0	2.04	26.08	28.1	0.4%
2009	36.2	2.37	32.97	35.3	-2.2%
Average	28.22			28.83	2.2%

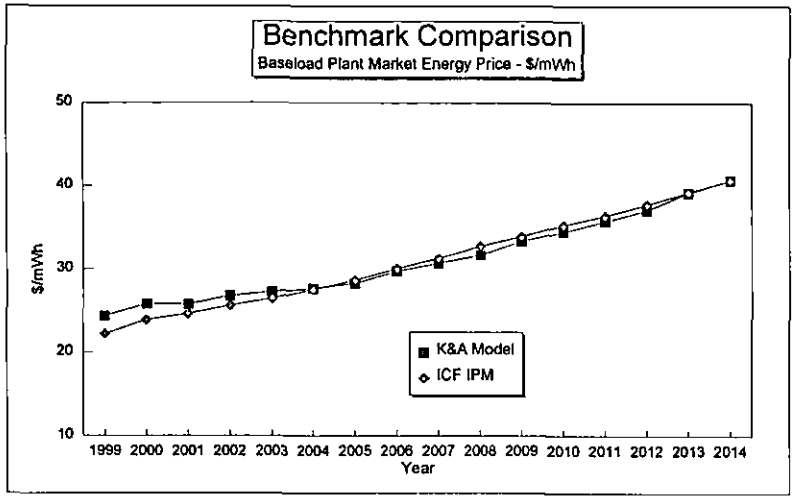
Variable O&M Based on Average of Coal and Gas Price Units on WHH-3

K&A Run: ALLDRI94



	====Locational Marginal P		==========ICF Model==========				========== K&A Model==========				
	Limerick East	Peach West	Capacity $/kW	Capacity $/mWh	Average $/mWh	Average Energy	Energy $/mWh	ICF Avg. Var OM	Fuel + Var OM	% Diff.	$/mWh Diff.
1999	$26.40	$25.13	23.52	3.58	$25.76	22.18	22.74	1.6	24.34	9.7%	2.2
2000	$29.17	$27.92	30.76	4.68	$28.54	23.86	24.12	1.7	25.77	8.0%	1.9
2001	$32.07	$30.84	45.10	6.86	$31.46	24.59	24.03	1.7	25.73	4.6%	1.1
2002	$33.30	$32.09	46.67	7.10	$32.70	25.59	24.98	1.8	26.73	4.4%	1.1
2003	$34.34	$33.10	47.84	7.28	$33.72	26.44	25.43	1.8	27.23	3.0%	0.8
2004	$35.67	$34.39	49.41	7.52	$35.03	27.51	25.75	1.9	27.60	0.3%	0.1
2005	$37.06	$35.77	50.98	7.76	$36.42	28.66	26.35	1.9	28.25	-1.4%	-0.4
2006	$38.76	$37.44	52.94	8.06	$38.10	30.04	27.76	2.0	29.73	-1.0%	-0.3
2007	$40.26	$38.90	54.51	8.30	$39.58	31.28	28.64	2.0	30.68	-1.9%	-0.6
2008	$42.07	$40.66	56.47	8.60	$41.36	32.77	29.55	2.1	31.66	-3.4%	-1.1
2009	$43.54	$42.08	58.43	8.89	$42.81	33.91	31.17	2.2	33.35	-1.7%	-0.6
2010	$45.30	$43.78	60.78	9.25	$44.54	35.29	32.27	2.3	34.52	-2.2%	-0.8
2011	$46.76	$45.19	62.75	9.55	$45.98	36.43	33.43	2.3	35.77	-1.8%	-0.7
2012	$48.52	$46.89	65.10	9.91	$47.70	37.80	34.68	2.4	37.11	-1.8%	-0.7
2013	$50.35	$48.66	67.45	10.27	$49.50	39.24	36.68	2.5	39.20	-0.1%	-0.0
2014	$52.18	$50.44	69.80	10.62	$51.31	40.69	38.10	2.6	40.71	0.1%	0.0
					Avg. $/mWh	31.02			31.15	0.4%	0.13

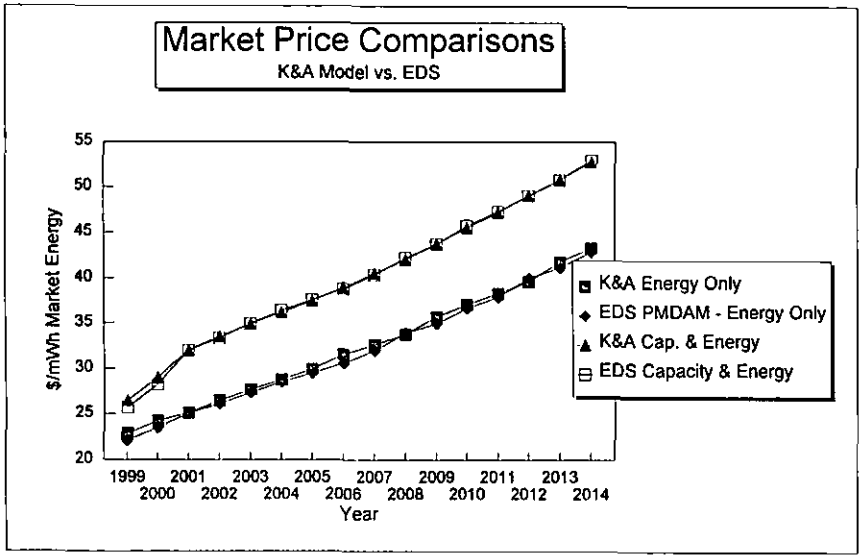
N 1. ICF Variable O&M is average of reported variable O&M for coal and gas plants.
2. ICF Capacity $/kW derived from TPH- 4 payments to CT's.
3. K&A Run : ALLICFG



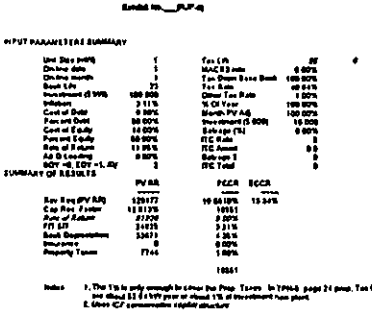
K&A Model Comparison to EDS Model

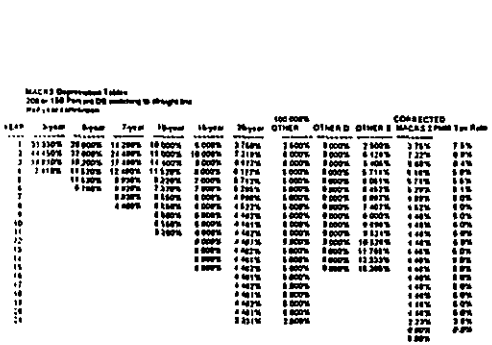
	EDS CT Revenue	CT $/kW	Capacity $/mWh	Total Limerick $/mWH	Limerick Energy	KA Energy	Avg. Var. OM	KA Energy With VOM	% Diff.	KA Capacity	KA Total	% Diff.
1999	$19,957	23.90	3.64	$25.72	$22.08	21.25	$1.61	22.86	3.5%	23.9	26.49	3.01%
2000	$25,968	31.10	4.73	$28.23	$23.50	22.60	$1.65	24.25	3.2%	31.1	28.98	2.65%
2001	$37,658	45.10	6.86	$31.94	$25.08	23.41	$1.70	25.11	0.1%	45.10	31.98	0.11%
2002	$39,654	47.49	7.23	$33.30	$26.07	24.72	$1.74	26.46	1.5%	46.14	33.49	0.55%
2003	$41,533	49.74	7.57	$34.90	$27.33	25.88	$1.78	27.66	1.2%	47.29	34.85	-0.13%
2004	$43,161	51.69	7.87	$36.40	$28.53	26.94	$1.80	28.74	0.8%	48.72	36.16	-0.65%
2005	$44,455	53.24	8.10	$37.56	$29.45	27.99	$1.91	29.90	1.5%	49.65	37.46	-0.26%
2006	$45,048	53.95	8.21	$38.76	$30.55	29.54	$1.98	31.52	3.2%	48.30	38.88	0.29%
2007	$45,833	54.89	8.35	$40.29	$31.93	30.55	$2.06	32.61	2.1%	51.63	40.47	0.44%
2008	$45,399	54.37	8.28	$42.14	$33.86	31.62	$2.13	33.75	-0.3%	54.11	41.99	-0.36%
2009	$48,238	57.77	8.79	$43.67	$34.88	33.49	$2.21	35.70	2.3%	52.49	43.69	0.03%
2010	$49,582	59.38	9.04	$45.70	$36.66	34.77	$2.28	37.05	1.1%	55.29	45.47	-0.51%
2011	$51,703	61.92	9.42	$47.26	$37.84	35.89	$2.36	38.25	1.1%	58.64	47.18	-0.18%
2012	$49,599	59.40	9.04	$49.00	$39.96	37.10	$2.45	39.55	-1.0%	62.02	48.99	-0.03%
2013	$52,772	63.20	9.62	$50.69	$41.07	39.20	$2.54	41.74	1.6%	59.24	50.75	0.12%
2014	$55,511	66.48	10.12	$52.93	$42.81	40.60	$2.63	43.23	1.0%	62.42	52.73	-0.38%
			Average	39.91	31.98			32.40	1.3%		39.97	0.16%

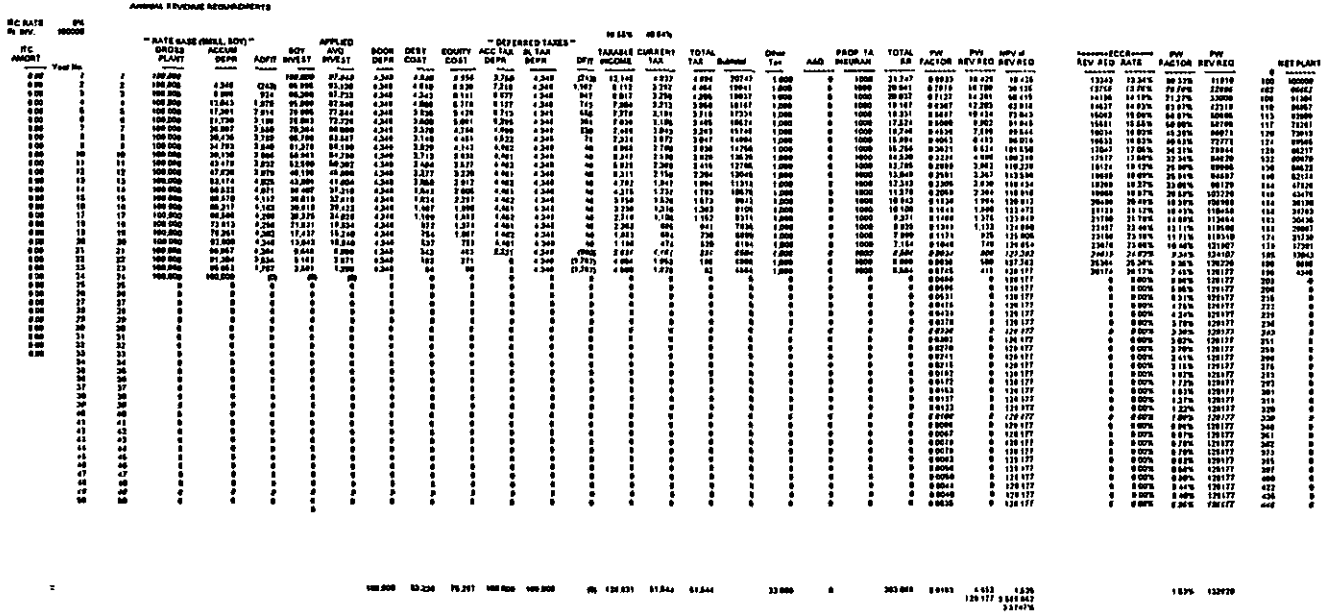
1. EDS Capacity in 99-01 is input to model.

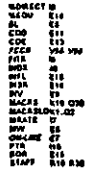


POOR ORIGINAL









NPUT PARAMETERS SUMMARY

Unit Size (mW)	*1*	*Tax Life*	20	0
On-line date	1	MACRS rate	0.00%	
On-line month	1	Tax Depn Base/Book	100.00%	
Book Life	23	Tax Rate	40.64%	
Investment ($/kW)	100,000	Other Tax Rate	1.00%	
Inflation	3.11%	% Of Year	100.00%	
Cost of Debt	9.90%	Month PV Adj	100.00%	
Percent Debt	50.00%	Investment ($ 000)	10,000	
Cost of Equity	14.00%	Salvage (%)	0.00%	
Percent Equity	50.00%	ITC Rate	0	
Rate of Return	11.95%	ITC Amort	0.0	
A& G Loading	0.00%	Salvage $	0	
BOY =0, EOY =1, AVG	2	ITC Total	0	

SUMMARY OF RESULTS

	PV RR	FCCR	ECCR
	~~	~~~~	~~~~
Rev Req (PV RR)	128177	16.5510%	13.34%
Cap Rec. Factor	12.913%	16551	
Rate of Return	61926	8.00%	
FIT/SIT	24835	3.21%	
Book Depreciation	33671	4.35%	
Insurance	0	0.00%	
Property Taxes	7744	1.00%	
		16551	

Notes:
1. The 1% is only enough to cover the Prop. Taxes. In TPH-5, page 24 prop. Tax fo are about $2.84/kW year or about 1% of investment new plant.
2. Uses ICF conservative capital structure.

MACRS Depreciation Tables
200 or 150 Percent DB switching to straight line
Half-year convention

YEAR	3-year	5-year	7-year	10-year	15-year	20-year	100.000% OTHER	OTHER DB	OTHER S	CORRECTED MACRS 2	PHM Tax Rate
1	33.330%	20.000%	14.290%	10.000%	5.000%	3.750%	2.500%	0.000%	2.500%	3.75%	7.5%
2	44.450%	32.000%	24.490%	18.000%	10.000%	7.219%	5.000%	0.000%	5.128%	7.22%	6.9%
3	14.810%	19.200%	17.490%	14.400%	9.000%	6.677%	5.000%	0.000%	5.405%	6.68%	6.4%
4	7.410%	11.520%	12.490%	11.520%	8.000%	6.177%	5.000%	0.000%	5.714%	6.18%	5.9%
5		11.520%	8.930%	9.220%	7.000%	5.713%	5.000%	0.000%	6.061%	5.71%	5.5%
6		5.760%	8.920%	7.370%	7.000%	5.285%	5.000%	0.000%	6.452%	5.29%	5.1%
7			8.930%	6.550%	6.000%	4.888%	5.000%	0.000%	6.897%	4.89%	5.0%
8			4.460%	6.550%	6.000%	4.522%	5.000%	0.000%	7.407%	4.52%	5.0%
9				6.560%	6.000%	4.462%	5.000%	0.000%	8.000%	4.46%	5.0%
10				6.550%	6.000%	4.461%	5.000%	0.000%	8.696%	4.46%	5.0%
11				3.280%	6.000%	4.462%	5.000%	0.000%	9.524%	4.46%	5.0%
12					6.000%	4.461%	5.000%	0.000%	10.526%	4.46%	5.0%
13					6.000%	4.462%	5.000%	0.000%	11.765%	4.46%	5.0%
14					6.000%	4.461%	5.000%	0.000%	13.333%	4.46%	5.0%
15					6.000%	4.462%	5.000%	0.000%	15.385%	4.46%	5.0%
16						4.461%	5.000%			4.46%	5.0%
17						4.462%	5.000%			4.46%	5.0%
18						4.461%	5.000%			4.46%	5.0%
19						4.462%	5.000%			4.46%	5.0%
20						4.461%	5.000%			4.46%	5.0%
21						2.231%	2.500%			2.23%	2.6%
										0.00%	0.0%
										0.00%	

POOR ORIGINAL

ANNUAL REVENUE REQUIREMENTS

RATE 0%
INV. 100000

ITC MORT	Year No.		** RATE BASE ($MILL, BOY) ** GROSS PLANT	ACCUM DEPR	ADFIT	BOY INVEST	APPLIED AVG. INVEST	BOOK DEPR	DEBT COST	EQUITY COST	** DEFERRED TAXES ** ACC TAX DEPR	SL TAX DEPR	DFIT	16.55% TAXABLE INCOME	40.64% CURRENT TAX	TOTAL TAX
0.00	1	1	100,000			100,000	97,948	4,348	4,848	8,856	3,750	4,348	(243)	12,148	4,937	4,694
0.00	2	2	100,000	4,348	(243)	95,895	93,138	4,348	4,610	8,520	7,219	4,348	1,167	8,112	3,297	4,464
0.00	3	3	100,000	8,696	924	90,380	87,733	4,348	4,343	8,141	6,677	4,348	947	8,017	3,258	4,205
0.00	4	4	100,000	13,043	1,670	85,066	82,540	4,348	4,066	5,776	6,177	4,348	743	7,904	3,212	3,956
0.00	5	5	100,000	17,391	2,614	79,995	77,544	4,348	3,838	5,428	5,713	4,348	555	7,779	3,161	3,716
0.00	6	6	100,000	21,739	3,169	75,062	72,728	4,348	3,800	5,091	5,285	4,348	381	7,839	3,105	3,485
0.00	7	7	100,000	26,087	3,550	70,364	68,080	4,348	3,370	4,768	4,888	4,348	220	7,488	3,043	3,263
0.00	8	8	100,000	30,435	3,769	65,796	63,567	4,348	3,148	4,451	4,522	4,348	71	7,324	2,977	3,047
0.00	9	9	100,000	34,783	3,840	61,378	59,180	4,348	2,929	4,143	4,482	4,348	46	6,865	2,790	2,836
0.00	10	10	100,000	39,130	3,886	56,983	54,786	4,348	2,712	3,835	4,481	4,348	46	6,347	2,580	2,626
0.00	11	11	100,000	43,478	3,932	52,590	50,392	4,348	2,494	3,527	4,482	4,348	46	5,828	2,369	2,415
0.00	12	12	100,000	47,826	3,979	48,195	45,998	4,348	2,277	3,220	4,481	4,348	46	5,311	2,156	2,204
0.00	13	13	100,000	52,174	4,025	43,801	41,604	4,348	2,059	2,912	4,482	4,348	46	4,792	1,947	1,994
0.00	14	14	100,000	56,522	4,071	39,407	37,210	4,348	1,842	2,605	4,481	4,348	46	4,275	1,737	1,783
0.00	15	15	100,000	60,870	4,117	35,013	32,816	4,348	1,624	2,297	4,482	4,348	46	3,756	1,528	1,573
0.00	16	16	100,000	65,217	4,163	30,619	28,422	4,348	1,407	1,990	4,481	4,348	46	3,239	1,316	1,362
0.00	17	17	100,000	69,565	4,209	26,225	24,028	4,348	1,189	1,682	4,482	4,348	46	2,719	1,105	1,152
0.00	18	18	100,000	73,913	4,256	21,831	19,634	4,348	972	1,374	4,481	4,348	46	2,202	895	941
0.00	19	19	100,000	78,261	4,302	17,437	15,240	4,348	754	1,067	4,482	4,348	46	1,683	684	730
0.00	20	20	100,000	82,609	4,348	13,043	10,846	4,348	537	759	4,481	4,348	46	1,166	474	520
0.00	21	21	100,000	86,957	4,394	8,649	6,906	4,348	342	483	2,231	4,348	(860)	2,931	1,191	331
0.00	22	22	100,000	91,304	3,534	5,162	3,871	4,348	192	271	0	4,348	(1,767)	4,804	1,952	186
0.00	23	23	100,000	95,652	1,767	2,581	1,290	4,348	64	90	0	4,348	(1,767)	4,500	1,829	82
0.00	24	24	100,000	100,000	(0)	(0)	(0)	0	0	0	0	0	0	0	0	0
0.00	25	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	26	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	27	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	28	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	29	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	31	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	32	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	33	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	34	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	35	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	37	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	38	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	39	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	40	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	41	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	42	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	43	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	44	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	45	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	46	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	47	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	48	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	49	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
						0										
								100,000	53,238	75,267	100,000	100,000	(0)	126,831	51,544	51,544

Year No.	Subtotal	Other Tax	A&G	PROP. TAX INSURANC	TOTAL RR	PW FACTOR	PW REV REQ	NPV of REV REQ	======ECCR====== REV. REQ.	RATE	PW FACTOR	PW REV REQ	0	NET PLAN
1	20747	1,000	0	1000	21,747	0.8933	19,425	19,425	13343	13.34%	89.33%	11918	100	100000
2	19941	1,000	0	1000	20,941	0.7978	16,709	36,135	13758	13.76%	79.79%	22898	103	95652
3	19037	1,000	0	1000	20,037	0.7127	14,281	50,415	14186	14.19%	71.27%	33008	106	91304
4	18167	1,000	0	1000	19,167	0.6367	12,203	62,618	14627	14.63%	63.67%	42319	110	86957
5	17331	1,000	0	1000	18,331	0.5687	10,424	73,043	15082	15.08%	56.87%	50895	113	82609
6	16524	1,000	0	1000	17,524	0.5080	8,902	81,945	15551	15.55%	50.80%	58795	117	78261
7	15746	1,000	0	1000	16,746	0.4538	7,599	89,544	16034	16.03%	45.38%	66071	120	73913
8	14994	1,000	0	1000	15,994	0.4053	6,483	96,028	16533	16.53%	40.53%	72772	124	69565
9	14256	1,000	0	1000	15,256	0.3621	5,524	101,550	17047	17.05%	36.21%	78944	128	65217
10	13520	1,000	0	1000	14,520	0.3234	4,696	106,248	17577	17.58%	32.34%	84629	132	60870
11	12785	1,000	0	1000	13,785	0.2889	3,982	110,228	18124	18.12%	28.89%	89865	136	56522
12	12049	1,000	0	1000	13,049	0.2581	3,367	113,596	18688	18.69%	25.81%	94687	140	52174
13	11313	1,000	0	1000	12,313	0.2305	2,838	116,434	19269	19.27%	23.05%	99129	144	47826
14	10578	1,000	0	1000	11,578	0.2059	2,384	118,818	19868	19.87%	20.59%	103220	149	43478
15	9842	1,000	0	1000	10,842	0.1839	1,994	120,812	20486	20.49%	18.39%	106968	154	39130
16	9106	1,000	0	1000	10,106	0.1643	1,660	122,472	21123	21.12%	16.43%	110456	158	34783
17	8371	1,000	0	1000	9,371	0.1468	1,375	123,848	21780	21.78%	14.68%	113654	163	30435
18	7635	1,000	0	1000	8,635	0.1311	1,132	124,980	22457	22.46%	13.11%	116598	168	26087
19	6899	1,000	0	1000	7,899	0.1171	925	125,905	23156	23.16%	11.71%	119310	174	21739
20	6164	1,000	0	1000	7,164	0.1046	749	126,654	23876	23.88%	10.46%	121807	179	17391
21	5504	1,000	0	1000	6,504	0.0934	608	127,262	24618	24.62%	9.34%	124107	185	13043
22	4996	1,000	0	1000	5,996	0.0835	500	127,762	25384	25.38%	8.35%	126228	190	8696
23	4564	1,000	0	1000	5,564	0.0745	415	128,177	26174	26.17%	7.45%	128177	196	4348
24	0	0	0	0	0	0.0666	0	128,177	0	0.00%	6.66%	128177	202	-0
25	0	0	0	0	0	0.0595	0	128,177	0	0.00%	5.95%	128177	209	0
26	0	0	0	0	0	0.0531	0	128,177	0	0.00%	5.31%	128177	215	0
27	0	0	0	0	0	0.0475	0	128,177	0	0.00%	4.75%	128177	222	0
28	0	0	0	0	0	0.0424	0	128,177	0	0.00%	4.24%	128177	229	0
29	0	0	0	0	0	0.0379	0	128,177	0	0.00%	3.79%	128177	236	0
30	0	0	0	0	0	0.0338	0	128,177	0	0.00%	3.38%	128177	243	0
31	0	0	0	0	0	0.0302	0	128,177	0	0.00%	3.02%	128177	251	0
32	0	0	0	0	0	0.0270	0	128,177	0	0.00%	2.70%	128177	258	0
33	0	0	0	0	0	0.0241	0	128,177	0	0.00%	2.41%	128177	266	0
34	0	0	0	0	0	0.0215	0	128,177	0	0.00%	2.15%	128177	275	0
35	0	0	0	0	0	0.0192	0	128,177	0	0.00%	1.92%	128177	283	0
36	0	0	0	0	0	0.0172	0	128,177	0	0.00%	1.72%	128177	292	0
37	0	0	0	0	0	0.0153	0	128,177	0	0.00%	1.53%	128177	301	0
38	0	0	0	0	0	0.0137	0	128,177	0	0.00%	1.37%	128177	311	0
39	0	0	0	0	0	0.0122	0	128,177	0	0.00%	1.22%	128177	320	0
40	0	0	0	0	0	0.0109	0	128,177	0	0.00%	1.09%	128177	330	0
41	0	0	0	0	0	0.0098	0	128,177	0	0.00%	0.98%	128177	340	0
42	0	0	0	0	0	0.0087	0	128,177	0	0.00%	0.87%	128177	351	0
43	0	0	0	0	0	0.0078	0	128,177	0	0.00%	0.78%	128177	362	0
44	0	0	0	0	0	0.0070	0	128,177	0	0.00%	0.70%	128177	373	0
45	0	0	0	0	0	0.0062	0	128,177	0	0.00%	0.62%	128177	385	0
46	0	0	0	0	0	0.0056	0	128,177	0	0.00%	0.56%	128177	397	0
47	0	0	0	0	0	0.0050	0	128,177	0	0.00%	0.50%	128177	409	0
48	0	0	0	0	0	0.0044	0	128,177	0	0.00%	0.44%	128177	422	0
49	0	0	0	0	0	0.0040	0	128,177	0	0.00%	0.40%	128177	435	0
50	0	0	0	0	0	0.0035	0	128,177	0	0.00%	0.35%	128177	448	0
		23,000	0		303,069	0.0153	4,652	1,536			1.53%	132829		

Exhibit No. ___(RJF-5a)
Duquesne Light Company
TOTAL STRANDED COST CALCULATION

Net Present Value of Contribution Margins	($16,742)
Total Adjusted NPV	($16,742)
Book Value less ITC	$979,130
Stranded Generation Cost	$995,872

NUG Obligation Stranded Costs

Scenario: EIA FUEL PRICE Escalation

CAPACITY COST

			YEAR	Comb. Cyc. Profit (Loss)	$/kW	Adjust. To CT	CT $/kW	Net
2250	-2213	-2210	1995				43	
2306	-2296	-2299	1996				44.08	
2364	-2307	-2309	1997				45.18	
2423	-2368	-2366	1998	TOTAL			46.31	
2484	-2381	-2364	1999	($2,261)	-45.22	0	47.46	47.46
2546	-2403	-2367	2000	($2,224)	-44.48	0	48.65	48.65
2609	-2410	-2338	2001	($2,139)	-42.78	0	49.87	49.87
2675	-2399	-2255	2002	($1,979)	-39.58	0	51.11	51.11
2741	-2358	-2106	2003	($1,723)	-34.46	0	52.39	52.39
2810	-2310	-1910	2004	($1,410)	-28.2	0	53.70	53.70
2880	-2265	-1710	2005	($1,095)	-21.9	0	55.04	55.04
2952	-2161	-1307	2006	($516)	-10.32	0	56.42	56.42
3026	-2045	-800	2007	$181	3.62	3.62	57.83	54.21
3102	-2104	-906	2008	$92	1.84	1.84	59.28	57.44
3179	-2252	-1000	2009	($73)	-1.46	0	60.76	60.76
3259	-2309	-1387	2010	($437)	-8.74	0	62.28	62.28
3340	-2363	-1462	2011	($485)	-9.7	0	63.83	63.83
3424	-2322	-1228	2012	($126)	-2.52	0	65.43	65.43
3509	-2374	-1286	2013	($151)	-3.02	0	67.07	67.07
3597	-2325	-1013	2014	$259	5.18	5.18	68.74	63.56

This worksheet computes the adjusted capacity price after profits from combined cycle units are considered.

Large Units
Capacity mW

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Ekrama 4	Ekrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ekrama 1	Ekrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2000	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2001	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2002	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2003	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2004	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2005	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2006	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2007	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2008	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2009	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2010	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2011	1807	161	113	385	562	0	0	0	110	186	62	228	0	0
2012	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2013	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2014	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2015	1059	161	113	385	0	0	0	0	110	0	62	228	0	0
2016	446	161	113	0	0	0	0	0	110	0	62	0	0	0
2017	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2018	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2019	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2020	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2021	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2022	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2023	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2024	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2025	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2026	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2027	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2028	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2029	274	161	113	0	0	0	0	0	0	0	0	0	0	0

Large Unit Output Report

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Ekrama 4	Ekrama 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ekrama 1	Ekrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	16664	1071	807	2752	3965	1273	812	1379	809	1287	351	1238	479	441
2000	16692	1071	807	2752	3965	1273	812	1379	809	1286	353	1250	486	449
2001	16816	1071	807	2752	3965	1273	812	1380	812	1292	369	1305	507	471
2002	16895	1071	807	2752	3965	1273	812	1380	813	1293	379	1342	522	486
2003	17017	1071	807	2752	3965	1273	812	1381	815	1298	394	1396	545	508
2004	17117	1071	807	2752	3965	1273	812	1382	816	1299	406	1444	564	526
2005	13960	1071	807	2752	3965	0	0	1382	816	1300	409	1458	0	0
2006	14015	1071	807	2752	3965	0	0	1382	817	1302	418	1501	0	0
2007	14068	1071	807	2752	3965	0	0	1382	818	1304	427	1542	0	0
2008	14108	1071	807	2752	3965	0	0	1383	818	1305	434	1573	0	0
2009	14139	1071	807	2752	3965	0	0	1383	819	1307	439	1596	0	0
2010	14161	1071	807	2752	3965	0	0	1383	820	1308	442	1613	0	0
2011	12796	1071	807	2752	3965	0	0	0	821	1309	445	1626	0	0
2012	11502	1071	807	2752	3965	0	0	0	822	0	448	1637	0	0
2013	11517	1071	807	2752	3965	0	0	0	822	0	449	1646	0	0
2014	11521	1071	807	2752	3965	0	0	0	822	0	451	1653	0	0
2015	7556	1071	807	2752	0	0	0	0	822	0	451	1653	0	0
2016	3151	1071	807	0	0	0	0	0	822	0	451	0	0	0
2017	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2018	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2019	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2020	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2021	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2022	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2023	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2024	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2025	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2026	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2027	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2028	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0
2029	1878	1071	807	0	0	0	0	0	0	0	0	0	0	0

Fuel Cost $ ($1000)

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 1	Chesvic 1	Ekrama 4	Ekrama 3	WSammis 1	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ekrama 1	Ekrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	170278	6405	5883	20592	41240	14096	9311	16063	9610	15277	4365	15533	6108	5745
2000	173594	6565	6030	21107	41892	14319	9460	16320	9760	15515	4468	15925	6250	5943
2001	178231	6730	6181	21635	42564	14545	9607	16586	9947	15875	4738	16883	6674	6326
2002	182411	6897	6335	22176	43226	14775	9761	16858	10112	16093	4947	17633	6973	6625
2003	187249	7070	6494	22731	43909	15008	9916	17135	10301	16404	5217	18644	7389	7031
2004	191970	7247	6656	23299	44602	15245	10073	17411	10474	16686	5461	19590	7776	7400
2005	154383	7428	6822	23882	45308	0	0	17687	10637	16946	5588	20085	0	0
2006	157986	7614	6993	24479	46023	0	0	17971	10823	17250	5817	21016	0	0
2007	161568	7804	7168	25091	46750	0	0	18257	11002	17541	6031	21924	0	0
2008	165053	7999	7347	25718	47489	0	0	18548	11184	17833	6247	22738	0	0
2009	168507	8200	7531	26361	48239	0	0	18844	11382	18153	6387	23410	0	0
2010	171872	8405	7719	27020	49002	0	0	19145	11566	18449	6537	24029	0	0
2011	155812	8615	7912	27695	49775	0	0	0	11762	18751	6684	24618	0	0
2012	139841	8830	8110	28387	50562	0	0	0	11954	0	6824	25174	0	0
2013	142653	9051	8312	29098	51361	0	0	0	12147	0	6965	25719	0	0
2014	145458	9277	8520	29825	52173	0	0	0	12341	0	7097	26225	0	0
2015	95676	9504	8732	30572	0	0	0	0	12652	0	7277	26889	0	0
2016	39120	9742	8951	0	0	0	0	0	12968	0	7459	0	0	0
2017	19160	9985	9175	0	0	0	0	0	0	0	0	0	0	0
2018	19639	10235	9404	0	0	0	0	0	0	0	0	0	0	0
2019	20131	10492	9639	0	0	0	0	0	0	0	0	0	0	0
2020	20633	10753	9880	0	0	0	0	0	0	0	0	0	0	0
2021	21149	11022	10127	0	0	0	0	0	0	0	0	0	0	0
2022	21678	11298	10380	0	0	0	0	0	0	0	0	0	0	0
2023	22220	11580	10640	0	0	0	0	0	0	0	0	0	0	0
2024	22776	11870	10906	0	0	0	0	0	0	0	0	0	0	0
2025	23344	12166	11178	0	0	0	0	0	0	0	0	0	0	0
2026	23929	12471	11458	0	0	0	0	0	0	0	0	0	0	0
2027	24527	12783	11744	0	0	0	0	0	0	0	0	0	0	0
2028	25140	13102	12038	0	0	0	0	0	0	0	0	0	0	0
2029	25767	13429	12338	0	0	0	0	0	0	0	0	0	0	0

Fuel Cost $/mWh

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 1	Chesvic 1	Ekrama 4	Ekrama 3	WSammis 1	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ekrama 1	Ekrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	10 22	5 98	7.29	7 48	10 40	11 07	11 47	11 65	11 88	11 87	12 44	12 55	12 75	13 03
2000	10 40	6 13	7 47	7 67	10 57	11,25	11 65	11 83	12.06	12 06	12 66	12.74	12 94	13 24
2001	10 60	6 28	7 66	7 86	10 73	11.43	11 83	12 02	12 25	12 25	12 84	12.94	13 16	13 43
2002	10 80	6 44	7 85	8 06	10 90	11 61	12 02	12 22	12 44	12 45	13 05	13 14	13 35	13 63
2003	11 00	6 60	8 05	8 26	11 07	11,79	12 21	12 41	12 64	12 64	13 24	13 36	13 56	13 84
2004	11 21	6 77	8 25	8 47	11.25	11.98	12 41	12 60	12 84	12 85	13 45	13 57	13 79	14 07
2005	11 06	6 94	8 45	8 68	11 43	0 00	0 00	12 80	13 04	13 04	13 66	13 78	0 00	0 00
2006	11,27	7.11	8 67	8 89	11 61	0 00	0 00	13 00	13 25	13 25	13 92	14 00	0 00	0 00
2007	11.48	7,29	8 88	9 12	11.79	0 00	0 00	13 21	13 45	13 45	14 12	14 22	0 00	0 00
2008	11.70	7.47	9 10	9 35	11 98	0 00	0 00	13 41	13 67	13 67	14.32	14 44	0 00	0 00
2009	11,92	7 66	9 33	9 58	12.17	0 00	0 00	13 63	13 90	13 89	14 55	14 67	0 00	0 00
2010	12,14	7 85	9 57	9 82	12 36	0 00	0 00	13 84	14 10	14.10	14 79	14 90	0 00	0 00
2011	12,18	8 04	9 80	10 06	12 55	0 00	0 00	0 00	14 33	14 32	15 07	15 14	0 00	0 00
2012	12,16	8 24	10 05	10 32	12.75	0 00	0 00	0 00	14 54	0 00	15 23	15 38	0 00	0 00
2013	12,39	8 45	10 30	10 57	12 95	0 00	0 00	0 00	14 78	0 00	15 51	15 63	0 00	0 00
2014	12 63	8 66	10 56	10 84	13 16	0 00	0 00	0 00	15 01	0 00	15 74	15 87	0 00	0 00
2015	12 66	8 87	10 82	11.11	0 00	0 00	0 00	0 00	15 39	0 00	16 14	16 27	0 00	0 00
2016	12 42	9 10	11 09	0 00	0 00	0 00	0 00	0 00	15 78	0 00	16 54	0 00	0 00	0 00
2017	10 20	9 32	11.37	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2018	10 46	9 56	11 65	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2019	10 72	9 80	11 94	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2020	10 99	10 04	12 24	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2021	11,26	10 29	12 55	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2022	11 54	10 55	12 86	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2023	11 83	10 81	13 18	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2024	12 13	11 08	13 51	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2025	12 43	11 36	13 85	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2026	12,74	11 64	14 20	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2027	13 06	11 94	14 55	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2028	13 39	12 23	14 92	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2029	13 72	12 54	15 29	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00

Market Energy Prices $/mWh

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 3	Chesvic 1	Ekarna 4	Ekarna 3	WSammis 1	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ekarna 1	Ekarna 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2018	2015	2004	2004
1999	16 41	16 28	16 30	16 28	16 28	16 28	16 26	16 29	16 32	16 32	16 84	16 96	17 27	17 48
2000	17 11	16 96	16 97	16 96	16 96	16 95	16 94	16 97	17 00	17 02	17 65	17 74	18 11	18 38
2001	18 05	17 88	17 90	17 88	17 88	17 87	17 86	17 88	17 91	17 93	18 66	18 70	19 18	19 46
2002	19 21	19 01	19 03	19 02	19 02	19 01	18 99	19 03	19 04	19 08	19 77	19 93	20 52	20 87
2003	20 72	20 50	20 52	20 51	20 50	20 49	20 47	20 51	20 53	20 56	21 23	21 46	22 17	22 63
2004	22 40	22 16	22 19	22 17	22 17	22 15	22 14	22 16	22 18	22 23	22 89	23 13	24 03	24 58
2005	23 92	23 77	23 80	23 78	23 78	0 00	0 00	23 77	23 79	23 84	24 59	24 86	0 00	0 00
2006	26 46	26 30	26 33	26 31	26 30	0 00	0 00	26 30	26 33	26 38	27 18	27 40	0 00	0 00
2007	29 36	29 21	29 24	29 22	29 22	0 00	0 00	29 21	29 27	29 27	30 03	30 24	0 00	0 00
2008	30 16	30 04	30 07	30 05	30 05	0 00	0 00	30 02	30 06	30 09	30 66	30 86	0 00	0 00
2009	30 78	30 68	30 71	30 68	30 68	0 00	0 00	30 67	30 72	30 73	31 19	31 35	0 00	0 00
2010	30 95	30 86	30 90	30 87	30 87	0 00	0 00	30 85	30 86	30 91	31 29	31 39	0 00	0 00
2011	32 01	31 93	31 96	31 94	31 93	0 00	0 00	0 00	31 92	31 96	32 28	32 38	0 00	0 00
2012	34 20	34 13	34 16	34 14	34 14	0 00	0 00	0 00	34 09	0 00	34 40	34 54	0 00	0 00
2013	35 39	35 32	35 36	35 33	35 33	0 00	0 00	0 00	35 28	0 00	35 63	35 68	0 00	0 00
2014	37 80	37 74	37 78	37 75	37 75	0 00	0 00	0 00	37 78	0 00	37 97	38 06	0 00	0 00
2015	38 78	38 69	38 73	38 70	0 00	0 00	0 00	0 00	38 65	0 00	38 92	39 01	0 00	0 00
2016	39 69	39 66	39 70	0 00	0 00	0 00	0 00	0 00	39 62	0 00	39 90	0 00	0 00	0 00
2017	40 67	40 65	40 69	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2018	41 68	41 66	41 71	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2019	42 73	42 71	42 75	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2020	43 79	43 77	43 82	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2021	44 89	44 87	44 91	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2022	46 01	45 99	46 04	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2023	47 16	47 14	47,19	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2024	48 34	48 32	48 37	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2025	49 55	49 53	49 57	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2026	50 79	50 77	50 81	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2027	52 06	52 03	52 09	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2028	53 36	53 34	53 39	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2029	54 69	54 67	54,72	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00

Market Energy Revenues ($1000)

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 3	Chesvic 1	Ekarna 4	Ekarna 3	WSammis 1	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ekarna 1	Ekarna 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2018	2015	2004	2004
1999	273442	17436	13151	44812	64561	28724	13206	22458	13207	21010	5911	20992	8271	7708
2000	285619	18160	13698	46676	67246	29583	13757	23395	13752	21890	6231	22188	8800	8251
2001	303475	19147	14442	49212	70900	22754	14500	24673	14542	23166	6847	24401	9726	9166
2002	324590	20366	15361	52342	75408	24198	15422	26255	15479	24671	7491	26742	10712	10144
2003	352592	21955	16560	56430	81298	26086	16625	28318	16729	26682	8366	29966	12086	11494
2004	383497	23736	17904	61008	87892	28200	17975	30620	18100	28883	9292	33406	13551	12930
2005	333956	25463	19206	65447	94287	0	0	32849	19416	30987	10057	36744	0	0
2006	370781	28167	21245	72394	104296	0	0	36343	21511	34341	11360	41124	0	0
2007	413029	31283	23597	80406	115839	0	0	40370	23906	38170	12823	46635	0	0
2008	426508	32173	24268	82694	119133	0	0	41520	24592	39273	13308	48547	0	0
2009	435191	32853	24780	84448	121652	0	0	42417	25158	40170	13692	50034	0	0
2010	438223	33056	24934	84963	122404	0	0	42672	25309	40426	13830	50629	0	0
2011	409544	34194	25792	87888	126616	0	0	0	26203	41831	14365	52655	0	0
2012	393388	36552	27570	93947	135346	0	0	0	28018	0	15410	56545	0	0
2013	407404	37829	28534	97230	140076	0	0	0	29002	0	15997	58736	0	0
2014	435490	40419	30488	103888	149668	0	0	0	30993	0	17126	62909	0	0
2015	292995	41437	31254	106489	0	0	0	0	31773	0	17554	64488	0	0
2016	125068	42473	32035	0	0	0	0	0	32567	0	17993	0	0	0
2017	76370	43535	32835	0	0	0	0	0	0	0	0	0	0	0
2018	78279	44623	33656	0	0	0	0	0	0	0	0	0	0	0
2019	80238	45740	34498	0	0	0	0	0	0	0	0	0	0	0
2020	82242	46882	35360	0	0	0	0	0	0	0	0	0	0	0
2021	84299	48055	36244	0	0	0	0	0	0	0	0	0	0	0
2022	86407	49256	37151	0	0	0	0	0	0	0	0	0	0	0
2023	88566	50487	38079	0	0	0	0	0	0	0	0	0	0	0
2024	90780	51749	39031	0	0	0	0	0	0	0	0	0	0	0
2025	93050	53043	40007	0	0	0	0	0	0	0	0	0	0	0
2026	95377	54370	41007	0	0	0	0	0	0	0	0	0	0	0
2027	97762	55729	42033	0	0	0	0	0	0	0	0	0	0	0
2028	100206	57122	43084	0	0	0	0	0	0	0	0	0	0	0
2029	102710	58550	44160	0	0	0	0	0	0	0	0	0	0	0

Energy Margins ($1000)

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Ekarna 4	Ekarna 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ekarna 1	Ekarna 2
Own %		13.17	13.88	41.53	100	100	100	31.11	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2018	2011	2016	2015	2004	2004
1999	103214	11031	7268	24270	23321	6678	3895	6395	3592	5733	1546	5459	2163	1963
2000	112025	11595	7668	25569	25354	7264	4297	7075	3992	6375	1763	6255	2610	2308
2001	126244	12417	8261	27577	28346	8209	4893	8087	4595	7341	2109	7518	3052	2839
2002	142179	13468	9026	30166	32182	9423	5661	9397	5307	8578	2544	9109	3739	3519
2003	166343	14685	10056	33699	37389	11077	6709	11183	6428	10278	3149	11321	4696	4463
2004	191577	16489	11248	37709	43290	12955	7902	13209	7626	12197	3831	13816	5775	5530
2005	179573	18035	12384	41565	48979	0	0	15162	8779	14041	4469	16159	0	0
2006	212796	20553	14252	47916	58773	0	0	18372	10688	17091	5543	20108	0	0
2007	251461	23479	16429	55316	69089	0	0	22113	12904	20629	6797	24711	0	0
2008	260455	24174	16921	56976	71644	0	0	22977	13408	21440	7091	25829	0	0
2009	266684	24653	17249	58079	73413	0	0	23568	13776	22017	7305	26624	0	0
2010	266351	24651	17215	57943	73402	0	0	23527	13743	21977	7293	26600	0	0
2011	253732	25579	17880	60193	76841	0	0	0	14441	23080	7681	28037	0	0
2012	253547	27727	19460	65560	84784	0	0	0	16064	0	8686	31375	0	0
2013	264751	28778	20222	68132	88215	0	0	0	16855	0	9032	33017	0	0
2014	290032	31142	21960	74063	97495	0	0	0	18652	0	10028	36684	0	0
2015	197369	31933	22522	75917	0	0	0	0	19171	0	10277	37599	0	0
2016	85948	32731	23084	0	0	0	0	0	19699	0	10534	0	0	0
2017	57210	33550	23660	0	0	0	0	0	0	0	0	0	0	0
2018	58640	34388	24252	0	0	0	0	0	0	0	0	0	0	0
2019	60107	35248	24859	0	0	0	0	0	0	0	0	0	0	0
2020	61609	36129	25480	0	0	0	0	0	0	0	0	0	0	0
2021	63150	37033	26117	0	0	0	0	0	0	0	0	0	0	0
2022	64729	37958	26771	0	0	0	0	0	0	0	0	0	0	0
2023	66346	38907	27439	0	0	0	0	0	0	0	0	0	0	0
2024	68004	39879	28125	0	0	0	0	0	0	0	0	0	0	0
2025	69706	40877	28829	0	0	0	0	0	0	0	0	0	0	0
2026	71448	41899	29549	0	0	0	0	0	0	0	0	0	0	0
2027	73235	42946	30289	0	0	0	0	0	0	0	0	0	0	0
2028	75066	44020	31046	0	0	0	0	0	0	0	0	0	0	0
2029	76943	45121	31822	0	0	0	0	0	0	0	0	0	0	0

Unit Capacity Factors

UNIT		PERRY 1	BEAV. V 2	BEAV. V. 2	Cheswic 1	Ekarna 4	Ekarna 3	WSammis 7	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Ekarna 1	Ekarna 2
Own %		13.17	13.88	41.53	100	100	100	31.11	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2018	2011	2016	2015	2004	2004
1999	77 08	75 94	81.53	81 60	80 54	84 98	85 04	84 18	83 95	78 99	64 63	61 98	56 37	51 90
2000	77 21	75 94	81.53	81 60	80 54	84 98	85 04	84 18	83 95	78 93	64 99	62 59	57 20	52 84
2001	77 76	75 94	81.53	81 60	80 54	84 98	85 04	84 24	84 27	79 29	67 94	65 34	59 67	55 43
2002	78 15	75 94	81.53	81 60	80 54	84 98	85 04	84 24	84 37	79 30	69 78	67 13	61 43	57 20
2003	78 71	75 94	81.53	81 60	80 54	84 98	85 04	84 30	84 58	79 66	72 54	69 90	64 14	59 78
2004	79 17	75 94	81.53	81 60	80 54	84 98	85 04	84 37	84 68	79 72	74 75	72 30	66 37	61 90
2005	79 92	75 94	81.53	81 60	80 54	0 00	0 00	84 37	84 68	79 79	75 31	73 00	0 00	0 00
2006	80 23	75 94	81.53	81 60	80 54	0 00	0 00	84 37	84 79	79 91	76 96	75 15	0 00	0 00
2007	80 54	75 94	81.53	81 60	80 54	0 00	0 00	84 37	84 89	80 03	78 62	77 28	0 00	0 00
2008	80 77	75 94	81.53	81 60	80 54	0 00	0 00	84 43	84 89	80 09	79 91	78 75	0 00	0 00
2009	80 94	75 94	81 53	81 60	80 54	0 00	0 00	84 43	84 99	80 22	80 83	79 91	0 00	0 00
2010	81 07	75 94	81 53	81 60	80 54	0 00	0 00	84 43	85 10	80 28	81 38	80 76	0 00	0 00
2011	80 84	75 94	81 53	81 60	80 54	0 00	0 00	0 00	85 20	80 34	81 93	81 41	0 00	0 00
2012	*81 00*	*75 94*	*81 53*	*81 60*	*80 54*	*0 00*	*0 00*	*0 00*	*85 31*	*0 00*	*82 49*	*81 95*	*0 00*	*0 00*
2013	81 07	75 94	81 53	81 60	80 54	0 00	0 00	0 00	85 31	0 00	82 67	82 41	0 00	0 00
2014	81 13	75 94	81.53	81 60	80 54	0 00	0 00	0 00	85 31	0 00	83 04	82 76	0 00	0 00
2015	81 45	75 94	81 53	81 60	0 00	0 00	0 00	0 00	85 31	0 00	83 04	82 76	0 00	0 00
2016	80 65	75 94	81 53	0 00	0 00	0 00	0 00	0 00	85 31	0 00	83 04	0 00	0 00	0 00
2017	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2018	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2019	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2020	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2021	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2022	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2023	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2024	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2025	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2026	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2027	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2028	78 24	75 94	81 53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
2029	78 24	75 94	81.53	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00

Exhibit No.___(RJF-5b)
CALCULATION OF NET PRESENT VALUE OF CONTRIBUTION MARGINS

	Year	Capacity: Large Units	Capacity: CT's	Capacity: PSH	Capacity: Total	Capacity Charges	Capacity Revenue $1,175,511	Energy Margins $1,969,326	PSH Magins	Total Costs	O&M $1,470,844	Cap. Add $290,629	Other Tax $155,878	A&G $981,202	Emission $274,899	Net Margin After Tax
	1999	2468	0	0	2468	47.46	$117,141	$103,214	$0	$332,102	$135,500	$34,102	$28,800	$114,000	$19,700	($111,747)
	2000	2468	0	0	2468	48.65	$120,070	$112,025	$0	$320,289	$120,500	$35,289	$28,700	$115,800	$20,000	($88,194)
	2001	2468	0	0	2468	49.87	$123,071	$125,244	$0	$323,483	$112,600	$30,883	$28,800	$125,800	$25,400	($75,167)
	2002	2468	0	0	2468	51.11	$126,148	$142,179	$0	$345,778	$129,200	$29,878	$28,900	$129,600	$28,200	($77,451)
	2003	2468	0	0	2468	52.39	$129,302	$165,343	$0	$359,725	$134,200	$35,125	$29,000	$133,400	$28,000	($65,081)
	2004	2468	0	0	2468	53.70	$132,534	$191,577	$0	$397,133	$133,600	$68,833	$28,900	$135,900	$29,900	($73,021)
Disc. Rate	2005	1994	0	0	1994	55.04	$109,757	$179,573	$0	$321,128	$116,800	$23,828	$27,100	$125,500	$27,900	($31,798)
7.83%	2006	1994	0	0	1994	56.42	$112,501	$212,795	$0	$264,865	$149,550	$23,895	$0	$60,780	$30,640	$60,431
10.53%	2007	1994	0	0	1994	54.21	$108,095	$251,461	$0	$265,613	$147,640	$21,793	$0	$63,210	$32,970	$93,943
Tax Rate	2008	1994	0	0	1994	57.44	$114,527	$260,455	$0	$280,489	$159,910	$19,019	$0	$65,400	$36,160	$94,493
41.49%	2009	1994	0	0	1994	60.76	$121,151	$266,684	$0	$287,021	$163,800	$18,541	$0	$67,970	$36,710	$100,814
	2010	1994	0	0	1994	62.28	$124,180	$266,351	$0	$295,819	$160,120	$28,959	$0	$70,360	$36,380	$94,712
	2011	1807	0	0	1807	63.83	$115,348	$253,732	$0	$288,626	$165,980	$18,636	$0	$65,680	$38,330	$80,454
	2012	1621	0	0	1621	65.43	$106,061	$253,547	$0	$256,924	$150,120	$15,994	$0	$61,190	$29,620	$102,684
Post 2014	2013	1621	0	0	1621	67.07	$108,713	$264,751	$0	$250,271	$141,100	$15,931	$0	$63,090	$30,150	$123,193
Inflation	2014	1621	0	0	1621	63.56	$103,034	$290,032	$0	$272,954	$158,500	$14,944	$0	$65,430	$34,080	$120,112
2.50%	2015	1059	0	0	1059	65.15	$68,995	$197,369	$0	$186,815	$118,640	$12,825	$0	$43,590	$11,760	$79,549
	2016	446	0	0	446	66.78	$29,784	$85,948	$0	$91,305	$62,680	$4,865	$0	$18,010	$5,750	$24,427
	2017	274	0	0	274	68.45	$18,755	$57,210	$0	$89,205	$65,420	$3,925	$0	$16,410	$3,450	($13,240)
	2018	274	0	0	274	70.16	$19,224	$58,640	$0	$82,394	$57,090	$4,024	$0	$17,070	$4,210	($4,530)
	2019	274	0	0	274	71.91	$19,705	$60,107	$0	$94,754	$68,540	$4,124	$0	$17,770	$4,320	($14,943)
	2020	274	0	0	274	73.71	$20,197	$61,609	$0	$75,967	$57,840	$4,227	$0	$13,900	$0	$5,839
	2021	274	0	0	274	75.56	$20,702	$63,150	$0	$78,043	$59,240	$4,333	$0	$14,470	$0	$5,809
	2022	274	0	0	274	77.44	$21,220	$64,729	$0	$79,551	$60,050	$4,441	$0	$15,060	$0	$6,397
	2023	274	0	0	274	79.38	$21,750	$66,346	$0	$86,972	$66,760	$4,552	$0	$15,660	$0	$1,124
	2024	274	0	0	274	81.36	$22,294	$68,004	$0	$77,626	$56,660	$4,666	$0	$16,300	$0	$12,672
	2025	274	0	0	274	83.40	$22,851	$69,706	$0	$90,893	$69,140	$4,783	$0	$16,970	$0	$1,665
	2026	274	0	0	274	85.48	$23,423	$71,448	$0	$87,362	$64,800	$4,902	$0	$17,660	$0	$7,508
	2027	274	0	0	274	87.62	$24,008	$73,235	$0	$89,546	$66,420	$5,025	$0	$18,102	$0	$7,697
	2028	274	0	0	274	89.81	$24,608	$75,066	$0	$91,785	$68,081	$5,150	$0	$18,554	$0	$7,889
	2029	274	0	0	274	92.06	$25,224	$76,943	$0	$94,080	$69,783	$5,279	$0	$19,018	$0	$8,087

NPV of Net Margins After Tax

Summer

DLCO

Capacity (MW)

UNIT		Perry 1	EVA 2	Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88		47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029		2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	2468	161	113		385	562	171	109	187	110	186	62	228	97	97
2000	2468	161	113		385	562	171	109	187	110	186	62	228	97	97
2001	2468	161	113		385	562	171	109	187	110	186	62	228	97	97
2002	2468	161	113		385	562	171	109	187	110	186	62	228	97	97
2003	2468	161	113		385	562	171	109	187	110	186	62	228	97	97
2004	2468	161	113		385	562	171	109	187	110	186	62	228	97	97
2005	1994	161	113		385	562	0	0	187	110	186	62	228	0	0
2006	1994	161	113		385	562	0	0	187	110	186	62	228	0	0
2007	1994	161	113		385	562	0	0	187	110	186	62	228	0	0
2008	1994	161	113		385	562	0	0	187	110	186	62	228	0	0
2009	1994	161	113		385	562	0	0	187	110	186	62	228	0	0
2010	1994	161	113		385	562	0	0	187	110	186	62	228	0	0
2011	1807	161	113		385	562	0	0	0	110	186	62	228	0	0
2012	1621	161	113		385	562	0	0	0	110	0	62	228	0	0
2013	1621	161	113		385	562	0	0	0	110	0	62	228	0	0
2014	1621	161	113		385	562	0	0	0	110	0	62	228	0	0
2015	1059	161	113		385	0	0	0	0	110	0	62	228	0	0
2016	446	161	113		0	0	0	0	0	110	0	62	0	0	0
2017	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2018	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2019	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2020	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2021	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2022	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2023	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2024	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2025	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2026	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2027	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2028	274	161	113		0	0	0	0	0	0	0	0	0	0	0
2029	274	161	113		0	0	0	0	0	0	0	0	0	0	0

GWH Output Report

UNIT		Perry 1	EVA 2	Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88		47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029		2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	4029	265	200		683	982	307	196	330	189	309	79	279	109	101
2000	4038	265	200		683	982	307	196	330	189	309	79	283	111	103
2001	4065	265	200		683	982	307	196	331	190	311	83	294	115	108
2002	4082	265	200		683	982	307	196	331	191	312	84	301	118	111
2003	4110	265	200		683	982	307	196	332	192	314	88	312	123	116
2004	4131	265	200		683	982	307	196	333	193	315	90	321	127	119
2005	3386	265	200		683	982	0	0	333	193	316	91	324	0	0
2006	3402	265	200		683	982	0	0	333	193	317	93	334	0	0
2007	3417	265	200		683	982	0	0	333	194	318	96	345	0	0
2008	3432	265	200		683	982	0	0	334	195	319	99	355	0	0
2009	3444	265	200		683	982	0	0	334	195	320	101	363	0	0
2010	3453	265	200		683	982	0	0	334	196	321	102	370	0	0
2011	3128	265	200		683	982	0	0	0	196	322	104	376	0	0
2012	2813	265	200		683	982	0	0	0	197	0	105	381	0	0
2013	2817	265	200		683	982	0	0	0	197	0	105	384	0	0
2014	2821	265	200		683	982	0	0	0	197	0	106	387	0	0
2015	1839	265	200		683	0	0	0	0	197	0	106	387	0	0
2016	769	265	200		0	0	0	0	0	197	0	106	0	0	0
2017	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2018	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2019	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2020	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2021	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2022	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2023	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2024	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2025	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2026	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2027	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2028	466	265	200		0	0	0	0	0	0	0	0	0	0	0
2029	466	265	200		0	0	0	0	0	0	0	0	0	0	0

Summer

Fuel Cos	t ($000)													
UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	40967	1586	1460	5111	10214	3403	2246	3842	2245	3667	979	3505	1391	1317
2000	41794	1626	1497	5239	10376	3457	2283	3904	2281	3726	1005	3601	1435	1364
2001	42881	1667	1534	5370	10540	3511	2317	3976	2331	3812	1060	3799	1516	1447
2002	43867	1708	1572	5504	10706	3567	2355	4046	2375	3886	1102	3951	1581	1513
2003	45005	1751	1612	5642	10875	3623	2393	4120	2426	3971	1160	4163	1669	1600
2004	46098	1795	1652	5783	11047	3680	2432	4191	2473	4049	1212	4355	1749	1679
2005	37273	1840	1693	5928	11222	0	0	4258	2513	4115	1241	4463	0	0
2006	38164	1886	1736	6076	11399	0	0	4330	2562	4197	1299	4679	0	0
2007	39075	1933	1779	6228	11579	0	0	4400	2611	4278	1360	4907	0	0
2008	39990	1981	1824	6384	11762	0	0	4472	2661	4361	1417	5129	0	0
2009	40887	2031	1869	6543	11948	0	0	4546	2712	4446	1466	5327	0	0
2010	41777	2082	1916	6707	12137	0	0	4621	2764	4533	1511	5507	0	0
2011	37975	2134	1964	6874	12328	0	0	0	2814	4617	1555	5689	0	0
2012	34087	2187	2013	7046	12523	0	0	0	2865	0	1595	5858	0	0
2013	34801	2242	2063	7223	12721	0	0	0	2914	0	1632	6007	0	0
2014	35511	2298	2115	7403	12922	0	0	0	2962	0	1667	6144	0	0
2015	23157	2354	2167	7589	0	0	0	0	3037	0	1709	6301	0	0
2016	9499	2413	2222	0	0	0	0	0	3113	0	1752	0	0	0
2017	4750	2473	2277	0	0	0	0	0	0	0	0	0	0	0
2018	4869	2535	2334	0	0	0	0	0	0	0	0	0	0	0
2019	4991	2599	2392	0	0	0	0	0	0	0	0	0	0	0
2020	5116	2663	2452	0	0	0	0	0	0	0	0	0	0	0
2021	5244	2730	2513	0	0	0	0	0	0	0	0	0	0	0
2022	5375	2798	2576	0	0	0	0	0	0	0	0	0	0	0
2023	5509	2868	2641	0	0	0	0	0	0	0	0	0	0	0
2024	5647	2940	2707	0	0	0	0	0	0	0	0	0	0	0
2025	5788	3013	2774	0	0	0	0	0	0	0	0	0	0	0
2026	5933	3089	2844	0	0	0	0	0	0	0	0	0	0	0
2027	6081	3166	2915	0	0	0	0	0	0	0	0	0	0	0
2028	6233	3245	2988	0	0	0	0	0	0	0	0	0	0	0
2029	6389	3326	3062	0	0	0	0	0	0	0	0	0	0	0

Fuel Cos	t $/mWh													
UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	10.17	5.98	7.29	7.48	10.4	11.07	11.48	11.65	11.87	11.87	12.45	12.54	12.74	13.01
2000	10.35	6.13	7.47	7.67	10.57	11.25	11.66	11.83	12.06	12.06	12.64	12.74	12.95	13.22
2001	10.55	6.29	7.65	7.86	10.73	11.43	11.84	12.02	12.25	12.25	12.84	12.94	13.15	13.43
2002	10.75	6.44	7.85	8.06	10.9	11.61	12.03	12.21	12.44	12.44	13.05	13.15	13.36	13.64
2003	10.95	6.6	8.04	8.26	11.08	11.79	12.22	12.4	12.64	12.64	13.25	13.35	13.57	13.85
2004	11.16	6.77	8.24	8.47	11.25	11.98	12.41	12.6	12.84	12.84	13.46	13.56	13.78	14.07
2005	11.01	6.94	8.45	8.68	11.43	0	0	12.8	13.04	13.04	13.67	13.76	0	0
2006	11.22	7.11	8.66	8.9	11.61	0	0	13	13.25	13.25	13.89	14	0	0
2007	11.44	7.29	8.88	9.12	11.79	0	0	13.2	13.46	13.46	14.11	14.22	0	0
2008	11.65	7.47	9.1	9.35	11.98	0	0	13.41	13.67	13.67	14.33	14.44	0	0
2009	11.87	7.66	9.33	9.58	12.17	0	0	13.62	13.89	13.89	14.56	14.67	0	0
2010	12.1	7.85	9.56	9.82	12.36	0	0	13.84	14.11	14.11	14.79	14.9	0	0
2011	12.14	8.05	9.8	10.06	12.56	0	0	0	14.33	14.33	15.02	15.14	0	0
2012	12.12	8.25	10.04	10.32	12.75	0	0	0	14.56	0	15.26	15.38	0	0
2013	12.35	8.45	10.29	10.57	12.96	0	0	0	14.79	0	15.5	15.62	0	0
2014	12.59	8.66	10.55	10.84	13.16	0	0	0	15.02	0	15.75	15.87	0	0
2015	12.59	8.88	10.81	11.11	0	0	0	0	15.4	0	16.14	16.27	0	0
2016	12.36	9.1	11.08	0	0	0	0	0	15.78	0	16.55	0	0	0
2017	10.2	9.33	11.36	0	0	0	0	0	0	0	0	0	0	0
2018	10.46	9.56	11.65	0	0	0	0	0	0	0	0	0	0	0
2019	10.72	9.8	11.94	0	0	0	0	0	0	0	0	0	0	0
2020	10.99	10.04	12.23	0	0	0	0	0	0	0	0	0	0	0
2021	11.26	10.29	12.54	0	0	0	0	0	0	0	0	0	0	0
2022	11.54	10.55	12.85	0	0	0	0	0	0	0	0	0	0	0
2023	11.83	10.82	13.18	0	0	0	0	0	0	0	0	0	0	0
2024	12.13	11.09	13.5	0	0	0	0	0	0	0	0	0	0	0
2025	12.43	11.36	13.84	0	0	0	0	0	0	0	0	0	0	0
2026	12.74	11.65	14.19	0	0	0	0	0	0	0	0	0	0	0
2027	13.06	11.94	14.54	0	0	0	0	0	0	0	0	0	0	0
2028	13.39	12.24	14.91	0	0	0	0	0	0	0	0	0	0	0
2029	13.72	12.54	15.28	0	0	0	0	0	0	0	0	0	0	0

Market P	rice $/mWl													
UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	17.19	16.97	16.97	16.97	16.97	16.97	16.97	17.01	17.1	17.12	18.04	18.17	18.6	18.88
2000	18.14	17.88	17.88	17.88	17.88	17.88	17.88	17.92	18.03	18.06	19.16	19.31	19.83	20.17
2001	19.37	19.07	19.07	19.07	19.07	19.07	19.07	19.11	19.24	19.27	20.47	20.66	21.3	21.7
2002	20.86	20.5	20.5	20.5	20.5	20.5	20.5	20.54	20.69	20.72	22.11	22.35	23.13	23.62
2003	22.78	22.37	22.37	22.37	22.37	22.37	22.37	22.4	22.57	22.61	24.13	24.41	25.38	25.99
2004	24.03	24.06	24.06	24.06	24.06	24.06	24.06	24.09	24.67	24.01	26.03	26.66	27.71	28.44
2005	26.61	26.26	26.26	26.26	26.26	0	0	26.29	26.51	26.57	28.4	28.78	0	0
2006	29.39	29.03	29.03	29.03	29.03	0	0	29.05	29.29	29.35	31.21	31.65	0	0
2007	32.37	32.01	32.01	32.01	32.01	0	0	32.02	32.26	32.33	34.1	34.58	0	0
2008	33.3	32.99	32.99	32.99	32.99	0	0	33	33.2	33.26	34.75	35.16	0	0
2009	33.23	32.97	32.97	32.97	32.97	0	0	32.98	33.13	33.19	34.41	34.74	0	0
2010	34.31	34.08	34.08	34.08	34.08	0	0	34.08	34.21	34.26	35.37	35.65	0	0
2011	35.52	35.3	35.3	35.3	35.3	0	0	0	35.39	35.43	36.43	36.66	0	0
2012	37.91	37.69	37.69	37.69	37.69	0	0	0	37.76	0	38.78	38.96	0	0
2013	39.27	39.07	39.07	39.07	39.07	0	0	0	39.11	0	40.06	40.22	0	0
2014	41.88	41.69	41.69	41.69	41.69	0	0	0	41.71	0	42.66	42.8	0	0
2015	43.03	42.73	42.73	42.73	0	0	0	0	42.75	0	43.73	43.87	0	0
2016	43.95	43.8	43.8	0	0	0	0	0	43.82	0	44.82	0	0	0
2017	44.9	44.9	44.9	0	0	0	0	0	0	0	0	0	0	0
2018	46.02	46.02	46.02	0	0	0	0	0	0	0	0	0	0	0
2019	47.17	47.17	47.17	0	0	0	0	0	0	0	0	0	0	0
2020	48.35	48.35	48.35	0	0	0	0	0	0	0	0	0	0	0
2021	49.56	49.56	49.56	0	0	0	0	0	0	0	0	0	0	0
2022	50.8	50.8	50.8	0	0	0	0	0	0	0	0	0	0	0
2023	52.07	52.07	52.07	0	0	0	0	0	0	0	0	0	0	0
2024	53.37	53.37	53.37	0	0	0	0	0	0	0	0	0	0	0
2025	54.7	54.7	54.7	0	0	0	0	0	0	0	0	0	0	0
2026	56.07	56.07	56.07	0	0	0	0	0	0	0	0	0	0	0
2027	57.47	57.47	57.47	0	0	0	0	0	0	0	0	0	0	0
2028	58.91	58.91	58.91	0	0	0	0	0	0	0	0	0	0	0
2029	60.38	60.38	60.38	0	0	0	0	0	0	0	0	0	0	0

Market R	evenue ($(	00)												
UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	69267	4501	3402	11593	16666	5216	3321	5609	3233	5289	1420	5077	2029	1911
2000	73242	4740	3583	12210	17553	5493	3501	5912	3411	5581	1523	5458	2197	2081
2001	78752	5057	3823	13026	18727	5861	3732	6320	3660	5995	1690	6065	2455	2339
2002	85153	5436	4109	14001	20128	6299	4013	6805	3949	6472	1867	6716	2737	2621
2003	93627	5931	4483	15277	21963	6874	4379	7441	4331	7103	2111	7611	3121	3001
2004	102539	6456	4881	16633	23912	7484	4770	8109	4731	7762	2362	8528	3516	3393
2005	90092	6964	5264	17938	25788	0	0	8748	5108	8382	2577	9322	0	0
2006	99980	7698	5818	19826	28503	0	0	9676	5664	9297	2919	10578	0	0
2007	110625	8488	6416	21862	31430	0	0	10671	6259	10277	3288	11934	0	0
2008	114284	8748	6613	22533	32394	0	0	11001	6467	10611	3436	12487	0	0
2009	114430	8744	6609	22522	32378	0	0	11001	6470	10626	3466	12614	0	0
2010	118495	9038	6832	23280	33468	0	0	11380	6702	11009	3613	13174	0	0
2011	111118	9360	7075	24108	34659	0	0	0	6950	11419	3770	13777	0	0
2012	106633	9996	7555	25745	37012	0	0	0	7430	0	4053	14841	0	0
2013	110630	10361	7831	26685	38364	0	0	0	7707	0	4218	15465	0	0
2014	118140	11055	8356	28474	40936	0	0	0	8228	0	4516	16574	0	0
2015	79140	11333	8565	29186	0	0	0	0	8433	0	4630	16993	0	0
2016	33785	11616	8779	0	0	0	0	0	8644	0	4746	0	0	0
2017	20905	11907	8998	0	0	0	0	0	0	0	0	0	0	0
2018	21428	12204	9223	0	0	0	0	0	0	0	0	0	0	0
2019	21963	12510	9454	0	0	0	0	0	0	0	0	0	0	0
2020	22512	12822	9690	0	0	0	0	0	0	0	0	0	0	0
2021	23075	13143	9932	0	0	0	0	0	0	0	0	0	0	0
2022	23652	13471	10181	0	0	0	0	0	0	0	0	0	0	0
2023	24243	13808	10435	0	0	0	0	0	0	0	0	0	0	0
2024	24850	14153	10696	0	0	0	0	0	0	0	0	0	0	0
2025	25471	14507	10964	0	0	0	0	0	0	0	0	0	0	0
2026	26108	14870	11238	0	0	0	0	0	0	0	0	0	0	0
2027	26760	15242	11519	0	0	0	0	0	0	0	0	0	0	0
2028	27429	15623	11807	0	0	0	0	0	0	0	0	0	0	0
2029	28115	16013	12102	0	0	0	0	0	0	0	0	0	0	0

Summer

Profit (	$000)													
UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	28300	2914	1942	6481	6452	1813	1075	1767	989	1622	440	1572	638	594
2000	31448	3114	2086	6970	7177	2036	1218	2008	1130	1855	518	1857	762	717
2001	35871	3391	2289	7656	8187	2350	1415	2345	1329	2183	630	2266	939	892
2002	41286	3727	2536	8496	9422	2732	1658	2759	1574	2586	766	2765	1156	1108
2003	48622	4180	2871	9635	11088	3251	1986	3321	1906	3132	952	3447	1452	1401
2004	56441	4663	3229	10849	12865	3804	2338	3918	2259	3713	1150	4173	1767	1714
2005	52819	5125	3571	12010	14566	0	0	4490	2596	4267	1336	4859	0	0
2006	61616	5812	4083	13750	17104	0	0	5346	3102	5100	1620	5900	0	0
2007	71550	6555	4637	15635	19851	0	0	6271	3648	5999	1928	7027	0	0
2008	74294	6767	4789	16149	20632	0	0	6529	3801	6250	2019	7358	0	0
2009	73543	6713	4740	15979	20430	0	0	6456	3758	6181	1999	7287	0	0
2010	76718	6957	4916	16573	21331	0	0	6759	3938	6476	2102	7667	0	0
2011	73143	7226	5111	17234	22331	0	0	0	4136	6801	2216	8088	0	0
2012	72546	7809	5542	18699	24489	0	0	0	4566	0	2458	8983	0	0
2013	75829	8119	5768	19463	25643	0	0	0	4793	0	2586	9458	0	0
2014	82629	8757	6241	21071	28014	0	0	0	5265	0	2849	10430	0	0
2015	55983	8979	6397	21598	0	0	0	0	5396	0	2921	10692	0	0
2016	24285	9203	6557	0	0	0	0	0	5531	0	2994	0	0	0
2017	16155	9433	6721	0	0	0	0	0	0	0	0	0	0	0
2018	16559	9669	6889	0	0	0	0	0	0	0	0	0	0	0
2019	16972	9911	7061	0	0	0	0	0	0	0	0	0	0	0
2020	17397	10159	7238	0	0	0	0	0	0	0	0	0	0	0
2021	17832	10413	7419	0	0	0	0	0	0	0	0	0	0	0
2022	18278	10673	7604	0	0	0	0	0	0	0	0	0	0	0
2023	18734	10940	7795	0	0	0	0	0	0	0	0	0	0	0
2024	19203	11213	7989	0	0	0	0	0	0	0	0	0	0	0
2025	19683	11494	8189	0	0	0	0	0	0	0	0	0	0	0
2026	20175	11781	8394	0	0	0	0	0	0	0	0	0	0	0
2027	20679	12076	8604	0	0	0	0	0	0	0	0	0	0	0
2028	21196	12377	8819	0	0	0	0	0	0	0	0	0	0	0
2029	21726	12687	9039	0	0	0	0	0	0	0	0	0	0	0

Spring, Winter, Fall

DLCO

Capacity (MW)

UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2000	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2001	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2002	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2003	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2004	2468	161	113	385	562	171	109	187	110	186	62	228	97	97
2005	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2006	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2007	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2008	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2009	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2010	1994	161	113	385	562	0	0	187	110	186	62	228	0	0
2011	1807	161	113	385	562	0	0	0	110	186	62	228	0	0
2012	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2013	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2014	1621	161	113	385	562	0	0	0	110	0	62	228	0	0
2015	1059	161	113	385	0	0	0	0	110	0	62	228	0	0
2016	446	161	113	0	0	0	0	0	110	0	62	0	0	0
2017	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2018	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2019	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2020	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2021	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2022	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2023	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2024	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2025	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2026	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2027	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2028	274	161	113	0	0	0	0	0	0	0	0	0	0	0
2029	274	161	113	0	0	0	0	0	0	0	0	0	0	0

GWH Output Report

UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	12635	806	607	2069	2983	966	616	1049	620	978	272	959	370	340
2000	12655	806	607	2069	2983	966	616	1049	620	977	274	967	375	346
2001	12750	806	607	2069	2983	966	616	1049	622	981	286	1011	392	363
2002	12813	806	607	2069	2983	966	616	1049	622	981	295	1041	404	375
2003	12907	806	607	2069	2983	966	616	1049	623	984	306	1084	422	392
2004	12986	806	607	2069	2983	966	616	1049	623	984	316	1123	437	407
2005	10572	806	607	2069	2983	0	0	1049	623	984	318	1134	0	0
2006	10615	806	607	2069	2983	0	0	1049	624	985	325	1167	0	0
2007	10651	806	607	2069	2983	0	0	1049	624	986	331	1197	0	0
2008	10675	806	607	2069	2983	0	0	1049	623	986	335	1218	0	0
2009	10696	806	607	2069	2983	0	0	1049	624	987	338	1233	0	0
2010	10707	806	607	2069	2983	0	0	1049	624	987	340	1243	0	0
2011	9667	806	607	2069	2983	0	0	0	625	987	341	1250	0	0
2012	8687	806	607	2069	2983	0	0	0	625	0	343	1256	0	0
2013	8695	806	607	2069	2983	0	0	0	625	0	344	1262	0	0
2014	8699	806	607	2069	2983	0	0	0	625	0	345	1266	0	0
2015	5716	806	607	2069	0	0	0	0	625	0	345	1266	0	0
2016	2382	806	607	0	0	0	0	0	625	0	345	0	0	0
2017	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2018	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2019	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2020	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2021	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2022	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2023	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2024	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2025	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2026	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2027	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2028	1413	806	607	0	0	0	0	0	0	0	0	0	0	0
2029	1413	806	607	0	0	0	0	0	0	0	0	0	0	0

Spring, Winter, Fall

Fuel Cos	t ($000)													
UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	129262	4819	4423	15481	31026	10693	7065	12221	7365	11610	3386	12028	4717	4428
2000	131800	4939	4533	15868	31516	10862	7177	12416	7479	11789	3463	12324	4855	4579
2001	135351	5063	4647	16265	32014	11034	7290	12610	7616	12013	3678	13084	5158	4879
2002	138545	5189	4763	16672	32520	11208	7406	12812	7737	12207	3845	13682	5392	5112
2003	142244	5319	4882	17089	33034	11385	7523	13015	7875	12433	4057	14481	5720	5431
2004	145822	5452	5004	17516	33555	11565	7641	13220	8001	12637	4249	15235	6027	5721
2005	117110	5588	5129	17954	34086	0	0	13429	8124	12831	4347	15622	0	0
2006	119823	5728	5257	18403	34624	0	0	13641	8261	13053	4518	16337	0	0
2007	122492	5871	5389	18863	35171	0	0	13857	8391	13263	4671	17017	0	0
2008	125062	6018	5523	19334	35727	0	0	14076	8523	13472	4800	17589	0	0
2009	127617	6169	5662	19818	36291	0	0	14298	8670	13707	4921	18083	0	0
2010	130094	6323	5803	20313	36865	0	0	14524	8802	13916	5026	18522	0	0
2011	117836	6481	5948	20821	37447	0	0	0	8948	14134	5129	18929	0	0
2012	105755	6643	6097	21341	38039	0	0	0	9089	0	5229	19316	0	0
2013	107851	6809	6249	21875	38640	0	0	0	9233	0	5333	19712	0	0
2014	109947	6979	6405	22422	39251	0	0	0	9379	0	5430	20081	0	0
2015	72470	7150	6565	22983	0	0	0	0	9615	0	5568	20588	0	0
2016	29621	7329	6729	0	0	0	0	0	9855	0	5707	0	0	0
2017	14410	7512	6898	0	0	0	0	0	0	0	0	0	0	0
2018	14770	7700	7070	0	0	0	0	0	0	0	0	0	0	0
2019	15139	7893	7247	0	0	0	0	0	0	0	0	0	0	0
2020	15518	8090	7428	0	0	0	0	0	0	0	0	0	0	0
2021	15906	8292	7614	0	0	0	0	0	0	0	0	0	0	0
2022	16304	8500	7804	0	0	0	0	0	0	0	0	0	0	0
2023	16711	8712	7999	0	0	0	0	0	0	0	0	0	0	0
2024	17129	8930	8199	0	0	0	0	0	0	0	0	0	0	0
2025	17557	9153	8404	0	0	0	0	0	0	0	0	0	0	0
2026	17996	9382	8614	0	0	0	0	0	0	0	0	0	0	0
2027	18446	9617	8829	0	0	0	0	0	0	0	0	0	0	0
2028	18907	9857	9050	0	0	0	0	0	0	0	0	0	0	0
2029	19380	10103	9276	0	0	0	0	0	0	0	0	0	0	0

Fuel Cos	t $/mWh													
UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	10.23	5.98	7.29	7.48	10.4	11.07	11.48	11.65	11.87	11.87	12.45	12.54	12.74	13.01
2000	10.41	6.13	7.47	7.67	10.57	11.25	11.66	11.83	12.06	12.06	12.64	12.74	12.95	13.22
2001	10.62	6.29	7.65	7.86	10.73	11.43	11.84	12.02	12.25	12.25	12.84	12.94	13.15	13.43
2002	10.81	6.44	7.85	8.06	10.9	11.61	12.03	12.21	12.44	12.44	13.05	13.15	13.36	13.64
2003	11.02	6.6	8.04	8.26	11.08	11.79	12.22	12.4	12.64	12.64	13.25	13.35	13.57	13.85
2004	11.23	6.77	8.24	8.47	11.25	11.98	12.41	12.6	12.84	12.84	13.46	13.56	13.78	14.07
2005	11.08	6.94	8.45	8.68	11.43	0	0	12.8	13.04	13.04	13.67	13.78	0	0
2006	11.29	7.11	8.66	8.9	11.61	0	0	13	13.25	13.25	13.89	14	0	0
2007	11.5	7.29	8.88	9.12	11.79	0	0	13.2	13.46	13.46	14.11	14.22	0	0
2008	11.71	7.47	9.1	9.35	11.98	0	0	13.41	13.67	13.67	14.33	14.44	0	0
2009	11.93	7.66	9.33	9.58	12.17	0	0	13.62	13.89	13.89	14.56	14.67	0	0
2010	12.15	7.85	9.56	9.82	12.36	0	0	13.84	14.11	14.11	14.79	14.9	0	0
2011	12.19	8.05	9.8	10.06	12.56	0	0	0	14.33	14.33	15.02	15.14	0	0
2012	12.17	8.25	10.04	10.32	12.75	0	0	0	14.56	0	15.26	15.38	0	0
2013	12.4	8.45	10.29	10.57	12.96	0	0	0	14.79	0	15.5	15.62	0	0
2014	12.64	8.66	10.55	10.84	13.16	0	0	0	15.02	0	15.75	15.87	0	0
2015	12.68	8.88	10.81	11.11	0	0	0	0	15.4	0	16.14	16.27	0	0
2016	12.43	9.1	11.08	0	0	0	0	0	15.78	0	16.55	0	0	0
2017	10.2	9.33	11.36	0	0	0	0	0	0	0	0	0	0	0
2018	10.46	9.56	11.65	0	0	0	0	0	0	0	0	0	0	0
2019	10.72	9.8	11.94	0	0	0	0	0	0	0	0	0	0	0
2020	10.98	10.04	12.23	0	0	0	0	0	0	0	0	0	0	0
2021	11.26	10.29	12.54	0	0	0	0	0	0	0	0	0	0	0
2022	11.54	10.55	12.85	0	0	0	0	0	0	0	0	0	0	0
2023	11.83	10.82	13.18	0	0	0	0	0	0	0	0	0	0	0
2024	12.13	11.09	13.5	0	0	0	0	0	0	0	0	0	0	0
2025	12.43	11.36	13.84	0	0	0	0	0	0	0	0	0	0	0
2026	12.74	11.65	14.19	0	0	0	0	0	0	0	0	0	0	0
2027	13.06	11.94	14.54	0	0	0	0	0	0	0	0	0	0	0
2028	13.38	12.24	14.91	0	0	0	0	0	0	0	0	0	0	0
2029	13.72	12.54	15.28	0	0	0	0	0	0	0	0	0	0	0

Spring, Winter, Fall

Market P	rice $/mW													
UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	16.16	16.06	16.06	16.06	16.06	16.06	16.06	16.06	16.07	16.08	16.51	16.59	16.87	17.03
2000	16.78	16.66	16.66	16.66	16.66	16.66	16.66	16.66	16.67	16.68	17.19	17.29	17.61	17.81
2001	17.63	17.49	17.49	17.49	17.49	17.49	17.49	17.49	17.5	17.51	18.01	18.14	18.54	18.78
2002	18.69	18.53	18.53	18.53	18.53	18.53	18.53	18.53	18.54	18.55	19.08	19.24	19.76	20.07
2003	20.06	19.89	19.89	19.89	19.89	19.89	19.89	19.89	19.9	19.91	20.43	20.61	21.26	21.66
2004	21.64	21.45	21.45	21.45	21.45	21.45	21.45	21.45	21.45	21.46	21.96	22.15	22.95	23.46
2005	23.07	22.97	22.97	22.97	22.97	0	0	22.97	22.97	22.98	23.53	23.75	0	0
2006	25.51	25.41	25.41	25.41	25.41	0	0	25.41	25.41	25.42	25.95	26.17	0	0
2007	28.39	28.3	28.3	28.3	28.3	0	0	28.3	28.3	28.3	28.8	28.99	0	0
2008	29.15	29.08	29.08	29.08	29.08	0	0	29.08	29.08	29.08	29.48	29.61	0	0
2009	29.99	29.93	29.93	29.93	29.93	0	0	29.93	29.93	29.93	30.26	30.36	0	0
2010	29.86	29.82	29.82	29.82	29.82	0	0	29.82	29.82	29.82	30.06	30.14	0	0
2011	30.87	30.83	30.83	30.83	30.83	0	0	0	30.83	30.83	31.03	31.09	0	0
2012	33.01	32.97	32.97	32.97	32.97	0	0	0	32.97	0	33.14	33.2	0	0
2013	34.13	34.1	34.1	34.1	34.1	0	0	0	34.1	0	34.24	34.29	0	0
2014	36.48	36.46	36.46	36.46	36.46	0	0	0	36.46	0	36.56	36.61	0	0
2015	37.41	37.37	37.37	37.37	0	0	0	0	37.37	0	37.47	37.53	0	0
2016	38.32	38.31	38.31	0	0	0	0	0	38.31	0	38.41	0	0	0
2017	39.26	39.26	39.26	0	0	0	0	0	0	0	0	0	0	0
2018	40.25	40.25	40.25	0	0	0	0	0	0	0	0	0	0	0
2019	41.25	41.25	41.25	0	0	0	0	0	0	0	0	0	0	0
2020	42.28	42.28	42.28	0	0	0	0	0	0	0	0	0	0	0
2021	43.34	43.34	43.34	0	0	0	0	0	0	0	0	0	0	0
2022	44.42	44.42	44.42	0	0	0	0	0	0	0	0	0	0	0
2023	45.53	45.53	45.53	0	0	0	0	0	0	0	0	0	0	0
2024	46.67	46.67	46.67	0	0	0	0	0	0	0	0	0	0	0
2025	47.84	47.84	47.84	0	0	0	0	0	0	0	0	0	0	0
2026	49.03	49.03	49.03	0	0	0	0	0	0	0	0	0	0	0
2027	50.26	50.26	50.26	0	0	0	0	0	0	0	0	0	0	0
2028	51.52	51.52	51.52	0	0	0	0	0	0	0	0	0	0	0
2029	52.8	52.8	52.8	0	0	0	0	0	0	0	0	0	0	0

Market R	evenue ($(00)													
UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	204174	12935	9749	33219	47895	15508	9885	16849	9969	15721	4491	15915	6242	5797
2000	212375	13420	10115	34466	49693	16090	10256	17483	10341	16309	4708	16722	6603	6170
2001	224727	14090	10619	36186	52173	16893	10768	18353	10882	17171	5157	18336	7271	6826
2002	239437	14929	11252	38341	55280	17899	11409	19450	11530	18199	5624	20026	7975	7523
2003	258965	16024	12077	41153	59335	19211	12246	20877	12398	19579	6255	22354	8964	8493
2004	280959	17278	13023	44375	63980	20716	13205	22511	13369	21121	6930	24878	10035	9537
2005	243865	18499	13942	47509	68499	0	0	24101	14308	22605	7480	26922	0	0
2006	270602	20469	15427	52568	75793	0	0	26667	15847	25044	8441	30546	0	0
2007	302404	22795	17181	58544	84409	0	0	29699	17647	27893	9535	34701	0	0
2008	311223	23425	17655	60161	86739	0	0	30519	18131	28662	9872	36060	0	0
2009	320761	24109	18171	61918	89274	0	0	31411	18688	29544	10226	37420	0	0
2010	319727	24018	18102	61683	88936	0	0	31292	18607	29417	10217	37455	0	0
2011	298426	24834	18717	63780	91957	0	0	0	19253	30412	10595	38878	0	0
2012	286756	26556	20015	68202	98334	0	0	0	20588	0	11357	41704	0	0
2013	296773	27468	20703	70545	101712	0	0	0	21295	0	11779	43271	0	0
2014	317351	29364	22132	75414	108732	0	0	0	22765	0	12609	46335	0	0
2015	213655	30104	22689	77303	0	0	0	0	23340	0	12924	47495	0	0
2016	91283	30857	23256	0	0	0	0	0	23923	0	13247	0	0	0
2017	55466	31628	23837	0	0	0	0	0	0	0	0	0	0	0
2018	56852	32419	24433	0	0	0	0	0	0	0	0	0	0	0
2019	58274	33230	25044	0	0	0	0	0	0	0	0	0	0	0
2020	59731	34060	25670	0	0	0	0	0	0	0	0	0	0	0
2021	61224	34912	26312	0	0	0	0	0	0	0	0	0	0	0
2022	62754	35785	26970	0	0	0	0	0	0	0	0	0	0	0
2023	64323	36679	27644	0	0	0	0	0	0	0	0	0	0	0
2024	65931	37596	28335	0	0	0	0	0	0	0	0	0	0	0
2025	67580	38536	29043	0	0	0	0	0	0	0	0	0	0	0
2026	69269	39500	29769	0	0	0	0	0	0	0	0	0	0	0
2027	71001	40487	30514	0	0	0	0	0	0	0	0	0	0	0
2028	72776	41499	31277	0	0	0	0	0	0	0	0	0	0	0
2029	74595	42537	32058	0	0	0	0	0	0	0	0	0	0	0

Spring, Winter, Fall

Profit (	$000)													
UNIT		Perry 1 E	VA 2 Bea	VA 1	Cheswic 1	Elrama 4	Elrama 3	WSammis	Mansfie 3	Eastlak 5	Mansfie 2	Mansfie 1	Elrama 1	Elrama 2
Own %		13.77	13.88	47.53	100	100	100	31.17	13.66	31.16	7.89	29.19	100	100
Retire		2029	2029	2015	2014	2004	2004	2010	2016	2011	2016	2015	2004	2004
1999	74912	8116	5326	17738	16869	4815	2820	4627	2604	4112	1105	3886	1525	1369
2000	80574	8481	5581	18598	18177	5228	3079	5067	2862	4520	1244	4398	1748	1591
2001	89375	9027	5973	19921	20159	5859	3478	5743	3266	5158	1480	5252	2113	1947
2002	100892	9740	6489	21669	22760	6691	4003	6638	3793	5992	1780	6343	2583	2411
2003	116722	10705	7195	24064	26301	7826	4723	7862	4523	7147	2198	7873	3244	3062
2004	135137	11826	8019	26859	30425	9151	5564	9291	5369	8485	2681	9643	4008	3816
2005	*126756*	*12910*	*8814*	*29555*	*34413*	*0*	*0*	*10672*	*6184*	*9774*	*3133*	*11301*	*0*	*0*
2006	150980	14740	10170	34166	41169	0	0	13026	7586	11991	3923	14209	0	0
2007	179911	16924	11792	39681	49238	0	0	15842	9255	14631	4864	17684	0	0
2008	186161	17407	12132	40826	51012	0	0	16443	9608	15189	5072	18471	0	0
2009	193145	17941	12510	42101	52983	0	0	17113	10018	15838	5305	19337	0	0
2010	189632	17695	12299	41370	52071	0	0	16768	9805	15501	5191	18933	0	0
2011	180590	18353	12769	42959	54510	0	0	0	10305	16278	5466	19950	0	0
2012	181002	19913	13918	46860	60295	0	0	0	11499	0	6128	22388	0	0
2013	188922	20659	14453	48670	63072	0	0	0	12063	0	6446	23559	0	0
2014	207404	22385	15726	52992	69481	0	0	0	13387	0	7179	26255	0	0
2015	141385	22954	16124	54320	0	0	0	0	13725	0	7356	26906	0	0
2016	61662	23528	16527	0	0	0	0	0	14068	0	7540	0	0	0
2017	41056	24116	16940	0	0	0	0	0	0	0	0	0	0	0
2018	42082	24719	17363	0	0	0	0	0	0	0	0	0	0	0
2019	43134	25337	17797	0	0	0	0	0	0	0	0	0	0	0
2020	44213	25970	18242	0	0	0	0	0	0	0	0	0	0	0
2021	45318	26620	18698	0	0	0	0	0	0	0	0	0	0	0
2022	46451	27285	19166	0	0	0	0	0	0	0	0	0	0	0
2023	47612	27967	19645	0	0	0	0	0	0	0	0	0	0	0
2024	48802	28666	20136	0	0	0	0	0	0	0	0	0	0	0
2025	50023	29383	20639	0	0	0	0	0	0	0	0	0	0	0
2026	51273	30118	21155	0	0	0	0	0	0	0	0	0	0	0
2027	52555	30871	21684	0	0	0	0	0	0	0	0	0	0	0
2028	53869	31642	22226	0	0	0	0	0	0	0	0	0	0	0
2029	55216	32433	22782	0	0	0	0	0	0	0	0	0	0	0

								Cheswick
		Total	Nox	Sox	Non-Fuel	Ovhd,		Nox
		Em.	Emissions	Emissions	O&M	Alloc.		Emmission
2006	149550	30.64	18.91	11.73	149.55	60.78		8.24
2007	147640	32.97	20.15	12.82	147.64	63.21		8.17
2008	159910	36.16	21.96	14.20	159.91	65.40		9.60
2009	163800	36.71	22.19	14.52	163.80	67.97		9.34
2010	160120	36.38	21.75	14.63	160.12	70.36		7.63
2011	165980	38.33	22.71	15.62	165.98	65.68		10.85
2012	150120	29.62	20.97	8.65	150.12	61.19		10.87
2013	141100	30.15	21.50	8.65	141.10	63.09		10.49
2014	158500	34.08	23.50	10.58	158.50	65.43		12.08
2015	118640	11.76	12.90	-1.14	118.64	43.59		
2016	62680	5.75	6.35	-0.60	62.68	18.01		
2017	65420	3.45	3.91	-0.46	65.42	16.41		
2018	57090	4.21	4.66	-0.45	57.09	17.07		
2019	68540	4.32	4.81	-0.49	68.54	17.77		
2020	57840	0.00	0.00	0.00	57.84	13.90		
2021	59240	0.00	0.00	0.00	59.24	14.47		
2022	60050	0.00	0.00	0.00	60.05	15.06		
2023	66760	0.00	0.00	0.00	66.76	15.66		
2024	56660	0.00	0.00	0.00	56.66	16.30		
2025	69140	0.00	0.00	0.00	69.14	16.97		
2026	64800	0.00	0.00	0.00	64.80	17.66		
2027	66420	0.00	0.00	0.00	66.42	18.10		
2028	68081	0.00	0.00	0.00	68.08	18.55		
2029	69783	0.00	0.00	0.00	69.78	19.02		
2030	0	0.00	0.00	0.00	0.00	0.00		
2031	0	0.00	0.00	0.00	0.00	0.00		
2032	0	0.00	0.00	0.00	0.00	0.00		
2033	0	0.00	0.00	0.00	0.00	0.00		
2034	0	0.00	0.00	0.00	0.00	0.00		
2035	0	0.00	0.00	0.00	0.00	0.00		
2036	0	0.00	0.00	0.00	0.00	0.00		
2037	0	0.00	0.00	0.00	0.00	0.00		
2038	0	0.00	0.00	0.00	0.00	0.00		
2039	0	0.00	0.00	0.00	0.00	0.00		
2040	0	0.00	0.00	0.00	0.00	0.00		
2041	0	0.00	0.00	0.00	0.00	0.00		
2042	0	0.00	0.00	0.00	0.00	0.00		
2043	0	0.00	0.00	0.00	0.00	0.00		

				Sammis				
Sox	Non-Fuel	Allocation		Nox	Sox	Non-Fuel	Allocation	
Emmission	O&M	of Overhead		Emmission	Emmission	O&M	of Overhead	
6.16	22.14	16.73		2.05	0.98	8.58	5.69	
6.23	24.14	17.26		1.77	0.66	11.64	6.28	
7.64	24.54	18.61		2.24	1.14	9.20	6.14	
7.69	23.47	19.02		2.15	1.02	8.88	6.13	
6.64	35.96	21.48		2.39	1.27	9.22	6.63	
9.49	26.04	20.99						
9.68	25.28	21.40						
9.71	27.50	22.63						
11.70	27.76	23.68						

Easlake					Elrama			
Nox	Sox	Non-Fuel	Allocation		Nox	Sox	Non-Fuel	Allocation
Emmission	Emmission	O&M	of Overhead		Emmission	Emmission	O&M	of Overhea
1.05	5.26	8.14	5.25					
1.24	6.57	8.86	5.87					
1.14	6.12	9.05	5.43					
1.19	6.57	8.68	5.60					
1.30	7.51	10.14	6.34					
1.20	7.00	10.31	5.81					

	Mansfield 1				Mansfield 2		
	Nox	*Sox*	*Non-Fuel*	*Allocation*	*Nox*	*Sox*	*Non-Fuel*
	Emmission	Emmission	O&M	of Overhead	Emmission	Emmission	O&M
	3.36	-0.39	10.35	5.89	1.38	-0.10	2.27
	5.02	-0.31	8.71	6.66	1.00	-0.14	2.98
	5.23	-0.33	8.29	6.64	1.50	-0.11	2.28
	4.76	-0.41	10.51	7.10	1.56	-0.12	2.99
	5.67	-0.39	9.61	7.29	1.43	-0.15	2.53
	5.92	-0.43	9.94	7.39	1.70	-0.15	2.73
	4.68	-0.58	11.94	7.51	1.78	-0.16	2.78
	5.94	-0.53	9.67	8.00	1.29	-0.22	3.18
	6.70	-0.53	9.28	8.19	1.92	-0.18	2.56
	6.86	-0.58	12.92	9.42	2.00	-0.20	3.58
					2.05	-0.22	3.20

		Mansfield 3					Brunot Island	
Allocation		Nox	Sox	Non-Fuel	Allocation		Nox	Sox
of Overhead		Emmission	Emmission	O&M	of Overhead		Emmission	Emmission
1.75		2.83	-0.18	4.01	3.09		0.00	0.00
1.71		2.95	-0.19	4.23	3.29		0.00	0.00
1.81		2.25	-0.26	4.95	3.02		0.00	0.00
2.00		3.19	-0.23	5.28	3.54		0.00	0.00
1.97		3.33	-0.25	4.66	3.60		0.00	0.00
2.02		3.04	-0.29	4.63	3.51		0.00	0.00
2.18		3.64	-0.29	4.90	3.84		0.00	0.00
2.11		3.78	-0.31	4.42	4.11			
2.24		2.80	-0.41	5.62	3.67			
2.62		4.04	-0.36	6.37	4.61			
2.16		4.30	-0.38	5.74	3.93			
		3.91	-0.46	5.55	3.82			
		4.66	-0.45	6.21	4.43			
		4.81	-0.49	6.33	4.30			

			Beaver Valley 1					Beaver Vall
Non-Fuel	Allocation		Nox	Sox	Non-Fuel	Allocation		Nox
O&M	of Overhead		Emmission	Emmission	O&M	of Overhead		Emmission
1.43	0.65		0.00	0.00	51.06	11.64		0.00
1.44	0.68		0.00	0.00	35.80	9.93		0.00
1.47	0.68		0.00	0.00	53.46	12.14		0.00
1.48	0.70		0.00	0.00	54.70	12.57		0.00
1.51	0.72		0.00	0.00	38.20	10.66		0.00
1.51	0.72		0.00	0.00	57.29	13.05		0.00
0.70	0.61		0.00	0.00	58.65	13.90		0.00
			0.00	0.00	40.79	12.27		0.00
			0.00	0.00	61.46	14.71		0.00
			0.00	0.00	42.62	12.92		0.00
								0.00
								0.00
								0.00
								0.00
								0.00
								0.00
								0.00
								0.00
								0.00
								0.00
								0.00

ey 2				Perry				
Sox	Non-Fuel	Allocation		Nox	Sox	Non-Fuel	Allocation	
Emmission	O&M	of Overhead		Emmission	Emmission	O&M	of Overhead	
0.00	9.76	3.26		0.00	0.00	31.81	6.83	
0.00	13.62	3.91		0.00	0.00	36.22	7.62	
0.00	13.94	3.90		0.00	0.00	32.73	7.03	
0.00	10.44	3.52		0.00	0.00	37.37	7.79	
0.00	14.60	4.20		0.00	0.00	33.69	7.47	
0.00	14.95	4.20		0.00	0.00	38.58	7.99	
0.00	11.17	3.90		0.00	0.00	34.70	7.85	
0.00	15.68	4.85		0.00	0.00	39.86	9.12	
0.00	16.05	4.74		0.00	0.00	35.77	8.20	
0.00	11.95	4.47		0.00	0.00	41.20	9.55	
0.00	16.86	4.39		0.00	0.00	36.88	7.53	
0.00	17.26	4.42		0.00	0.00	42.61	8.17	
0.00	12.82	4.28		0.00	0.00	38.06	8.36	
0.00	18.11	4.77		0.00	0.00	44.10	8.70	
0.00	18.55	5.20		0.00	0.00	39.29	8.70	
0.00	13.73	4.72		0.00	0.00	45.51	9.75	
0.00	19.46	5.71		0.00	0.00	40.59	9.35	
0.00	19.93	5.69		0.00	0.00	46.83	9.97	
0.00	14.71	5.72		0.00	0.00	41.95	10.58	
0.00	20.91	6.26		0.00	0.00	48.23	10.71	
0.00	21.42	7.51		0.00	0.00	43.38	10.15	
	21.96	7.70				44.46	10.40	
	22.50	7.89				45.58	10.66	
	23.07	8.09				46.72	10.93	

DII STATEMENT NO. 3

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION, ET. AL.	)	
V.	)	
	)	DOCKET NO. R-00974104
DUQUESNE LIGHT COMPANY FOR APPROVAL OF ITS RESTRUCTURING PLAN UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE	)	

DIRECT TESTIMONY

AND EXHIBITS

OF

LANE KOLLEN

ON BEHALF OF THE

DUQUESNE INDUSTRIAL INTERVENORS

BOC Gases
General Motors Corp.
J&L Specialty Steel, Inc.
LTV Steel Company, Inc.
Nabisco Inc.
Nova Chemicals, Inc.
USX Corporation - US Steel Group

J. KENNEDY AND ASSOCIATES, INC.
ATLANTA, GEORGIA

NOVEMBER 1997

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION, ET. AL.	)	
	)	
V.	)	
	)	**DOCKET NO. R-00974104**
DUQUESNE LIGHT COMPANY FOR APPROVAL OF ITS RESTRUCTURING PLAN UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE	)	

TABLE OF CONTENTS

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION, ET. AL.	)	
V.	)	
	)	DOCKET NO. R-00974104
DUQUESNE LIGHT COMPANY FOR APPROVAL OF ITS RESTRUCTURING PLAN UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE	)	

DIRECT TESTIMONY OF LANE KOLLEN

I. QUALIFICATIONS AND SUMMARY

Q. Please state your name and business address.

A. My name is Lane Kollen. My business address is J. Kennedy and Associates, Inc. ("Kennedy and Associates"), 35 Glenlake Parkway, Suite 475, Atlanta, Georgia 30328.

Q. What is your occupation and by whom are you employed?

A. I am a utility rate and planning consultant holding the position of Vice President and Principal with the firm of Kennedy and Associates.

Q. Please describe your education and professional experience.

A. I received my Bachelor of Business Administration in Accounting from the University of Toledo. I also received a Master of Business Administration from the University of Toledo. I am a Certified Management Accountant ("CMA") and a Certified Public Accountant ("CPA").

Since 1986, I have held various positions with Kennedy and Associates. I specialize in revenue requirements analyses, taxes, the evaluation of rate and financial impacts of traditional and non-traditional ratemaking, and other utility strategic, operational, financial, and accounting issues.

From 1983 to 1986, I held various positions with the consulting group at Energy Management Associates. I specialized in utility finance, utility accounting issues, and computer financial modeling. I also directed consulting and software projects utilizing PROSCREEN II and ACUMEN proprietary software products to support utility rate case filings, budgets, internal management and external reporting, and strategic and financial analyses.

From 1976 to 1983, I held various positions with The Toledo Edison Company in the Accounting and Corporate Planning Divisions. From 1980 to 1983, I was responsible for the Company's financial modeling and financial evaluation of the Company's strategic plans. In addition, I was responsible for the preparation of the capital

budget, various forecast filings with regulatory agencies, and assistance in rate and other strategy formulation. I utilized the strategic planning model PROSCREEN II, the production costing model, PROMOD III, and other software products to evaluate capacity swaps, sales, sale/leasebacks, cancellations, write-offs, unit power sales, and long term system sales, among other strategic options. From 1976 to 1980, I held various other positions in the Budget and Accounting Reports, Property Accounting, Tax Accounting, and Internal Audit sections of the Accounting Division.

I have appeared as an expert witness on regulatory accounting, finance, and planning issues before regulatory commissions and courts in numerous states on more than one hundred occasions. I have appeared as an expert witness before the Pennsylvania Public Utility Commission in Docket Nos. M-87017-1C001, M-87017-2C005, R-891364, P-910511, P-910512, R-922314, R-922378, R-922479, R-943271, R-973877, R-973953, R-973954, R-974008, and R-974009. In addition, I have developed and presented papers at various industry conferences on utility rate, accounting, and tax issues. My qualifications and regulatory appearances are further detailed in my Exhibit ____(LK-1).

Q. Please describe the firm of Kennedy and Associates.

A. Kennedy and Associates provides consulting services in the electric, gas, and telecommunications utilities industries. The firm provides expertise in utility industry restructuring and transition issues, financial analysis, revenue requirements, cost of

service, rate design, system planning and load forecasting. Clients include industrial electricity and gas consumers and state government agencies.

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of the Duquesne Industrial Intervenors ("DII"), a group of large industrial customers taking service on the Duquesne Light Company ("DLC" or "Company") system.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is:

- To address and make recommendations regarding the treatment of regulatory assets and liabilities included by DLC in its filing as stranded cost components of the competitive transition charge ("CTC").
- To address and make recommendations regarding the appropriate level of fossil decommissioning included by DLC as a stranded cost component of the CTC.
- To address and make recommendations regarding the appropriate level of nuclear decommissioning includable as a stranded cost component of the CTC.
- To address and make recommendations regarding securitization of the Company's stranded costs.

Q. Please summarize your testimony.

A. The following table summarizes the DII recommendations compared to DLC's request in this proceeding for recovery of its regulatory assets and liabilities and transition costs through the CTC. These amounts were also provided to DII witness Mr. Baron for his summary and computations related to the complete quantification of DLC stranded costs and the structure and timing of recovery. The DII amounts represent the net present value at December 31, 1998 of each properly recoverable stranded cost on a total Company basis, except as noted. These amounts are jurisdictionalized in the aggregate by DII witness Mr. Baron.

DUQUESNE LIGHT COMPANY
REGULATORY ASSETS/(LIABILITIES)
AND TRANSITION COSTS
TOTAL COMPANY
SUMMARY
($Million)

	Duquesne Claim @12/31/98	DII Recomm. @12/31/98	Diff. @12/31/98	
Regulatory Tax Receivable	236.480	236.480	0.000	(1)
PV Beaver Valley Lease	227.780	227.780	0.000	(1)
Gain on Sale/Leaseback	55.130	55.130	0.000	(1)
FAS 109 Plant	62.940	0.000	(62.940)	
Unamortized Debt Costs	50.980	0.000	(50.980)	
BV2 Sale/Leaseback Premium	30.060	0.000	(30.060)	
Pre-Accrue Nuclear Outages	22.650	0.000	(22.650)	
Deferred Employee Costs	17.800	0.000	(17.800)	
Deferred Coal Costs	13.500	0.000	(13.500)	
Deferred Caretaker Costs	6.770	0.000	(6.770)	
FAS 106	4.220	0.000	(4.220)	
Deferred Rate Synch Costs	33.430	24.870	(8.560)	
Deferred Fuel Cost	14.810	14.810	0.000	(1)
Other Regulatory Assets	15.940	15.940	0.000	(1)
Total Regulatory Assets/(Liabilities)	792.490	575.010	(217.480)	
Transition Costs	18.100	9.800	(8.300)	

Notes: (1) DII has not addressed these issues. DII does not affirmatively support these "other" DLC issues or DLC's quantifications. These amounts are stated on a nominal dollar basis.

Q. What general principles guided your evaluation of DLC's request for stranded regulatory assets and liabilities?

A. The following general principles, grounded in regulatory theory and incorporated in the Electricity Generation Customer Choice and Competition Act (the "Competition Act"), guided my evaluation:

- The costs must be electric generation related.
- The costs must represent those that would otherwise be recoverable as a cost of service under traditional regulation.
- The costs must be known and measurable.
- Only the net of regulatory assets and liabilities is recoverable.
- The net regulatory assets must be stated on a net present value basis.
- The resulting rates must be just and reasonable.

The provisions of the Competition Act that I have relied upon for these principles are as follows:

> **2803. Definitions. " 'Transition or stranded costs.' An electric utility's known and measurable net electric generation-related costs, determined on a net present value basis over the life of the asset or liability as part of its restructuring plan, which traditionally would be recoverable under a regulated environment but which may not be recoverable in a competitive electric generation market and which the Commission determines will remain following mitigation by the electric utility. This term includes:**
>
> > **(1) Regulatory assets and other deferred charges typically recoverable under current regulatory practice, the unfunded portion of the utility's projected nuclear generating plant decommissioning costs and cost obligations under contracts with nonutility generating projects which have received a Commission order, the recoverability of which shall be determined under §2808(C)(1) (relating to Competitive Transition Charge)."**

§2804(13). "Consistent with Section 2808 (relating to Competitive Transition Charge), the Commission has the power and duty to approve a Competitive Transition Charge for the recovery of transition or stranded costs it determines to be just and reasonable to recover from ratepayers."

§2808(C). Determination of Competitive Transition Charge. "In determining the level of transition or stranded costs that an electric utility may recover through the Competitive Transition Charge, the Commission shall apply the following principles:

(1) The Commission shall allow recovery of regulatory assets and other deferred charges typically recoverable under current regulatory practice . . .

(3) The Commission shall determine the level of other generation-related transition or stranded costs that may be recovered through the Competitive Transition Charge."

Q. How is the remainder of your testimony structured?

A. The remainder of my testimony follows the sequence of the issues listed on the preceding summary table that compares DII recommendations to those in DLC's filing.

I also address the future fossil decommissioning payments reflected in the Company's market value and generation stranded cost quantifications and recommend that the Commission reject the Company's claim.

In addition, I address the nuclear decommissioning amounts sought by the Company as a stranded cost recoverable through the CTC. I recommend that the nuclear decommissioning liability quantification of DII on a net present value basis at December 31, 1998 be adopted by the Commission and allowed recovery through the CTC.

Finally, I recommend that the Commission insist that DLC pursue securitization of its stranded costs as a means of minimizing CTC recovery in accordance with the provisions of the Competition Act.

II. REGULATORY ASSETS

SFAS 109 Plant

Q. Please describe the Company's request for an FAS 109 net plant regulatory asset.

A. The Company has reclassified the FAS 109 related asset for Perry and Beaver Valley 1 from plant in service to a regulatory asset. Duquesne has reflected this regulatory asset of $62.940 million at December 31, 1998 in its filing as detailed on page 2 of 20 on Exhibit DJC-4. That amount is also footnoted on the referenced exhibit as being "reflected in the generating plant balance through 12/31/98."

Q. Is it appropriate to allow the FAS 109 regulatory asset as a stranded regulatory asset?

A. No. The Company did not reflect this reclassification of its plant in service costs in its net book value amounts on pages 29 and 30 of 67 of Exhibit DJC-3 (Revised) until 1999. Thus, at December 31, 1998, the Company's quantifications included this $62.940 million both in plant in service and as a regulatory asset. I have replicated

the referenced pages from Exhibit DJC-3 (Revised) and Exhibit DJC-4 (Revised) as my Exhibit___(LK-2) for reference purposes.

Q. How has DII treated the FAS 109 net plant regulatory asset?

A. DII witness Mr. Falkenberg has included the FAS 109 asset in the December 31, 1998 net book value utilized in the DII quantification of generation stranded costs. I have eliminated the FAS 109 asset from the Company's claimed regulatory assets. Thus, DII has included the FAS 109 asset only once in its quantifications of stranded costs.

Unamortized Debt Costs and BV2 Sale/Lease Premium

Q. Please describe the Company's request for recovery of unamortized debt costs and the Beaver Valley 2 sale/leaseback refinancing premium.

A. The Company has requested $50.980 million in unamortized debt costs and $30.060 million in unamortized Beaver Valley 2 refinancing premium at December 31, 1998 as a regulatory asset.

Q. How does the Company currently recover its unamortized debt costs?

A. The Company currently recovers these costs as a cost of debt. The unamortized losses, debt discount, and issuance expenses are utilized to reduce the debt capitalization component and the amortization of these amounts are included in interest expense, both of which serve to increase the cost of debt and provide for the full recovery of and on these costs.

Q. Has the Company reduced its cost of debt in this filing to remove the higher interest associated with the unamortized debt costs?

A. No. The Company stated in response to discovery that it had not reduced its cost of debt as follows.

> **"Historically the Company has included reacquisition premiums and debt issuance costs as well as the cost of carrying these items in its cost of debt. In the Company's calculations in this proceeding these amounts are continued to be included in the Company's claimed cost of debt."** (OCA I-9).

Q. What effect does the failure of the Company to reduce its cost of debt have on its stranded cost claim?

A. The effect of including these costs in the Company's weighted cost of capital and discount rate, both of which are higher than if the costs were excluded, is to increase the generation stranded cost by reducing the net present value of the future contribution margins. Thus, the unamortized debt costs are fully recovered as a generation stranded cost. Additional recovery as a regulatory asset is clearly inappropriate.

Q. How does the Company currently recover its unamortized Beaver Valley 2 sale/leaseback refinancing premium?

A. The Company currently recovers these costs as an operating expense. The amortization of the refinancing premiums is included in the Beaver Valley 2 lease expense recognized and recovered by the Company.

Q. Has the Company reduced its Beaver Valley 2 lease expense in this filing to remove the higher lease expense associated with the unamortized refinancing premiums?

A. No. The Beaver Valley 2 operating expenses detailed on page 8 of 67 of Exhibit DJC-3 (Revised) include the full lease expense through the year 2005 on the line item "Non-Production Expenses." The net present value of the Beaver Valley lease payments at December 31, 1998 included by the Company as a regulatory asset also appear to include the amortization of the Beaver Valley 2 lease refinancing premiums.

Q. What effect does the Company's inclusion of the Beaver Valley 2 lease refinancing premium in the lease expense through 2005 and in the net present value of the future lease payments in addition to including the costs as a regulatory asset have on its stranded cost claim?

A. The effect of improperly including these costs both in the generation stranded cost quantification and as a regulatory asset is an excessive quantification of stranded costs.

Q. How has DII treated the Beaver Valley 2 sale/leaseback refinancing premiums?

A. DII witness Mr. Falkenberg has incorporated the full Beaver Valley lease expense for the years 1999-2005 in the DII quantification of generation stranded costs. I have included the remaining years costs in the net present value of the Beaver Valley 2 lease payments regulatory asset. I have eliminated both balances of Beaver Valley

2 sale/leaseback refinancing premiums included on page 2 of 67 of Exhibit DJC-4 (Revised). Thus, the DII quantifications of stranded costs incorporate this cost only once.

Pre-Accrued Nuclear Outages

Q. Please describe the Company's request for recovery of pre-accrued nuclear outages as a regulatory asset.

A. The Company has proposed to change its accounting for nuclear refueling and maintenance outages effective on January 1, 1999. Currently, it accrues its outage costs during an outage and amortizes those costs in arrears prior to the commencement of the next refueling and maintenance outage. The change would be to recognize the projected costs of the next outage before its occurrence with amortizations to expense preceding the commencement of the next outage. The Company claims that its request is based upon advice received in 1993 from its auditors that this method of accounting would be preferable to the existing accounting.

Q. Is it appropriate to allow this claim for pre-accrued nuclear outage costs as a regulatory asset?

A. No. First, any deferrals or pre-accruals for outage costs no longer will be allowed under Generally Accepted Accounting Principles after the transition period to competition and rates for electricity suppliers are set by the market. Deferrals and pre-accruals are solely a function of SFAS 71, which provides special regulatory accounting dispensation to utilities whose prices are established by a regulatory agency on the basis of costs. That situation will no longer exist once Duquesne's generation is subject to market pricing. Thus, this request by the Company is fundamentally in opposition to future reality and should be rejected.

Second, the Company's request would be zero if it had been computed properly. A return on any pre-accruals for outage costs should be provided to ratepayers for the advancement of funds either as a reduction to rate base or as a reduction to cash working capital requirements. In addition, in the last year of the nuclear units' lives, this pre-accrual will reverse, thus providing the ratepayers a return of the amounts advanced to the Company. Because the ratepayers are entitled to both a return on and of any pre-accrued nuclear outage costs, the net present value of the pre-accrual should be zero.

Deferred Employee Costs

Q. Please describe the Company's request for deferred employee costs.

A. The Company has requested recovery of $17.800 million in deferred injuries and damages and deferred compensated absences at December 31, 1998.

Q. Is it appropriate to allow these claims as regulatory assets?

A. No. First, these deferrals will reverse in the future. The deferrals represent the difference in prior years between the cash recognition of injuries and damages and compensated absences for regulatory purposes and the accrual recognition of these costs for book accounting purposes. At some point, the cash recognition necessarily exceeds the accrual recognition of these costs. Differences between accrual and cash recognition of expenses are only a matter of timing, by definition. This fact was acknowledged by the Company in response to discovery questioning why the accrual for injuries and damages expense necessarily exceeds the cash basis expense, as Duquesne witness Mr. O'Brien claimed in his direct testimony.

> **"The accrual for injuries and damages expense does <u>not</u> necessarily exceed the cash basis expense."** (OCA I-11).

Second, the Company's generation stranded costs are predicated upon projections of expenses that are based upon the accrual levels of injuries and damages and compensated absences inflated each year into the future. Under the Company's generation stranded cost approach, it presumably will collect more each year for injuries and damages and compensated absences than it will pay out, which is reflected in a lower market value and higher generation stranded costs. The Company failed to provide a return benefit to ratepayers on the amounts collected in excess of cash payments in each of those future years. Thus, the Company's approach results in improper and excessive recovery through excessive generation stranded costs, an issue which DII has not otherwise addressed but which bears directly on the Company's request for these employee costs as a regulatory asset.

These facts lead to the conclusion that this claim must be rejected. There is no valid regulatory asset claim for deferred injuries and damages and compensated absences.

Deferred Coal

Q. Please describe the Company's claim for deferred coal costs.

A. The Company has claimed as a regulatory asset $13.500 million in deferred coal costs representing above market costs that the Commission allowed the Company to defer

and to contingently recover only if its future coal costs were below market. A more detailed description of the Commission's order authorizing the deferral of these costs is included in the Company's first quarter 1997 SEC 10-Q. The Company describes the fact that these deferrals represent above market costs which were not allowed current recovery by the Commission, and the contingent bases for future recovery. I have replicated the relevant pages from the Company's first quarter 1997 10-Q as my Exhibit___(LK-3).

Q. Is it appropriate to allow recovery of this claim for deferred coal costs as a regulatory asset?

A. No. First, the Company's request would require the Commission now to allow recovery of costs that were deemed in the past to be excessive and nonrecoverable through then current rates. Nothing has changed to make these costs recoverable. The fact remains that the Company has not met the Commission's requirements for ratemaking recovery. The Competition Act does not change that fact. There simply is no basis for the Company's claim.

Second, the only rationale that could support the Company's claim is that it projects that it will have below market coal costs in the future. There has been no evidence to that effect offered by the Company in this proceeding. Further, there is no

evidence that the Company's coal costs utilized in its quantifications of generation stranded costs were below market.

Deferred Caretaker Costs

Q. Please describe the Company's request for deferred caretaker costs.

A. The Company has requested $6.770 million in costs for maintaining its cold reserve generating units allowed for deferral by the Commission in Docket P-900485. Company witness Mr. Morgan O'Brien claims this deferral will be stranded do to the fact that "With restructuring, these plants will be 'deregulated' and Duquesne will never be able to recover the costs of preserving the plants for future needs . . . " (Direct Testimony, page 14).

Q. Is it appropriate to allow recovery of the Company's claim for deferred caretaker costs as a regulatory asset?

A. No. First, the recovery of these costs was never guaranteed, only the right to seek recovery. Second, the Company could only seek recovery upon the return to service of the cold reserve Philips and Brunot Island generating units. DLC asserts that it has no current plans to return these units to service, according to a response to

discovery. See OCA III-42. The Company's request does not meet the Commission's stated requirements. Third, the Company has provided no evidence in its filing that the return to service of the cold reserve units is or will be uneconomic.

SFAS 106

Q. Please describe the Company's request for recovery of SFAS 106 costs as a regulatory asset.

A. Based on the testimony of Duquesne witness O'Brien, these costs apparently represent the effects of accelerating the amortization of the SFAS 106 transition obligation over the seven year CTC period rather than the original twenty year amortization period.

Q. Does the SFAS 106 transition obligation or any portion of it represent a stranded cost eligible for recovery as a regulatory asset?

A. No. Recovery of any level of SFAS 106 costs in excess of cash pay as you go represents a prepayment by the ratepayers of cash years before it will be paid out in the form of benefits to retirees. At some time in the future, cash payments will actually exceed SFAS 106 levels. However, the amounts precollected from

ratepayers will continue to earn either the Company's overall return if not deposited in an external trust fund, or the fund's overall return if deposited in an external trust fund. In any event, these earnings will serve to reduce future years' SFAS 106 expense either directly or indirectly through enhanced returns to shareholders due to avoided external financing. Thus, any recognition of SFAS 106 in stranded costs must of necessity be a regulatory liability for the net present value of the future carrying charges that are owed to ratepayers.

Q. What is your recommendation regarding the recognition of the claimed SFAS 106 regulatory asset?

A. I recommend that this claim be rejected. It has no conceptual foundation. If anything, there should be an SFAS 106 regulatory liability due to the prepayment by ratepayers of SFAS 106 costs prior to the Company's cash payments for these costs decades from today.

Deferred Rate Synchronization Costs

Q. Please describe the Company's request for deferred rate synchronization costs.

A. The Company has requested explicit recognition as a regulatory asset the $33.430 million in deferred early window costs associated with Beaver Valley 2 and Perry in nominal dollars at December 31, 1998. Under the Ft. Martin sale agreement, approved by the Commission, Duquesne agreed to writeoff $9.000 million of these deferred costs in 1996 and to amortize the residual over the ten year period ending in 2006 with no return on the unamortized balance.

Q. Is the Company's claim correctly quantified?

A. No. Because the Company was not allowed a return on the unamortized deferred rate synchronization costs, the regulatory asset should not be valued at the nominal amount at December 31, 1998, but rather should be valued at the net present value over the remaining eight year amortization period.

Q. Have you correctly quantified the deferred rate synchronization regulatory asset at December 31, 1998?

A. Yes. I have computed the net present value of the future eight years of amortizations at the Company's after tax discount rate. The computations are detailed on my Exhibit___(LK-4).

III. TRANSITION COSTS

Q. Please describe the Company's request for transition costs.

A. The Company has requested $18.200 million in transition costs consisting of $2.500 million in pilot implementation expense $2.000 million in customer education, $1.000 million in restructuring filing expense, $8.300 million in restructuring implementation expense and $4.400 million in deferred pilot program costs.

Q. Please describe the restructuring implementation expense.

A. The DLC implementation plan for revenue cycle services is described by DLC witness Fred Allison. These services will revolve around a new information processing and communications network termed CARS. In January 1996, DLC contracted with the vendor of CARS for the implementation and operation of this system for fifteen years.

Q. Is it appropriate to allow the recovery of the restructuring implementation expense as a transition cost in this proceeding?

A. No. First, the Company already had contracted with the vendor of CARS nearly one year before the effective date of the Competition Act. Thus, although the implementation of CARS will enable the Company to fulfill certain of the mandates of the Competition Act, its implementation was already assured.

Second, the CARS system provides numerous enhanced customer services. Again, DLC made the decision to proceed with this implementation to improve its customer service, reduce costs, and improve reliability.

Third, Company witness Fred Allison claims that the implementation of CARS will not result in higher costs for the ratepayers, in fact stating that the "costs of the service agreement for each year and over the fifteen year term are offset by cost reductions associated with base operations, customer choice, improved reliability and enhanced base services." (Direct Testimony, pages 7 and 8).

IV. FOSSIL DECOMMISSIONING

Q. Please describe the Company's request for recovery of fossil decommissioning costs.

A. The Company has included the projected costs of decommissioning its fossil generating units in the market valuation and generation stranded cost quantifications. It has done so by relying upon three studies, covering the Company's fossil generating units (except Phillips), performed for DLC by TLG Services. DLC witness Mr. Donald Clayton utilized the cost estimates from these studies to develop future annual cash payments, which were discounted to December 31, 2005 and included in the Company's projection of stranded costs at that date.

Q. Are fossil decommissioning studies, such as the ones performed by TLG Services and relied upon by the Company, objective studies of certain future costs?

A. No. To the contrary, fossil decommissioning studies are the result of assumptions premised upon assumptions. As such, they are inherently speculative and uncertain. One fundamental assumption underlying such studies, and upon which are premised other assumptions, is that the Company's generating facilities actually will be retired permanently, dismantled, and the sites restored while under the ownership and control

of the utility. DLC has made no such commitments in this proceeding. TLG Services simply has taken this assumption, along with others, to compute the "what-if" costs of decommissioning. The result is illusory at best.

A second fundamental assumption is that the Company's generating facilities actually will be retired at the dates indicated in the study. DLC has made no commitments in this proceeding actually to retire its units on the study's assumed schedule in this proceeding. Historical experience throughout the utility industry has demonstrated that appropriate maintenance policies, capital expenditures for replacements and life extension, and repowering result in extended operating lives for generating facilities.

A third fundamental assumption is the projection of the costs necessary to fully dismantle the generating facilities and to restore the sites. It is clear that this is a matter of significant uncertainty, completely dependent upon numerous assumptions of the need for and extent of dismantling, along with the technology that will be available and the related individual costs projected for decades into the future. To "address" the uncertainty in this third fundamental assumption, TLG Services apparently felt compelled to add a series of "contingency" factors, to its base estimates. Even casual observers would note that adding amounts to already uncertain amounts does nothing to decrease the inherent uncertainty, but rather does

everything to increase the projected recovery amounts to even higher levels, the latter with certainty.

The Company's fossil decommissioning request and the underlying studies cannot be considered an objective and certain projection of future costs. Instead, it is highly speculative and uncertain by its very nature.

Q. Has the Commission recognized the speculative and uncertain nature of projected fossil decommissioning costs in rejecting these costs in previous ratemaking proceedings?

A. Yes. The Commission has consistently rejected projected fossil decommissioning costs based upon the argument that such costs are inherently speculative and uncertain. Thus, because the costs are not known and measurable, they are not recoverable. Fossil decommissioning costs have not been allowed by the Commission unless and until they are actually incurred, thereby meeting the known and measurable criterion.

In its Docket No. R-00942986 Order dated December 29, 1994 (West Penn base ratemaking proceeding), the Commission articulated this argument very clearly as follows.

> **"Consequently, we reject the Company's claim because of its uncertain and speculative nature and because this claim is patently counter to existing precedent."** (Pennsylvania Public Utility Commission v. West Penn Power Company, Docket No. R-00942986 (December 29, 1994), slip op. at 63).

Q. Has the issue of ratemaking recovery of prospective decommissioning costs been addressed by the courts?

A. Yes. For several decades, the Commission consistently has not allowed the ratemaking recovery of projected fossil decommissioning costs in stated reliance upon the Penn-Sheraton court decision, which precluded recovery of projected, prospective negative salvage.

The court in the Penn-Sheraton case stated the following.

> **"It is clear in our law that 'In no event will a utility be permitted to recover by annual allowances for depreciation a total amount in excess of the original cost, since annual depreciation is computed on original cost and not upon fair value or reproduction cost.'"**
>
> **". . . Negative salvage attributed to existing plant is purely prospective; it is a cost which has not yet been incurred; it is uncertain when and if it will be incurred; and it is not a part of the original cost of construction of the facilities when first devoted to public service. To permit the recovery of prospective negative salvage is to permit the recovery of a total amount in excess of the original cost of construction prior to the actual expenditure of those costs and, in our opinion, represents the recovery of**

> **something in the nature of a future reproduction cost. The established law in this Commonwealth does not permit the recovery by annual depreciation of any such prospective excess."** (Penn Sheraton Hotel v. Pennsylvania Public Utility Commission, 198 Pa. Super. 618, 184 A.2d 324 (1962)).

Q. What is your recommendation regarding the projected fossil decommissioning costs included by the Company in its stranded cost quantification?

A. I recommend that the Commission not allow this claim. First, DLC's claim fails to meet the statutory requirements for regulatory assets, although the Company was careful not to characterize its request for projected fossil decommissioning as a regulatory asset. Nevertheless, the projected costs are not known and measurable, nor is there even a modicum of certainty. Second, the costs would not be recoverable under traditional regulation unless and until actually incurred, and even then the costs would be recovered in arrears based on a five year historical average.

Q. How has DII reflected your recommendation in its quantification of stranded costs?

A. DII witness Mr. Falkenberg has relied upon my recommendation and reflected no future annual fossil decommissioning cost accruals in his quantifications of market value and generation stranded costs.

V. NUCLEAR DECOMMISSIONING

Q. Please describe the Company's request for recovery of nuclear decommissioning costs.

A. The Company's request for nuclear decommissioning costs consists of two components tied to its two part stranded cost CTC recovery proposal. The first component consists of Beaver Valley 1 and 2 and Perry decommissioning accruals which under DLC's proposal, are continued at currently authorized levels and then summed for the seven years of CTC recovery.

The second component is the net present value at December 31, 2005 of the additional nuclear decommissioning accruals remaining after summing the seven years of CTC recovery at current recovery levels.

Q. Has the Company properly computed its claim for nuclear decommissioning at December 31, 1998?

A. No. First, it has not quantified its claim at December 31, 1998 in its filing. Second the Company's computations on Exhibit DLC-7 fail to incorporate trust fund earnings on the amounts collected through 2005 or subsequent to 2005 under DLC's CTC

proposal. Thus the Company's recovery of this cost is improperly computed and excessive.

Q. Have you quantified the total nuclear decommissioning stranded cost for Beaver Valley 1 and 2 and Perry at December 31, 1998?

A. Yes. The total net present values of the nuclear decommissioning costs for Beaver Valley 1, Beaver Valley 2, and Perry at December 31, 1998 are $16.438 million, $8.137 million, and $18.384 million, respectively. To compute the total stranded decommissioning cost, I utilized the Company's decommissioning cost estimates for each unit in 1997 dollars, escalated those cost estimates to the year of retirement plus the number of years representing the midpoint between the retirement year and the end of the post-retirement disbursement period by 2.5% annually, incorporated returns on the trust fund balances of 7.5%, and assumed post-retirement earnings on the trust fund balance through the same year as I escalated the cost estimate. I then discounted the net future year deficiency for each unit to December 31, 1998 utilizing the Company's after tax cost of capital. The 2.5% cost escalation and 7.5% trust fund return assumptions were provided by the Company. The computations of the decommissioning stranded costs for each unit are detailed on my Exhibit ____(LK-5).

Q. Please summarize your recommendation on nuclear decommissioning costs.

A. I recommend that the Commission treat the total $42.959 million net present value of stranded nuclear decommissioning costs at December 31, 1998 for Beaver Valley 1 and 2 and Perry as a stranded cost for recovery through the CTC in compliance with the Competition Act.

VI. SECURITIZATION

Q. Does the Company plan to securitize its stranded costs?

A. Not at this time, according to DLC witness Donald Clayton. However, the Company "reserves the right to request securitization in a future proceeding."

Q. Has the Company cited any reasons in its filing for not securitizing its stranded costs?

A. Yes. The Company, through Mr. Clayton, asserts that there "is no economic basis to securitize because the Company has already restructured its finances to the point where its current debt costs are lower than the cost of issuing securitized debt. . ."

Q. Do you agree with the Company's rationale for rejecting securitization at this time?

A. No. The primary benefit from the Company's perspective is the ability to finance stranded costs at a lower rate than would be required under the utility's existing capital costs, which include common and preferred equity. The benefit of

securitization is an overall lower capital cost, not simply a savings, or lack of savings, on debt costs.

The second benefit from the Company's perspective is the ability to sell the intangible asset representing the right to recover stranded costs to a nonaffiliated third party, thereby relieving its financial statements of the stranded costs and related liabilities.

The primary benefit from the ratepayers's perspective is a lower CTC, resulting in either lower rates immediately coupled with a seven year CTC recovery period or a shorter CTC recovery period.

Q. Should the Commission incorporate the benefits of securitization in its determination of the level and duration of the CTC?

A. Yes. The Competition Act has established the legal framework for the securitization process. The Commission should insist that DCL utilize the securitization option to the maximum extent possible in order to mitigate and minimize the stranded cost recovery through CTC.

Securitization should be maximized to the extent it lowers the CTC once the Commission has determined the just and reasonable level of stranded costs.

Q. Is the issue of securitization relevant if the Commission determines that stranded costs for DLC are negative without securitization?

A. No. The issue of securitization is relevant only if the Commission determines that there are stranded costs recoverable through the CTC. In that case, the Commission must ensure that all reasonable and available options are employed to reduce the stranded cost level.

Q. Does this complete your testimony?

A. Yes.

DII STATEMENT NO. 3

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION, ET. AL.	)	
V.	)	
	)	DOCKET NO. R-00974104
DUQUESNE LIGHT COMPANY FOR APPROVAL OF ITS RESTRUCTURING PLAN UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE	)	

EXHIBITS

OF

LANE KOLLEN

ON BEHALF OF THE

DUQUESNE INDUSTRIAL INTERVENORS

BOC Gases
General Motors Corp.
J&L Specialty Steel, Inc.
LTV Steel Company, Inc.
Nabisco Inc.
Nova Chemicals, Inc.
USX Corporation - US Steel Group

J. KENNEDY AND ASSOCIATES, INC.
ATLANTA, GEORGIA

NOVEMBER 1997

RESUME OF LANE KOLLEN, VICE PRESIDENT

EDUCATION

University of Toledo, BBA
Accounting

University of Toledo, MBA

PROFESSIONAL CERTIFICATIONS

Certified Public Accountant (CPA)

Certified Management Accountant (CMA)

PROFESSIONAL AFFILIATIONS

American Institute of Certified Public Accountants

Georgia Society of Certified Public Accountants

Institute of Certified Management Accountants

Institute of Management Accountants

Seventeen years utility industry experience in the financial, rate, and planning areas. Specialization in revenue requirements analyses, taxes, evaluation of rate and financial impacts of traditional and nontraditional ratemaking, utility mergers/acquisition diversification. Expertise in proprietary and nonproprietary software systems used by utilities for budgeting, rate case support and strategic and financial planning.

RESUME OF LANE KOLLEN, VICE PRESIDENT

EXPERIENCE

1986 to Present: **Kennedy and Associates:** Vice President and Principal. Responsible for utility revenue requirements analysis, cash flow projections and solvency, financial and cash effects of traditional and nontraditional ratemaking, and research, speaking and writing on the effects of tax law changes. Testimony before Connecticut, Florida, Georgia, Indiana, Louisiana, Kentucky, Minnesota, North Carolina, Ohio, Pennsylvania, Texas, and West Virginia Public Service Commissions and the Federal Energy Regulatory Commission.

1983 to 1986: **Energy Management Associates:** Lead Consultant.
Consulting in the areas of strategic and financial planning, traditional and nontraditional ratemaking, rate case support and testimony, diversification and generation expansion planning. Directed consulting and software development projects utilizing PROSCREEN II and ACUMEN proprietary software products. Utilized ACUMEN detailed corporate simulation system, PROSCREEN II strategic planning system and other custom developed software to support utility rate case filings including test year revenue requirements, rate base, operating income and pro-forma adjustments. Also utilized these software products for revenue simulation, budget preparation and cost-of-service analyses.

1976 to 1983: **The Toledo Edison Company:** Planning Supervisor.
Responsible for financial planning activities including generation expansion planning, capital and expense budgeting, evaluation of tax law changes, rate case strategy and support and computerized financial modeling using proprietary and nonproprietary software products. Directed the modeling and evaluation of planning alternatives including:

- Rate phase-ins.
- Construction project cancellations and write-offs.
- Construction project delays.
- Capacity swaps.
- Financing alternatives.
- Competitive pricing for off-system sales.
- Sale/leasebacks.

RESUME OF LANE KOLLEN, VICE PRESIDENT

CLIENTS SERVED

Industrial Companies and Groups

Air Products and Chemicals, Inc.
Airco Industrial Gases
Alcan Aluminum
Armco Advanced Materials Co.
Armco Steel
Bethlehem Steel
Connecticut Industrial Energy Consumers
ELCON
Enron Gas Pipeline Company
Florida Industrial Power Users Group
General Electric Company
GPU Industrial Intervenors
Indiana Industrial Group
Industrial Consumers for
Fair Utility Rates - Indiana
Industrial Energy Consumers - Ohio
Kentucky Industrial Utility Consumers
Leheigh Valley Power Committee
Maryland Industrial Group
Multiple Intervenors (New York)
National Southwire
North Carolina Industrial
Energy Consumers
Occidental Chemical Corporation
Ohio Industrial Energy Consumers
Ohio Manufacturers Association
Philadelphia Area Industrial Energy
Users Group
PSI Industrial Group
Smith Cogeneration
Taconite Intervenors (Minnesota)
West Penn Power Industrial Intervenors
West Virginia Energy Users Group
Westvaco Corporation

Regulatory Commissions and Government Agencies

Georgia Public Service Commission Staff
Kentucky Attorney General's Office, Division of Consumer Protection
Louisiana Public Service Commission Staff
New York State Energy Office
Office of Public Utility Counsel (Texas)

RESUME OF LANE KOLLEN, VICE PRESIDENT

Utilities

Allegheny Power System
Atlantic City Electric Company
Carolina Power & Light Company
Cleveland Electric Illuminating Company
Delmarva Power & Light Company
Duquesne Light Company
General Public Utilities
Georgia Power Company
Middle South Services
Nevada Power Company
Niagara Mohawk Power Corporation
Otter Tail Power Company
Pacific Gas & Electric Company
Public Service Electric & Gas
Public Service of Oklahoma
Rochester Gas and Electric
Savannah Electric & Power Company
Seminole Electric Cooperative
Southern California Edison
Talquin Electric Cooperative
Tampa Electric
Texas Utilities
Toledo Edison Company

Expert Testimony Appearances
of
Lane Kollen
As of October 1997

Date	Case	Jurisdict.	Party	Utility	Subject
10/86	U-17282 Interim	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Cash revenue requirements financial solvency.
11/86	U-17282 Interim Rebuttal	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Cash revenue requirements financial solvency.
12/86	9613	KY	Attorney General Div. of Consumer Protection	Big Rivers Electric Corp.	Revenue requirements accounting adjustments financial workout plan.
1/87	U-17282 Interim	LA 19th Judicial District Ct.	Louisiana Public Service Commission Staff	Gulf States Utilities	Cash revenue requirements, financial solvency.
3/87	General Order 236	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Tax Reform Act of 1986.
4/87	U-17282 Prudence	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Prudence of River Bend 1, economic analyses, cancellation studies.
4/87	M-100 Sub 113	NC	North Carolina Industrial Energy Consumers	Duke Power Co.	Tax Reform Act of 1986.
5/87	86-524-E-	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Revenue requirements. Tax Reform Act of 1986.
5/87	U-17282 Case In Chief	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements, River Bend 1 phase-in plan, financial solvency.
7/87	U-17282 Case In Chief Surrebut	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements River Bend 1 phase-in plan, financial solvency.
7/87	U-17282 Prudence Surrebut	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Prudence of River Bend 1, economic analyses, cancellation studies.
7/87	86-524 E-SC Rebuttal	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Revenue requirements, Tax Reform Act of 1986.
8/87	9885	KY	Attorney General Div. of Consumer Protection	Big Rivers Electric Corp.	Financial workout plan.
8/87	E-015/GR-87-223	MN	Taconite Intervenors	Minnesota Power & Light Co.	Revenue requirements, O&M expense, Tax Reform Act of 1986.

Expert Testimony Appearances
of
Lane Kollen
As of October 1997

Date	Case	Jurisdict.	Party	Utility	Subject
10/87	870220-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Revenue requirements, O&M expense, Tax Reform Act of 1986.
11/87	87-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Tax Reform Act of 1986.
1/88	U-17282	LA 19th Judicial District Ct.	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements, River Bend 1 phase-in plan, rate of return.
2/88	9934	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Economics of Trimble County completion.
2/88	10064	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Revenue requirements, O&M expense, capital structure, excess deferred income taxes.
5/88	10217	KY	Alcan Aluminum National Southwire	Big Rivers Electric Corp.	Financial workout plan.
5/88	M-87017 -1C001	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Nonutility generator deferred cost recovery.
5/88	M-87017 -2C005	PA	GPU Industrial Intervenors	Pennsylvania Electric Co.	Nonutility generator deferred cost recovery.
6/88	U-17282	LA 19th Judicial District Ct.	Louisiana Public Service Commission Staff	Gulf States Utilities	Prudence of River Bend 1 economic analyses, cancellation studies, financial modeling.
7/88	M-87017- -1C001 Rebuttal	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Nonutility generator deferred cost recovery, SFAS No. 92
7/88	M-87017- -2C005 Rebuttal	PA	GPU Industrial Intervenors	Pennsylvania Electric Co.	Nonutility generator deferred cost recovery, SFAS No. 92
9/88	88-05-25	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	Excess deferred taxes, O&M expenses.
9/88	10064 Rehearing	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Premature retirements, interest expense.
10/88	88-170- EL-AIR	OH	Ohio Industrial Energy Consumers	Cleveland Electric Illuminating Co.	Revenue requirements, phase-in, excess deferred taxes, O&M expenses, financial considerations, working capital.

Expert Testimony Appearances
of
Lane Kollen
As of October 1997

Date	Case	Jurisdict.	Party	Utility	Subject
10/88	88-171-EL-AIR	OH	Ohio Industrial Energy Consumers	Toledo Edison Co.	Revenue requirements, phase-in, excess deferred taxes, O&M expenses, financial considerations, working capital.
10/88	8800 355-EI	FL	Florida Industrial Power Users' Group	Florida Power & Light Co.	Tax Reform Act of 1986, tax expenses, O&M expenses, pension expense (SFAS No. 87).
10/88	3780-U	GA	Georgia Public Service Commission Staff	Atlanta Gas Light Co.	Pension expense (SFAS No. 87).
11/88	U-17282 Remand	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Rate base exclusion plan (SFAS No. 71)
12/88	U-17970	LA	Louisiana Public Service Commission Staff	AT&T Communications of South Central States	Pension expense (SFAS No. 87).
12/88	U-17949 Rebuttal	LA	Louisiana Public Service Commission Staff	South Central Bell	Compensated absences (SFAS No. 43), pension expense (SFAS No. 87), Part 32, income tax normalization.
2/89	U-17282 Phase II	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements, phase-in of River Bend 1, recovery of canceled plant.
6/89	881602-EU 890326-EU	FL	Talquin Electric Cooperative	Talquin/City of Tallahassee	Economic analyses, incremental cost-of-service, average customer rates.
7/89	U-17970	LA	Louisiana Public Service Commission Staff	AT&T Communications of South Central States	Pension expense (SFAS No. 87), compensated absences (SFAS No. 43), Part 32.
8/89	8555	TX	Occidental Chemical Corp.	Houston Lighting & Power Co.	Cancellation cost recovery, tax expense, revenue requirements.
8/89	3840-U	GA	Georgia Public Service Commission Staff	Georgia Power Co.	Promotional practices, advertising, economic development.
9/89	U-17282 Phase II Detailed	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements, detailed investigation.
10/89	8880	TX	Enron Gas Pipeline	Texas-New Mexico Power Co.	Deferred accounting treatment, sale/leaseback.
10/89	8928	TX	Enron Gas Pipeline	Texas-New Mexico Power Co.	Revenue requirements, imputed capital structure, cash working capital.

Expert Testimony Appearances
of
Lane Kollen
As of October 1997

Date	Case	Jurisdict.	Party	Utility	Subject
10/89	R-891364	PA	Philadelphia Area Industrial Energy Users Group	Philadelphia Electric Co.	Revenue requirements.
11/89 12/89	R-891364 Surrebuttal (2 Filings)	PA	Philadelphia Area Industrial Energy Users Group	Philadelphia Electric Co.	Revenue requirements, sale/leaseback.
1/90	U-17282 Phase II Detailed Rebuttal	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements, detailed investigation.
1/90	U-17282 Phase III	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Phase-in of River Bend 1, deregulated asset plan.
3/90	890319-EI	FL	Florida Industrial Power Users Group	Florida Power & Light Co.	O&M expenses, Tax Reform Act of 1986.
4/90	890319-EI Rebuttal	FL	Florida Industrial Power Users Group	Florida Power & Light Co.	O&M expenses, Tax Reform Act of 1986.
4/90	U-17282	LA 19th Judicial District Ct.	Louisiana Public Service Commission Staff	Gulf States Utilities	Fuel clause, gain on sale of utility assets.
9/90	90-158	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Revenue requirements, post-test year additions, forecasted test year.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Revenue requirements.
3/91	29327, et. al.	NY	Multiple Intervenors	Niagara Mohawk Power Corp.	Incentive regulation.
5/91	9945	TX	Office of Public Utility Counsel of Texas	El Paso Electric Co.	Financial modeling, economic analyses, prudence of Palo Verde 3.
9/91	P-910511 P-910512	PA	Allegheny Ludlum Corp., Armco Advanced Materials Co., The West Penn Power Industrial Users' Group	West Penn Power Co.	Recovery of CAAA costs, least cost financing.
9/91	91-231 -E-NC	WV	West Virginia Energy Users Group	Monongahela Power Co.	Recovery of CAAA costs, least cost financing.
11/91	U-17282	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Asset impairment, deregulated asset plan, revenue requirements.

Expert Testimony Appearances
of
Lane Kollen
As of October 1997

Date	Case	Jurisdict.	Party	Utility	Subject
12/91	91-410-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Revenue requirements, phase-in plan.
12/91	10200	TX	Office of Public Utility Counsel of Texas	Texas-New Mexico Power Co.	Financial integrity, strategic planning, declined business affiliations.
5/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Revenue requirements, O&M expense, pension expense, OPEB expense, fossil dismantling, nuclear decommissioning.
8/92	R-00922314	PA	GPU Industrial Intervenors	Metropolitan Edison Co.	Incentive regulation, performance rewards, purchased power risk, OPEB expense.
9/92	92-043	KY	Kentucky Industrial Utility Consumers	Generic Proceeding	OPEB expense.
9/92	920324-EI	FL	Florida Industrial Power Users' Group	Tampa Electric Co.	OPEB expense.
9/92	39348	IN	Indiana Industrial Group	Generic Proceeding	OPEB expense.
9/92	910840-PU	FL	Florida Industrial Power Users' Group	Generic Proceeding	OPEB expense.
9/92	39314	IN	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	OPEB expense.
11/92	U-19904	LA	Louisiana Public Service Commission Staff	Gulf States Utilities/Entergy Corp.	Merger.
11/92	8649	MD	Westvaco Corp., Eastalco Aluminum Co.	Potomac Edison Co.	OPEB expense.
11/92	92-1715-AU-COI	OH	Ohio Manufacturers Association	Generic Proceeding	OPEB expense.
12/92	R-00922378	PA	Armco Advanced Materials Co., The WPP Industrial Intervenors	West Penn Power Co.	Incentive regulation, performance rewards, purchased power risk, OPEB expense.
12/92	U-19949	LA	Louisiana Public Service Commission Staff	South Central Bell	Affiliate transactions, cost allocations, merger.

Expert Testimony Appearances
of
Lane Kollen
As of October 1997

Date	Case	Jurisdict.	Party	Utility	Subject
12/92	R-00922479	PA	Philadelphia Area Industrial Energy Users' Group	Philadelphia Electric Co.	OPEB expense.
1/93	8487	MD	Maryland Industrial Group	Baltimore Gas & Electric Co., Bethlehem Steel Corp.	OPEB expense, deferred fuel, CWIP in rate base
1/93	39498	IN	PSI Industrial Group	PSI Energy, Inc.	Refunds due to over-collection of taxes on Marble Hill cancellation.
3/93	92-11-11	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power Co.	OPEB expense.
3/93	U-19904 (Surrebuttal)	LA	Louisiana Public Service Commission Staff	Gulf States Utilities/Entergy Corp.	Merger.
3/93	93-01 EL-EFC	OH	Ohio Industrial Energy Consumers	Ohio Power Co.	Affiliate transactions, fuel.
3/93	EC92-21000 ER92-806-000	FERC	Louisiana Public Service Commission Staff	Gulf States Utilities/Entergy Corp.	Merger.
4/93	92-1464-EL-AIR	OH	Air Products Armco Steel Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Revenue requirements, phase-in plan.
4/93	EC92-21000 ER92-806-000 (Rebuttal)	FERC	Louisiana Public Service Commission Staff	Gulf States Utilities/Entergy Corp.	Merger.
9/93	93-113	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Fuel clause and coal contract refund.
9/93	92-490, 92-490A, 90-360-C	KY	Kentucky Industrial Utility Customers and Kentucky Attorney General	Big Rivers Electric Corp.	Disallowances and restitution for excessive fuel costs, illegal and improper payments, recovery of mine closure costs.
10/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Revenue requirements, debt restructuring agreement, River Bend cost recovery.
1/94	U-20647	LA	Louisiana Public Service Commission Staff	Gulf States Utilities Co.	Audit and investigation into fuel clause costs.

Expert Testimony Appearances
of
Lane Kollen
As of October 1997

Date	Case	Jurisdict.	Party	Utility	Subject
4/94	U-20647 (Surrebuttal)	LA	Louisiana Public Service Commission Staff	Gulf States Utilities	Nuclear and fossil unit performance, fuel costs, fuel clause principles and guidelines.
5/94	U-20178	LA	Louisiana Public Service Commission	Louisiana Power & Light Co.	Planning and quantification issues of least cost integrated resource plan.
9/94	U-19904 Initial Post-Merger Earnings Review	LA	Louisiana Public Service Commission	Gulf States Utilities Co.	River Bend phase-in plan, deregulated asset plan, capital structure, other revenue requirement issues.
9/94	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	G&T cooperative ratemaking policies, exclusion of River Bend, other revenue requirement issues.
10/94	3905-U	GA	Georgia Public Service Commission	Southern Bell Telephone Co.	Incentive rate plan, earnings review.
10/94	5258-U	GA	Georgia Public Service Commission	Southern Bell Telephone Co.	Alternative regulation, cost allocation.
11/94	U-19904 Initial Post-Merger Earnings Review (Rebuttal)	LA	Louisiana Public Service Commission	Gulf States Utilities Co.	River Bend phase-in plan, deregulated asset plan, capital structure, other revenue requirement issues.
11/94	U-17735 (Rebuttal)	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	G&T cooperative ratemaking policy, exclusion of River Bend, other revenue requirement issues.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Revenue requirements. Fossil dismantling, nuclear decommissioning.
6/95	3905-U	GA	Georgia Public Service Commission	Southern Bell Telephone Co.	Incentive regulation, affiliate transactions, revenue requirements, rate refund.
6/95	U-19904 (Direct)	LA	Louisiana Public Service Commission	Gulf States Utilities Co.	Gas, coal, nuclear fuel costs, contract prudence, base/fuel realignment.
10/95	95-02614	TN	Tennessee Office of the Attorney General Consumer Advocate	BellSouth Telecommunications, Inc.	Affiliate transactions.
10/95	U-21485 (Direct)	LA	Louisiana Public Service Commission	Gulf States Utilities Co.	Nuclear O&M, River Bend phase-in plan, base/fuel realignment, NOL and AltMin asset deferred taxes, other revenue requirement issues.

Expert Testimony Appearances
of
Lane Kollen
As of October 1997

Date	Case	Jurisdict.	Party	Utility	Subject
11/95	U-19904 (Surrebuttal)	LA	Louisiana Public Service Commission Division	Gulf States Utilities Co.	Gas, coal, nuclear fuel costs, contract prudence, base/fuel realignment.
11/95 12/95	U-21485 (Supplemental Direct) U-21485 (Surrebuttal)	LA	Louisiana Public Service Commission	Gulf States Utilities Co.	Nuclear O&M, River Bend phase-in plan, base/fuel realignment, NOL and AltMin asset deferred taxes, other revenue requirement issues.
1/96	95-299-EL-AIR 95-300-EL-AIR	OH	Industrial Energy Consumers	The Toledo Edison Co. The Cleveland Electric Illuminating Co.	Competition, asset writeoffs and revaluation, O&M expense, other revenue requirement issues.
2/96	PUC No. 14967	TX	Office of Public Utility Counsel	Central Power & Light	Nuclear decommissioning.
5/96	95-485-LCS	NM	City of Las Cruces	El Paso Electric Co.	Stranded cost recovery, municipalization.
7/96	8725	MD	The Maryland Industrial Group and Redland Genstar, Inc.	Baltimore Gas & Electric Co., Potomac Electric Power Co. and Constellation Energy Corp.	Merger savings, tracking mechanism, earnings sharing plan, revenue requirement issues.
9/96 11/96	U-22092 U-22092 (Surrebuttal)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	River Bend phase-in plan, base/fuel realignment, NOL and AltMin asset deferred taxes, other revenue requirement issues, allocation of regulated/nonregulated costs.
10/96	96-327	KY	Kentucky Industrial Utility Customers, Inc.	Big Rivers Electric Corp.	Environmental surcharge recoverable costs.
2/97	R-00973877	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Stranded cost recovery, regulatory assets and liabilities, intangible transition charge, revenue requirements.
3/97	96-489	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Environmental surcharge recoverable costs, system agreements, allowance inventory, jurisdictional allocation.
6/97	TO-97-397	MO	MCI Telecommunications Corp., Inc., MCImetro Access Transmission Services, Inc.	Southwestern Bell Telephone Co.	Price cap regulation, revenue requirements, rate of return.

Expert Testimony Appearances
of
Lane Kollen
As of October 1997

Date	Case	Jurisdict.	Party	Utility	Subject
6/97	R-00973953	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning.
7/97	R-00973954	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning.
7/97	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Depreciation rates and methodologies, River Bend phase-in plan.
8/97	97-300	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas & Electric Co. and Kentucky Utilities Co.	Merger policy, cost savings, surcredit sharing mechanism, revenue requirements, rate of return.
10/97	97-204	KY	Alcan Aluminum Corp. Southwire Co.	Big Rivers Electric Corp.	Restructuring, revenue requirements, reasonableness of rates.
10/97	R-974008	PA	Metropolitan Edison Industrial Users Group	Metropolitan Edison Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning.
10/97	R-974009	PA	Pennsylvania Electric Industrial Customer Alliance	Pennsylvania Electric Co.	Restructuring, deregulation, stranded costs, regulatory assets, liabilities, nuclear and fossil decommissioning.

Amortization Schedule
Regulatory Assets
Generation

	Actual Year - End 1996	Estimated Change 1997	Estimated Change 1998	Estimated Year - End 1998	1999	2000	2001	2002	2003	2004	2005	Net Balance 12/31/2005
Total Regulatory Assets												
10-K Regulatory Assets												
Regulatory Tax Receivable	304.94	(31.55)	(36.91)	236.48	(33.78)	(33.78)	(33.78)	(33.78)	(33.78)	(33.78)	(33.78)	(0.00)
Unamortized Debt Costs (1)	34.22	0.00	0.00	34.22	(4.89)	(4.89)	(4.89)	(4.89)	(4.89)	(4.89)	(4.89)	(0.00)
Deferred Rate Synch. Costs	41.45	(4.14)	(4.14)	33.16	(4.74)	(4.74)	(4.74)	(4.74)	(4.74)	(4.74)	(4.74)	(0.00)
BV2 Sale/Leaseback Premium	16.51	0.00	0.00	16.51	(2.36)	(2.36)	(2.36)	(2.36)	(2.36)	(2.36)	(2.36)	0.00
Deferred Employee Costs (2)	17.80	0.00	0.00	17.80	(2.54)	(2.54)	(2.54)	(2.54)	(2.54)	(2.54)	(2.54)	0.00
Deferred Nuclear Maintenance	13.46	0.56	(10.77)	3.25	(0.46)	(0.46)	(0.46)	(0.46)	(0.46)	(0.46)	(0.46)	(0.00)
DOE Decom & Decon	9.78	(1.30)	(1.30)	7.18	(1.03)	(1.03)	(1.03)	(1.03)	(1.03)	(1.03)	(1.03)	0.00
Deferred Coal Costs	12.19	0.31	1.00	13.50	(1.93)	(1.93)	(1.93)	(1.93)	(1.93)	(1.93)	(1.93)	0.00
Other												
Deferred Caretaker Costs	6.77	0.00	0.00	6.77	(0.97)	(0.97)	(0.97)	(0.97)	(0.97)	(0.97)	(0.97)	0.00
BV2 Training Costs	2.62	(0.10)	(0.10)	2.42	(0.35)	(0.35)	(0.35)	(0.35)	(0.35)	(0.35)	(0.35)	0.00
Low Level Rad. Waste	2.27	0.00	0.00	2.27	(0.32)	(0.32)	(0.32)	(0.32)	(0.32)	(0.32)	(0.32)	0.00
Coal Cost Equalization	0.32	(0.10)	(0.10)	0.12	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	0.00
Other Regulatory Assets	0.53	0.00	0.00	0.53	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	0.00
Total Other	12.51	(0.20)	(0.20)	12.11	(1.73)	(1.73)	(1.73)	(1.73)	(1.73)	(1.73)	(1.73)	0.00
Total Regulatory Assets per 10-K	462.87	(36.33)	(52.33)	374.21	(53.46)	(53.46)	(53.46)	(53.46)	(53.46)	(53.46)	(53.46)	(0.00)
Adjustments												
PV Beaver Valley Lease	291.44	(25.00)	(38.66)	227.78	(15.40)	(15.40)	(15.40)	(15.40)	(15.40)	(15.40)	(40.02)	95.38
Pre-Accrue Nuclear Outages	22.65	0.00	0.00	22.65	(3.24)	(3.24)	(3.24)	(3.24)	(3.24)	(3.24)	(3.24)	0.00
Gain on Sale/Leaseback (3)	61.13	(3.00)	(3.00)	55.13	(7.88)	(7.88)	(7.88)	(7.88)	(7.88)	(7.88)	(7.88)	0.00
Deferred Rate Synch. Costs (3)	0.27	0.00	0.00	0.27	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	0.00
Beaver Valley 2 (3)	0.17	0.00	0.00	0.17	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.00)
Deferred Fuel Cost	14.81	0.00	0.00	14.81	(2.12)	(2.12)	(2.12)	(2.12)	(2.12)	(2.12)	(2.12)	0.00
Transition Costs	18.10	0.00	0.00	18.10	(2.59)	(2.59)	(2.59)	(2.59)	(2.59)	(2.59)	(2.59)	0.00
FAS 106 (2)	4.22	0.00	0.00	4.22	(0.60)	(0.60)	(0.60)	(0.60)	(0.60)	(0.60)	(0.60)	0.00
Total Adjustments	412.79	(28.00)	(41.66)	343.12	(31.87)	(31.87)	(31.87)	(31.87)	(31.87)	(31.87)	(56.49)	95.38
Adjusted Regulatory Assets	875.66	(64.33)	(93.99)	717.33	(85.33)	(85.33)	(85.33)	(85.33)	(85.33)	(85.33)	(109.95)	95.38
Remove outage accounting (4)		(0.56)	10.77									
FAS 109 Plant (5)	0.00	0.00	0.00	62.94	(8.99)	(8.99)	(8.99)	(8.99)	(8.99)	(8.99)	(8.99)	(0.00)
Total	875.66	(64.89)	(83.22)	780.28	(94.33)	(94.33)	(94.33)	(94.33)	(94.33)	(94.33)	(118.95)	95.38
Regulatory Assets Recovered through Interest/Lease Expense												
Unamortized Debt Cost	21.55	(2.39)	(2.39)	16.76	(2.39)	(2.39)	(2.39)	(2.39)	(2.39)	(2.39)	(2.39)	0.00
BV2 Sale/Leaseback Premium	17.43	(1.94)	(1.94)	13.55	(1.94)	(1.94)	(1.94)	(1.94)	(1.94)	(1.94)	(1.94)	(0.00)
Total	38.97	(4.33)	(4.33)	30.31	(4.33)	(4.33)	(4.33)	(4.33)	(4.33)	(4.33)	(4.33)	0.00
Total Generation	914.63	(69.22)	(87.55)	810.59	(98.66)	(98.66)	(98.66)	(98.66)	(98.66)	(98.66)	(123.28)	95.38

(1) Allocation based on gross plant balances
(2) Allocation based on labor costs
(3) Shown as deferred tax assets in 1996 Form 10-K.
(4) Outage accounting is reflected in the revenue requirement for the generating unit
(5) FAS 109 allocated to plant is reflected in the generating plant balance through 12/31/98

Exhibit DJC-4
Page 2 of 20
Revised

Exhibit ___(LK-2)
Page 1 of 3

Rate Base and Net Book Value Forecast
(Revised)

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Nuclear Generation										
Perry										
Original Cost	868.19	879.29	883.92	846.79	849.14	852.12	854.60	857.75	860.79	864.13
Accumulated Depreciation	(394.20)	(452.54)	(510.87)	(569.07)	(625.52)	(695.94)	(792.16)	(846.06)	(860.79)	(864.13)
Net Plant	473.99	426.75	373.05	277.72	223.61	156.18	62.44	11.69	(0.00)	(0.00)
Accumulated Deferred Taxes	(165.73)	(144.07)	(122.17)	(86.25)	(64.85)	(37.50)	0.54	20.97	25.10	24.44
Net Plant Less Accum. Deferred Taxes	308.26	282.68	250.88	191.47	158.77	118.68	62.98	32.66	25.10	24.44
Working Capital	11.80	11.61	10.96	10.35	9.79	9.74	9.69	9.64	9.59	9.54
Rate Base	320.06	294.30	261.84	201.83	168.55	128.42	72.67	42.30	34.69	33.98
Net Plant Less Accum. Deferred Taxes	308.26	282.68	250.88	191.47	158.77	118.68	62.98	32.66	25.10	24.44
Less: Accumulated ITC	(24.25)	(21.40)	(18.54)	(15.68)	(12.83)	(9.97)	(7.11)	(4.25)	(1.40)	(1.35)
Net Book Value	284.01	261.29	232.34	175.79	145.94	108.71	55.87	28.41	23.70	23.09

Rate Base and Net Book Value Forecast
(Revised)

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Nuclear Generation										
Beaver Valley 1										
Original Cost	653.69	664.58	672.66	659.50	665.19	671.02	677.02	683.17	689.50	696.00
Accumulated Depreciation	(275.30)	(308.90)	(342.74)	(376.65)	(409.44)	(441.28)	(473.44)	(505.94)	(538.98)	(572.60)
Net Plant	378.39	355.69	329.92	282.85	255.75	229.74	203.58	177.23	150.52	123.40
Accumulated Deferred Taxes	(123.51)	(112.58)	(101.44)	(84.83)	(73.93)	(63.47)	(52.96)	(42.37)	(31.60)	(20.62)
Net Plant Less Accum. Deferred Taxes	254.88	243.11	228.48	198.03	181.82	166.27	150.62	134.86	118.92	102.78
Working Capital	8.92	8.78	8.34	7.91	7.52	7.52	7.53	7.53	7.53	7.54
Rate Base	263.80	251.89	236.82	205.94	189.34	173.80	158.15	142.39	126.46	110.32
Net Plant Less Accum. Deferred Taxes	254.88	243.11	228.48	198.03	181.82	166.27	150.62	134.86	118.92	102.78
Less: Accumulated ITC	(19.49)	(17.92)	(16.35)	(14.78)	(13.20)	(11.63)	(10.06)	(8.49)	(6.89)	(5.29)
Net Book Value	235.39	225.19	212.14	183.25	168.61	154.64	140.56	126.37	112.03	97.49

Regulatory Assets

As a result of the application of *SFAS No. 71*, the Company records regulatory assets on its consolidated balance sheet. The regulatory assets represent probable future revenue to the Company because provisions for these costs are currently included, or are expected to be included, in charges to electric utility customers through the ratemaking process.

A company's electric utility operations or a portion of such operations could cease to meet the *SFAS No. 71* criteria for various reasons, including a change in the FERC regulations or the competition-related changes in the PUC regulations. (See "Customer Choice Act" discussion on page 51.) The Company currently believes its electricity generating assets and related regulatory assets continue to satisfy these criteria in light of the transition to competitive generation under the Customer Choice Act. Should any portion of the Company's electric utility operations be deemed to no longer meet the *SFAS No. 71* criteria, the Company may be required to write off any above-market cost assets, the recovery of which is uncertain, and any regulatory assets or liabilities for those operations that no longer meet these requirements.

Regulatory Assets at December 31

	1996	1995
	(Amounts in Thousands of Dollars)	
Regulatory tax receivable (Note H)	$394,131	$414,543
Unamortized debt costs (Note K)(a)	93,299	98,776
Deferred rate synchronization costs (see below)	41,446	51,149
Beaver Valley Unit 2 sale/leaseback premium (Note I)(b)	30,059	31,564
Deferred employee costs (c)	29,589	31,218
Deferred nuclear maintenance outage costs (Note A)	13,462	6,776
Deferred coal costs (see below)	12,191	12,753
DOE decontamination and decommissioning receivable (Note J)	9,779	10,687
Extraordinary property loss (d)	—	8,300
Other	12,860	12,934
Total Regulatory Assets	$636,816	$678,700

(a) The premiums paid to reacquire debt prior to scheduled maturity dates are deferred for amortization over the life of the debt issued to finance the reacquisitions.
(b) The premium paid to refinance the BV Unit 2 lease was deferred for amortization over the life of the lease.
(c) Includes amounts for recovery of accrued compensated absences and accrued claims for workers' compensation.
(d) During the third quarter of 1996, the Company completed recovery of its investment in Perry Unit 2.

Deferred Rate Synchronization Costs

In 1987, the PUC approved the Company's petition to defer initial operating and other costs of BV Unit 2 and Perry Unit 1. The Company deferred the costs incurred from November 1987, when the units went into commercial operation, until March 1988, when a rate order was issued. In its rate order, the PUC postponed ruling on whether these costs would be recoverable from the Company's electric utility customers. The Company is not earning a return on the deferred costs. (See "Mitigation Plan" discussion on page 51.)

Deferred Coal Costs

The PUC has established two market price coal cost standards for the Company. One applies only to coal delivered at the Bruce Mansfield Power Station (Bruce Mansfield). The other, the system-wide coal cost standard, applies to coal delivered to the remainder of the Company's system. Both standards are updated monthly to reflect prevailing market prices of similar coal. The PUC has directed the Company to defer recovery of the delivered cost of coal to the extent that such cost exceeds generally prevailing market prices for similar coal, as determined by the PUC. The PUC allows deferred amounts to be recovered from customers when the delivered costs of coal fall below such PUC-determined prevailing market prices.

In 1990, the PUC approved a joint petition for settlement that clarified certain aspects of the system-wide coal cost standard. The Company has exercised options to extend the coal cost standard through March 2000. The unrecovered cost of Bruce Mansfield coal was $9.6 million and $8.4 million, and the unrecovered cost of the remainder of the system-wide coal was $2.6 million and

$4.4 million at December 31, 1996 and 1995. The Company believes that all deferred coal costs will be recovered.

Warwick Mine Costs

The 1990 joint petition for settlement also recognized costs at the Company's Warwick Mine, which had been excluded from rate base since 1981, and allowed for recovery of such costs, including the costs of ultimately closing the mine. (See "Deferred Coal Costs" discussion on page 52.) In 1990, the Company entered into an agreement under which an unaffiliated company will operate the mine until March 2000 and sell the coal produced. Production began in late 1990. The contract operator at Warwick Mine encountered adverse geologic conditions late in 1996 that resulted in a significant change to the mining plan. Commencing in 1997, the operator will be producing approximately 15 percent of the amount previously mined, or 360,000 tons of coal per year, for exclusive use at the Elrama Power Station (Elrama). The Company will purchase the remaining coal on the open market. In the past year, the Warwick Mine supplied slightly less than one-fifth of the coal used in the production of electricity at the Company's wholly owned and jointly owned plants. This change should not impact the Company's ability to recover all of its investment in Warwick Mine, the $2.6 million of unrecovered system-wide cost of coal which excludes Bruce Mansfield, or to accrue funds for future liabilities. It is anticipated that this effort will be successfully completed by March 31, 2000 when the system-wide coal cost cap expires.

Costs at the Warwick Mine and the Company's investment in the mine are expected to be recovered through the cost of coal in the ECR. Recovery is subject to the system-wide coal cost standard and the cap agreed to as part of the Company's Mitigation Plan. The Company also has an opportunity to earn a return on its investment in the mine through the cost of coal during the period of the system-wide coal cost standard, including extensions. At December 31, 1996, the Company's net investment in the mine was $11.4 million. The current estimated liability for mine closing, including final site reclamation, mine water treatment and certain labor liabilities, is $34.1 million, and the Company has recorded a liability on the consolidated balance sheet of approximately $20.2 million toward these costs.

Property Held for Future Use

In 1986, the PUC approved the Company's request to remove Phillips Power Station (Phillips) and a portion of Brunot Island (BI) from service and from rate base. In accordance with the Company's Mitigation Plan, 112 MWs related to BI Units 2a and 2b were moved from *property held for future use* to *electric plant in service* in 1996. The Company expects to recover its investment in BI Units 3 and 4, which remain in *property held for future use* through future electricity sales. The Company believes its investment in BI will be necessary in order to meet future business needs. A portion of the proceeds of the sale of Ft. Martin is expected to be used to fund reliability enhancements to the BI Unit 3 combustion turbine. The reliability enhancements are contingent upon the projects meeting a least-cost test versus other potential sources of peaking capacity. (See "Mitigation Plan" discussion on page 51.) The Company is analyzing the effects of customer choice on its future generating requirements. The Company is planning to seek recovery of its investment and associated costs of Phillips through a CTC. In the event that market demand, transmission access or rate recovery do not support the utilization of these plants, the Company may have to write off part or all of these investments and associated costs. At December 31, 1996, the Company's net of tax investment in Phillips and BI held for future use was $53.6 million and $17.2 million.

At December 31, 1996, the Company had two extendible revolving credit arrangements, including a $125 million facility expiring in June 1997 and a $150 million facility expiring in October 1997. Interest rates can, in accordance with the option selected at the time of the borrowing, be based on prime, Eurodollar or certificate of deposit rates. Commitment fees are based on the unborrowed amount of the commitments. Both credit facilities contain two-year repayment periods for any amounts outstanding at the expiration of the revolving credit periods. At December 31, 1996, there were no short-term borrowings outstanding. At December 31, 1995, short-term borrowings were $35 million. The weighted average interest rate applied to such borrowings was 6.5 percent.

Exhibit ____(LK-4)

Deferred Rate Synchronization Costs
Net Present Value at 12/31/98 ($Million)

	Nominal Amort	Pres Val Amort
1999	4.18	4.02
2000	4.18	3.73
2001	4.18	3.46
2002	4.18	3.21
2003	4.18	2.98
2004	4.18	2.76
2005	4.18	2.56
2006	4.17	2.37
Total	33.43	25.08

Duquesne Beaver Valley 1 Nuclear Decommissioning for Stranded Cost and Revenue Requirement ($000)

Assumptions:

Escalation Rate	4.00%
Trust Fund Earn Rat	7.50%
Duq Aft Tax Disc Ra	7.83%
Retirement Date	2016

Years to Decommissioning (incl Avg Postretirement Activity and Disbursement Period) after 1998	32	
Projected Fund Balance at 12/31/98	39621	(Exh DJC-7 p 3)
Projected Fund Balance at 6/30/2030	400863	
Decommissioning Cost Estimate in 1997 $	166564	(47.5%*$350661)
Decommissioning Cost Estimate in 2030 $	584316	
Fund Deficiency/(Surplus) in 2030	183453	
NPV of 2030 Fund Deficiency/(Surplus) at 12/31/98 @ Company's After Tax Cost of Capital 7.83%	16438	

Duquesne Beaver Valley 2 Nuclear Decommissioning for Stranded Cost and Revenue Requirement ($000)

Assumptions:

Escalation Rate	4.00%
Trust Fund Earn Rat	7.50%
Duq Aft Tax Disc Ra	7.83%
Retirement Date	2027

Years to Decommissioning (incl Avg Postretirement Activity and Disbursement Period) after 1998	33.5	
Projected Fund Balance at 12/31/98	8074	(Exh DJC-7 p 3)
Projected Fund Balance at 6/30/2031	91048	
Decommissioning Cost Estimate in 1997 $	51801	(13.74%*$377009)
Decommissioning Cost Estimate in 2031 $	192733	
Fund Deficiency/(Surplus) in 2031	101684	
NPV of 2030 Fund Deficiency/(Surplus) at 12/31/98 @ Company's After Tax Cost of Capital 7.83%	8137	

Duquesne Perry Nuclear Decommissioning
for Stranded Cost and Revenue Requirement ($000)

Assumptions:

Escalation Rate	4.00%
Trust Fund Earn Rat	7.50%
Duq Aft Tax Disc Ra	7.83%
Retirement Date	2026

Years to Decommissioning (incl Avg Postretirement Activity and Disbursement Period) after 1998	32.5	
Projected Fund Balance at 12/31/98	10145	(Exh DJC-7 p 3)
Projected Fund Balance at 6/30/2030	106421	
Decommissioning Cost Estimate in 1997 $	89300	(13.74%*$649928)
Decommissioning Cost Estimate in 2030 $	319474	
Fund Deficiency/(Surplus) in 2030	213053	
NPV of 2030 Fund Deficiency/(Surplus) at 12/31/98 @ Company's After Tax Cost of Capital 7.83%	18384	

DII STATEMENT NO. 3S

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION, ET. AL.	)	
V.	)	
	)	DOCKET NO. R-00974104
DUQUESNE LIGHT COMPANY FOR APPROVAL OF ITS RESTRUCTURING PLAN UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE	)	

SURREBUTTAL TESTIMONY

OF

LANE KOLLEN

ON BEHALF OF THE

DUQUESNE INDUSTRIAL INTERVENORS

BOC Gases
General Motors Corp.
J&L Specialty Steel, Inc.
LTV Steel Company, Inc.
Nabisco Inc.
Nova Chemicals, Inc.
USX Corporation - US Steel Group

J. KENNEDY AND ASSOCIATES, INC.
ATLANTA, GEORGIA

DECEMBER 1997

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION, ET. AL.	)	
	)	
V.	)	
	)	**DOCKET NO. R-00974104**
DUQUESNE LIGHT COMPANY FOR APPROVAL OF ITS RESTRUCTURING PLAN UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE	)	

TABLE OF CONTENTS

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION, ET. AL.	)	
	)	
V.	)	
	)	**DOCKET NO. R-00974104**
DUQUESNE LIGHT COMPANY FOR APPROVAL OF ITS RESTRUCTURING PLAN UNDER SECTION 2806 OF THE PUBLIC UTILITY CODE	)	

SURREBUTTAL TESTIMONY OF LANE KOLLEN

I. SUMMARY

Q. Please state your name and business address.

A. My name is Lane Kollen. My business address is J. Kennedy and Associates. Inc. ("Kennedy and Associates"), 35 Glenlake Parkway, Suite 475, Atlanta, Georgia 30328.

Q. Have you previously filed testimony in this proceeding on behalf of DII?

A. Yes. I previously filed direct testimony regarding the proper quantification of certain Duquesne stranded costs and assets. I addressed the statutory guidelines for quantification of stranded costs for purposes of CTC recovery, regulatory

assets/liabilities, fossil and nuclear decommissioning, and securitization. The regulatory assets/liabilities that I addressed included the following:

- SFAS 109 plant.
- Unamortized debt costs and BV2 sale/leaseback premium.
- Pre-accrued nuclear outages.
- Deferred employee costs.
- Deferred caretaker costs.
- SFAS 106.
- Deferred rate synchronization costs.

Q. What is the purpose of your surrebuttal testimony?

A. The purpose of my surrebuttal testimony is to address by issue the rebuttal testimony of certain DLC rebuttal witnesses. I respond to Mr. Clayton on stranded cost methodological issues, regulatory assets/liabilities and transition costs; and to both Mr. Clayton and Mr. LaGuardia on fossil decommissioning.

Q. Please summarize your testimony.

A. The Company's argument that the DII "sharing" proposal has an additional implicit sharing that penalizes Duquesne is unfounded and incorrect. The Company's argument is incorrect because the DII recommendation incorporates all SFAS 109 regulatory asset and liability amounts as well as the recovery of remaining book/tax basis differences between the regulatory assets and stranded generation costs.

My conclusions and recommendations regarding regulatory assets/liabilities, transition costs, fossil and nuclear decommissioning, and securitization are appropriate and remain unchanged from my direct testimony. A brief summary of my surrebuttal response to each issue is included at the beginning of each section of my testimony.

II. STRANDED COST METHODOLOGY

Q. Please summarize the Company's argument that there are implicit additional sharing amounts beyond the equity return disallowance proposal incorporated in the DII stranded cost recommendation described in Mr. Baron's direct testimony.

A. Mr. Clayton believes that the DII quantification of stranded costs overstates the equity return disallowance. Apparently, this argument is based upon the fact that the stranded generation cost quantified by DII witness Mr. Falkenberg relied upon a net book value that had subtracted from it the December 31, 1998 balance of liability deferred taxes, including those related to SFAS 109. Mr. Clayton believes that the balance of liability deferred taxes (excluding the SFAS 109 portion) must be added back to the stranded generation cost in order to avoid the implicit additional sharing amounts.

Q. Do you agree with the Company's argument?

A. No. Mr. Clayton's argument is incorrect. The DII stranded generation cost properly subtracted the liability deferred tax balance from net book value (alternatively, it could be viewed as having been added to market value). In exchange for subtracting

the liability deferred tax balance from net book value, the DII market value quantification includes the book depreciation runout and the related effect on after tax contribution margins, which reduces the market value and increased stranded generation costs.

In addition, the DII quantification does not include the effects of the tax depreciation runout, which would have increased the market value and reduced the stranded generation costs. Normally, the net after tax effect of the combined book depreciation and tax depreciation runouts would have been equivalent to the deferred tax liability amounts (including the SFAS 109 amounts) at December 31, 1998.

Thus, not only is the Company's argument incorrect, but the DII sharing proposal actually understates the effects of the return on equity.

III. UNAMORTIZED DEBT COSTS AND BV2 SALE/LEASEBACK REFINANCING PREMIUM

Q. Please summarize your conclusions and recommendation regarding the unamortized debt costs and the BV2 sale/leaseback refinancing premium.

A. The Company has included the unamortized debt costs as a regulatory asset and also in the cost of capital utilized to discount the projected contribution margins after 2005 in the determination of stranded generation costs. Thus, the Company has requested recovery of the same unamortized debt costs twice.

In addition, through 2005, the Company includes the unamortized BV2 sale/leaseback refinancing premium as a separately identified regulatory asset and also as an increase to stranded generation costs. After 2005, the Company includes the remaining BV2 sale/leaseback refinancing premium as a separately identified regulatory asset and also that amount in the BV2 lease payments regulatory asset. Thus, the Company has requested recovery of the same BV2 sale/leaseback refinancing premiums twice.

DII recommends that the Commission provide recovery of the unamortized debt costs and the BV2 sale/leaseback refinancing premium only once. DII recommends that the recovery of the unamortized debt costs be through a higher discount rate (the rate utilized by the Company and DII) and the resulting higher stranded generation cost.

DII recommends that the recovery of the BV2 sale/leaseback refinancing premium be included in the higher stranded generation cost through 2005 and in the separately identified BV2 lease payments regulatory asset for the years after 2005. For both costs, DII recommends no recognition of the Company's claimed regulatory assets in order to avoid recovery of the same costs twice.

Q. Does the Company disagree with the conclusion that these costs were claimed by the Company twice in its filing?

A. No. The Company does not disagree that its filing incorporates these costs twice, but states that the double recovery will only occur if the Commission rejects the Company's proposal for a market value determination in 2005 rather than in this proceeding. Thus, each of the reasons cited by Mr. Clayton regarding why the Company should recover these costs is from the perspective of the Company's proposal. However, none of these reasons is valid if the Commission determines the stranded cost quantification in this proceeding, as recommended by DII and other parties to this proceeding.

Mr. Clayton cites three reasons why the unamortized debt costs and the unamortized BV2 sale/leaseback refinancing premium should not be eliminated from the stranded regulatory assets. First, the generation portion of this asset likely will not be

recoverable in the competitive generation marketplace. Second, Duquesne would suffer an impairment loss for the post-2005 unamortized debt costs. Third, including the costs twice makes no difference under the Company's proposal because the market value of the generating assets will be determined coincident with full recovery of its regulatory assets by 2005.

Q. Please respond to the assertion that the generation portion of this asset will likely not be recoverable in the competitive marketplace.

A. The Company's reason is irrelevant if the stranded generation costs are determined by the Commission in this proceeding. Assuming that market valuations are determined by the Commission in this proceeding, then the Company's inclusion of the unamortized debt cost in both regulatory assets and in stranded generation costs does represent recovery of the same cost twice. The recovery as a stranded generation cost occurs because the loss results in a higher debt interest rate and thus, a higher discount rate. Consequently, the market valuation is lower and the stranded generation cost higher.

The Company is entitled to recovery of the unamortized debt cost and the unamortized BV2 sale/leaseback refinancing premium, but only once. Thus, any

quantification of stranded costs in this proceeding should exclude the Company's claim for these regulatory assets.

Q. Please respond to the assertion that Duquesne would suffer an impairment loss for the post-2005 unamortized balance.

A. Again, this reason is irrelevant if the market valuation and stranded generation costs are determined by the Commission in this proceeding. The stranded generation cost then will include the full recovery of the unamortized debt cost. To the extent there is full recovery, Duquesne will not suffer an impairment loss.

Q. Please respond to the assertion that the Company will not recover the costs twice under the Company's proposal to establish the market valuation and a final quantification of stranded costs in 2005.

A. For the unamortized debt cost, whether the Company will double recover the cost, would be completely dependent upon the methodology utilized to establish the market valuation in 2005 under the Company's proposal. If the market valuation relied upon discounted future revenue or income streams, then the discount rate would have to exclude the interest expense associated with the unamortized debt cost.

For the unamortized BV2 sale/leaseback refinancing premium, the Company's assertion that it will not recover the costs twice is not correct. The Company has

included this cost twice during the period 1999 - 2005 and would recover it twice during that period under its proposal. Thus, there would be no remaining unamortized cost for the 2005 market valuation, unless the Company attempted to recover the same cost a third or fourth time.

IV. PRE-ACCRUED NUCLEAR OUTAGES

Q. Please summarize your conclusions and recommendation regarding pre-accrued nuclear outages.

A. Pre-accrued nuclear outages represent a future change in accounting that has not been adopted by the Company and that will not be available to the Company in a competitive environment because it will no longer be eligible to defer generation-related costs under SFAS 71. In addition, pre-accrued nuclear outage costs have a zero net present value, if computed correctly, because the pre-accrual will reverse in the final year of the generating asset's life. I recommend that the Commission reject the Company's claim.

Q. Did the Company respond to your recommendation?

A. Yes. The Company, through Mr. Clayton, provides two reasons why it should be allowed this claimed regulatory asset. First, Mr. Clayton asserts that "The Company's claim does not double count this item because it is not included in future operating expenses." Second, it is a preferable accounting method according to the SEC, the FERC, and the Company's outside auditors.

Q. Please respond to the Company's assertion that the Company's claim does not double count this item.

A. The Company's claim does improperly double count this item because it did not reverse the pre-accrual in the final year of the generating assets' lives. The Company has treated this claim as a permanent difference, rather than a timing difference. Under the proposed pre-accrual accounting, the cost is accrued (deferred before it is incurred) prior to an outage and then reversed upon the actual incurrence of outage costs. This pattern then repeats itself until the last year. In the last year, the pre-accrual is reversed, but no additional deferrals are made. There is no carrying cost associated with the pre-accruals because these deferrals are simply accounting entries that prematurely recognize outage costs before they are incurred.

As an illustration of the pre-accrual accounting, assume a four year remaining life for a generating asset, an annual outage cost of $1,000, and a pre-accrual for the annual amount. The accounting would follow the following pattern.

	Beg Bal of Pre-Accrual	Reversal of Prev Accrual (Act Outage Costs)	New Outage Accrual	End Bal of Pre-Accrual
Yr 0	0	0	$1,000	$1,000
Yr 1	$1,000	-$1,000	$1,000	$1,000
Yr 2	$1,000	-$1,000	$1,000	$1,000
Yr 3	$1,000	-$1,000	$1,000	$1,000
Yr 4	$1,000	-$1,000	0	0

From this illustration, it is clear that the sum of the outage accruals and the payments for outage costs are equal, but only if there is no new outage accrual in the last year of the generating asset's life. This reflects reality, assuming that the Company could employ deferral accounting in the future competitive environment. Because the Company is made whole, and there is no financing cost associated with the pre-accrual, there is no stranded cost. Thus, the Company's claim is without merit and must be rejected.

Q. Please respond to the Company's assertion that the pre-accrual nuclear outage accounting is preferable and consistent with the opinions of the SEC, FERC, and the Company's outside auditors.

A. These opinions were provided within the context of a regulated price environment and the Company's continued application of SFAS 71 for its generation function.

After the transition to competition, the Company no longer will be able to continue the application of SFAS 71 and it no longer will be able to defer costs under the provisions of SFAS 71. Thus, whether the SEC, FERC, or the Company's outside auditors considered this accounting preferable in the past is completely irrelevant going forward into a competitive environment.

V. DEFERRED EMPLOYEE COSTS

Q. Please summarize your conclusions and recommendation regarding deferred employee costs.

A. These costs consist of deferred injuries and damages and deferred compensated absences, which by definition, will reverse in future years when cumulative cash payments exceed the cumulative accounting deferrals. Until that occurs, there are no carrying charges on these balances because no cash has been paid for the accounting deferrals. Consequently, in my direct testimony, I recommended that the Company's claimed regulatory asset be disallowed.

Q. Did the Company respond to your recommendation?

A. Yes. The Company, through Mr. Clayton, disagreed with the recommendation on the basis that all regulatory deferrals reverse. However, the Company failed to address the fact, raised in my direct testimony as an additional reason to not allow this claim, that the Company's future O&M cost projections assume that it will continue to overcollect based upon accruals in excess of cash payments. Thus, stranded generation costs are overstated, which would offset any claim for this regulatory asset, assuming that it could be justified.

Q. What is the relevance of the Company's observation that all regulatory deferrals reverse?

A. I agree with that observation, but it does not rebut the DII recommendation or support the Company's claim. To the contrary, it supports the DII recommendation. Similar to the pre-accrual of nuclear outages, these deferred employee costs will reverse at the latest in the last year of the generating assets' lives. In that last year, there will be no additional accruals and the reversal will cause the Company's O&M expense to decrease compared to the prior year. All else being equal, on a present value basis, this last year reversal will be exactly equal the deferred employee costs regulatory asset claimed by the Company.

VI. DEFERRED COAL

Q. Please summarize your conclusions and recommendation regarding the deferred coal regulatory asset claimed by the Company.

A. These deferred coal costs were deemed by the Commission in prior orders to be excessive and unreasonable. The costs are recoverable only in future years if the Company's coal costs are below market value. The Company has not met the conditional requirements for recovery of these deferred costs and the claim must be rejected.

Q. Did the Company respond to your recommendation?

A. Yes. The Company, through Mr. Clayton, responded that the Company's coal costs are projected to decline in the year 2000 according to his Exhibit DJC-3 Revised (page 3). In addition, he asserted that the Competition Act did not require that there "be an assurance of recovery" in order to obtain recovery as a stranded cost.

Q. Does the projection of lower coal costs in the year 2000 provide a sufficient demonstration that the Company's costs will be below market, the condition established for recovery of the deferred costs by the Commission?

A. No. The only demonstration by the Company has been that its coal costs would decline in the year 2000. There still has been no demonstration that the Company's costs will be below market. Thus, the Company's claim is unsupported and must be rejected.

Q. Do you agree that the Competition Act does not require that there "be an assurance of recovery" in order to obtain recovery as a stranded cost?

A. No. The Competition Act limits stranded costs to those recoverable under traditional regulation. The Competition Act does not override the Commission's conditional requirements for recovery established in prior regulatory proceedings.

VII. DEFERRED CARETAKER COSTS

Q. Please summarize your conclusions and recommendation regarding the Company's claim for deferred caretaker costs as a regulatory asset.

A. The recovery of these costs, related to units on cold reserve, was never guaranteed by the Commission. Future recovery was conditional upon the return to service of the units. The Company has no plans to return these units to service. Thus, the claim does not comply with the Commission's requirements and should be rejected.

Q. Did the Company respond to your recommendation?

A. Yes. The Company, through Mr. Clayton, simply reiterated its direct testimony, the essence of which is that the Company incurred the costs and it should be allowed to recover them. The Company did not address the fact that its claim does not comply with the Commission's requirements for future recovery.

VIII. SFAS 106

Q. Please summarize your conclusions and recommendations regarding the Company's claim for SFAS 106 costs.

A. The recovery of these costs represents an acceleration of the amortization of the SFAS 106 transition obligation, the amortization of which also is included in the quantification of stranded generation costs. If anything, the SFAS 106 issue represents a regulatory liability for the amounts that have been collected and will be collected in excess of the cash pay as you go levels of expense. The ratepayers are entitled to a rate of return on these prepayments. I recommend that the Company's claim be rejected.

Q. Did the Company respond to your recommendation?

A. Yes. The Company, through Mr. Clayton, provides two reasons why the Company's claim should not be rejected. First, he asserts that there is a "misunderstanding" as to how SFAS 106 expense is computed because the transition obligation is stated on a present value basis. Second, he asserts that this is a "GAAP" liability that was or will be incurred during the regulated generation period and that should be borne by the ratepayers.

Q. Please respond to the assertion that there is a "misunderstanding" as to how SFAS 106 expense is computed.

A. There is no misunderstanding. The fact is that SFAS 106 expense currently and for the next fifteen years or so will exceed the cash payments for postretirement benefits. Under SFAS 106, these collections from ratepayers in excess of the Company's payments earn a rate of return and are utilized to reduce the SFAS 106 expense going forward. The Company has failed to capture the net present value of these fund earnings as an offset to its stranded regulatory asset claim.

In addition, the higher levels of SFAS 106 expense are embedded into the Company's stranded generation cost claim. This results in an attempt to recover the same costs twice, an attempt that should be rejected.

Q. Please respond to the assertion that this is a "GAAP" liability that was or will be incurred during the regulated generation period.

A. The transition obligation represents an accounting acceleration of future payments that the Company may, not necessarily will, make in future years for postretirement benefits. The transition obligation, representing the accounting acceleration of the future payments, is currently being amortized over approximately 20 years, under

GAAP. GAAP does not require a further acceleration of the amortization over the CTC recovery period. Further, there is no requirement, from GAAP or under any valid regulatory theory, that would support the Company's assertion that the accelerated accounting recognition of future payments is the obligation of ratepayers and not recoverable through the competitive marketplace. After all, all companies, including the Company's future competitors, are subject to the provisions of SFAS 106.

IX. DEFERRED RATE SYNCHRONIZATION COSTS

Q. Please summarize your conclusions and recommendation regarding the deferred rate synchronization costs.

A. The Company's claim for these costs was not stated on a present value basis, as required under the Competition Act. The Company was not allowed a return by the Commission on these deferred amounts. Consequently, the amortization over the remaining eight year must be discounted. I recommend that the Commission allow only the net present value of this claim.

Q. Did the Company respond to your recommendation?

A. Yes. The Company, through Mr. Clayton, simply agreed that it hadn't quantified the nominal value at December 31, 1998 correctly (refer to Mr. Clayton's Exhibit DJC-14) and reduced its claim by $0.5 million. However, the Company failed to respond to the fact that it is not entitled to earn a rate of return on the deferred balance of the regulatory asset. Instead, Mr. Clayton argued that the Company had excluded the nominal amount from rate base. Unfortunately, the exclusion from rate base was not for stranded cost quantification purposes, but only for the Company's revenue requirement computations. Consequently, its stranded cost claim remains overstated at the nominal value and must be restated to the present value I recommended in my direct testimony.

X. FOSSIL DECOMMISSIONING

Q. Please summarize your conclusions and recommendation regarding fossil decommissioning.

A. I continue to recommend no recovery of these projected costs because they are inherently speculative and uncertain. In addition, the Company's study, performed by TLG Services, contains retirement date and life extension assumptions inconsistent with the Company's assumptions for its generating units.

Q. Has the Company responded to your testimony regarding fossil decommissioning?

A. Yes. Mr. LaGuardia addresses the speculative and uncertain nature of the fossil decommissioning cost estimates. He simply reiterates certain points in his direct testimony that he believes lead to the conclusion that the cost estimates in the fossil decommissioning study prepared by TLG Services, Inc., are reliable. Mr. LaGuardia also asserts that the TLG Services cost estimates are not affected by retirement dates and life extensions. Finally, Mr. Clayton addresses fossil decommissioning within the context of the Company's stranded cost claim.

Q. Do you agree with Mr. LaGuardia that the TLG Services cost estimates are "reliable?"

A. No. The TLG study is not and cannot be reliable due to the very nature of the assumptions, the problems with which I described in my direct testimony.

Q. Do you agree that the fossil decommissioning cost estimates are not affected by retirement dates and life extensions?

A. That assertion is not true regarding the Company's stranded cost claim because the remaining lives of the Company's generating assets directly impacts the net present value of the future decommissioning cost and the level of trust fund earnings. Because the trust fund earnings exceed the escalation of the cost estimate, the longer the lives of the generating assets, the lower the net present value of the fossil decommissioning obligation. This relationship was acknowledged by Mr. Clayton in his rebuttal testimony (p. 36) on decommissioning as follows:

> **"Q. Would the final valuation also consider future site value, life extension or other value which would tend to offset or reduce the present value of future decommissioning costs?**
>
> **A. Yes."**

XI. SECURITIZATION

Q. Please summarize your conclusions and recommendation regarding securitization.

A. The Commission should direct Duquesne to utilize securitization to the maximum extent possible in order to minimize the stranded cost recovery through a CTC.

Q. Has the Company responded to your testimony regarding securitization?

A. Yes. The Company, through Mr. Clayton, disagreed with the DII recommendation for four reasons. First, the Company asserts that it would be uneconomic to replace lower cost debt with higher cost debt. Second, securitization would increase the level of leverage in the capital structure. Third, the Company cannot reduce its common equity below certain levels without violating the terms of the BV2 sale/leaseback. Fourth, the Commission cannot require the Company to securitize its stranded assets.

Q. Please respond to the assertion that it would be uneconomic to replace lower cost debt with higher cost debt.

A. The Company failed to provide any factual support for its conclusion that securitization would be uneconomic. In the first sale of utility "securitization" bonds in this country, PG&E recently securitized $2.9 billion of its stranded costs at an average interest rate of 6.42%. The PG&E securitization financing was rated AAA by Standard & Poor's based upon the regulatory guarantee of recovery backed by state law. Contrary to Duquesne's unsupported assertion, the evidence to date would suggest that, with a higher bond rating similar to that obtained by PG&E, it indeed would be economic for Duquesne to replace significant portions of its existing debt with securitization debt.

In addition, the Company would replace not only existing debt, but also would repurchase common and preferred shares with the lower cost securitization bonds. This would provide a greater financial benefit than only replacing debt for debt.

Q. Please respond to the assertion that securitization would increase the level of debt leverage in the Company's capital structure.

A. That assertion is extremely misleading for several reasons. First, the debt would be considered separately by the securities analysts and ratings agencies, as evidenced by the AAA rating on the PG&E securitization bonds. Second, the stranded costs and the right to the servicing of the related securitized debt can be sold to a third party. Such a sale would remove the debt from the Company's balance sheet and remove even the appearance of additional debt leverage.

Q. Please respond to the Company's concern regarding the BV2 sale/leaseback.

A. The Company's concerns can be resolved through modifications to the provisions of the sale/leaseback agreement.

Q. Please respond to the Company's assertion that the Commission cannot require it to securitize its stranded costs.

A. That clearly is a legal issue. Nevertheless, the Commission should consider the Company's unwillingness to engage in this mitigation measure for the benefit of ratepayers. The Commission is explicitly empowered under the Competition Act to consider the Company's mitigation efforts in its determination of recoverable stranded costs. The Commission should not allow this benefit to be retained by the Company, if in fact it does securitize its stranded costs subsequent to this proceeding. The Commission should clearly establish that any securitization savings be utilized to reduce the required CTC revenues.

Q. Does this complete your surrebuttal testimony?

A. Yes.

WORKPAPERS

OF

LANE KOLLEN

DOCKET NO. R-00974104

Duquesne Beaver Valley 1 Nuclear Decommissioning
for Stranded Cost and Revenue Requirement ($000)

Assumptions:

Escalation Rate	4.00%
Trust Fund Earn Rat	7.50%
Duq Aft Tax Disc Rat	7.83%
Retirement Date	2016

Years to Decommissioning (incl Avg Postretirement Activity and Disbursement Period) after 1998	32	
Projected Fund Balance at 12/31/98	39621	(Exh DJC-7 p 3)
Projected Fund Balance at 6/30/2030	400863	
Decommissioning Cost Estimate in 1997 $	166564	(47.5%*$350661)
Decommissioning Cost Estimate in 2030 $	584316	
Fund Deficiency/(Surplus) in 2030	183453	
NPV of 2030 Fund Deficiency/(Surplus) at 12/31/98 @ Company's After Tax Cost of Capital 7.83%	16438	

Deferred Rate Synchronization Costs
Net Present Value at 12/31/98 ($Million)

	Nominal Amort	Pres Val Amort	
1999	4.18	4.02	0.962325
2000	4.18	3.73	0.892446
2001	4.18	3.46	0.827642
2002	4.18	3.21	0.767543
2003	4.18	2.98	0.711809
2004	4.18	2.76	0.660121
2005	4.18	2.56	0.612187
2006	4.17	2.37	0.567734
Total	33.43	25.08	

Duquesne Perry Nuclear Decommissioning
for Stranded Cost and Revenue Requirement ($000)

Assumptions:

Escalation Rate	4.00%
Trust Fund Earn Rat	7.50%
Duq Aft Tax Disc Rat	7.83%
Retirement Date	2026

Years to Decommissioning (incl Avg Postretirement Activity and Disbursement Period) after 1998	32.5	
Projected Fund Balance at 12/31/98	10145	(Exh DJC-7 p 3)
Projected Fund Balance at 6/30/2030	106421	
Decommissioning Cost Estimate in 1997 $	89300	(13.74%*$649928)
Decommissioning Cost Estimate in 2030 $	319474	
Fund Deficiency/(Surplus) in 2030	213053	
NPV of 2030 Fund Deficiency/(Surplus) at 12/31/98 @ Company's After Tax Cost of Capital 7.83%	18384	

Duquesne Beaver Valley 2 Nuclear Decommissioning
for Stranded Cost and Revenue Requirement ($000)

Assumptions:

Escalation Rate	4.00%
Trust Fund Earn Rat	7.50%
Duq Aft Tax Disc Rat	7.83%
Retirement Date	2027

Years to Decommissioning (incl Avg Postretirement Activity and Disbursement Period) after 1998	33.5	
Projected Fund Balance at 12/31/98	8074	(Exh DJC-7 p 3)
Projected Fund Balance at 6/30/2031	91048	
Decommissioning Cost Estimate in 1997 $	51801	(13.74%*$377009)
Decommissioning Cost Estimate in 2031 $	192733	
Fund Deficiency/(Surplus) in 2031	101684	
NPV of 2030 Fund Deficiency/(Surplus) at 12/31/98 @ Company's After Tax Cost of Capital 7.83%	8137	

DII Cross Exh. 1

Item No.: ENV-1-023
Witness: Hoffmann
Page 1 of 2

R-974104

DUQUESNE LIGHT COMPANY

Environmentalists' Interrogatories Set I

23. With respect to the preceding request seeking the study, memorandum, or other summary document which, in the opinion of the Company, most accurately demographically profiles the Company's customer classes and service territory:

a. Please explain how the Company has correlated this information with its load data.

b. Provide the most recent document which discusses and/or presents such correlation.

Response:

a.,b.) Outlined below is the correlated contribution to system peak load for each Residential demographic group and each Commercial and Industrial market segment.

Customer Class	Customer Group/Segment	System Peak Load Contribution (MW)	Percentage Contribution to System Peak
Residential	Group A - accumulated Wealth	40.9	1.54%
	Group B - Mainstream Families	373.6	14.04%
	Group C - Mainstream Singles	272.5	10.24%
	Group D- Conservative Classics	48.8	1.83%
	Group E - Sustaining Families	48.8	1.83%
	Group F - Sustaining Singles	65.3	2.45%
	Group G - All Others	20.9	0.79%
	Subtotal	**870.8**	**32.72%**
Commercial	Utility Services	93.6	3.52%
	Wholesale Trade	31.8	1.19%
	Retail Trade - Food	43.1	1.62%
	Retail Trade - Restaurants	50.9	1.91%
	Retail Trade - Merchandise	106.8	4.01%
	Office Buildings	240.7	9.04%
	Healthcare	85.3	3.20%
	Education	129.3	4.86%
	Services	168.9	6.35%
	Government	49.5	1.86%
	Small Business	195.5	7.35%
	Subtotal	**1195.4**	**44.91%**
Industrial	Industriales - Chemical	56.6	2.13%
	Industriales - Plastics	11.8	0.44%
	Industriales - Glass	32.6	1.22%
	Industriales - Steel	376.6	14.15%
	Industriales - Other	117.7	4.42%
	Subtotal	**595.3**	**22.36%**
	TOTAL	**2661.5**	**100%**

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%**

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.

END