

3/21/95

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission

v.

Docket No. R-00943271

Pennsylvania Power & Light Company

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PA. P. U. C. DIV.  
INFO. CONTROL DIV.

DOCKETED

MAR 27 1995

AFFIDAVIT OF JOHN J. SLIVKA

DOCKETED

JOHN J. SLIVKA, being duly sworn according to law, deposes and says

that he is Manager-Market Research of Pennsylvania Power & Light Company; that he is authorized to and does make this affidavit for it; that Statement No. 6, Exhibit JJS-1, PP&L's response to Question 20 of Interrogatories of the PP&L Industrial Customer Alliance, Set I, Dated February 1, 1995, and PP&L's response to Question OTS-RB-60 of Interrogatories of the Office of Trial Staff, Dated February 28, 1995, in this proceeding were prepared by him or under his supervision and control; that he has no changes or corrections to those documents; and that the information provided in those documents is true and correct to the best of his knowledge, information and belief.

*John J. Slivka*

Sworn to and subscribed before me this 22<sup>nd</sup> day of March, 1995.

*Francine A. Greenzweig*

NOTARIAL SEAL  
FRANCINE A. GREENZWEIG, Notary Public  
City of Allentown, Lehigh County, PA  
My Commission Expires Oct. 29, 1998

ORIGINAL

**Pennsylvania Power & Light Company**  
**Response to Interrogatories of**  
**the PP&L Industrial Customer Alliance, Set I**  
Dated February 1, 1995  
**Docket No. R-00943271**

Q.20. Please provide the annual system kWh energy requirements and peak demand for 1989-1994 and projected for 1995 -2000.

A.20. Actual and weather-normalized annual system kWh sales and peak demands for the years 1989-1994 are shown below. PP&L is a winter peaking company. The peaks are for the winter season beginning in the given year. See Exhibit JJS 1, page 4 of 4, for projected sales and peak demands for the years 1995-2000.

	<u>Sales</u> (Million KWH)		<u>Winter Peak</u> (MW)	
	<u>Actual</u>	<u>Weather-Normalized</u>	<u>Actual</u>	<u>Weather-Normalized</u>
1989	28,402	28,421	6,000	5,986
1990	28,672	29,276	5,661	6,021
1991	29,036	29,323	5,974	6,214
1992	29,755	30,089	6,130	6,228
1993	31,050	30,944	6,403	6,341
1994	32,314	32,031	6,508 <sup>1/</sup>	6,610 <sup>2/</sup>

<sup>1/</sup> through 2/6/95

<sup>2/</sup> preliminary

J. J. Slivka

**Pennsylvania Power & Light Company**  
**Response to Interrogatories of**  
**the Office of Trial Staff**  
**Dated February 28, 1995**  
**Docket No. R-00943271**

- Q.OTS-RB-60. Provide the latest peak day results (MW). Also provide the weather-normalized peak for the same time period.
- A.OTS-RB-60. See the response to Question 20 of Interrogatories of the PP&L Industrial Customer Alliance, Set I, Dated February 1, 1995.

PPLICA CROSS-EXAMINATION

EXHIBIT NO. 4

3/23/95 Hbg JK

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PENNSYLVANIA PUBLIC UTILITY COMMISSION, ET AL. v.

PENNSYLVANIA POWER & LIGHT COMPANY,

DOCKET NO. R-00943271

DOCKETED  
MAR 27 1995

ORIGINAL

RATE SCHEDULE LP-5  
 LARGE GENERAL SERVICE AT 69,000 VOLTS OR HIGHER

APPLICATION RATE SCHEDULE LP-5

This rate schedule is for large general service supplied from available lines of 69,000 volts or higher, with customer furnishing and maintaining all equipment necessary to transform the energy from the line voltage. It applies to 3 phase, 60 Hertz service and also to 1 phase, 25 Hertz service at existing locations as of August 28, 1981.

NET MONTHLY RATE (Effective 4-1-93)

- \$4.39 per kilowatt for all kilowatts of the Billing KW.
- 4.86 cts. per KWH for the first 150 KWH per kilowatt of the Billing KW but not more than 1,200,000 KWH.
- 4.43 cts. per KWH for the next 100 KWH per kilowatt of the Billing KW.
- 3.68 cts. per KWH for the next 150 KWH per kilowatt of the Billing KW.
- 3.21 cts. per KWH for all additional KWH.

A credit of \$0.85 is applied to all Billing KW when customer takes service at 230,000 volts.

The Energy Cost Rate applies to all KWH supplied under this rate.

The Minimum Billing Demand is 300 KW.

The Net Monthly Rate Minimum is \$1,317.00.

FACILITY CHARGE

In addition to the above charges, for 25 Hertz service the customer pays the Company \$3,457 per month for use of Company facilities.

BILLING KW

The Billing KW is the average number of kilowatts supplied during the 15 minute period (1 hr. period for 230,000 volt service) of maximum use during the current billing period, except that where a 1 hr. period of maximum use was in effect as of August 28, 1981, it may be continued for that customer.

Time-of-Day metering and billing is available on request for an additional charge of \$12.00 per month for a minimum period of one year. The Billing KW is the average number of kilowatts supplied during the 15 minute (1 hr.) period of maximum use during the on-peak hours of the current billing period.

ON-PEAK HOURS

On-peak hours for billing purposes are 7 a.m. to 3 p.m., 8 a.m. to 4 p.m., or 9 a.m. to 5 p.m. local time, at the option of the customer, Mondays to Fridays inclusive except New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. The Company's system on-peak period is 7 a.m. to 9 p.m. local time.

OPTIONAL INTERRUPTIBLE POWER (Restricted 2-15-95)

Optional Interruptible Power is available to customers served under this rate schedule with at least 1,000 KW of year-round Interruptible Power who contract to accept interruptible service for at least one year, as detailed in this provision. This provision is available only to customers who sign a contract for service under this provision by February 15, 1995. (C)

NET MONTHLY RATE (Effective 4-1-93)

- \$9.60 per kilowatt for all kilowatts of the Billing KW.
- 3.21 cts. per KWH for first 400 hours use of Billing KW
- 2.14 cts. per KWH for all additional KWH.

A credit of \$0.85 is applied to all Billing KW when customer takes service at 230,000 Volts.

The Energy Cost Rate applies to all KWH supplied under this rate.

The Minimum Billing Demand is 300 KW.

The Net Monthly Rate Minimum is \$2,880.00.

BILLING KW

The monthly Billing KW is calculated as:

$$\text{Billing KW} = \text{Firm Power} + [\text{Interruptible Power} \times (1 - \text{Average On-peak Load Factor})]$$

ON-PEAK HOURS

On-peak hours for billing purposes are 7 a.m. to 7 p.m. local time, Mondays to Fridays inclusive except New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

MAXIMUM ON-PEAK DEMAND

Maximum On-peak Demand is the average number of kilowatts supplied during the 15 minute period (1 hr. period for 230,000 volt service) of maximum use during the On-peak Hours of the current billing period, except that where a 1 hour period of maximum use was in effect as of August 28, 1981, it may be continued for that customer.

**RATE SCHEDULE LP-5 (CONTINUED)**

**ON-PEAK LOAD FACTOR**

On-peak Load Factor for billing purposes is the ratio of the kilowatt-hours supplied during the On-peak Hours to the product of the Maximum On-peak Demand and the number of On-peak Hours for a billing period.

**AVERAGE ON-PEAK LOAD FACTOR**

Average On-peak Load Factor is the average of the On-peak Load Factors for the twelve months of the prior calendar year. Average On-peak Load Factor is recalculated annually and applied to service billed on and after April 1 of the current year under the Optional Interruptible Power provision. The Company may modify the On-peak Load Factors for the twelve months of the prior calendar year to reflect operations expected under this provision.

**FIRM POWER**

Firm Power is the level of KW demand which the customer has no obligation to curtail during an interruption of service called by the Company. The initial level of Firm Power shall be specified in the contract. This initial level will be adjusted by the Company to the level of Firm Power actually achieved by the customer during an emergency or an emergency test interruption period. The adjusted level shall become the level of Firm Power for the remaining term of the contract or until a new level of Firm Power is achieved during a subsequent emergency or an emergency test interruption period. The level of Firm Power shall not be adjusted or reduced below the level of Firm Power specified in the contract as of February 15, 1995.

**INTERRUPTIBLE POWER**

Interruptible Power is the Maximum On-Peak Demand less the Firm Power.

**HOURS OF INTERRUPTION**

Load interruptions may be called by the Company as required for economic load control, for system and local emergencies, and for tests of the customer's ability and readiness to interrupt load during an emergency. The frequency of load interruptions shall be no less than once per year; or no more than 20 per calendar year with such interruptions being no more than 10 hours in any one day; or more often than five days in any single month, or more than 200 hours in a calendar year. Whenever possible, the customer will be notified in advance of a probable interruption and the estimated duration of the interruption. The customer is obligated to interrupt load during emergencies and emergency tests, but has the option to interrupt, or accept an additional charge for continued use, during periods of economic load control.

The Company may cancel the contract for interruptible service if the customer fails to interrupt during an emergency or an emergency test interruption period.

The charge for continued use (KWH) of interruptible load (KW) during a period of economic load control is the sum of the charges under the rate plus the Company's estimated PJM Interconnection billing rate applied to all KWH used during the interruption period.

The additional charge for not interrupting load (KW) when called for during an emergency or an emergency test interruption period is: \$15.30 per KW for all KW by which the maximum 15 minute (1 hr. for 230,000 volt service) demand (KW) for the period of requested interruption exceeds the Firm Power (KW). This penalty shall be applied separately for each requested interruption, and shall be in addition to all other charges provided for under the rate, including the Company's estimated PJM Interconnection billing rate applied to all KWH used during the emergency or the emergency test interruption period.

**INDUSTRIAL DEVELOPMENT INITIATIVES RIDER**

The Industrial Development Initiatives Rider included in this Tariff applies to eligible customers served under this Rate Schedule, except for customers served under the Optional Interruptible Power provision or the Economic Development Initiatives Rider.

**ECONOMIC DEVELOPMENT INITIATIVES RIDER**

The Economic Development Initiatives Rider included in this Tariff applies to eligible customers served under this Rate Schedule, except for customers served under the Optional Interruptible Power provision or the Industrial Development Initiatives Rider.

**ELECTRIC VEHICLE RIDER (EXPERIMENTAL)**

The Electric Vehicle Rider included in this Tariff applies to eligible customers served under this Rate Schedule.

**DEMAND FREE DAYS (EXPERIMENTAL)**

A customer taking service under this rate schedule having a monthly maximum demand of 5,000 KW or greater is eligible for Demand Free days. An eligible customer may pre-select three (3) weekdays per week, from Tuesday through Friday, as Demand Free. The demand created by the customer on the pre-selected days will not be used for billing purposes. The customer must specify annually which three weekdays per week will be Demand Free for the succeeding year. Terms and conditions for service under this provision are covered by contract. This provision does not apply to customers served under the Optional Interruptible Power Provision.

The Company will notify the customer by 2:00 p.m. of the weekday preceding a Demand Free day if the Demand Free day is canceled. A Demand Free Day will not be canceled by the Company unless the incremental cost to carry the Company's system load is greater than the sum of the trailing block energy rate under this schedule and the Energy Cost Rate, or the local distribution system has insufficient capacity to meet the expected load.

**SPECIAL BASE RATE CREDIT ADJUSTMENT**

The Special Base Rate Credit Adjustment included in this Tariff is applied to charges under this rate except for charges made under the Energy Cost Rate and charges made under the State Tax Adjustment Surcharge.

**STATE TAX ADJUSTMENT SURCHARGE**

The State Tax Adjustment Surcharge included in this Tariff is applied to charges under this rate except for charges made under the Energy Cost Rate.

**PAYMENT**

The above net rate applies when bills are paid on or before the due date specified on the bill, which is not less than 15 days from the date bill is mailed. When not so paid, the gross rate applies which is the above net rate plus 5% on the first \$200.00 of the then unpaid balance of the monthly bill and 2% on the remainder thereof.

**CONTRACT PERIOD**

Not less than one year.

(C) Indicates Change

OFFICE OF TRIAL STAFF

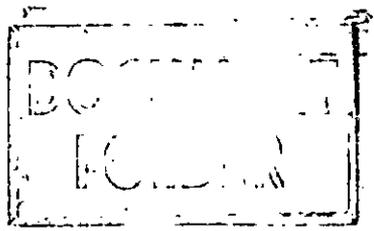
CROSS-EXAMINATION

EXHIBIT NO. 3  
*3/23/95 Hbg  
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DATE: MARCH 23, 1995



PA PUBLIC UTILITY COMMISSION  
vs.  
PENNSYLVANIA POWER & LIGHT COMPANY  
DOCKET NO: R-00943271

ORIGINAL

Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Office of Trial Staff  
Dated February 28, 1995  

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Docket No. R-00943271

- Q.OTS-RB-62.** Refer to Exhibit JFS-1. Provide a discussion explaining PJM's sentiment concerning the reserve margin of 15.1% that is derived after the Capacity Credit Sales to Other PJM Utilities. Explain whether the 15.1% was acceptable to PJM and why this level was acceptable.
- A.OTS-RB-62.** PP&L's installed capacity obligation to PJM when expressed as a percentage of PP&L's winter peak load is approximately 12% as discussed on pages 9-10 of Statement 9, the Direct Testimony of John F. Sipics.

The resources PP&L can use to meet its PJM installed capacity obligation are based on established PJM guidelines. Resources that can be used for installed capacity accounting purposes include owned and leased generation, firm capacity transactions, interruptible load, non-utility generation, and capacity credit transactions between PJM member companies. Therefore, the reserve margin of 15.1% above PP&L System's winter peak is adequate to meet PP&L's minimum reserve requirement as a member of PJM.

The reserve margin of approximately 12% above PP&L's winter peak represents a minimum reserve requirement. Many factors contribute to the need for additional reserve over the minimum PJM requirement. An appropriate reserve margin exists within a range that is defined on the basis of accepted measures of reliability; the practicalities of adding generating resources, (i.e. in units of sufficient size to capture reasonable economies of scale); load shape and duration; the need for fuel diversity; the level of control the utility has over its planned resources; and the inherent limitations of available forecasting techniques.

**Pennsylvania Power & Light Company**  
**Response to Interrogatories of**  
**the Office of Trial Staff**  
**Dated January 13, 1995**  
**Docket No. R-00943271**

- Q. OTS-RB-27D. a) Provide a detailed schedule showing, by month for the years 1989 through the present, the following:

Maximum nameplate generation capability of PP&L's share of each power source, actual generation of each power source, PP&L's share of total generation of all power sources, actual sales by each of PP&L's tariff rates, and all off-system sales (including PJM).

- b) In reference to the Commission's Order at Docket Number R-842651, provide a detailed discussion explaining whether PP&L is excluding the common equity return on Susquehanna Unit 2 as ordered by the Commission in this base rate filing. If not, explain why in detail?

- A. OTS-RB-27D. a) Attachment 1, page 1, provides PP&L's share of the maximum nameplate generation capability (or rating) by individual unit for steam generators, by plant for hydro generators, and by group for combustion turbine and diesel generators. The nameplate rating is the manufacturer's rating for the installed generator and does not change. Attachment 1, pages 2 through 6, provide PP&L's share of the actual monthly generation for the years 1989 through 1994. Actual monthly off-system sales are also provided in Attachment 1. PP&L's actual monthly sales for each tariff rate for 1989 through 1994 are provided in Attachment 2.

- b) Because Susquehanna Unit No. 2 continues to be "used and useful" in providing reliable electric service to customers and has provided those customers with energy benefits over the last decade and because, as discussed in Statement 9, the Direct Testimony of John F. Sipics, PP&L's current generation reserve margins are within a reasonable range, the Company's total claimed PUC jurisdictional revenue requirements include the jurisdictional revenue requirements associated with this unit, including an appropriate common equity return.

PP&L Share of  
Maximum Nameplate  
Generation Capability  
(Megawatts)

PP&L Share of Actual Generation  
(Megawatthours)

		Jan. '89	Feb. '89	Mar. '89	Apr. '89	May '89	Jun. '89	Jul. '89	Aug. '89	Sep. '89	Oct. '89	Nov. '89	Dec. '89
<b>COAL-FIRED</b>													
Brunner Island #1	363	203,658	206,645	231,293	219,607	206,199	101,488	-2,104	130,505	173,933	211,657	216,120	183,176
Brunner Island #2	405	243,287	233,901	267,315	249,997	260,578	256,267	232,770	-612	206,135	247,650	216,458	261,842
Brunner Island #3	790	441,781	347,845	36,414	406,432	498,785	481,469	389,793	446,228	416,474	514,185	350,437	520,550
Holtwood #17	75	52,439	47,366	51,992	50,227	51,837	13,344	50,399	50,291	49,795	52,184	38,487	47,964
Martins Creek #1	156	82,043	79,936	88,177	77,065	80,862	81,622	21,449	29,459	-401	2,337	81,260	95,409
Martins Creek #2	156	2,956	69,156	83,762	93,146	80,412	70,961	72,448	64,481	72,358	35,723	72,686	92,494
Montour #1 (include ATG)	823	462,644	475,399	483,740	518,272	79,473	105,620	471,100	476,785	503,220	532,033	483,770	491,248
Montour #2	819	463,872	389,143	487,999	513,797	437,576	462,493	447,358	473,411	498,900	96,983	80,049	522,830
Sunbury #1	75	38,847	36,000	39,303	50,035	48,262	48,994	43,348	43,294	43,625	44,124	43,522	45,139
Sunbury #2	75	48,892	38,586	42,828	49,488	49,612	49,751	48,120	46,825	46,799	45,378	44,489	48,832
Sunbury #3	104	43,705	30,674	71,664	70,022	66,248	65,557	65,675	62,561	59,593	60,179	61,496	64,279
Sunbury #4	156	91,360	78,030	88,117	58,803	64,240	72,863	47,754	70,863	75,911	86,275	71,905	88,848
Conemaugh #1 (11.39% Share)	107	62,982	1,057	32,528	68,021	65,760	65,577	63,919	55,780	57,332	69,943	60,097	51,929
Conemaugh #2 (11.39% Share)	107	69,711	62,252	59,027	15,195	-468	42,794	65,686	63,593	53,044	68,200	66,755	68,797
Keystone #1 (12.34% Share)	116	74,205	67,506	74,902	71,562	71,662	51,501	39,735	72,471	29,602	711	60,062	73,645
Keystone #2 (12.34% Share)	116	55,203	58,522	74,648	58,403	72,035	57,964	63,245	62,019	69,813	72,744	57,186	72,258
<b>NUCLEAR</b>													
Susquehanna #1 (90% Share)	1037	400,224	450,089	620,671	-6,608	-6,674	393,444	686,670	691,317	562,661	698,685	680,574	651,219
Susquehanna #2 (90% Share)	1037	693,750	608,857	436,154	674,615	699,820	652,718	677,200	678,751	194,025	-5,778	87,235	696,208
<b>OIL-FIRED</b>													
Martins Creek #3	851	262,337	-1,141	-1,628	7,427	148,428	174,592	161,161	89,652	35,093	46,481	287,946	410,291
Martins Creek #4	851	265,474	359,997	434,030	285,207	145,122	218,100	156,578	79,027	107,032	51,858	-1,635	95,714
<b>COMBUSTION TURBINES</b>													
	458	17,058	2,816	16,588	981	3,431	14,233	15,595	4,003	10,161	913	1,701	18,193
<b>DIESELS</b>													
	22	114	122	219	113	121	442	152	113	204	101	117	83
<b>HYDRO</b>													
Holtwood	108	51,053	48,710	65,912	66,667	72,234	71,904	66,580	32,905	22,426	40,015	54,486	34,547
Wallenpaupack	40	6,098	5,458	3,544	152	22,150	10,372	9,255	3,426	6,371	4,746	9,916	4,891
Safe Harbor	137	19,761	20,719	36,223	47,956	68,670	54,792	39,680	11,822	7,388	22,072	28,511	11,871
<b>TOTAL UNIT GENERATION</b>		<b>4,153,454</b>	<b>3,717,645</b>	<b>3,825,422</b>	<b>3,646,582</b>	<b>3,286,375</b>	<b>3,618,862</b>	<b>3,933,566</b>	<b>3,738,970</b>	<b>3,301,494</b>	<b>2,999,399</b>	<b>3,153,630</b>	<b>4,652,257</b>
<b>OFF-SYSTEM SALES</b>													
Sales to Atlantic City Electric		70,963	68,695	68,554	43,324	44,955	67,865	88,485	88,887	49,079	44,941	49,796	87,417
Sales to Jersey Central Power and Light		465,572	417,210	427,722	407,139	363,036	402,907	440,719	422,685	373,571	334,618	337,220	519,097
Sales to Baltimore Gas and Electric		0	0	0	0	0	0	0	0	0	0	0	0
Sales to GPU Service Corp.		0	0	0	0	0	0	0	0	0	0	0	0
PJM Interchange Power Sales		964,189	786,748	878,140	1,197,719	816,956	1,013,165	1,135,364	967,833	772,787	512,117	324,406	550,325
Sales to Other Utilities		0	0	0	0	0	0	18,027	0	830	0	193,353	373,213

PP&L Share of  
Maximum Nameplate  
Generation Capability  
(Megawatts)

PP&L Share of Actual Generation  
(Megawatthours)

		Jan. '90	Feb. '90	Mar. '90	Apr. '90	May '90	Jun. '90	Jul. '90	Aug. '90	Sep. '90	Oct. '90	Nov. '90	Dec. '90
<b>COAL-FIRED</b>													
Brunner Island #1	363	211,550	178,815	209,969	172,917	191,064	40,071	193,108	207,284	191,188	204,876	157,201	199,454
Brunner Island #2	405	231,249	226,821	248,694	247,575	228,726	210,890	93,366	194,917	227,664	232,654	237,868	238,014
Brunner Island #3	790	423,284	386,221	466,470	209,675	471,156	421,916	365,664	383,377	220,389	-1,006	42,716	345,986
Holtwood #17	75	52,080	47,053	37,904	30,766	48,086	50,617	51,585	45,871	50,110	52,509	50,288	43,537
Martins Creek #1	156	78,370	49,268	81,092	59,371	45,101	37,474	55,706	72,070	67,947	67,441	62,659	66,537
Martins Creek #2	156	79,323	44,959	82,452	64,632	34,129	73,384	69,682	18,968	72,223	71,887	53,940	52,069
Montour #1 (include ATG)	823	522,052	382,883	492,120	425,294	-2,009	426,864	519,737	426,251	446,794	484,259	501,088	453,036
Montour #2	819	509,011	463,507	528,121	442,789	516,709	504,156	512,158	517,960	361,858	462,374	424,899	475,234
Sunbury #1	75	46,268	36,214	51,897	46,305	45,360	43,046	44,397	43,662	44,340	45,182	40,128	40,565
Sunbury #2	75	47,974	38,387	51,236	46,912	46,368	45,030	45,276	44,839	45,224	37,036	33,051	41,255
Sunbury #3	104	66,944	51,753	3,697	12,485	61,095	60,076	60,811	63,220	61,489	60,789	27,450	51,614
Sunbury #4	156	-481	-637	35,662	84,942	80,778	81,431	80,826	72,947	67,991	78,883	78,227	72,693
Conemaugh #1 (11.39% Share)	107	67,151	61,495	56,487	66,222	59,849	28,238	50,875	61,598	33,929	-508	46,849	67,059
Conemaugh #2 (11.39% Share)	107	66,881	60,261	67,184	62,655	54,902	65,141	55,167	68,990	64,403	56,598	49,437	64,259
Keystone #1 (12.34% Share)	116	73,651	67,089	74,476	69,792	61,912	68,440	69,979	52,424	69,016	71,739	59,749	70,217
Keystone #2 (12.34% Share)	116	73,123	20,979	-448	23,129	56,358	55,118	36,895	61,463	50,156	75,150	57,375	61,049
<b>NUCLEAR</b>													
Susquehanna #1 (90% Share)	1037	688,439	375,219	652,575	677,469	698,626	413,340	651,883	677,587	233,455	-4,815	172,696	555,930
Susquehanna #2 (90% Share)	1037	698,000	457,387	702,951	679,214	599,865	353,830	688,575	679,356	657,166	630,688	675,213	639,382
<b>OIL-FIRED</b>													
Martins Creek #3	851	114,082	-2,687	-2,511	4,973	35,194	170,064	265,654	57,488	-2,842	2,444	-2,573	-3,305
Martins Creek #4	851	18,707	37,836	86,721	102,798	-1,406	128,162	219,359	61,725	79,996	17,993	29,411	19,410
<b>COMBUSTION TURBINES</b>													
	458	2,395	382	398	2,204	340	1,163	8,833	5,401	5,589	3,895	191	252
<b>DIESELS</b>													
	22	96	87	73	200	173	102	154	160	120	101	149	55
<b>HYDRO</b>													
Holtwood	108	57,614	71,379	70,777	73,197	74,630	60,324	48,679	45,912	39,990	51,694	62,138	64,912
Wallenpaupack	40	1,875	15,206	8,129	2,564	6,332	8,161	9,407	4,893	4,935	1,792	6,635	13,351
Safe Harbor	137	34,166	66,395	34,140	45,733	49,593	26,500	24,623	18,388	14,231	53,008	41,966	63,194
<b>TOTAL UNIT GENERATION</b>		<b>4,163,804</b>	<b>3,136,272</b>	<b>4,040,266</b>	<b>3,653,813</b>	<b>3,462,931</b>	<b>3,373,538</b>	<b>4,222,399</b>	<b>3,886,751</b>	<b>3,113,045</b>	<b>2,756,663</b>	<b>2,908,751</b>	<b>3,695,759</b>
<b>OFF-SYSTEM SALES</b>													
Sales to Atlantic City Electric		89,950	54,002	87,943	88,019	84,239	49,756	86,966	88,035	57,773	40,594	54,995	77,544
Sales to Jersey Central Power and Light		455,190	345,862	449,932	396,204	375,443	375,799	476,144	436,863	345,332	305,874	324,951	409,547
Sales to Baltimore Gas and Electric		0	0	0	0	0	0	0	0	0	0	0	0
Sales to GPU Service Corp.		0	0	0	0	0	4,613	25,658	5,027	5,294	6,078	4,955	6,197
PJM Interchange Power Sales		816,399	469,290	1,111,588	994,605	1,017,838	909,827	1,388,489	1,101,933	751,561	391,870	400,782	714,396
Sales to Other Utilities		128,285	22,291	12,100	86,915	8,320	23,240	4,737	0	30,070	0	0	0

	PP&L Share of Maximum Nameplate Generation Capability (Megawatts)	PP&L Share of Actual Generation (Megawatthours)											
		Jan. '91	Feb. '91	Mar. '91	Apr. '91	May '91	Jun. '91	Jul. '91	Aug. '91	Sep. '91	Oct. '91	Nov. '91	Dec. '91
<b>COAL-FIRED</b>													
Brunner Island #1	363	213,860	197,295	218,521	205,096	155,297	91,200	193,126	177,802	172,476	191,313	165,193	216,369
Brunner Island #2	405	249,153	234,825	234,736	240,469	233,035	206,524	231,855	55,892	192,821	223,467	238,915	246,325
Brunner Island #3	790	401,373	452,807	503,753	485,473	450,031	450,432	459,522	403,572	-1,271	18,626	187,319	504,252
Holtwood #17	75	52,117	40,557	52,292	50,254	15,928	6,475	51,669	50,370	51,206	53,444	38,024	52,151
Martins Creek #1	156	79,882	64,655	69,074	63,294	74,178	26,834	-454	-451	-604	33,651	64,498	71,756
Martins Creek #2	156	80,827	69,755	66,170	61,874	72,516	25,915	63,259	64,246	34,442	50,990	70,724	72,872
Montour #1 (include ATG)	823	448,517	369,236	512,308	376,005	474,042	475,094	406,459	486,180	372,175	150,954	1,151	429,431
Montour #2	819	450,982	436,541	407,625	173,450	-1,606	164,255	193,074	334,944	471,465	505,812	497,542	511,608
Sunbury #1	75	-1,438	41,219	47,104	32,717	46,478	42,177	45,031	44,199	40,819	42,331	44,029	51,025
Sunbury #2	75	47,574	41,010	45,822	41,000	45,939	41,915	42,371	37,980	38,195	39,158	42,670	4,106
Sunbury #3	104	62,806	43,869	63,451	55,452	59,756	55,462	57,047	57,799	52,176	54,057	53,940	65,455
Sunbury #4	156	79,944	14,704	79,040	80,612	84,978	78,138	76,609	38,223	74,583	83,308	57,482	86,944
Conemaugh #1 (11.39% Share)	107	69,578	62,503	68,440	64,820	65,064	60,883	60,449	51,297	63,515	62,990	66,754	58,921
Conemaugh #2 (11.39% Share)	107	66,989	62,552	46,231	58,864	68,220	64,424	60,544	66,583	58,616	67,976	1,394	-465
Keystone #1 (12.34% Share)	116	61,312	51,210	-373	14,661	71,914	56,246	69,641	72,094	67,986	54,475	63,812	64,102
Keystone #2 (12.34% Share)	116	76,089	52,971	75,242	47,023	73,052	65,052	52,941	71,521	47,239	73,365	71,524	72,968
<b>NUCLEAR</b>													
Susquehanna #1 (90% Share)	1037	703,501	631,915	670,387	642,302	690,738	670,764	670,220	528,389	660,019	700,436	668,589	702,178
Susquehanna #2 (90% Share)	1037	562,945	619,572	157,657	-5,374	456,351	665,518	697,469	434,994	680,033	697,577	667,989	697,133
<b>OIL-FIRED</b>													
Martins Creek #3	851	40,954	17,262	60,531	86,516	180,403	47,688	100,710	66,182	44,441	5,315	138,813	116,622
Martins Creek #4	851	93,638	30,446	4,350	139,888	178,161	136,919	135,309	105,632	57,064	6,691	74,855	70,074
<b>COMBUSTION TURBINES</b>													
	458	777	472	239	36	4,963	109	1,455	733	4,048	322	204	146
<b>DIESELS</b>													
	22	100	103	72	163	90	72	87	87	132	144	98	104
<b>HYDRO</b>													
Holtwood	108	63,136	59,363	69,608	62,355	55,861	19,296	13,551	14,453	12,775	14,609	23,452	56,188
Wallenpaupack	40	15,364	9,992	9,894	1,789	2,033	-31	2,752	1,937	6,063	6,645	73	155
Safe Harbor	137	56,097	41,229	58,651	45,113	28,122	6,629	3,944	14,453	3,519	4,025	8,889	22,870
<b>TOTAL UNIT GENERATION</b>		<b>3,976,077</b>	<b>3,646,063</b>	<b>3,520,825</b>	<b>3,023,852</b>	<b>3,585,544</b>	<b>3,457,990</b>	<b>3,688,640</b>	<b>3,179,111</b>	<b>3,203,933</b>	<b>3,141,681</b>	<b>3,247,933</b>	<b>4,173,290</b>
<b>OFF-SYSTEM SALES</b>													
Sales to Atlantic City Electric		82,160	81,194	53,709	41,310	74,416	86,695	88,732	62,488	86,940	49,714	49,605	78,771
Sales to Jersey Central Power and Light		444,255	406,638	389,019	336,404	402,250	386,475	413,353	354,798	359,120	352,741	364,163	466,938
Sales to Baltimore Gas and Electric		0	0	0	0	0	0	0	0	0	90,699	86,715	90,785
Sales to GPU Service Corp.		6,794	6,396	5,244	5,939	6,104	6,685	6,513	6,863	6,527	5,406	6,692	6,535
PJM Interchange Power Sales		710,515	823,711	695,358	609,061	968,287	860,219	886,206	517,553	742,676	498,274	551,587	1,015,458
Sales to Other Utilities		0	0	0	0	0	0	1,300	0	0	0	0	0

PP&L Share of  
Maximum Nameplate  
Generation Capability  
(Megawatts)

PP&L Share of Actual Generation  
(Megawatthours)

		Jan. '92	Feb. '92	Mar. '92	Apr. '92	May '92	Jun. '92	Jul. '92	Aug. '92	Sep. '92	Oct. '92	Nov. '92	Dec. '92
<b>COAL-FIRED</b>													
Brunner Island #1	363	200,312	145,871	168,131	67,449	-1,301	-1,519	25,680	134,827	177,319	200,150	168,067	191,768
Brunner Island #2	405	216,372	201,441	205,674	212,805	200,178	199,076	225,806	128,085	119,342	234,147	202,139	232,000
Brunner Island #3	790	481,033	439,274	360,754	479,110	472,872	469,004	406,207	463,349	334,632	141,753	145,478	461,598
Holtwood #17	75	53,739	50,313	51,588	51,905	25,502	43,226	53,098	53,140	51,733	53,726	37,121	40,232
Martins Creek #1	156	62,955	41,794	59,870	58,263	67,134	68,668	87,373	27,366	61,787	61,437	56,862	68,352
Martins Creek #2	156	64,478	24,056	29,729	61,631	43,125	57,528	66,862	25,637	46,198	59,846	56,179	55,527
Montour #1 (include ATG)	823	402,975	394,073	474,677	418,336	329,454	321,396	501,710	481,477	464,845	335,789	371,303	395,564
Montour #2	819	436,386	458,398	511,590	338,054	483,132	447,392	352,962	475,350	421,694	448,022	78,125	141,449
Sunbury #1	75	48,497	42,549	47,764	45,458	45,107	42,840	46,357	41,543	44,655	45,983	43,626	45,032
Sunbury #2	75	-3,483	-3,167	46,791	44,558	38,112	43,681	45,915	40,078	45,039	44,320	40,703	44,761
Sunbury #3	104	66,913	52,036	49,584	63,781	60,334	55,138	55,458	53,868	58,739	58,074	48,129	58,229
Sunbury #4	156	81,473	62,247	81,539	26,871	62,717	72,974	82,367	42,379	77,245	65,220	69,034	79,696
Conemaugh #1 (11.39% Share)	107	65,543	64,066	67,999	63,140	52,719	61,957	66,301	55,178	29,785	-444	21,768	67,424
Conemaugh #2 (11.39% Share)	107	68,146	43,836	63,555	64,526	62,929	67,168	69,775	66,172	58,199	51,855	66,878	62,786
Keystone #1 (12.34% Share)	116	72,613	66,014	63,664	70,901	70,318	67,689	71,132	50,135	67,687	73,513	69,304	72,310
Keystone #2 (12.34% Share)	116	64,249	59,354	46,103	-409	38,891	59,608	64,652	47,749	67,717	74,696	69,945	61,760
<b>NUCLEAR</b>													
Susquehanna #1 (90% Share)	1037	691,861	583,992	69,811	-6,100	204,230	175,292	691,191	683,426	670,551	696,143	610,912	682,855
Susquehanna #2 (90% Share)	1037	709,205	643,576	545,995	677,650	686,362	675,527	682,891	674,706	176,538	-5,436	282,987	712,108
<b>OIL-FIRED</b>													
Martins Creek #3	851	66,051	-2,438	3,460	7,351	35,204	20,650	121,670	33,731	8,882	87,725	64,468	56,470
Martins Creek #4	851	94,402	3,640	41,327	44,907	24,118	8,887	112,898	36,890	34,159	62,026	71,401	19,553
<b>COMBUSTION TURBINES</b>													
	458	339	1,154	55	806	193	308	3,774	335	826	62	303	227
<b>DIESELS</b>													
	22	81	154	94	89	114	97	103	196	96	80	129	81
<b>HYDRO</b>													
Holtwood	108	58,969	45,898	76,129	73,448	61,894	49,202	46,457	48,111	44,010	49,442	64,559	69,242
Wallenpaupack	40	5,437	9,525	3,454	2,404	3,788	12,390	8,522	3,051	4,503	1,558	2,074	6,321
Safe Harbor	137	23,927	19,201	51,281	57,007	30,881	22,511	19,484	20,857	17,542	18,735	43,024	40,343
<b>TOTAL UNIT GENERATION</b>		<b>4,032,473</b>	<b>3,446,857</b>	<b>3,120,618</b>	<b>2,923,941</b>	<b>3,098,007</b>	<b>3,040,690</b>	<b>3,908,645</b>	<b>3,687,636</b>	<b>3,083,723</b>	<b>2,858,422</b>	<b>2,684,518</b>	<b>3,665,688</b>
<b>OFF-SYSTEM SALES</b>													
Sales to Atlantic City Electric		72,275	65,570	69,366	62,194	61,272	61,055	61,756	65,380	63,231	58,338	44,624	60,991
Sales to Jersey Central Power and Light		450,338	387,423	343,768	316,571	341,931	336,462	422,205	406,973	338,948	315,236	296,441	405,032
Sales to Baltimore Gas and Electric		90,899	79,642	39,933	43,556	57,767	55,184	89,148	88,113	54,948	44,799	57,980	90,502
Sales to GPU Service Corp.		6,387	6,036	6,449	5,540	5,790	6,565	6,864	6,889	6,518	6,843	6,508	6,741
PJM Interchange Power Sales		477,619	352,959	173,670	297,964	545,160	538,247	851,725	770,955	334,602	291,672	187,201	338,504
Sales to Other Utilities		176,843	3,867	61,365	89,615	96,369	69,432	218,065	176,588	219,130	85,728	55,775	97,087

PP&L Share of  
Maximum Nameplate  
Generation Capability  
(Megawatts)

PP&L Share of Actual Generation  
(Megawatthours)

		Jan. '93	Feb. '93	Mar. '93	Apr. '93	May '93	Jun. '93	Jul. '93	Aug. '93	Sep. '93	Oct. '93	Nov. '93	Dec. '93
<b>COAL-FIRED</b>													
Brunner Island #1	363	187,000	169,635	200,987	178,531	67,468	142,992	176,590	178,505	150,741	95,757	-1,824	34,219
Brunner Island #2	405	222,546	219,415	236,901	184,144	80,028	142,190	204,175	206,735	161,544	204,119	200,555	188,504
Brunner Island #3	790	402,731	437,018	189,701	233,222	309,975	358,598	450,385	383,516	325,685	448,841	403,753	337,850
Holtwood #17	75	52,756	47,612	52,476	38,380	14,603	52,058	53,257	51,543	47,648	51,936	44,561	54,511
Martins Creek #1	156	60,196	70,801	75,825	58,808	20,995	21,307	60,042	65,693	51,931	59,066	67,542	70,023
Martins Creek #2	156	45,892	66,443	72,275	48,529	19,618	15,374	61,468	57,209	43,422	46,794	49,164	75,457
Montour #1 (include ATG)	823	490,680	388,660	516,787	142,621	-2,474	364,335	478,222	474,123	440,474	473,337	425,373	498,982
Montour #2	819	460,103	447,999	361,332	450,263	471,303	448,364	358,174	467,023	453,804	351,565	472,098	509,505
Sunbury #1	75	41,170	42,396	48,737	43,867	46,042	43,522	50,257	48,708	44,272	39,719	36,301	39,216
Sunbury #2	75	38,820	43,211	48,252	42,020	44,142	24,006	-877	-850	9,099	49,645	51,143	55,928
Sunbury #3	104	46,822	40,766	67,323	57,570	53,419	56,054	64,094	63,967	59,146	52,439	44,867	56,709
Sunbury #4	156	73,658	50,870	-948	40,220	60,986	67,136	76,704	82,050	77,835	82,346	78,726	73,580
Conemaugh #1 (11.39% Share)	107	69,545	59,721	54,400	65,038	-539	61,716	65,988	66,764	52,799	70,056	26,725	21,492
Conemaugh #2 (11.39% Share)	107	69,246	60,896	59,208	63,872	54,376	62,072	68,267	58,342	20,953	-277	-493	30,670
Keystone #1 (12.34% Share)	116	72,543	67,879	75,245	3,833	65,063	46,859	70,169	68,151	60,434	65,157	69,418	75,836
Keystone #2 (12.34% Share)	116	61,333	58,492	72,813	67,034	65,722	64,920	69,379	70,127	67,293	63,011	70,634	73,385
<b>NUCLEAR</b>													
Susquehanna #1 (90% Share)	1037	699,075	633,397	675,268	646,898	678,703	664,912	248,594	-9,109	462,323	-4,406	-7,893	-10,706
Susquehanna #2 (90% Share)	1037	655,007	486,540	700,461	681,286	686,460	671,681	679,412	686,785	656,039	704,434	674,448	221,524
<b>OIL-FIRED</b>													
Martins Creek #3	851	7,556	11,319	-263	49,833	83,001	25,857	149,560	68,405	-1,267	-1,291	34,562	224,316
Martins Creek #4	851	-5,697	79,300	161,521	26,735	25,396	35,317	158,599	101,234	50,536	-1,607	5,880	163,047
<b>COMBUSTION TURBINES</b>													
	458	0	1,399	279	362	8	86	5,493	3,639	2,400	26	70	810
<b>DIESELS</b>													
	22	100	96	101	90	178	173	59	127	94	126	74	123
<b>HYDRO</b>													
Holtwood	108	70,284	38,692	65,996	61,959	60,128	32,102	19,836	18,150	21,717	31,882	58,282	67,181
Wallenpaupack	40	11,951	13,706	5,993	24,632	3,787	3,095	5,460	509	1,538	2,172	2,953	14,672
Safe Harbor	137	53,184	14,683	48,199	87,204	39,030	11,452	6,222	5,515	6,909	10,476	31,550	55,357
<b>TOTAL UNIT GENERATION</b>		<b>3,886,501</b>	<b>3,550,946</b>	<b>3,788,869</b>	<b>3,296,951</b>	<b>2,947,418</b>	<b>3,416,178</b>	<b>3,579,529</b>	<b>3,216,861</b>	<b>3,267,369</b>	<b>2,895,323</b>	<b>2,838,469</b>	<b>2,932,191</b>
<b>OFF-SYSTEM SALES</b>													
Sales to Atlantic City Electric		71,915	68,363	61,987	51,144	39,762	59,144	69,316	70,781	63,260	66,344	64,040	68,407
Sales to Jersey Central Power and Light		429,933	394,924	413,930	359,355	325,517	383,234	402,027	360,940	365,800	323,322	316,347	324,728
Sales to Baltimore Gas and Electric		87,849	72,655	89,255	86,169	88,569	86,715	60,194	43,946	72,552	45,407	43,227	13,636
Sales to GPU Service Corp.		6,550	5,815	5,889	5,198	6,368	6,559	6,759	6,754	6,091	6,679	6,716	6,560
PJM Interchange Power Sales		462,708	246,069	406,790	423,026	402,771	624,749	504,003	245,724	410,412	244,769	102,187	68,262
Sales to Other Utilities		98,568	86,725	169,795	157,966	114,719	77,009	87,592	96,470	142,250	64,230	19,675	6,558

PP&L Share of  
Maximum Nameplate  
Generation Capability  
(Megawatts)

PP&L Share of Actual Generation  
(Megawatthours)

		Jan. '94	Feb. '94	Mar. '94	Apr. '94	May '94	Jun. '94	Jul. '94	Aug. '94	Sep. '94	Oct. '94	Nov. '94	Dec. '94
<b>COAL-FIRED</b>													
Brunner Island #1	363	148,653	139,971	157,794	140,777	162,248	175,683	170,085	137,812	124,815	128,019	138,731	15,002
Brunner Island #2	405	188,143	187,724	199,004	4,389	-254	141,536	191,725	172,218	167,363	182,356	177,560	183,506
Brunner Island #3	790	468,650	293,632	382,823	375,856	421,515	297,380	409,628	412,763	104,323	-694	-3,356	292,965
Holtwood #17	75	23,851	44,262	51,065	52,232	53,502	50,220	45,835	44,429	51,269	50,937	39,642	51,255
Martins Creek #1	156	77,189	60,501	59,826	26,554	32,269	45,936	43,840	-251	2,380	12,446	29,055	33,746
Martins Creek #2	156	71,263	54,838	62,662	49,871	38,039	26,451	8,974	32,164	25,567	17,423	24,635	30,174
Montour #1	823	404,822	350,818	417,945	464,089	274,587	452,946	466,667	377,286	367,889	444,793	356,444	407,686
Montour #2	819	429,543	431,707	248,784	-1,201	-2,288	238,894	322,580	417,946	298,185	419,434	440,958	292,191
Sunbury #1	75	34,552	45,510	50,102	38,238	39,547	38,759	40,416	33,760	30,976	35,067	35,308	34,459
Sunbury #2	75	52,200	-3,459	7,261	56,147	55,071	49,265	54,903	53,111	44,464	47,123	40,576	40,734
Sunbury #3	104	30,350	51,884	55,899	51,187	47,187	46,850	55,721	42,071	43,596	40,405	44,775	47,669
Sunbury #4	156	89,553	72,174	24,373	49,279	70,410	69,281	33,281	51,020	69,269	71,130	58,114	53,100
Conemaugh #1 (11.39% Share)	107	48,164	62,101	67,682	60,153	63,868	58,444	57,279	62,975	17,286	-640	-775	26,140
Conemaugh #2 (11.39% Share)	107	57,663	61,745	62,153	55,661	67,011	62,450	67,744	48,673	63,206	56,011	54,521	67,366
Keystone #1 (12.34% Share)	116	74,815	55,040	72,591	66,685	68,089	55,665	59,344	60,363	57,629	67,724	65,854	69,164
Keystone #2 (12.34% Share)	116	35,353	-418	-549	2,312	61,710	47,282	51,892	67,357	64,714	59,169	52,677	71,959
<b>NUCLEAR</b>													
Susquehanna #1 (90% Share)	1037	129,789	607,675	698,161	676,159	682,816	663,810	679,273	689,163	662,081	705,201	680,859	698,019
Susquehanna #2 (90% Share)	1037	619,494	608,398	299,024	-3,869	-8,841	345,629	729,816	721,384	711,220	732,520	711,952	739,427
<b>OIL-FIRED</b>													
Martins Creek #3	851	295,806	171,517	101,566	48,601	56,627	132,962	121,681	40,344	5,666	-1,829	-1,570	60
Martins Creek #4	851	289,480	38,878	78,433	65,036	52,918	106,353	113,398	41,017	-845	-1,081	-816	9,854
<b>COMBUSTION TURBINES</b>													
	458	23,852	406	63	132	868	8,383	4,604	22	57	109	75	30
<b>DIESELS</b>													
	22	295	118	75	106	214	187	130	104	92	165	196	92
<b>HYDRO</b>													
Holtwood	108	38,544	54,607	68,717	64,695	59,346	48,193	55,748	51,915	39,245	35,952	49,674	74,709
Wallenpaupack	40	13,544	6,430	15,080	20,488	4,909	7,059	6,743	4,998	9,635	451	5,378	17,040
Safe Harbor	137	16,007	38,308	76,050	80,771	34,351	22,649	22,643	37,867	17,487	13,515	22,316	48,646
<b>TOTAL UNIT GENERATION</b>		<b>3,661,575</b>	<b>3,434,367</b>	<b>3,256,584</b>	<b>2,444,348</b>	<b>2,335,719</b>	<b>3,192,267</b>	<b>3,813,950</b>	<b>3,600,511</b>	<b>2,977,569</b>	<b>3,115,706</b>	<b>3,022,783</b>	<b>3,304,993</b>
<b>OFF-SYSTEM SALES</b>													
Sales to Atlantic City Electric		69,353	59,406	58,882	44,892	40,934	56,046	63,534	60,915	45,551	49,541	47,394	381,211
Sales to Jersey Central Power and Light		411,899	383,853	359,000	267,077	260,104	356,348	427,102	400,617	332,508	348,245	337,201	55,482
Sales to Baltimore Gas and Electric		48,586	78,896	64,686	43,608	43,707	65,482	91,419	91,513	89,097	93,277	90,363	93,259
Sales to GPU Service Corp.		5,321	5,359	6,292	6,501	5,254	4,683	6,911	6,256	6,444	6,215	6,357	5,834
PJM Interchange Power Sales		124,939	174,665	141,776	98,902	99,517	300,850	666,193	548,808	321,681	257,200	229,843	193,853
Sales to Other Utilities		28,161	19,095	12,600	18,092	11,650	58,209	40,938	27,433	72,575	69,507	31,317	35,423

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1989

	JAN	FEB	MAR	APR	MAY	JUNE	JULY
RS	1,149,989	963,188	1,044,801	822,549	698,342	640,850	707,060
RTS	23,049	19,012	22,001	15,255	11,431	8,399	9,021
RTD	461	384	432	325	265	235	248
GS1	122,575	109,497	116,553	101,631	95,154	98,678	107,269
GS3	499,368	459,609	498,928	453,643	450,418	474,141	481,691
IS1	384	347	400	322	123	82	70
LP4	325,616	317,773	332,281	313,320	328,819	332,542	330,550
LPS	379,428	324,784	356,431	327,056	351,585	354,218	382,440
IS2	62,374	53,963	59,735	57,779	56,774	51,652	60,584
LPEP	0	0	0	0	0	0	0
ISM	0	54,410	47,380	46,420	52,810	39,200	27,250
ISL	0	0	0	0	0	0	0
GH1	76,815	68,369	72,962	52,034	42,876	36,478	33,258
GH2	14,956	12,891	13,873	8,996	6,275	5,302	6,266
BL	490	473	544	433	416	347	402
STR/AREA LTG	11,037	8,976	9,094	7,608	7,480	6,593	7,120
RES12	21,651	19,624	21,723	18,147	16,527	16,936	17,399
RES66	61,572	55,736	59,933	53,388	47,922	47,288	49,669
UGI	39,948	44,854	39,350	26,488	24,571	23,364	20,835
<b>TOTAL</b>	<b>2,789,710</b>	<b>2,514,000</b>	<b>2,694,420</b>	<b>2,307,372</b>	<b>2,191,787</b>	<b>2,136,300</b>	<b>2,221,333</b>

STR/AREA LTG

SA	3,078	2,626	2,570	2,227	2,124	1,908	2,001
SM	3,423	2,386	2,575	1,916	2,109	1,683	1,864
SHS	3,669	3,255	3,226	2,895	2,645	2,479	2,693
SE	652	551	550	466	453	396	432
TS	43	39	43	41	43	41	43
SI1	172	120	131	63	106	88	87
SI4	0	0	0	0	0	0	0

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1989

	AUG	SEPT	OCT	NOV	DEC	TOTAL
RS	699,083	678,956	641,184	726,813	1,098,495	9,871,310
RTS	9,069	9,186	10,414	14,157	27,374	178,367
RTD	252	252	245	280	477	3,856
GS1	107,434	110,760	92,232	98,469	121,852	1,281,903
GS3	487,101	494,949	454,235	454,457	500,712	5,707,254
IS1	63	64	201	336	522	2,915
LP4	338,186	343,170	320,469	321,506	333,252	3,937,484
LP5	357,273	382,991	370,518	365,960	363,627	4,276,319
IS2	81,615	60,110	64,163	52,046	45,241	686,036
LPEP	0	0	0	0	0	0
ISM	6,100	25,130	26,910	26,320	30,960	384,890
ISL	0	0	0	7,971	7,806	15,777
GH1	32,204	34,806	37,189	43,881	70,038	600,908
GH2	5,447	5,643	5,050	7,494	12,594	104,788
BL	445	388	332	407	529	5,205
STR/AREA LTG	7,923	8,512	9,538	9,997	10,812	104,689
RES12	17,457	17,273	16,224	16,867	22,459	222,286
RES66	50,331	48,861	48,812	48,005	59,212	630,725
UGI	22,092	34,011	23,039	30,920	57,882	387,434
<b>TOTAL</b>	<b>2,202,075</b>	<b>2,234,862</b>	<b>2,120,754</b>	<b>2,225,886</b>	<b>2,763,644</b>	<b>28,402,145</b>

STR/AREA LTG

SA	2,234	2,419	2,737	2,898	3,116	29,935
SM	2,085	2,105	1,980	2,110	2,313	26,549
SHS	3,034	3,324	4,079	4,221	4,574	40,096
SE	486	539	602	629	701	6,456
TS	43	41	43	41	43	505
SI1	40	83	95	100	64	1,149
SI4	0	0	0	0	0	0

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1990

	JAN	FEB	MAR	APR	MAY	JUNE	JULY
RS	1,289,886	931,679	972,416	843,212	677,578	640,259	715,043
RTS	35,918	24,282	25,183	20,729	13,808	11,376	11,880
RTD	571	424	428	380	325	239	275
GS1	136,673	111,013	115,853	106,373	98,101	98,212	110,333
GS3	546,268	465,162	494,266	468,355	455,341	468,569	497,022
IS1	587	538	558	307	104	83	76
LP4	330,328	308,443	330,902	315,456	320,659	330,417	334,561
LP5	370,094	349,534	372,099	373,801	377,456	379,880	381,338
IS2	44,898	34,977	37,549	37,495	35,199	35,529	39,479
LPEP	0	0	0	0	0	0	0
ISM	24,610	34,840	35,150	30,770	29,320	20,870	24,120
ISL	8,824	6,713	7,310	8,122	7,683	8,437	8,707
GH1	83,260	60,083	63,387	52,420	39,645	35,174	32,077
GH2	17,386	11,455	10,904	8,281	5,925	4,886	5,842
BL	622	495	486	348	503	389	307
STR/AREA LTG	9,953	8,832	8,745	7,477	7,186	6,366	6,888
RES12	23,456	19,093	20,380	18,528	16,824	16,552	17,349
RES66	65,479	54,066	56,870	51,011	48,767	44,990	46,821
UGI	40,939	33,753	37,263	24,139	19,506	23,418	28,152
<b>TOTAL</b>	<b>3,029,753</b>	<b>2,455,182</b>	<b>2,589,748</b>	<b>2,367,203</b>	<b>2,153,729</b>	<b>2,125,646</b>	<b>2,260,268</b>
STR/AREA LTG							
SA	3,073	2,617	2,559	2,216	2,110	1,903	1,993
SM	881	1,624	1,585	1,360	1,290	1,026	1,183
SMS	5,180	3,947	3,952	3,313	3,232	2,846	3,237
SE	680	568	566	510	475	471	403
TS	43	39	43	41	43	41	43
SI1	96	38	41	37	35	29	30
SI4	0	0	0	0	0	0	0

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1990

	AUG	SEPT	OCT	NOV	DEC	TOTAL
RS	759,783	703,204	645,410	740,542	947,906	9,866,898
RTS	13,003	12,268	12,316	17,892	25,721	224,376
RTD	286	280	261	316	426	4,221
GS1	117,193	108,194	99,058	99,040	112,258	1,312,300
GS3	530,726	511,663	489,843	464,767	478,147	5,870,128
IS1	70	78	155	303	524	3,382
LP4	350,066	341,833	336,874	318,205	317,108	3,934,851
LP5	409,815	389,472	406,678	385,789	362,742	4,558,697
JS2	37,180	37,063	40,218	37,520	35,749	452,856
LPEP	0	0	0	0	0	0
ISM	26,030	18,070	33,100	38,290	33,650	348,620
ISL	9,184	7,909	9,870	8,930	9,305	100,994
GH1	33,328	34,653	37,470	42,670	54,824	568,991
GH2	6,014	5,431	4,867	6,499	9,311	96,801
BL	458	390	415	352	402	5,167
STR/AREA LTG	7,730	8,282	9,437	9,900	10,713	101,509
RES12	17,550	16,820	15,554	16,433	18,083	216,420
RES66	54,405	50,737	50,520	49,620	52,747	626,034
UGI	21,871	37,176	36,265	32,859	44,453	379,794
<b>TOTAL</b>	<b>2,394,681</b>	<b>2,283,523</b>	<b>2,228,310</b>	<b>2,269,926</b>	<b>2,514,070</b>	<b>28,672,040</b>
<b>STR/AREA LTG</b>						
SA	2,232	2,380	2,721	2,880	3,097	29,781
SM	1,344	1,406	1,605	1,646	1,779	16,728
SHS	3,624	3,926	4,467	4,704	5,115	47,643
SE	451	491	556	583	629	6,333
TS	43	41	43	41	43	504
S11	36	38	44	46	49	520
S14	0	0	0	0	0	0

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1991

	JAN	FEB	MAR	APR	MAY	JUNE	JULY
RS	1,157,085	1,051,217	952,242	853,745	698,545	717,614	769,682
RTS	36,203	34,162	29,393	24,218	16,419	14,614	15,285
RTD	565	509	467	406	308	300	315
GS1	125,059	119,635	112,059	106,675	100,687	110,589	116,864
GS3	522,126	503,248	478,474	474,648	478,502	513,803	520,790
IS1	572	537	492	400	178	87	83
LP4	319,964	329,878	305,866	315,199	331,302	338,377	336,659
LP5	354,595	355,863	334,240	357,595	378,658	377,239	386,870
IS2	33,749	33,819	36,727	34,208	33,988	38,283	37,066
LPEP	0	0	0	0	0	0	0
ISM	29,100	38,820	34,970	37,150	33,340	18,960	25,690
ISL	8,661	8,165	8,995	8,548	8,670	10,106	9,039
GH1	68,579	66,965	57,894	48,921	39,108	36,675	32,761
GH2	12,536	12,558	10,624	7,952	5,606	5,556	5,910
BL	471	516	424	388	662	374	356
STR/AREA LTG	9,917	8,808	8,742	7,434	7,211	6,411	6,810
RES12	20,122	20,344	17,539	17,082	15,670	16,482	16,491
RES66	62,350	61,236	56,292	54,239	49,975	51,668	49,947
UG1	47,916	41,541	36,111	23,574	26,871	23,484	25,916
<b>TOTAL</b>	<b>2,809,550</b>	<b>2,687,822</b>	<b>2,481,550</b>	<b>2,372,381</b>	<b>2,225,699</b>	<b>2,280,622</b>	<b>2,356,533</b>
STR/AREA LTG							
SA	3,035	2,597	2,540	2,190	2,098	1,882	1,967
SM	1,642	1,386	1,316	1,148	1,124	953	1,012
SMS	4,538	4,231	4,299	3,616	3,490	3,132	3,353
SF	611	515	504	433	430	380	410
TS	43	38	43	41	43	41	43
S11	48	40	40	6	26	23	25
S14	0	0	0	0	0	0	0

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1991

	AUG	SEPT	OCT	NOV	DEC	TOTAL
RS	759,140	724,509	676,866	758,688	984,016	10,103,329
RTS	14,973	14,785	16,077	21,809	31,719	269,657
RTD	315	281	275	309	430	4,480
GS1	117,060	114,489	101,502	99,808	115,121	1,339,548
GS3	521,250	528,483	496,626	470,905	509,159	6,018,014
IS1	82	87	200	430	458	3,605
LP4	339,582	349,307	337,500	314,732	328,268	3,946,632
LP5	382,580	396,857	392,145	371,798	372,926	4,461,363
IS2	37,035	38,778	36,958	37,865	37,040	435,514
LPEP	0	0	0	0	0	0
ISM	5,900	26,400	32,850	38,390	27,730	349,300
ISL	9,390	10,159	9,400	9,510	9,759	110,402
GH1	32,404	35,138	37,481	41,706	55,049	552,680
GH2	5,948	5,437	5,015	6,338	9,453	92,931
BL	384	339	377	575	417	5,284
STR/AREA LTG	7,728	8,306	9,470	9,888	11,029	101,754
RES12	16,911	16,215	15,337	15,848	18,595	206,637
RES66	54,189	51,098	52,395	50,916	57,709	652,013
UGI	26,228	20,062	22,611	36,290	52,423	383,027
<b>TOTAL</b>	<b>2,331,096</b>	<b>2,340,728</b>	<b>2,243,084</b>	<b>2,285,804</b>	<b>2,621,303</b>	<b>29,036,169</b>
<b>STR/AREA LTG</b>						
SA	2,205	2,361	2,693	2,839	3,060	29,467
SM	1,172	1,244	1,399	1,325	1,531	15,252
SMS	3,815	4,125	4,713	5,037	5,438	49,785
SE	460	504	587	610	918	6,363
TS	43	41	43	41	43	504
SI1	33	31	35	36	39	383
SI4	0	0	0	0	0	0

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1992

	JAN	FEB	MAR	APR	MAY	JUNE	JULY
RS	1,153,383	1,135,593	1,027,202	924,370	711,936	645,238	704,787
RTS	40,733	42,150	36,452	31,222	19,767	15,680	15,864
RTD	522	517	465	404	326	268	285
GS1	124,245	124,109	118,724	109,676	98,104	100,475	107,511
GS3	526,945	532,733	522,644	497,402	472,704	495,070	518,641
IS1	650	571	543	403	186	114	79
LP4	327,267	343,474	335,478	325,759	324,848	336,722	346,248
LP5	348,658	372,199	375,389	368,852	369,283	384,868	384,682
IS2	44,082	45,548	54,848	53,613	56,716	58,431	59,382
LPEP	0	0	0	0	0	0	0
ISM	35,420	38,030	30,930	37,110	29,660	18,310	26,140
ISL	9,054	0	0	0	0	0	0
GH1	65,143	88,345	60,255	52,418	37,307	32,887	30,210
GH2	12,583	12,572	11,046	10,407	4,786	4,569	5,076
BL	633	469	634	461	393	392	317
STR/AREA LTG	10,560	8,961	9,018	7,570	7,289	6,522	6,969
RES12	19,866	19,791	18,212	17,025	14,863	14,470	15,761
RES66	62,716	62,190	62,438	54,878	48,994	47,306	49,269
UGI	45,411	43,713	39,256	45,421	35,418	18,035	26,907
<b>TOTAL</b>	<b>2,827,851</b>	<b>2,850,964</b>	<b>2,703,535</b>	<b>2,537,091</b>	<b>2,232,579</b>	<b>2,179,353</b>	<b>2,298,128</b>
<b>STR/AREA LTG</b>							
SA	3,007	2,559	2,503	2,158	2,061	1,857	1,942
SM	1,473	1,161	1,189	1,009	947	839	805
SHS	5,194	4,517	4,472	3,777	3,669	3,277	3,632
SE	811	653	779	558	543	485	522
TS	43	38	43	41	43	41	43
S11	38	32	31	26	26	23	25
S14	0	0	0	0	0	0	0

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1992

	AUG	SEPT	OCT	NOV	DEC	TOTAL
RS	716,194	684,105	671,972	853,225	1,045,927	10,273,934
RTS	16,061	15,778	18,392	27,823	37,652	317,575
RTD	284	277	276	370	458	4,452
GS1	111,908	107,154	96,724	108,246	119,206	1,326,081
GS3	541,354	529,533	486,986	509,415	521,782	6,155,219
IS1	79	97	257	483	556	4,019
LP4	359,784	360,104	329,575	348,190	347,413	4,084,861
LP5	458,829	458,816	443,630	456,073	424,143	4,845,521
IS2	0	0	0	0	0	372,600
LPEP	0	0	0	0	0	0
ISM	18,650	25,690	26,630	26,940	30,970	344,480
ISL	0	0	0	0	0	9,054
GM1	29,782	31,309	34,220	48,472	52,156	540,505
GM2	5,204	4,953	5,000	7,245	10,065	93,505
BL	373	535	427	383	438	5,458
STR/AREA LTG	7,775	9,225	9,901	10,103	10,960	104,852
RES12	16,140	15,442	14,942	17,029	19,240	202,782
RES66	53,525	49,449	50,947	55,031	59,012	655,753
UG1	22,394	23,055	34,915	34,102	45,937	414,564
<b>TOTAL</b>	<b>2,358,338</b>	<b>2,315,522</b>	<b>2,224,803</b>	<b>2,501,132</b>	<b>2,725,918</b>	<b>29,755,211</b>

STR/AREA LTG

SA	2,119	2,327	2,654	2,800	3,000	28,983
SM	880	993	1,147	1,134	1,087	12,662
SMS	4,176	4,523	5,058	5,288	5,842	53,426
SE	529	1,313	966	804	950	8,912
TS	43	41	43	41	43	504
SI1	28	30	34	35	38	165
SI4	0	0	0	0	0	0

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1993

	JAN	FEB	MAR	APR	MAY	JUNE	JULY
RS	1,179,908	1,170,445	1,170,295	917,329	666,096	664,030	834,962
RTS	45,824	47,572	47,609	33,216	19,555	17,051	19,798
RTD	556	553	599	507	264	290	341
GS1	126,383	128,445	127,440	111,405	98,406	104,084	121,875
GS3	540,820	554,873	547,830	504,886	490,238	512,970	566,882
IS1	619	585	600	347	132	87	72
LP4	338,629	365,575	350,873	340,008	350,494	363,853	378,695
LP5	407,460	424,837	450,588	447,103	446,067	476,099	469,191
JS2	0	0	0	0	0	0	0
LPEP	0	0	0	0	0	0	0
ISM	30,430	36,060	36,380	32,980	34,870	37,420	36,870
JSL	0	0	0	0	0	0	0
GH1	61,531	66,371	66,043	47,793	34,750	32,070	31,415
GH2	12,021	13,048	13,493	8,209	5,043	4,700	5,851
BL	451	441	759	464	297	558	374
STR/AREA LTG	10,679	9,016	8,949	7,654	7,418	6,632	7,101
RES12	19,644	19,533	20,934	15,869	14,348	15,127	17,694
RES66	64,692	61,253	65,868	55,604	49,383	47,816	52,590
UGJ	44,156	46,723	42,563	28,526	18,611	22,374	29,702
<b>TOTAL</b>	<b>2,883,805</b>	<b>2,945,330</b>	<b>2,950,822</b>	<b>2,551,700</b>	<b>2,235,972</b>	<b>2,305,162</b>	<b>2,573,414</b>
<b>STR/AREA LTG</b>							
SA	2,978	2,527	2,455	2,140	2,040	1,837	1,922
SM	1,158	949	794	784	765	675	728
SMS	5,582	4,742	4,880	4,031	3,929	3,481	3,792
SF	880	729	747	632	615	576	592
SS	43	38	43	41	43	41	43
SJ1	37	31	31	26	26	23	25
SJ4	0	0	0	0	0	0	0

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1993

	AUG	SEPT	OCT	NOV	DEC	TOTAL
RS	770,781	785,862	684,263	806,653	1,024,665	10,675,289
RTS	18,379	19,039	19,890	27,795	38,749	354,478
RTD	333	336	303	387	521	4,989
GS1	118,182	117,824	98,666	103,593	117,685	1,373,988
GS3	551,341	589,555	503,015	500,792	537,913	6,381,115
IS1	65	68	276	481	597	3,928
LP4	379,789	390,358	358,794	354,478	362,772	4,334,319
LP5	481,639	484,613	462,366	463,881	458,900	5,472,744
IS2	0	0	0	0	0	0
LPEP	0	0	0	0	0	0
ISM	29,750	35,970	28,810	38,220	30,270	406,030
ISL	0	0	0	0	0	0
GM1	30,725	32,301	32,431	39,414	49,530	524,374
GM2	5,532	5,499	4,555	6,333	9,176	93,459
BL	348	402	312	357	569	5,332
STR/AREA LTG	7,983	8,509	9,733	10,254	11,091	105,001
RES12	16,756	17,042	15,085	15,959	18,265	206,037
RES66	57,488	53,496	48,632	51,970	58,588	667,390
UGI	26,644	31,915	52,843	42,565	55,077	441,699
<b>TOTAL</b>	<b>2,495,717</b>	<b>2,552,788</b>	<b>2,319,953</b>	<b>2,461,132</b>	<b>2,774,376</b>	<b>31,050,172</b>
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*****						
STR/AREA LTG						
SA	2,143	2,320	2,646	2,784	3,000	28,791
SM	820	726	880	995	1,078	10,352
SMS	4,264	4,675	5,307	5,540	5,997	56,219
SE	666	716	824	859	936	8,773
TS	43	41	43	41	43	504
S11	28	30	34	35	38	362
S14	0	0	0	0	0	0

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1994

	JAN	FEB	MAR	APR	MAY	JUNE	JULY
RS	1,400,301	1,348,249	1,192,698	913,239	659,056	709,468	884,165
RTS	56,574	61,428	52,273	35,058	20,906	19,637	21,670
RTD	708	744	698	464	338	332	378
GS1	138,579	139,586	131,409	111,947	97,301	107,757	125,807
GS3	567,024	593,822	586,931	532,929	501,231	546,354	598,111
IS1	657	542	541	256	114	67	67
LP4	362,018	367,045	375,298	362,680	351,446	387,659	399,534
LP5	443,218	439,205	462,702	450,350	462,495	481,932	486,079
IS2	0	0	0	0	0	0	0
LPEP	0	0	0	19,554	15,984	11,757	14,663
ISM	24,870	42,480	44,430	41,630	35,020	36,270	21,840
ISL	0	0	0	0	0	0	0
GH1	68,389	72,281	62,568	44,560	32,088	31,877	30,822
GH2	14,396	15,733	12,632	8,159	5,016	4,951	6,142
BL	518	514	1,599	433	4,102	438	378
STR/AREA LTG	10,722	9,113	9,089	7,639	7,434	6,546	7,051
RES12	23,638	21,175	20,307	17,510	14,642	16,608	18,884
RES66	73,794	89,306	86,182	60,013	48,874	51,172	56,366
UGI	63,402	47,119	44,822	33,909	36,532	30,071	32,491
<b>TOTAL</b>	<b>3,248,808</b>	<b>3,228,344</b>	<b>3,064,180</b>	<b>2,640,330</b>	<b>2,292,559</b>	<b>2,442,896</b>	<b>2,704,448</b>
STR/AREA LTG							
SA	2,910	2,509	2,468	2,051	2,004	1,768	1,872
SM	1,002	785	852	716	696	533	653
SMS	5,806	4,987	4,932	4,160	4,038	3,624	3,858
SE	925	762	762	644	627	558	602
TS	43	38	41	41	43	41	43
SI1	37	31	31	26	26	21	23
SI4	0	0	0	0	0	0	0

PENNSYLVANIA POWER & LIGHT COMPANY

MONTHLY MWH SALES  
12 MONTHS ENDED DECEMBER 31, 1984

	AUG	SEPT	OCT	NOV	DEC	TOTAL
RS	813,079	703,200	688,480	739,230	991,183	11,042,348
RTS	19,873	18,228	20,240	24,562	37,993	388,442
RTD	360	313	325	439	419	5,519
GS1	120,537	109,996	102,983	100,070	115,824	1,401,597
GS3	580,142	567,938	546,475	519,320	550,239	6,690,517
IS1	63	66	254	462	600	3,688
LP4	393,632	395,703	385,570	365,635	376,303	4,522,523
LP5	497,088	471,187	499,819	479,495	463,308	5,636,878
IS2	0	0	0	0	0	0
LPEP	13,686	10,358	8,817	7,348	8,760	108,707
ISM	29,310	31,910	32,830	34,480	35,050	410,120
ISL	0	0	0	0	0	0
GM1	28,829	28,904	32,020	32,955	45,551	510,845
GM2	5,459	4,607	4,459	5,404	8,156	95,114
BL	390	328	318	328	414	9,760
STR/AREA LTG	7,950	8,527	9,752	10,224	11,028	105,076
RES12	17,772	16,379	16,086	15,394	19,468	217,861
RES88	60,060	53,160	54,374	52,007	60,577	705,887
UGI	29,733	24,519	31,334	37,811	47,250	458,793
<b>TOTAL</b>	<b>2,817,963</b>	<b>2,445,324</b>	<b>2,433,935</b>	<b>2,424,964</b>	<b>2,769,922</b>	<b>32,313,673</b>
<b>STR/AREA LTG</b>						
SA	2,077	2,241	2,559	2,710	2,892	28,061
SM	721	678	789	813	809	9,148
SHS	4,400	4,805	5,484	5,604	6,155	57,854
SE	683	734	845	1,022	995	9,160
TS	43	41	43	41	43	504
S11	26	28	32	33	36	350
S14	0	0	0	0	0	0

Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Office of Trial Staff  
Dated January 13, 1995  

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Docket No. R-00943271

- Q.OTS-RB-28D. a) Provide a detailed discussion explaining PP&L's supply requirement to PJM. Also include the supporting calculations.
- b) Provide a detailed discussion explaining how PJM operates and PP&L's role in PJM's operation.

- A.OTS-RB-28D. a) A detailed discussion explaining PP&L's supply requirement to the PJM is provided in Statement 9, the Direct Testimony of John F. Sipics.

Attachment 1 demonstrates the calculation used by PJM in 1994/95 to allocate the PJM reserve requirement to the individual PJM member companies. The data for other PJM companies is considered proprietary information and therefore has been deleted from the copy provided.

- b) PJM operates on a central economic dispatch basis to meet customer needs from the most economic generation available recognizing established reliability criteria. With this arrangement, the lowest operating cost generators available anywhere on the power pool produce power without regard to individual company requirements or individual company ownership of generating facilities. In any given hour, some utilities will generate less than the requirements of their own customers, and some will generate more. Therefore, in any hour, some utilities automatically buy power from member utilities and others sell power to member utilities. Similarly, the member companies of PJM, when economical, purchase power from or sell power to systems outside PJM. Thus, the transmission system operates to move power among utilities such that the most economic combination of generating units is operating at any given time and the minimum fuel or operating cost is incurred by the utilities -- and their customers -- in aggregate.

The savings that result from such pool-wide optimization of generator loading – that is, the difference between what it would have cost each utility to generate all of its own customers' power requirements and the actual pool costs under the optimum arrangement described previously – are split equally between buying and selling utilities.

System operation is continuously monitored to maintain reliability while operating to achieve economic efficiency. The objective of PJM is to operate at the lowest possible cost while maintaining the highest practical degree of service reliability to the customer loads of the member systems. To provide reliable electric supply, PJM operates on a single contingency basis. This means that at any given moment, the system can withstand the loss of any single facility without causing any other facility to be loaded beyond its capability. Actual power flows on all major facilities are continuously monitored by the PJM operations computer at the PJM Interconnection Association Office. The loss of each major facility is periodically simulated by the computer and the redistribution of power flow on each of the major facilities is calculated. Impending overloaded facilities are identified and appropriate adjustments are made to internal generation and to imports from outside PJM to prevent an overload from occurring. This philosophy of operation is consistent with the philosophy of planning the bulk power system.

The PJM bulk power system is planned and constructed by the individual member companies so that it can be operated to withstand probable contingencies without incurring any loss of customer load. The criteria for planning the PJM bulk power system are established by the Mid-Atlantic Area Council (MAAC) in the "Reliability Principles and Standards for Planning Bulk Electric Supply System of MAAC Group" as adopted by the MAAC Executive Board on July 18, 1968. The MAAC member companies (which are essentially the same as PJM) review each company's bulk power transmission and generation plans to assure that overall reliability of the integrated power system is maintained. PJM establishes reserve requirements necessary to meet this reliability standard for the pool and allocates these reserve requirements to each member company. This procedure provides incentives for each company to maintain sufficient generation resources to meet its PJM installed capacity obligation.

The bulk power transmission system is planned so that it can be operated to withstand the non-simultaneous, but overlapping, outage of two independent facilities without any loss of customer load, cascading outages or instability. The outage of the first facility shall not cause any other facility to be loaded beyond its applicable emergency rating and the system must be capable of being readjusted so that the outage of the second facility will not cause any bulk power transmission element to be loaded beyond its emergency rating. In addition, the loss of any double circuit line or combination of facilities resulting from a line fault and stuck breaker shall not cause any other facility to be loaded above its emergency capability or result in instability, cascading outages or loss of customer load.

Planning the bulk power transmission system to meet the above conditions recognizes the possible occurrence of the more probable contingencies. However, it is impossible to predict or anticipate all of the contingencies that might occur. Therefore, the system also is tested for its ability to withstand low probability contingencies including, among others, the sudden loss of an entire generating station, the outage of all transmission facilities on a common right-of-way corridor, and the sudden loss of all transmission lines of one voltage emanating from a substation. These tests serve primarily as a means of measuring the ability of the system to withstand such low probability contingencies and to determine the consequences of their occurrence. System reinforcements may be provided based on an evaluation of the consequences, the probability that the contingency will occur and the cost of such reinforcements. Underfrequency relays are installed throughout the PJM system to limit the amount of customer load interrupted in the event of a major system disturbance.

Official 1994-1995 Planning Period

PLANNING PERIOD 1994 - 1995

06/01 TO 06/01

ALLOCATION OF PJM FORECAST REQUIREMENTS

DETERMINATION OF PJM FORECAST DIVERSIFIED PLANNING PERIOD PEAKS (P) - SCHEDULE 2.211

25-Jan-85

PLANNING PERIOD 1994 - 1995

PJM FORECAST SUMMER PEAK - 48207

PEAKS AND CAPABILITIES IN MW, RATIOS IN %

	PS	PE	PL Group	BC	GPU	PEP	AE	DPL	TOT	PJM
<b>PLANNING PERIOD PEAK DETERMINATION:</b>										
1 FORECAST SUMMER PEAKS			5570						46669	INPUT
TOT NET CAPABILITIES - 12-1-84:										
2 SUMMER CONDITIONS			7270						55841	INPUT
3 WINTER CONDITIONS			7481						58535	INPUT
4 WINTER MINUS SUMMER CAPABILITY			211						2694	L3 - L2
5 FORECAST WINTER PEAKS			6630						40927	INPUT
6 REDUCED WINTER PEAKS			6418						38233	L5 - L4
<b>WINTER PEAKING SYSTEMS = (L6 &gt; L1):</b>										
7 PRESENT FORECAST OF LAST PLANNING PERIOD WINTER PEAKS			6470							INPUT
TOT NET CAPABILITIES - 12-1-83:										
8 SUMMER CONDITIONS			7288							INPUT
9 WINTER CONDITIONS			7478							INPUT
10 WINTER MINUS SUMMER CAPABILITY			210							L9 - L8
11 REDUCED WIN PKs THIS PL PER			6419							L6
12 REDUCED WIN PKs LAST PL PER			6260							L7 - L10
13 GREATER OF SUM PK THIS PL PER OR REDUCED WIN PK LAST PL PER			6260							GREATER (L1 OR L12)
14 WIN PEAKING SYSTEMS PL PER PK			6339.5							(L11 + L13) / 2
<b>PLNG PD DIVERSITY DETERMINATION:</b>										
15 WIN SYS: DIFF BETWEEN WIN SYS PLAN PER PK & SUMMER PK			769.5						769.5	L14 - L1
16 SUMMER SYSTEM: DIFF BETWEEN SU PEAK AND REDUCED WINTER PEAK									9285	L1 - L6
17 RATIO OF CO. DIFF TO TOT (L16)										CO L16 / TOT L16
18 WINTER PK SYS PLAN PER DIV			770						770	(CO L15/TOT L15) * LESSER (TOT L15 OR TOT L16)
19 WIN PK SYS SHARE-PLN PER DIV			385						385	50% CO L16
20 SUM PK SYS SHARE-PLN PER DIV									385	50% TOT L16 * L17
<b>SUMMER DIVERSITY DETERMINATION:</b>										
21 RATIO-CO. SUMMER PEAKS TO TOTAL PJM SUMMER PEAKS			11.90							CO L1 / TOTAL L1
22 SUMMER PEAK DIVERSITY									462	TOT L1 - PJM SUMMER PEAK
23 ALLOCATION-SUM PK DIVERSITY			55						462	L21 * L22
<b>DIVERSIFIED PLANNING PERIOD PEAKS:</b>										
24 WINTER PEAKING SYSTEMS			5900						5900	L14 - L19 - L23
25 SUMMER PEAKING SYSTEMS									40308	L1 - L20 - L23
26 PJM PLANNING PERIOD PEAK									48207	TOT L24 + TOT L25

ALLOCATION OF PJM FORECAST REQUIREMENTS  
FORCED OUTAGE RATE ADJUSTMENTS (F) - SCHEDULE 2.212

PLANNING PERIOD 1984 - 1985

	PS	PE	PL Group	BC	GPU	PEP	AE	DPL	TOT	PJM	
1 DIVERSIFIED PLANNING PERIOD PEAKS, MW			5800						46207		(L24 OR L25) PAGE 1
2 AVE. OF FORCED OUTAGE RATES OF UNITS PLANNED IN SERVICE, %			9.15								INPUT
3 ADJUSTMENT FOR ENER G LIMITATION, %			0.05						0.20		INPUT
4 AVERAGE FORCED OUTAG RATE, %			9.20								L2 + L3
5 AVE. FORCED OUTAGE, M			542.8						4193.9		L1 * L4
6 PJM AVERAGE FORCED OUTAGE RATE, %										9.08	TOT L5 / TOT L1
7 DIFFERENCE BETWEEN CO. PJM AVERAGE FORCED OUTAGE RATE, %			0.12								L4 - L8
8 FORCED OUTAGE RATE ADJUSTMENT, %			0.17								1.4 * L7
9 FORECAST AVERAGE UNAVAIL DUE TO FO(MW)			517						3365		INPUT

LARGE UNIT ADJUSTMENTS (U) - SCHEDULE 2.213

BASED ON UNITS IN EXCESS OF 1300 MW INCLUDED IN SYS CAPACITY

PLANNING PERIOD 1984 - 1985

	PS	PE	PL Group	BC	GPU	PEP	AE	DPL	TOT	PJM	
10 DIVERSIFIED PLANNING PERIOD PEAKS, MW			5800								(L24 OR L25) PAGE 1
11 RATIO OF CO. DIV PK TO PJM PEAK %			12.77								CO L10 / TOT L10
12 UNIT NET CAPABILITY IN EXCESS OF 1300 MW,			0								INPUT
13 PROPORTIONATE PART,			0								TOT L12 * L11
14 LARGE UNIT ADJUSTMEN			0								(L12 - L13) * 0.0
15 LARGE UNIT ADJUSTMEN			0								L14 / L10

ALLOCATION OF PJM FORECAST REQUIREMENTS  
LOAD DROP ADJUSTMENTS (D) - SCHEDULE 2.214

25-Jan-85

PLANNING PERIOD 1984 - 1985

	PS	PE	PL Group	BC	GPU	PEP	AE	DPL	TOT	PJM	
1 AVERAGE WEEKLY PEAKS,			5223.0						35971.0		INPUT
2 AVERAGE PLANNED AND MAINTENANCE OUTAGES,			685.0						5834.0		INPUT
3 AVE. MISC. ADJUSTMENT			-72.0						-1120.0		INPUT
4 PLANNING PERIOD PEAKS,			6339.5						47438.5		L1 OR L14 PAGE 1
5 LOAD DROP RATIO, %			92.06							85.76	(L1 + L2 + L3) / L4
COMPANY RATIOS ABOVE PJM:											
6 INCREASE IN RESERVE, %			0.27							0	FROM TABLE BELOW
7 LOAD DROP ADJUSTMENT			8.8						9.7		(CO L6-PJM L6) * L4 / 2
COMPANY RATIOS BELOW PJM:											
8 DIFFERENCE IN RATIO, %											PJM 5 - CO. L5
9 PLAN PER PEAK X L9, MW									689.0		L4 * L8
10 RATIO OF CO. TO TOTAL,											CO L9 / TOT L9
11 LOAD DROP ADJUSTMEN									9.7		CO L10 * TOT L7
12 DIVERSIFIED PLANNING PERIOD PEAKS, MW			5800								L24 OR L25 PAGE 1
13 LOAD DROP ADJUSTMEN			0.15								L7/L12 OR L11/L12

INCREASE IN RESERVE VS LOAD DROP RATIO

LOAD DROP RATIO	INCREASE IN % RESERVE	LOAD DROP RATIO	INCREASE IN % RESERVE
0.00	0.00	0.94	0.52
0.82	0.00	0.95	0.73
0.83	0.00	0.96	1.24
0.84	0.00	0.97	1.87
0.85	0.00	0.98	2.65
0.86	0.00	0.99	3.54
0.87	0.00	1.00	4.51
0.88	0.00	1.01	5.54
0.89	0.01	1.02	6.64
0.90	0.04	1.03	7.79
0.91	0.14	1.04	8.96
0.92	0.28	1.05	10.20
0.93	0.39		

ALLOCATION OF PJM FORECAST REQUIREMENTS  
 DETERMINATION OF FORECAST OBLIGATION  
 AND PLANNED PURCHASES AND SALES - SCHEDULES 2.01 AND 2.21  
 06/01 TO 06/01  
 PLANNING PERIOD 1994 - 1995

25-Jan-95

	PS	PE	PL Group	BC	GPU	PEP	AE	DPL	TOT	PJM	
1 DIVERSIFIED PLANNING PERIOD PEAKS, MW			5900						46207		L24 OR L25 PAGE 1
2 PJM FORECAST REQUIREMENT, MW									56373		L1*(1+L3)
3 PJM RESERVE MARGIN (R), %			22.00						22.00		INPUT
4 FORCED OUTAGE RATE ADJUSTMENT (F), %			0.17								L8 PAGE 2
5 LARGE UNIT ADJUSTMENT (U), %			0								L15 PAGE 2
6 LOAD DROP ADJUSTMENT (D), %			0.15								L13 PAGE 3
7 TOTAL RESERVE MARGIN, %			22.32						22.00		L3 + L4 + L5 + L6
8 ALLOCATION OF RESERVE, MW			1317						10166		L1 * L7
9 TRIAL FORECAST OBLIGATION, M			7217						56373		L1 + L8
10 PLANNED GENERATION CAPACIT			7285						55784		INPUT
11 PLANNED EXTERNAL CAP CREDIT, MW									0		INPUT
12 PLANNED INTERNAL CAP TRANS, MW									0		INPUT
13 PLANNED LOAD MANAGEMENT A			181						1770		INPUT
14 PLANNED CAPACITY ADJUSTMENT, MW									34		INPUT
15 PLANNED SYSTEM RESOURCES,			7446						57588		SUM OF L10 TO 14
16 REDUCTION RATIO :IF PJM 8 > PJM 15, OTHERWISE 0									0.0000		(PJML9-PJML15)/ PJML15
17 OBLIGATION ADJUSTMENT, MW			0						0		L15 * PJM L16
18 FORECAST OBLIGATION, MW			7217						56373		L9 - L17
19 DEFICIENCY = PLANNED PURCH,			0						0		L15 - L18
20 EXCESS, MW			230						1218		L18 - L15
21 PLANNED SALE (-), MW			0						0		(CO L20/TOT L20) X TOTAL L19
22 PLANNED CONTRACT CAP, MW			7446						57588		L15 + (L19 OR L21)

Attachment 1  
Page 4 of 4

Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Office of Trial Staff  
Dated February 1, 1995

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Docket No. R-00943271

**Q.OTS-RB-52. Refer to JFS-1.**

- a) Provide a schedule depicting, for each NUG that is included in the Reserve calculation, a calculation of reliability (capacity factor).
- b) Provide a detailed discussion explaining PP&L's view of NUG reliability.
- c) For each NUG that is included in the Reserve calculation, provide a schedule showing the NUG's start date and estimated retirement date.
- d) Provide a schedule showing the name, address, telephone number, and contact person for each NUG that PP&L has included in the Reserve calculation.
- e) Provide a schedule, for the last five years, showing a list of NUGs that have failed financially or have defaulted on their contract with PP&L.
- f) Is PP&L aware of any additional NUG load coming on line by the end of the Future Test Year? If so, provide a schedule showing the additional generation in Mega-watts.

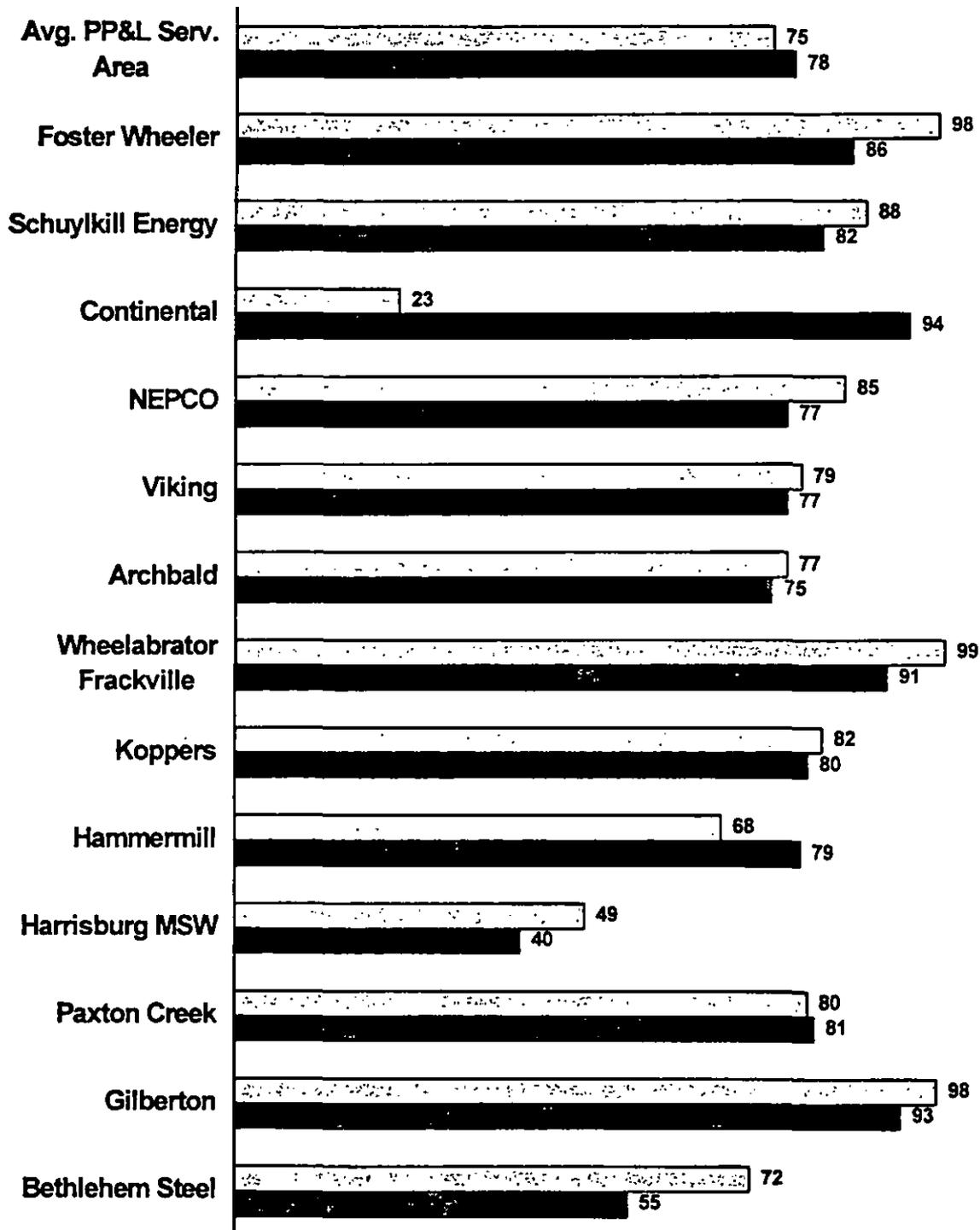
**A.OTS-RB-52. a) See Attachment 1.**

- b) As shown on Attachment 1, most of the non-utility generation in the PP&L service area has achieved a level of reliability that parallels utility generation. PP&L monitors capacity factor on a monthly basis as an on-going measure of this reliability. Based on data collected to date, the cause and frequency of outages at non-utility generation facilities appear to be comparable to those at utility generation facilities.

- c) See Attachment 2.
- d) See Attachment 3.
- e) The owners of the Continental Energy Associates facility filed for bankruptcy under Chapter 11 of the U.S. Bankruptcy Code. PP&L is not aware of any other non-utility generators who have agreements with PP&L that have either failed financially or have defaulted on their agreements.
- f) PP&L is not aware of any additional non-utility generation that will begin selling output to PP&L during the Future Test Year.

## Capacity Factor of PP&L Non-Utility Generation

### Month of December, 1994 and Year-End 1994



Y-T-D (% C. F.)    
 
 M-T-D (% C.F.)

**PP&L Non-Utility Generation  
Agreement Dates**

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<u>NUG Name</u>	<u>Commercial Operation</u>	<u>Agreement Termination</u>
Amity Landfill / Taylor Energy	7/29/89	2009
Archbald Power Corporation	9/12/90	2010
Bethlehem Steel Corporation	6/30/85	1995
Continental Energy Associates	5/8/89	2009
Foster Wheeler / Mt Carmel Inc.	3/8/90	2010
Gilberton Power Company	2/14/88	2002
Hammermill Paper Company	11/28/84	1994 (1)
Harrisburg MSW (Hbg. Waste to Energy Facility)	11/22/86	Year-to-Year
Koppers Company	6/14/88	1998
NEPCO	9/12/89	2009
Paxton Creek Cogen Associates	2/11/86	2011
Schuylkill Energy Resources	12/12/89	2011
Viking Energy	11/20/88	2008
Wheelabrator Frackville Energy	9/27/88	2008

(1) Original contract with Hammermill Paper continues in effect while a new contract is being negotiated.

**PP&L Non-Utility Generation  
Information**

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<u>NUG Name</u>	<u>Address</u>	<u>Phone Number</u>	<u>Contact Person</u>
Amity Landfill / Taylor Energy	Taylor Energy Partners, L.P. C/o Zahren Financial Corp. 40 Tower Lane Avon, CT 06001	203-678-7537	Bernard Zahren
Archbald Power Corporation	Archbald Power Corp. 170 Power Boulevard P. O. Box 157 Archbald, PA 18403	800-451-0571	Lee Leipold
Bethlehem Steel Corporation	Bethlehem Steel Corp. 12th /floor - SGO Building 701 East Third Street Bethlehem, PA 18016	610-694-4148	George Dawson
Continental Energy Associates	Continental Cogeneration Corp. General Partner of Continental Energy Associates 350 Lincoln Place Suite 111 Hingham, MA 02043	617-740-4305	Steven Roy
Foster Wheeler / Mt Carmel Inc.	Foster Wheeler Power Systems Perryville Corporate Park Clinton, NJ 08809-4000	908-730-5238	Bruce C. Studley
Gilberton Power Company	Gilberton Power Company 299 Morea Road P. O. Box 7 Frackville, PA 17931	717-874-4119	David Martin
Hammermill Paper Company	Hammermill Paper Company South High Street Lock Haven, PA 17745	717-748-1363	Brian Bashore
Harrisburg MSW (Hbg. Waste to Energy Facility)	Harrisburg Waste To Energy 1670 South 19th Street Harrisburg, PA 17104 Attn: Director	717-236-5361	John Lucas
Koppers Company	Koppers Company P. O. Box 189 Montgomery, PA 17752	717-547-1651	David Choate
NEPCO	NEPCO Division of Reading Energy Co. The Bellevue 200 South Broad Street, 9th Flr. Philadelphia, PA 19102	215-735-5588	Thomas A. C. Cassel

<u>NUG Name</u>	<u>Address</u>	<u>Phone Number</u>	<u>Contact Person</u>
Paxton Creek Cogen Associates	Paxton Creek Cogen. Assoc. P. O. Box 2151 Harrisburg, PA 17105	717-234-4600	Bruce Mangione
Schuylkill Energy Resources	Schuylkill Energy Resources 200 Mahantongo Street Pottsville, PA 17901	717-622-5150	David Christ
Viking Energy	CRSS Capital, Inc. 1177 West Loop South P. O. Box 22427 Houston, TX 77227-2427	713-552-2102	Wes Schattner
Wheelabrator Frackville Energy	Wheelabrator Frackville Energy Project P. O. Box 392 Frackville, PA 17931-0126	717-773-0405	John Thalhauser

Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Office of Trial Staff  
Dated February 1, 1995

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Docket No. R-00943271

**Q.OTS-RB-53.** Refer to Statement 9, page 8-11.

- a) Provide the supporting calculations for the 12 percent level of PP&L's reserve requirement with PJM.
- b) Will the 12 percent reserve requirement with PJM remain at that level for the Historic and Future Test Years? Please explain.
- c) Is the 12 percent reserve requirement lower than other PJM members? If so, is the reserve requirement lower because PP&L is the only winter peaking member of PJM? Please explain.
- d) Provide a schedule showing the reserve margin requirement from PJM for the last 10 years.
- e) Provide a schedule depicting the minimum reserve requirement, on a stand-alone basis, if PP&L was not a member of PJM.

- A.OTS-RB-53.** a) The determination of the PP&L 12% reserve requirement is based on converting the PP&L Group obligation to PJM to a winter-based PP&L System reserve requirement. PP&L expresses its reserve requirement on a winter basis because PP&L's annual peak load occurs in the winter season. Under terms of an interconnection agreement between PP&L and UGI's Luzerne Electric Division (LU), UGI's and PP&L's generation and load are treated as the PP&L Group in PJM. The PJM installed capacity allocation provides the capacity obligation for PP&L Group (i.e. for both PP&L and LU in terms of summer capacity ratings). PP&L System is only responsible for PP&L Company load and LU load not supplied by LU generation. In order to determine the PP&L System resource requirement, the PP&L Group resource requirement must be adjusted by:
- converting to winter-based load and capacity, and
  - removing the load and capacity effects of LU that PP&L does not own or have responsibility to serve.

Based on the PP&L Group installed capacity obligation (ICO) for summer capacity, the calculation of the PP&L System resource requirement in terms of winter capacity is:

$$\begin{array}{r}
 \text{PP\&L Group ICO} \\
 + \text{ PP\&L Group: Winter minus Summer Capacity Ratings} \\
 - \text{ LU Winter Rated Installed Capacity} \\
 \hline
 \text{PP\&L System Resource Requirement (Winter MW)}
 \end{array}$$

The PP&L System reserve requirement is then expressed as a percentage above winter peak load. The calculation for the 1994/95 and 1995/96 PJM planning periods is shown below.

	<u>1994/95</u>	<u>1995/96</u>
PP&L Group ICO	7217	7348
PP&L Group Winter-Summer Capacity Difference (MW)	211	211
LU Installed Winter Capacity (MW)	-67	-67
<hr/>		
PP&L System Resource Requirement (Winter MW)	7361	7492
PP&L System Forecast Winter Peak Load (MW)	6575	6695
PP&L System Winter Reserve Requirement (% of Winter Peak)	12.0%	11.9%

- b) The current PP&L System Winter Reserve Requirement is expected to remain consistent for the historic and future test years. This value is essentially constant for changes in load growth when load shapes are unchanged and the difference between summer and winter capacity remain relatively constant. These two factors are not expected to change in the near future.
- c) The Company's current reserve requirement is lower than other PJM companies primarily because of the diversity provided by PP&L as a winter-peaking company in a summer-peaking power pool. PJM determines its installed capacity requirement based on the annual requirements to meet PJM load throughout the year and is expressed as a function of the system peak load which occurs in the summer time. The benefit of the diversity (difference between the winter peak and the summer peak) provided by winter peaking companies is shared equally between the winter-peaking and summer-peaking companies in PJM. Because PP&L is the only winter-peaking company, it receives 50% of the summer/winter diversity benefit it provides to the pool. This significantly reduces PP&L's obligation to PJM when expressed as a reserve requirement above PP&L's higher winter load forecast.

- d) Attachment 1 provides the PP&L System reserve requirement from PJM for the last 8 years. Data going back a full 10 years is not available.
- e) PP&L has not conducted studies that determine the minimum reserve requirement on a stand-alone basis, as if PP&L were not a member of PJM. However, it is reasonable to conclude that the reserve requirement would be higher if the benefits of shared generation from non-winter peaking systems are not available to PP&L.

**PP&L System Reserve Requirement**

<b><u>PJM Planning Period</u></b>	<b><u>PP&amp;L System Reserve Requirement (% over Winter Peak)</u></b>
1987/88	10
1988/89	7
1989/90	8
1990/91	8
1991/92	5
1992/93	8
1993/94	10
1994/95	12

Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Office of Trial Staff  
Dated February 1, 1995

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Docket No. R-00943271

**Q.OTS-RB-55.** Provide the calculation and supporting work papers showing the reserve margin requirement for PJM based on PP&L's summer peak.

**A.OTS-RB-55.** PP&L's allocation of the PJM Installed Capacity Requirement [PP&L's Installed Capacity Obligation (ICO)] is provided as a megawatt value for the PP&L Group (see our discussion in the response to Question OTS-RB-53a of Interrogatories of the Office of Trial Staff Dated February 1, 1995). This ICO is based on the contribution of PP&L Group's load and generation characteristics to the total PJM Installed Capacity Requirement. Because the PJM pool annual peak occurs in the summer and PP&L's annual peak occurs in the winter, PP&L's load shape does not contribute as much to the pools installed capacity requirement as does the load shape of those companies whose peak load occurs in the summer season. PP&L System's resource requirement, expressed as a percent of its summer peak, is 129% or 29% reserve above its summer peak. However, when expressed as a percentage of PP&L's winter peak, PP&L's resource requirement is 112% or 12% reserve above its winter peak load as discussed in the response to Question OTS-RB-53a of Interrogatories of the Trial Staff Dated February 1, 1995.

The PP&L System resource requirement on a summer basis is derived for the 1994/95 and 1995/96 PJM planning period as shown below.

	<u>1994/95</u>	<u>1995/96</u>
PP&L Group ICO to PJM	7217	7348
UGI's Luzerne Electric Division Summer Capacity (MW)	-67	-67
PP&L System Resource Requirement (Summer MW)	7150	7281
PP&L System Forecast Summer Peak Load (MW)	5520	5655
PP&L System Summer Reserve Requirement (% of Summer Peak)	29.5%	28.8%

It does not matter if the reserve is expressed over the forecast summer or winter peak load; the same level of megawatts is required with the exception of the difference between the summer and winter ratings of the generating facilities which is taken into account in determining the PJM installed capacity requirement.

**Pennsylvania Power & Light Company**  
**Response to Interrogatories of**  
**The Office of Trial Staff**  
**February 1, 1995**  

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**Docket No. R-00943271**

- Q. OTS-RB-57.** Provide a schedule showing an estimate of scheduled outages for the Historic and Future Test Years. Also include a schedule projecting the total lost generation of unscheduled outages for the Future Test Year. Provide supporting work papers.
- A. OTS-RB-57.** Attachments 1 and 2 provide, for PP&L's owned generating units, the actual scheduled outages for the Historic Test Year and the projected scheduled outages for the Future Test Year.

Attachment 3 is a projection of lost generation for each of PP&L's major generating units for the Future Test Year. An average unscheduled outage rate was applied to the total hours in the future test year period; the forecasted annual capacity factor was also applied to account for the average expected demand for each unit's generation. Actual lost generation may be higher or lower than this projection because it is a function of the magnitude (i.e. whether it is a full or partial unscheduled outage), duration and timing of the unscheduled outages. For example, a generating unit may have a full unscheduled outage occur at a time when it is not called upon to operate, thereby not experiencing any lost generation.

**ACTUAL PLANNED OUTAGES**  
**OCTOBER 1993-SEPTEMBER 1994**

Brunner Island No. 1	10/15/93 - 12/21/93
Brunner Island No. 2	04/01/94 - 06/08/94
Brunner Island No. 3	09/09/94 - 09/30/94
Holtwood No. 17	01/14/94 - 02/03/94
Martins Creek No. 1	07/22/94 - 09/11/94
Martins Creek No. 2	06/18/94 - 07/23/94
Martins Creek No. 3	-
Martins Creek No. 4	02/06/94 - 03/15/94
Montour No. 1	05/04/94 - 05/13/94
Montour No. 2	10/22/93 - 10/31/93 03/24/94 - 06/05/94
Sunbury No. 1-2-3	01/06/94 - 03/07/94 <sup>(1)</sup>
Sunbury No. 4	03/04/94 - 03/18/94
Susquehanna No. 1	10/01/93 - 12/03/93
Susquehanna No. 2	03/14/94 - 06/11/94
Keystone No. 1	-
Keystone No. 2	01/26/94 - 04/08/94
Conemaugh No. 1	09/10/94 - 09/30/94
Conemaugh No. 2	10/01/93 - 12/05/93

(1) Partial outage of 90 mw to work on Boiler No. 3.

**SCHEDULED OUTAGES  
FOR THE FUTURE TEST YEAR  
OCTOBER 1994-SEPTEMBER 1995**

Brunner Island #1	05/06/95 - 05/28/95
Brunner Island #2	-
Brunner Island #3	10/01/94 - 11/20/94
Martins Creek #1	09/02/95 - 09/17/95
Martins Creek #2	-
Martins Creek #3	11/12/94 - 12/18/94
Martins Creek #4	02/11/95 - 03/19/95
Holtwood #17	01/07/95 - 01/29/95
Sunbury #1-2-3	06/10/95 - 09/03/95 (1)
Sunbury #4	01/01/95 - 03/06/95
Montour #1	03/25/95 - 06/04/95
Montour #2	06/03/95 - 06/11/95
Susquehanna #1	03/25/95 - 05/22/95
Susquehanna #2	09/09/95 - 09/30/95
Keystone #1	01/28/95 - 04/09/95
Keystone #2	-
Conemaugh #1	-
Conemaugh #2	09/30/95 - 09/30/95

(1) Partial outage of approximately 72 mw.

**FUTURE TEST YEAR**

**Estimated Lost Generation Resulting From Unscheduled Outages**

<b>UNITS</b>	<b>Unscheduled Outage Rate - %</b>	<b>Net Continuous Capability (1)</b>	<b>Period Hours</b>	<b>Annual Capacity Factor - %</b>	<b>Estimated Lost Generation From Unscheduled Outages</b>
Brunner Island 1	7.6	272	8760	74.0	133,825
Brunner Island 2	6.5	320	8760	80.4	146,644
Brunner Island 3	11.3	624	8760	68.5	422,820
Holtwood 17	4.4	62	8760	88.9	21,367
Martins Creek 1	14.1	128	8760	55.0	87,044
Martins Creek 2	7.4	128	8760	62.5	51,912
Martins Creek 3	9.8	715	8760	12.1	74,271
Martins Creek 4	5.1	696	8760	12.2	37,935
Montour 1, 11	10.2	636	8760	64.1	364,484
Montour 2	10.4	624	8760	79.9	453,907
Sunbury 1,2	9.6	130	8760	73.3	80,035
Sunbury 3	10.0	88	8760	73.3	56,494
Sunbury 4	10.0	114	8760	60.4	60,563
Keystone 1	16.3	93	8760	78.6	104,375
Keystone 2	13.9	93	8760	78.6	89,007
Conemaugh 1	11.6	86	8760	78.9	68,951
Conemaugh 2	12.0	86	8760	78.9	71,328
Susquehanna 1	12.9	704	8760	69.4	552,354
Susquehanna 2	12.8	740	8760	81.1	672,797
<b>TOTAL</b>					<b>3,550,113</b>

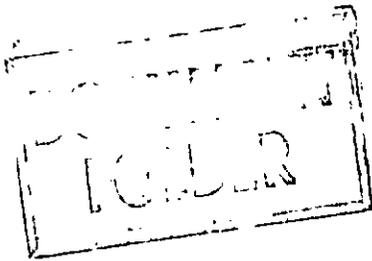
(1) Adjusted for sales to Jersey Central Power and Light Co.,  
Baltimore Gas and Electric Co., and Atlantic Electric Co.

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3/23/95  
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DATE: MARCH , 1995

DOCKETED  
MAR 27 1995

PA PUBLIC UTILITY COMMISSION  
vs.  
PENNSYLVANIA POWER & LIGHT COMPANY  
DOCKET NO: R-00943271

ORIGINAL

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Office of Trial Staff  
Dated March 7, 1995**  

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**Docket No. R-00943271**

Q. OTS-RB-69. Refer to the Company's response to OTS-RB-57.

- a) Is the Company's definition of unscheduled outages the same definition for forced outages?
- b) Provide a schedule showing the lost generation, in MWs, for the forced outages for the last five years.

A. OTS-RB-69. a) No. Unscheduled outages consist of two categories, forced and maintenance. A forced outage is caused by equipment, fuel and condition-related problems, results in a full or partial reduction, and cannot be postponed beyond the next weekend. A maintenance outage is an outage that can be postponed beyond the next weekend.

- b) Attachment 1 provides the requested information for the years 1990 through 1994 for PP&L's major steam generating units. The actual annual average forced outage factor (not including maintenance outages) and capacity factor for each generating unit were used in developing the requested estimate of the lost generation. The capacity factor was applied to account for the average expected demand for each unit's generation. The actual lost generation may have been higher or lower than these estimates because it is a function of the magnitude (i.e. whether it is a full or partial outage), duration and timing of the outage. For example, a generating unit may have had a full forced outage at a time when it would not have operated, thereby not experiencing any lost generation.

1990

Estimated Lost Generation Resulting From Forced Outages

UNITS	Forced Outage Factor - %	Net Continuous Capability (1)	Period Hours	Annual Capacity Factor - %	Estimated Lost Generation From Forced Outages (Megawatthours)
Brunner Island 1	5.8	282	8760	73.7	106,167
Brunner Island 2	4.3	333	8760	76.6	95,975
Brunner Island 3	8.9	648	8760	57.6	289,799
Holtwood 17	4.7	65	8760	87.6	23,204
Martins Creek 1	9.1	133	8760	56.5	60,057
Martins Creek 2	5.9	133	8760	54.6	37,228
Martins Creek 3	6.4	727	8760	8.9	36,235
Martins Creek 4	3.8	727	8760	11.1	26,946
Montour 1, 11	8.1	661	8760	77.3	361,555
Montour 2	3.7	648	8760	87.0	183,575
Sunbury 1,2	2.9	135	8760	78.9	27,193
Sunbury 3	2.9	91	8760	64.4	15,050
Sunbury 4	4.6	119	8760	62.5	30,065
Keystone 1	6.8	93	8760	87.9	48,480
Keystone 2	15.1	93	8760	62.0	76,018
Conemaugh 1	13.9	86	8760	70.5	73,772
Conemaugh 2	7.5	86	8760	86.6	48,865
Susquehanna 1	5.9	781	8760	70.0	280,559
Susquehanna 2	6.8	781	8760	90.1	421,511
TOTAL					2,242,254

(1) Adjusted for sales to Jersey Central Power and Light Co.,  
and Atlantic Electric Co.

1991

Estimated Lost Generation Resulting From Forced Outages

UNITS	Forced Outage Factor - %	Net Continuous Capability (1)	Period Hours	Annual Capacity Factor - %	Estimated Lost Generation From Forced Outages (Megawatthours)
Brunner Island 1	2.3	279	8760	75.1	41,696
Brunner Island 2	4.2	329	8760	75.8	91,385
Brunner Island 3	10.3	641	8760	66.6	385,153
Holtwood 17	5.6	64	8760	80.5	25,401
Martins Creek 1	6.5	132	8760	41.6	31,292
Martins Creek 2	5.7	132	8760	55.8	36,437
Martins Creek 3	9.0	727	8760	12.6	72,494
Martins Creek 4	10.7	727	8760	14.4	98,172
Montour 1, 11	8.7	654	8760	68.5	341,480
Montour 2	16.7	641	8760	63.1	590,236
Sunbury 1,2	6.4	133	8760	70.9	52,965
Sunbury 3	6.4	90	8760	75.5	38,219
Sunbury 4	4.8	118	8760	71.1	34,880
Keystone 1	8.6	93	8760	70.4	49,037
Keystone 2	9.3	93	8760	84.7	64,104
Conemaugh 1	7.9	86	8760	88.9	52,775
Conemaugh 2	7.7	86	8760	73.2	42,242
Susquehanna 1	1.0	781	8760	95.9	62,968
Susquehanna 2	3.4	781	8760	76.5	176,850
TOTAL					2,287,786

(1) Adjusted for sales to Jersey Central Power and Light Co.,  
Baltimore Gas and Electric Co., and Atlantic Electric Co.

1992

Estimated Lost Generation Resulting From Forced Outages

UNITS	Forced Outage Factor - %	Net Continuous Capability (1)	Period Hours	Annual Capacity Factor - %	Estimated Lost Generation From Forced Outages (Megawatthours)
Brunner Island 1	5.1	271	8760	50.3	60,598
Brunner Island 2	1.1	320	8760	69.4	21,391
Brunner Island 3	5.6	623	8760	71.1	216,411
Holtwood 17	2.6	62	8760	88.2	12,653
Martins Creek 1	5.1	128	8760	54.8	31,264
Martins Creek 2	4.9	128	8760	44.8	24,555
Martins Creek 3	3.0	727	8760	7.0	13,514
Martins Creek 4	1.2	727	8760	7.7	5,691
Montour 1, 11	13.5	635	8760	73.8	554,625
Montour 2	6.6	623	8760	69.2	250,262
Sunbury 1,2	6.4	130	8760	72.4	52,381
Sunbury 3	6.4	88	8760	75.2	36,868
Sunbury 4	8.6	114	8760	68.3	58,882
Keystone 1	4.1	93	8760	88.4	29,455
Keystone 2	10.5	93	8760	70.9	60,591
Conemaugh 1	7.8	86	8760	72.2	42,154
Conemaugh 2	9.2	86	8760	87.5	60,711
Susquehanna 1	6.0	781	8760	68.9	281,805
Susquehanna 2	2.8	781	8760	77.1	147,125
TOTAL					1,960,937

(1) Adjusted for sales to Jersey Central Power and Light Co.,  
Baltimore Gas and Electric Co., and Atlantic Electric Co.

1993

Estimated Lost Generation Resulting From Forced Outages

UNITS	Forced Outage Factor - %	Net Continuous Capability (1)	Period Hours	Annual Capacity Factor - %	Estimated Lost Generation From Forced Outages (Megawatthours)
Brunner Island 1	6.5	271	8760	54.0	83,532
Brunner Island 2	6.1	320	8760	65.9	111,903
Brunner Island 3	11.7	623	8760	65.6	417,948
Holtwood 17	4.2	62	8760	87.8	19,971
Martins Creek 1	4.9	128	8760	51.9	28,504
Martins Creek 2	3.7	128	8760	45.8	19,096
Martins Creek 3	17.1	673	8760	9.1	91,823
Martins Creek 4	2.0	673	8760	11.1	12,830
Montour 1, 11	4.4	635	8760	70.9	174,453
Montour 2	6.5	623	8760	79.4	283,253
Sunbury 1,2	3.3	130	8760	69.8	25,985
Sunbury 3	3.3	88	8760	73.5	18,555
Sunbury 4	3.7	114	8760	65.0	23,951
Keystone 1	4.9	93	8760	80.5	32,069
Keystone 2	7.3	93	8760	87.4	52,121
Conemaugh 1	15.1	86	8760	72.2	82,187
Conemaugh 2	8.2	86	8760	63.4	38,927
Susquehanna 1	15.1	781	8760	56.1	579,769
Susquehanna 2	9.0	781	8760	89.8	549,702
TOTAL					2,646,580

(1) Adjusted for sales to Jersey Central Power and Light Co.,  
Baltimore Gas and Electric Co., and Atlantic Electric Co.

1994

Estimated Lost Generation Resulting From Forced Outages

UNITS	Forced Outage Factor - %	Net Continuous Capability (1)	Period Hours	Annual Capacity Factor - %	Estimated Lost Generation From Forced Outages (Megawatthours)
Brunner Island 1	12.8	271	8760	61.0	185,533
Brunner Island 2	8.7	320	8760	52.5	127,398
Brunner Island 3	10.2	623	8760	52.9	295,482
Holtwood 17	5.2	62	8760	87.3	24,858
Martins Creek 1	14.9	128	8760	32.2	53,595
Martins Creek 2	8.1	128	8760	33.6	30,505
Martins Creek 3	4.7	727	8760	13.5	40,427
Martins Creek 4	7.4	727	8760	11.0	52,144
Montour 1, 11	9.1	635	8760	72.4	367,169
Montour 2	16.1	623	8760	53.5	469,262
Sunbury 1,2	7.7	130	8760	71.7	62,743
Sunbury 3	7.7	88	8760	61.8	36,672
Sunbury 4	14.0	114	8760	60.6	85,010
Keystone 1	9.2	93	8760	84.0	63,027
Keystone 2	13.4	93	8760	55.8	60,733
Conemaugh 1	7.9	86	8760	61.5	36,787
Conemaugh 2	10.0	86	8760	85.2	63,930
Susquehanna 1	0.7	781	8760	90.9	43,520
Susquehanna 2	1.8	820	8760	70.9	90,164
TOTAL					2,188,960

(1) Adjusted for sales to Jersey Central Power and Light Co.,  
Baltimore Gas and Electric Co., and Atlantic Electric Co.

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MAR 27 1995

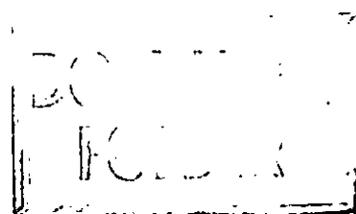
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3/23/95 Hbg  
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DATE: MARCH , 1995



PA PUBLIC UTILITY COMMISSION

vs.

PENNSYLVANIA POWER & LIGHT COMPANY

DOCKET NO: R-00943271

ORIGINAL

J. F. Sipics

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Office of Trial Staff  
Dated January 13, 1995**  

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**Docket No. R-00943271**

**Q.OTS-RS-10D. Provide the Company's 1993 Annual Resource Plan.**

**A.OTS-RS-10D. Attachment 1 provides PP&L's 1993 Resource Planning Report-Summary. Attachment 2 provides the detailed PP&L 1993 Resource Planning Report. These reports were filed with the Pennsylvania Public Utility Commission (PUC) on May 3, 1993.**

**Because these documents are voluminous, copies are being provided only to the PUC's Office of Trial Staff. Copies will be provided to other parties upon request.**

COMPANY NAME : PENNSYLVANIA POWER & LIGHT COMPANY

FORM 13B-A1 HISTORICAL AND FORECAST PEAK DEMAND (MW)

LOAD GROWTH SCENARIO : MEDIAN

INDEX YEAR	ACTUAL YEAR	RESIDENTIAL (MW)	COMMERCIAL (MW)	INDUSTRIAL (MW)	OTHER (MW)	SALES FOR RESALE (MW)	TOTAL PEAK DEMAND (MW)	ANNUAL LOAD FACTOR
-5	1988	2,276	1,616	1,379	31	264	5,566	61.5
-4	1989	2,824	1,555	1,296	26	299	6,000	63.7
-3	1990	2,611	1,512	1,231	33	274	5,661	58.2
-2	1991	2,821	1,532	1,299	45	277	5,974	63.2
-1	1992	2,887	1,566	1,346	46	285	6,130	61.1
0	1993	3,052	1,648	1,381	73	311	6,465	61.7
1	1994	3,103	1,694	1,389	73	311	6,570	59.6
2	1995	3,158	1,736	1,403	76	322	6,695	60.0
3	1996	3,219	1,788	1,420	73	330	6,830	59.9
4	1997	3,277	1,834	1,437	77	308	6,933	60.1
5	1998	3,343	1,886	1,456	75	318	7,078	60.4
6	1999	3,403	1,933	1,470	72	328	7,203	60.2
7	2000	3,458	1,978	1,485	68	339	7,328	60.1
8	2001	3,515	2,023	1,501	65	349	7,453	60.2
9	2002	3,568	2,068	1,515	63	359	7,573	60.2
10	2003	3,626	2,111	1,531	63	368	7,693	60.2
11	2004	3,667	2,154	1,546	64	377	7,808	60.0
12	2005	3,714	2,197	1,562	64	386	7,923	60.1
13	2006	3,757	2,238	1,575	64	394	8,028	60.1
14	2007	3,796	2,279	1,590	64	404	8,132	60.1
15	2008	3,831	2,317	1,603	65	411	8,228	59.8
16	2009	3,864	2,354	1,618	68	421	8,324	60.0
17	2010	3,897	2,391	1,633	67	430	8,418	60.0
18	2011	3,925	2,425	1,647	67	439	8,503	59.9
19	2012	3,948	2,455	1,660	68	447	8,578	59.7

(A) RESALE INCLUDES SUPPLY TO UGI

COMPANY NAME : PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-A). HISTORICAL AND FORECAST PEAK DEMAND (MW)

LOAD GROWTH SCENARIO : HIGH

INDEX YEAR	ACTUAL YEAR	RESIDENTIAL (MW)	COMMERCIAL (MW)	INDUSTRIAL (MW)	OTHER (MW)	SALES FOR RESALE (MW)	TOTAL PEAK DEMAND (MW)	ANNUAL LOAD FACTOR
-5	1988	2,276	1,616	1,378	31	264	5,566	61.5
-4	1989	2,824	1,555	1,296	26	299	6,000	63.7
-3	1990	2,611	1,512	1,231	33	274	5,661	58.2
-2	1991	2,821	1,532	1,299	45	277	5,974	63.2
-1	1992	2,887	1,566	1,346	46	285	6,130	61.1
0	1993	3,089	1,666	1,396	75	314	6,540	62.3
1	1994	3,155	1,722	1,412	75	316	6,680	59.6
2	1995	3,225	1,774	1,438	80	328	6,840	60.1
3	1996	3,303	1,835	1,458	75	339	7,010	60.0
4	1997	3,380	1,891	1,481	77	319	7,148	60.1
5	1998	3,465	1,955	1,509	77	332	7,338	60.4
6	1999	3,538	2,011	1,530	75	344	7,498	60.2
7	2000	3,618	2,069	1,554	70	357	7,668	60.1
8	2001	3,695	2,128	1,578	67	370	7,838	60.2
9	2002	3,772	2,186	1,602	67	381	8,008	60.2
10	2003	3,846	2,243	1,627	71	392	8,178	60.2
11	2004	3,921	2,302	1,653	67	405	8,348	60.0
12	2005	3,997	2,364	1,680	70	417	8,528	60.1
13	2006	4,069	2,425	1,706	67	431	8,698	60.1
14	2007	4,142	2,488	1,735	70	443	8,878	60.0
15	2008	4,210	2,548	1,763	70	457	9,048	59.8
16	2009	4,278	2,606	1,791	75	468	9,218	60.0
17	2010	4,346	2,665	1,822	75	484	9,398	60.0
18	2011	4,416	2,727	1,852	77	496	9,568	59.9
19	2012	4,443	2,762	1,868	77	508	9,658	59.7

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(AT RESALE INCLUDES SUPPLY TO UGI)

COMPANY NAME : PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-A1. HISTORICAL AND FORECAST PEAK DEMAND (MW)

LOAD GROWTH SCENARIO : LOW

INDEX YEAR	ACTUAL YEAR	RESIDENTIAL (MW)	COMMERCIAL (MW)	INDUSTRIAL (MW)	OTHER (MW)	SALES FOR RESALE (MW)	TOTAL PEAK DEMAND (MW)	ANNUAL LOAD FACTOR
-5	1988	2,276	1,616	1,379	31	264	5,566	61.5
-4	1989	2,824	1,555	1,296	26	299	6,000	63.7
-3	1990	2,611	1,512	1,231	33	274	5,661	58.2
-2	1991	2,821	1,532	1,299	45	277	5,974	63.2
-1	1992	2,887	1,566	1,346	46	285	6,130	61.1
0	1993	2,993	1,616	1,354	72	305	6,340	61.3
1	1994	3,014	1,645	1,349	71	301	6,380	59.6
2	1995	3,036	1,670	1,349	76	309	6,440	60.0
3	1996	3,067	1,704	1,354	69	316	6,510	59.9
4	1997	3,096	1,733	1,357	74	288	6,548	60.1
5	1998	3,131	1,767	1,364	69	297	6,628	60.4
6	1999	3,164	1,797	1,368	66	303	6,698	60.2
7	2000	3,190	1,824	1,370	64	310	6,758	60.0
8	2001	3,221	1,854	1,376	59	318	6,828	60.3
9	2002	3,250	1,884	1,381	59	324	6,898	60.3
10	2003	3,280	1,914	1,387	57	330	6,968	60.2
11	2004	3,307	1,943	1,394	57	337	7,038	60.1
12	2005	3,338	1,975	1,404	57	344	7,118	60.2
13	2006	3,365	2,004	1,411	59	349	7,188	60.1
14	2007	3,389	2,035	1,419	59	356	7,258	60.1
15	2008	3,413	2,064	1,429	59	363	7,328	59.9
16	2009	3,437	2,094	1,439	57	371	7,398	60.0
17	2010	3,465	2,125	1,452	59	379	7,478	60.0
18	2011	3,485	2,153	1,463	62	385	7,548	59.9
19	2012	3,506	2,182	1,476	60	394	7,618	59.7

(A) RESALE INCLUDES SUPPLY TO UGI

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-B1. ESTIMATED PEAK RESOURCES, DEMANDS AND RESERVES FOR THE 10 YEAR PERIOD (MW)

INDEX YEAR: ----- ACTUAL YEAR:	0		1		2		3		4	
	1993		1994		1995		1996		1997	
	SUMMER	WINTER								
<b>RESOURCES</b>										
01 TOTAL CAPABILITY (A)	8,254	8,502	8,303	8,551	8,352	8,595	8,351	8,595	8,351	8,595
02 INOPERABLE CAPABILITY	0	0	0	0	0	0	0	0	0	0
03 OPERABLE RESOURCES (01 - 02)	8,254	8,502	8,303	8,551	8,352	8,595	8,351	8,595	8,351	8,595
04 QF <sub>0</sub> (B)	504	504	504	504	504	504	504	504	504	504
05 SCHEDULED IMPORTS	0	0	0	0	0	0	0	0	0	0
06 SCHEDULED EXPORTS (C)	1,168	1,200	1,170	1,203	1,173	1,208	989	1,017	805	828
07 TOTAL RESOURCES (03 + 04 + 05 - 06)	7,582	7,806	7,637	7,852	7,683	7,893	7,866	8,082	8,050	8,271
<b>PEAK DEMAND (D)</b>										
08 PEAK HOUR DEMAND	5,408	6,486	5,554	6,618	5,673	6,769	5,808	6,932	5,909	7,061
09 INTERRUPTIBLE DEMAND	185	185	225	225	265	265	265	265	265	265
10 LOAD MANAGEMENT (E)	13	21	14	46	18	74	33	102	41	128
11 DEMAND REQUIREMENTS (08 - 09 - 10)	5,210	6,280	5,315	6,345	5,390	6,430	5,510	6,565	5,603	6,668
<b>RESERVE MARGIN</b>										
12 MARGIN (07 - 11)	2,382	1,526	2,322	1,507	2,293	1,463	2,356	1,517	2,447	1,603
13 SCHEDULED OUTAGE (F)	0	0	0	0	0	0	0	0	0	0
14 ADJUSTED MARGIN (12 - 13)	2,382	1,526	2,322	1,507	2,293	1,463	2,356	1,517	2,447	1,603

(A) INCLUDES PP&L'S 1/3 SHARE (139 MW) OF THE OUTPUT PRODUCED BY THE SAFE HARBOR WATER AND POWER CORP., WHICH PP&L AND BALTIMORE GAS & ELECTRIC CO. JOINTLY OWN.

(B) REPRESENTS QF OUTPUT OF 1 MW AND GREATER (UNDER CONTRACT). CONTRACTS ARE ASSUMED TO CONTINUE THROUGH THE STUDY PERIOD.

(C) SCHEDULED EXPORTS INCLUDE CAPACITY ARRANGEMENTS WITH ATLANTIC ELECTRIC, JERSEY CENTRAL POWER & LIGHT AND BALTIMORE GAS & ELECTRIC.

(D) DATA REFLECT THE PP&L MEDIAN CASE, INCLUDING ESTIMATE OF EXPECTED TRANSACTIONS WITH LUZERNE ELECTRIC DIVISION OF UGI AND OTHER FERC CUSTOMERS.

(E) THE EFFECT OF THESE PROGRAMS HAVE ALREADY BEEN REFLECTED IN FORM 138-A1 FOR THE MEDIAN LOAD GROWTH SCENARIO.

(F) GENERALLY AN ATTEMPT IS MADE TO MINIMIZE SCHEDULED MAINTENANCE OUTAGES DURING THE SUMMER AND WINTER PEAK LOAD PERIODS.

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-B1. ESTIMATED PEAK RESOURCES, DEMANDS AND RESERVES FOR THE 10 YEAR PERIOD (MW)  
(CONTINUED)

INDEX YEAR:	5		6		7		8		9	
A: ACTUAL YEAR:	1998		1999		2000		2001		2002	
	SUMMER	WINTER								
<b>RESOURCES</b>										
01 TOTAL CAPABILITY (A)	8,351	8,595	8,336	8,580	8,320	8,564	8,304	8,548	8,304	8,548
02 INOPERABLE CAPABILITY	0	0	0	0	0	0	0	0	0	0
03 OPERABLE RESOURCES (01 - 02)	8,351	8,595	8,336	8,580	8,320	8,564	8,304	8,548	8,304	8,548
04 QFs (B)	504	504	504	504	504	504	504	504	504	504
05 SCHEDULED IMPORTS	0	0	0	0	0	0	0	0	0	0
06 SCHEDULED EXPORTS (C)	622	639	438	450	265	132	0	0	0	0
07 TOTAL RESOURCES (03 + 04 + 05 - 06)	8,233	8,460	8,402	8,634	8,569	8,936	8,808	9,052	8,808	9,052
<b>PEAK DEMAND (D)</b>										
08 PEAK HOUR DEMAND	6,037	7,231	6,170	7,381	6,293	7,531	6,416	7,680	6,536	7,824
09 INTERRUPTIBLE DEMAND	265	265	265	265	265	265	265	265	265	265
10 LOAD MANAGEMENT (E)	49	153	57	178	65	203	73	227	80	251
11 DEMAND REQUIREMENTS (08 - 09 - 10)	5,723	6,813	5,848	6,936	5,963	7,063	6,078	7,188	6,193	7,309
<b>RESERVE MARGIN</b>										
12 MARGIN (07 - 11)	2,510	1,647	2,554	1,698	2,606	1,873	2,730	1,864	2,615	1,744
13 SCHEDULED OUTAGE (F)	0	0	0	0	0	0	0	0	0	0
14 ADJUSTED MARGIN (12 - 13)	2,510	1,647	2,554	1,698	2,606	1,873	2,730	1,864	2,615	1,744

- (A) INCLUDES PP&L'S 1/3 SHARE (139 MW) OF THE OUTPUT PRODUCED BY THE SAFE HARBOR WATER AND POWER CORP., WHICH PP&L AND BALTIMORE GAS & ELECTRIC CO. JOINTLY OWN.
- (B) REPRESENTS QF OUTPUT OF 1 MW AND GREATER (UNDER CONTRACT). CONTRACTS ARE ASSUMED TO CONTINUE THROUGH THE STUDY PERIOD.
- (C) SCHEDULED EXPORTS INCLUDE CAPACITY ARRANGEMENTS WITH ATLANTIC ELECTRIC, JERSEY CENTRAL POWER & LIGHT AND BALTIMORE GAS & ELECTRIC.
- (D) DATA REFLECT THE PP&L MEDIAN CASE, INCLUDING ESTIMATE OF EXPECTED TRANSACTIONS WITH LUZERNE ELECTRIC DIVISION OF UGI AND OTHER FERC CUSTOMERS.
- (E) THE EFFECT OF THESE PROGRAMS HAVE ALREADY BEEN REFLECTED IN FORM 138-A1 FOR THE MEDIAN LOAD GROWTH SCENARIO.
- (F) GENERALLY AN ATTEMPT IS MADE TO MINIMIZE SCHEDULED MAINTENANCE OUTAGES DURING THE SUMMER AND WINTER PEAK LOAD PERIODS.

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-B2. ESTIMATED PEAK RESOURCES, DEMANDS AND RESERVES FOR THE 10-20 YEAR PERIOD (MW)

INDEX YEAR:	10		11		12		13		14	
ACTUAL YEAR:	2003		2004		2005		2006		2007	
	SUMMER	WINTER								
<b>RESOURCES</b>										
01 TOTAL CAPABILITY (A)	8,304	8,548	8,304	8,548	8,304	8,548	8,304	8,548	8,304	8,548
02 INOPERABLE CAPABILITY	0	0	0	0	0	0	0	0	0	0
03 OPERABLE RESOURCES (01 - 02)	8,304	8,548	8,304	8,548	8,304	8,548	8,304	8,548	8,304	8,548
04 OF: (B)	504	504	504	504	504	504	504	504	504	504
05 SCHEDULED IMPORTS	0	0	0	0	0	0	0	0	0	0
06 SCHEDULED EXPORTS (C)	0	0	0	0	0	0	0	0	0	0
07 TOTAL RESOURCES (03 + 04 + 05 - 06)	8,808	9,052	8,808	9,052	8,808	9,052	8,808	9,052	8,808	9,052
<b>PEAK DEMAND (D)</b>										
08 PEAK HOUR DEMAND	6,656	7,968	6,769	8,107	6,881	8,248	6,994	8,375	7,087	8,504
09 INTERRUPTIBLE DEMAND	265	265	265	265	265	265	265	265	265	265
10 LOAD MANAGEMENT (E)	88	275	96	299	103	323	111	347	119	371
11 DEMAND REQUIREMENTS (08 - 09 - 10)	6,303	7,428	6,408	7,543	6,513	7,666	6,618	7,763	6,713	7,868
<b>RESERVE MARGIN</b>										
12 MARGIN (07 - 11)	2,505	1,624	2,400	1,509	2,295	1,384	2,190	1,289	2,095	1,184
13 SCHEDULED OUTAGE (F)	0	0	0	0	0	0	0	0	0	0
14 ADJUSTED MARGIN (12 - 13)	2,505	1,624	2,400	1,509	2,295	1,384	2,190	1,289	2,095	1,184

(A) INCLUDES PP&L'S 1/3 SHARE (138 MW) OF THE OUTPUT PRODUCED BY THE SAFE HARBOR WATER AND POWER CORP., WHICH PP&L AND BALTIMORE GAS & ELECTRIC CO. JOINTLY OWN.

(B) REPRESENTS OF OUTPUT OF 1 MW AND GREATER (UNDER CONTRACT). CONTRACTS ARE ASSUMED TO CONTINUE THROUGH THE STUDY PERIOD.

(C) SCHEDULED EXPORTS INCLUDE CAPACITY ARRANGEMENTS WITH ATLANTIC ELECTRIC, JERSEY CENTRAL POWER & LIGHT AND BALTIMORE GAS & ELECTRIC.

(D) DATA REFLECT THE PP&L MEDIAN CASE, INCLUDING ESTIMATE OF EXPECTED TRANSACTIONS WITH LUZERNE ELECTRIC DIVISION OF UGI AND OTHER FERC CUSTOMERS

(E) THE EFFECT OF THESE PROGRAMS HAVE ALREADY BEEN REFLECTED IN FORM 138-A1 FOR THE MEDIAN LOAD GROWTH SCENARIO.

(F) GENERALLY AN ATTEMPT IS MADE TO MINIMIZE SCHEDULED MAINTENANCE OUTAGES DURING THE SUMMER AND WINTER PEAK LOAD PERIODS.

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-82. ESTIMATED PEAK RESOURCES, DEMANDS AND RESERVES FOR THE 10-20 YEAR PERIOD (MW)  
(CONTINUED)

INDEX YEAR:	15		16		17		18		19	
ACTUAL YEAR:	2008		2009		2010		2011		2012	
	SUMMER	WINTER								
<b>RESOURCES</b>										
01 TOTAL CAPABILITY (A)	8,304	8,548	8,304	8,548	8,304	8,548	8,304	8,548	8,304	8,548
02 INOPERABLE CAPABILITY	0	0	0	0	0	0	0	0	0	0
03 OPERABLE RESOURCES (01 - 02)	8,304	8,548	8,304	8,548	8,304	8,548	8,304	8,548	8,304	8,548
04 QF <sub>0</sub> (B)	504	504	504	504	504	504	504	504	504	504
05 SCHEDULED IMPORTS	0	0	0	0	0	0	0	0	0	0
06 SCHEDULED EXPORTS (C)	0	0	0	0	0	0	0	0	0	0
07 TOTAL RESOURCES (03 + 04 + 05 - 06)	8,808	9,052	8,808	9,052	8,808	9,052	8,808	9,052	8,808	9,052
<b>PEAK DEMAND (D)</b>										
08 PEAK HOUR DEMAND	7,184	8,603	7,287	8,742	7,380	8,861	7,468	8,971	7,613	9,070
09 INTERRUPTIBLE DEMAND	265	265	265	265	265	265	265	265	265	265
10 LOAD MANAGEMENT (E)	128	375	134	419	142	443	150	468	220	492
11 DEMAND REQUIREMENTS (08 - 09 - 10)	6,803	7,963	6,889	8,058	6,979	8,153	7,058	8,236	7,128	8,313
<b>RESERVE MARGIN</b>										
12 MARGIN (07 - 11)	2,005	1,089	1,920	994	1,835	899	1,755	814	1,680	739
13 SCHEDULED OUTAGE (F)	0	0	0	0	0	0	0	0	0	0
14 ADJUSTED MARGIN (12 - 13)	2,005	1,089	1,920	994	1,835	899	1,755	814	1,680	739

(A) INCLUDES PP&L'S 1/3 SHARE (139 MW) OF THE OUTPUT PRODUCED BY THE SAFE HARBOR WATER AND POWER CORP., WHICH PP&L AND BALTIMORE GAS & ELECTRIC CO. JOINTLY OWN.

(B) REPRESENTS QF OUTPUT OF 1 MW AND GREATER (UNDER CONTRACT). CONTRACTS ARE ASSUMED TO CONTINUE THROUGH THE STUDY PERIOD.

(C) SCHEDULED EXPORTS INCLUDE CAPACITY ARRANGEMENTS WITH ATLANTIC ELECTRIC, JERSEY CENTRAL POWER & LIGHT AND BALTIMORE GAS & ELECTRIC.

(D) DATA REFLECT THE PP&L MEDIAN CASE, INCLUDING ESTIMATE OF EXPECTED TRANSACTIONS WITH LUZERNE ELECTRIC DIVISION OF UGI AND OTHER FERC CUSTOMERS.

(E) THE EFFECT OF THESE PROGRAMS HAVE ALREADY BEEN REFLECTED IN FORM 138-A1 FOR THE MEDIAN LOAD GROWTH SCENARIO.

(F) GENERALLY AN ATTEMPT IS MADE TO MINIMIZE SCHEDULED MAINTENANCE OUTAGES DURING THE SUMMER AND WINTER PEAK LOAD PERIODS.

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 13B-E. EXISTING GENERATING CAPABILITY (AS OF JANUARY 1, 1983)

STATION AND UNIT NO.	(A) LOCATION	DATE INSTALLED	UNIT TYPE	FUEL TYPE	FUEL TRANSPORTATION METHOD	(B) NET CAPABILITY-MW		CHANGES DURING PAST YEAR		NOTES
						SUMMER	WINTER	MW	REASON	
NUCLEAR UNITS										
SUSQUEHANNA #1	BERWICK	1983	NB	UR	TK	938	951			
SUSQUEHANNA #2	BERWICK	1985	NB	UR	TK	940	954			
						1878	1905			

(A) ALL PENNSYLVANIA LOCATIONS.

(B) REFLECTS PP&L'S 80.0% UNDIVIDED SHARE OF THE SUSQUEHANNA PLANT.

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-E. EXISTING GENERATING CAPABILITY (AS OF JANUARY 1, 1983)  
(CONTINUED)

STATION AND UNIT NO.	(A) LOCATION	DATE INSTALLED	UNIT TYPE	FUEL TYPE	FUEL TRANSPORTATION METHOD	(B) NET CAPABILITY - MW		CHANGES DURING PAST YEAR		NOTES
						SUMMER	WINTER	MW	REASON	
<b>COAL FIRED STEAM UNITS</b>										
BRUNNER ISLAND #1	YORK HAVEN	1961	ST	BIT	RR	321	334			
BRUNNER ISLAND #2	YORK HAVEN	1966	ST	BIT	RR	378	380			
BRUNNER ISLAND #3	YORK HAVEN	1969	ST	BIT	RR	735	745			
CONEMAUGH #1	NEW FLORENCE	1970	ST	BIT	CV	97	97			
CONEMAUGH #2	NEW FLORENCE	1971	ST	BIT	CV	97	97			
HOLTWOOD #17	HOLTWOOD	1954	ST	ANT	TK	72	73			
KEYSTONE #1	SHELOCTA	1967	ST	BIT	CV	105	105			
KEYSTONE #2	SHELOCTA	1969	ST	BIT	CV	105	105			
MARTINS CREEK #1	MARTINS CREEK	1954	ST	BIT	RR	140	150			
MARTINS CREEK #2	MARTINS CREEK	1956	ST	BIT	RR	140	150			
MONTOUR #1	WASHINGTONVILLE	1972	ST	BIT	RR	745	755			
MONTOUR #2	WASHINGTONVILLE	1973	ST	BIT	RR	745	755			
MONTOUR #11	WASHINGTONVILLE	1973	ST	F02,BIT	TK,RR	15	15			
SUNBURY #1	SHAMOKIN DAM	1949	ST	ANT,BIT	TK,RR	70	76			
SUNBURY #2	SHAMOKIN DAM	1949	ST	ANT,BIT	TK,RR	70	76			
SUNBURY #3	SHAMOKIN DAM	1951	ST	BIT	RR,TK	94	103			
SUNBURY #4	SHAMOKIN DAM	1953	ST	BIT	RR,TK	128	134			
						4057	4180			
<b>OIL FIRED STEAM UNITS</b>										
MARTINS CREEK #3	MARTINS CREEK	1975	ST	F06	PL	820	820			
MARTINS CREEK #4	MARTINS CREEK	1977	ST	F06	PL	820	820			
						1640	1640			

(A) ALL PENNSYLVANIA LOCATIONS

(B) REFLECTS PP&L'S 11.38% SHARE OF THE CONEMAUGH JOINT MINE - MOUTH PROJECT.  
REFLECTS PP&L'S 12.34% SHARE OF THE KEYSTONE JOINT MINE - MOUTH PROJECT.

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 128-E. EXISTING GENERATING CAPABILITY (AS OF JANUARY 1, 1983)  
(CONTINUED)

STATION AND UNIT NO.	(A) LOCATION	DATE INSTALLED	UNIT TYPE	FUEL TYPE	FUEL TRANSPORTATION METHOD	NET CAPABILITY - MW		CHANGES DURING PAST YEAR		NOTES
						SUMMER	WINTER	MW	REASON	
<b>OIL FIRED COMBUSTION TURBINE UNITS</b>										
ALLENTOWN #1	ALLENTOWN	1967	GT	FO2	TK	14	18			
ALLENTOWN #2	ALLENTOWN	1967	GT	FO2	TK	14	18			
ALLENTOWN #3	ALLENTOWN	1967	GT	FO2	TK	14	18			
ALLENTOWN #4	ALLENTOWN	1967	GT	FO2	TK	14	18			
FISHBACH #1	POTTSVILLE	1966	GT	FO2	TK	14	18			
FISHBACH #2	POTTSVILLE	1966	GT	FO2	TK	14	18			
HARRISBURG #1	HARRISBURG	1967	GT	FO2	TK	14	18			
HARRISBURG #2	HARRISBURG	1967	GT	FO2	TK	14	18			
HARRISBURG #3	HARRISBURG	1967	GT	FO2	TK	14	18			
HARRISBURG #4	HARRISBURG	1967	GT	FO2	TK	14	18			
HARWOOD #1	HAZLETON	1967	GT	FO2	TK	14	18			
HARWOOD #2	HAZLETON	1967	GT	FO2	TK	14	18			
JENKINS #1	WILKES-BARRE	1966	GT	FO2	TK	14	18			
JENKINS #2	WILKES-BARRE	1966	GT	FO2	TK	14	18			
LOCK HAVEN #1	LOCK HAVEN	1966	GT	FO2	TK	14	18			
MARTINS CREEK #C1	MARTINS CREEK	1971	GT	FO2	PL	18	24			
MARTINS CREEK #C2	MARTINS CREEK	1971	GT	FO2	PL	18	24			
MARTINS CREEK #C3	MARTINS CREEK	1971	GT	FO2	PL	18	24			
MARTINS CREEK #C4	MARTINS CREEK	1971	GT	FO2	PL	18	24			
SUNBURY #C1	SHAMONH DAM	1971	GT	FO2	TK	18	24			
SUNBURY #C2	SHAMONH DAM	1971	GT	FO2	TK	18	24			
WEST SHORE #1	HARRISBURG	1966	GT	FO2	TK	14	18			
WEST SHORE #2	HARRISBURG	1966	GT	FO2	TK	14	18			
WILLIAMSPORT #1	WILLIAMSPORT	1967	GT	FO2	TK	14	18			
WILLIAMSPORT #2	WILLIAMSPORT	1967	GT	FO2	TK	14	18			
						374	486			

(A) ALL PENNSYLVANIA LOCATIONS.

1-16

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-E. EXISTING GENERATING CAPABILITY (AS OF JANUARY 1, 1983)  
(CONTINUED)

STATION AND UNIT NO.	(A) LOCATION	DATE INSTALLED	UNIT TYPE	FUEL TYPE	FUEL TRANSPORTATION METHOD	NET CAPABILITY-MW		CHANGES DURING PAST YEAR		NOTES
						SUMMER	WINTER	MW	REASON	
<b>DIESEL UNITS</b>										
BRUNNER ISLAND #D1	YORK HAVEN	1967	IC	FO2	TK	27	27			
BRUNNER ISLAND #D2	YORK HAVEN	1967	IC	FO2	TK	27	27			
BRUNNER ISLAND #D3	YORK HAVEN	1967	IC	FO2	TK	27	27			
CONEMAUGH #A	NEW FLORENCE	1970	IC	FO2	TK	025	025			
CONEMAUGH #B	NEW FLORENCE	1970	IC	FO2	TK	025	025			
CONEMAUGH #C	NEW FLORENCE	1970	IC	FO2	TK	025	025			
CONEMAUGH #D	NEW FLORENCE	1970	IC	FO2	TK	025	025			
KEYSTONE #3	SHELOCTA	1968	IC	FO2	TK	05	05			
KEYSTONE #4	SHELOCTA	1968	IC	FO2	TK	05	05			
KEYSTONE #5	SHELOCTA	1968	IC	FO2	TK	05	05			
KEYSTONE #6	SHELOCTA	1968	IC	FO2	TK	05	05			
MARTINS CREEK #D1	MARTINS CRK.	1967	IC	FO2	PL	25	25			
MARTINS CREEK #D2	MARTINS CRK.	1967	IC	FO2	PL	25	25			
SUNBURY #5	SHAMOKIN DAM	1967	IC	FO2	TK	3	3			
SUNBURY #6	SHAMOKIN DAM	1967	IC	FO2	TK	3	3			
						22	22			

(A) ALL PENNSYLVANIA LOCATIONS.

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-E EXISTING GENERATING CAPABILITY (AS OF JANUARY 1, 1983)  
(CONTINUED)

STATION AND UNIT NO.	(A) LOCATION	DATE INSTALLED	UNIT TYPE	FUEL TYPE	FUEL TRANSPORTATION METHOD	(B) NET CAPABILITY-MW		CHANGES DURING PAST YEAR		NOTES
						SUMMER	WINTER	MW	REASON	
HYDRO UNITS										
HOLTWOOD #1	HOLTWOOD	1918	HY	WAT						
HOLTWOOD #2	HOLTWOOD	1911	HY	WAT						
HOLTWOOD #3	HOLTWOOD	1911	HY	WAT						
HOLTWOOD #4	HOLTWOOD	1911	HY	WAT						
HOLTWOOD #5	HOLTWOOD	1911	HY	WAT						
HOLTWOOD #6	HOLTWOOD	1912	HY	WAT						
HOLTWOOD #7	HOLTWOOD	1913	HY	WAT						
HOLTWOOD #8	HOLTWOOD	1914	HY	WAT						
HOLTWOOD #9	HOLTWOOD	1924	HY	WAT						
HOLTWOOD #10	HOLTWOOD	1924	HY	WAT						
HOLTWOOD #11	HOLTWOOD	1910	HY	WAT						
HOLTWOOD #13	HOLTWOOD	1910	HY	WAT						
						102	102			
SAFE HARBOR #1	CONESTOGA	1940	HY	WAT		11	11			
SAFE HARBOR #2	CONESTOGA	1934	HY	WAT		11	11			
SAFE HARBOR #3	CONESTOGA	1931	HY	WAT		11	11			
SAFE HARBOR #4	CONESTOGA	1931	HY	WAT		11	11			
SAFE HARBOR #5	CONESTOGA	1932	HY	WAT		11	11			
SAFE HARBOR #6	CONESTOGA	1932	HY	WAT		11	11			
SAFE HARBOR #7	CONESTOGA	1933	HY	WAT		11	11			
SAFE HARBOR #8	CONESTOGA	1985	HY	WAT		12	12			
SAFE HARBOR #9	CONESTOGA	1986	HY	WAT		13	13			
SAFE HARBOR #10	CONESTOGA	1986	HY	WAT		12	12			
SAFE HARBOR #11	CONESTOGA	1986	HY	WAT		13	13			
SAFE HARBOR #12	CONESTOGA	1985	HY	WAT		12	12			
WALLENSPACK #1	HAWLEY	1928	HY	WAT		22	22			
WALLENSPACK #2	HAWLEY	1928	HY	WAT		22	22			
						285	285			

(A) ALL PENNSYLVANIA LOCATIONS.

(B) THE TOTAL NET CAPABILITY FOR ALL OF THE HOLTWOOD HYDRO UNITS IS 102 MW. THE NET CAPABILITY OF THE INDIVIDUAL HYDRO UNITS IS DEPENDENT ON RIVER WATER FLOW, THE HEAD OF THE RIVER AT THE HYDRO UNITS AND THE NUMBER OF HYDRO UNITS OPERATING AT ANY TIME. THE UNIT NAMEPLATE RATINGS ARE: 10.4 MW EACH FOR UNITS #1 - 8, 12.0 MW EACH FOR UNITS #9 & 10 AND 0.5 MW EACH FOR UNITS #11 & 13.

THE NET CAPABILITY SHOWN FOR ALL OF THE SAFE HARBOR UNITS IS 139 MW, WHICH REFLECTS PP&L'S 1/3 SHARE.

1-18

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-F. FUTURE GENERATING CAPABILITY INSTALLATIONS, CHANGES AND REMOVALS  
1999 THROUGH 2012

STATION AND UNIT NO.	(A) LOCATION	UNIT TYPE	FUEL TYPE	FUEL TRANSPORTATION METHOD	CAPABILITY - MW		EFFECTIVE DATE	STATUS	ESTIMATED PLANT COST \$/KW	(B) (C) NOTES
					SUMMER	WINTER				
SUSQUEHANNA GEB										
	UNIT 1				45	45	6/98	P	481	UPRATE
	UNIT 2				45	45	6/94	P	481	UPRATE
SUNBURY GEB										
	UNIT 1				5	5	8/94	(B)		UPRATE
	UNIT 2				4	4	8/93	(B)		UPRATE
CONEMAUGH										
	UNIT 1				-1	-1	10/94			DERATE
	UNIT 2				-1	-1	10/95			DERATE
BRUNNER ISLAND										
	UNIT 3				-15	-15	6/98			DERATE
MONTOUR										
	UNIT 1				-15	-15	6/00			DERATE
	UNIT 2				-15	-15	6/01			DERATE
KEYSTONE										
	UNIT 1				-1	-1	6/00			DERATE
	UNIT 2				-1	-1	6/01			DERATE

(A) ALL PENNSYLVANIA LOCATIONS.

(B) THE UPRATE IS A RESULT OF THE REPLACEMENT OF COMPONENTS WHICH ARE INTENDED TO ELIMINATE A RISK OF FAILURE.

(C) DERATING IS DUE TO INSTALLATION OF FLUE GAS SCRUBBER EQUIPMENT TO COMPLY WITH THE CLEAN AIR ACT.

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-G. COGENERATION AND RENEWABLE RESOURCE - FUELED POWER PRODUCTION FACILITIES

FACILITY NAME	(A) LOCATION	ENERGY SOURCE	PURCHASED ENERGY (MWH)	TOTAL GENERATION (MWH)	(B) CONTRACT CAPACITY (KW)	(C) TOTAL CAPACITY (KW)	EFFECTIVE DATE(S)	STATUS AND TYPE
AMITY LANDFILL	TAYLOR	LANDF	11,257	11,257		1,000	88-02	OL, S
ARCHBALD POWER CORP.	ARCHBALD	CULM	126,059	126,059		16,000	88-08	OL, C
BETHLEHEM STEEL CORP.	BETHLEHEM	WASTE	193,411	193,411		30,000	85-08	OL, C
BLACKSTONE MILL (T. KECK)	E. MAHANTANGO CRK	HYDRO	157	157			83-04	OL, S
BURKHOLDER HARRY	NEW HOLLAND	HYDRO	58	58			84-08	OL, S
CONTINENTAL ENERGY ASSOC.	HAZELTON	CULM	807,055	807,055		100,000	89-02	OL, C
EAST PENNSBORO LANDFILL	CAMP HILL	BIOMA	532	532			85-09	OL, S
FOSTER WHEELER MT. CARMEL	MT. CARMEL	CULM	333,581	333,581		40,000	90-01	OL, C
FREY, JAY (DAIRY)	CONESTOGA	BIOMA	123	123			83-06	OL, S
GILBERTON POWER CORP	GILBERTON	CULM	655,329	655,329		79,000	88-03	OL, C
HAMMERMILL PAPER CO.	LOCK HAVEN	COAL	168,444	168,444		22,000	84-08	OL, C
HARRISBURG ENERGY - PAXTON CRK	HARRISBURG	GAS C	86,541	86,541		13,000	88-08	OL, C
HARRISBURG, CITY OF (AWTP)	HARRISBURG	BIOMA	2,216	2,216		0	84-10	OL, S
HARRISBURG, CITY OF (MSW)	HARRISBURG	MSW	28,441	28,441		5,000	88-11	OL, C
HILL, KEN	MT. JOY	HYDRO	35	35			88-08	OL, S
KOPPERS COMPANY	MUNCY	WASTE	53,495	53,495		7,000	88-07	OL, C
LIME VALLEY MILL	LANCASTER	HYDRO	33	33			89-01	OL, S
NEPCO	MCADOO	CULM	334,564	334,564		50,000	89-07	OL, C
NOLT, WALTER	EPHRATA	HYDRO	157	157			83-10	OL, S
OREGON DAIRY FARM (G. HURST)	LITITZ	BIOMA	0	0			83-06	OL, S
PENN DU INC. (EZ MFG)	NEW HOLLAND	BIOMA	6	6			82-02	OL, S
POCONO LAKE PRESERVE	POCONO LAKE	HYDRO	1,390	1,390			88-04	OL, S
ROCKY HOLL BOWNE FARM	LANCASTER	BIOMA	107	107			85-04	OL, S
SCHUYL MILL ENERGY COMPANY	MAHANAY CITY	CULM	602,597	602,597		80,000	89-07	OL, C
STOLTZFUS, AMOS	BIRD-IN-HAND	HYDRO	7	7			85-08	OL, S
VIRGO ENERGY SYSTEMS	NORTHUMBERLAND	WASTE	132,857	132,857		17,000	88-08	OL, C
WHEELABRATOR FRACKVILLE	FRACKVILLE	CULM	344,786	344,786		42,000	88-06	OL, C
WOOD METALS	KREAMER	BIOMA	859	859			86-03	OL, C
ZIMMERMAN, NOAH N.	EPHRATA	HYDRO	40	40			84-10	OL, S
VARIOUS SMALL UNITS	VARIOUS	VARIOUS	0	0				OL, S

(A) ALL PENNSYLVANIA LOCATIONS.

(B) CURRENTLY PP&L IS PURCHASING THE OUTPUT OF THESE FACILITIES AT ENERGY-ONLY RATES.

(C) WHERE CAPACITY AMOUNTS ARE SHOWN, THE VALUES REFLECT NET CAPABILITY OF THE UNIT INCLUDED IN THE TOTALS SHOWN ON FORMS 138-B1 & 138-B2, LINE 04. ONLY UNITS OF 1 MW OR GREATER ARE INCLUDED AS CAPABILITY.

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-G. COGENERATION AND RENEWABLE RESOURCE - FUELED POWER PRODUCTION FACILITIES  
(CONTINUED)

FACILITY NAME	(A) LOCATION	ENERGY SOURCE	(B) PURCHASED ENERGY (MWH)	TOTAL GENERATION (MWH)	CONTRACT CAPACITY (KW)	(B) TOTAL CAPACITY (KW)	EFFECTIVE DATE(S)	STATUS AND TYPE
EBY, HENRY	MINNLETOWN	HYDRO	.	.	.	.	.	CS
PENN-MARK INDUSTRIES	STOCKERTOWN	MSW	.	.	.	8,000	.	CS
ZOOK'S FLOUR MILL	LEOLA	HYDRO	.	.	.	.	.	CS
LYCOMING COUNTY LANDFILL	MONTGOMERY	LANDFILL	.	.	.	1,000	.	CS

(A) ALL PENNSYLVANIA LOCATIONS.

(B) PP&L DID NOT PURCHASE ANY OUTPUT FROM THESE UNITS IN 1992 AND THEY ARE NOT INCLUDED IN THE TOTALS SHOWN ON FORMS 138-B1 & 138-B2, LINE 04.

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-H. DISTRIBUTION OF NET GENERATING CAPABILITY BY FUEL TYPE FOR THE TWENTY YEAR PERIOD (MW)

SEASON: SUMMER

INDEX YEAR	ACTUAL YEAR	COAL	(C) OIL	(A) NUCLEAR	(B) HYDRO	PUMPED STORAGE	OIL/GAS CT/CE	TOTAL CAPABILITY	OPERABLE CAPABILITY	NET TRANSACTIONS	TOTAL RESOURCES
-5	1988	4,042	1,840	1,980	285	0	418	8,273	8,273	(1,048)	7,224
-4	1989	4,042	1,840	1,980	285	0	398	8,253	8,253	(1,008)	7,247
-3	1990	4,042	1,840	1,980	285	0	398	8,253	8,253	(848)	7,705
-2	1991	4,057	1,840	1,878	285	0	398	8,254	8,254	(842)	7,712
-1	1992	4,057	1,840	1,878	285	0	398	8,254	8,254	(882)	7,882
0	1993	4,057	1,840	1,878	285	0	398	8,254	8,254	(882)	7,882
1	1994	4,061	1,840	1,921	285	0	398	8,303	8,303	(888)	7,637
2	1995	4,065	1,840	1,988	285	0	398	8,352	8,352	(888)	7,883
3	1996	4,064	1,840	1,988	285	0	398	8,351	8,351	(488)	7,888
4	1997	4,064	1,840	1,988	285	0	398	8,351	8,351	(301)	8,050
5	1998	4,064	1,840	1,988	285	0	398	8,351	8,351	(118)	8,233
6	1999	4,049	1,840	1,988	285	0	398	8,338	8,338	88	8,402
7	2000	4,033	1,840	1,988	285	0	398	8,320	8,320	248	8,569
8	2001	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808
9	2002	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808
10	2003	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808
11	2004	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808
12	2005	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808
13	2006	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808
14	2007	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808
15	2008	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808
16	2009	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808
17	2010	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808
18	2011	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808
19	2012	4,017	1,840	1,988	285	0	398	8,304	8,304	804	8,808

(A) VALUES REFLECT PP&L'S 90% OWNERSHIP INTEREST IN SUSQUEHANNA SES. TOTAL SUSQUEHANNA SES INSTALLED CAPACITY IS 2084 MW UNTIL 12/93. BEGINNING 1994 TOTAL SUSQUEHANNA INSTALLED CAPACITY IS 2184 MW (SEE FORM 138-F)

(B) VALUES REFLECT PP&L'S 1/3 SHARE OF THE OUTPUT PRODUCED BY THE SAFE HARBOR WATER AND POWER CORPORATION. UNITS WERE ADDED IN 1985 AND 1988; THE OUTPUT OF THESE UNITS IS REFLECTED IN THE DATA.

(C) INCLUDES GAS CO FIRING BEGINNING IN 1995

COMPANY NAME: PENNSYLVANIA POWER & LIGHT COMPANY

FORM 138-H1. SCHEDULED IMPORTS AND EXPORTS (MM)

SEASON: SUMMER

PARTICIPANT TYPE CODE	NAME OF PARTICIPANT	INDEX YEAR:	0	1	2	3	4	5	6	7	8	9
		ACTUAL YEAR:	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
G	NON-UTILITY GENERATORS		504	504	504	504	504	504	504	504	504	504
P	ATLANTIC ELECTRIC CONTRACT SALE		-125	-125	-125	-125	-125	-125	-125	-125	0	0
P	JERSEY CENTRAL POWER & LIGHT SALE		-917	-919	-919	-734	-550	-367	-183	0	0	0
P	BALTIMORE GAS & ELECTRIC SALE		-124	-127	-130	-130	-130	-130	-130	-130	0	0

PARTICIPANT TYPE CODE	NAME OF PARTICIPANT	INDEX YEAR:	10	11	12	13	14	15	16	17	18	19
		ACTUAL YEAR:	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
G	NON-UTILITY GENERATORS		504	504	504	504	504	504	504	504	504	504
P	ATLANTIC ELECTRIC CONTRACT SALE		0	0	0	0	0	0	0	0	0	0
P	JERSEY CENTRAL POWER & LIGHT SALE		0	0	0	0	0	0	0	0	0	0
P	BALTIMORE GAS & ELECTRIC SALE		0	0	0	0	0	0	0	0	0	0

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CROSS-EXAMINATION  
EXHIBIT NO. 7

3/23/95  
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[Stamp]

DATE: MARCH , 1995

DOCKETED  
MAR 27 1995

PA PUBLIC UTILITY COMMISSION  
vs.  
PENNSYLVANIA POWER & LIGHT COMPANY  
DOCKET NO: R-00943271

ORIGINAL

J. M. Kleha

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Office of Trial Staff  
Dated January 13, 1995  
Docket No. R-00943271**

- Q.OTS-RB-26D. Refer to Exhibit A-1, Statement of Reasons for the Proposed Increase, page 13.
- a) Provide a detailed schedule showing the revenue effect of each of the three areas of Off-System Sales. Provide all supporting workpapers.
- A.OTS-RB-26D. The various types of capacity-related off-system sales transactions and the ratemaking treatment of revenues received from these sales, discussed in the Company's Statement of Reasons in Exhibit Future 1, Section A-1, are described in detail in Statement 7, the Direct Testimony of Joseph M. Kleha. These off-system sales are projected to provide revenues for the 12 months ended September 30, 1995 of \$25,529,000 on a total Company basis and revenues of \$20,884,000 on a PUC jurisdictional basis. Attachment 1 provides a breakdown of these revenue amounts by type of sale.

**Pennsylvania Power & Light Company**  
**Projected Capacity-Related Off-System Sales Revenues**  
**12 Months Ended September 30, 1995**  
 (\$000)

<u>Type of Sale</u>	<u>Amount</u>	
	<u>Total Company<sup>1</sup></u>	<u>PUC Jurisdictional<sup>2</sup></u>
PJM Installed Capacity Credit	\$22,432	\$18,350
Output Reservation	2,986	2,443
Transmission Entitlement	<u>111</u>	<u>91</u>
Total	<u>\$25,529</u>	<u>\$20,884</u>

<sup>1</sup> Exhibit JMK2, Section III, Part I, Page 27.

<sup>2</sup> Exhibit JMK2, Section III, Part III, Page 83.

OFFICE OF TRIAL STAFF

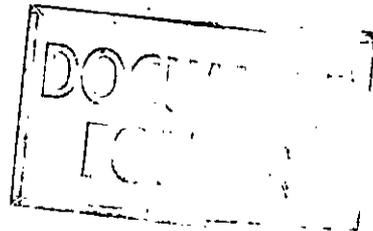
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EXHIBIT NO. 8

*3/23/95 Hbg mc*

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MAR 27 1995

DATE: MARCH 23, 1995



PA PUBLIC UTILITY COMMISSION  
vs.  
PENNSYLVANIA POWER & LIGHT COMPANY  
DOCKET NO: R-00943271

ORIGINAL

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Office of Trial Staff  
Dated January 13, 1995**  

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**Docket No. R-00943271**

**Q.OTS-RB-29D.** On page 28, the Company states that it is requesting the Commission to approve the accruing a return component equivalent to the applicable Allowance For Funds Used During Construction (AFUDC) rate on future use property investments and to include all accrued amounts as part of Electric Plant in Service at the time this plant is placed into service. Provide the rationale for this request along with a list of the future use property that the Company anticipates will be included. State how land held for future use will be treated.

**A.OTS-RB-29D.** Like any other utility asset, electric plant held for future use represents an investment to be used to provide reliable electric service to customers. Under generally-accepted ratemaking practices, a utility is entitled to earn a return on its prudent investments either by inclusion of those investments in rate base or through the accrual of a return (or carrying charges) on that investment until it is included in rate base.

Because the Pennsylvania Supreme Court and this Commission have stated that electric plant held for future use is similar to Construction Work In Progress (CWIP) and that the Public Utility Code, Section 1315 prohibition against CWIP in rate base applies to future use property, PP&L is making no request in this proceeding to include future use property in its rate base. However, the Company is requesting specific Commission approval to begin accruing a return component equivalent to the applicable Allowance For Funds Used During Construction (AFUDC) rate on its future use property investments and to include all accrued amounts as part of Electric Plant In Service at the time such plant is placed into service. This Commission has granted approval to accrue a return on future use property to other electric utilities. Pa.

PUR 4th 189 (1988), Pa. P.U.C. v. West Penn Power Company, 73 Pa. P.U.C. 454, 119 PUR 4th 110 (1990) and Pa. P.U.C. v. Philadelphia Electric Co., Docket No. R-891364, April 19, 1990.

Attachment 1 provides a listing of PP&L's current investments in Electric Plant Held For Future Use and the functional application of such property.

Pennsylvania Public Utility Commission  
v.  
Pennsylvania Power and Light Company  
Docket No. R-00943271

OCA Cross Examination Exh. 6

Date Entered: 3/23/95  
*Hbg vk*

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Pennsylvania Power & Light Company  
 Response to Interrogatories of  
 the Office of Consumer Advocate, Set V  
 Dated February 6, 1995

Docket No. R-00943271

- Q.47. Mr. Sipics discusses QF projects on page 14. For each current QF contract, please identify:
- a. year of contract execution;
  - b. year the facility commenced operation; and
  - c. capacity amount recognized by PJM.

A.47. The following table provides the requested information.

<u>Non-Utility Generator</u>	<u>Year of Contract Execution</u>	<u>Year Contract Initiated<sup>1</sup></u>	<u>Year of Commercial Operation<sup>2</sup></u>	<u>Capacity Value on PJM MW</u>
Amity Landfill	1989 <sup>3</sup>	1988	1989	1
Archbald	1986	1988	1990 <sup>4</sup>	18
Bethlehem Steel	1985	1985	1985	30
Continental	1985	1989	1989	100
Foster Wheeler-Mt. Carmel	1986	1990	1990	40
Gilberton Power Corp.	1985	1988	1988	79
Hammermill Paper	1984	1984	1984	22
Harrisburg MSW	1986	1986	1986	5
Koppers Co.	1986	1988	1988	7
NEPCO	1986	1989	1989	50
Paxton Creek	1985	1986	1986	13
Schuylkill Energy	1986	1989	1989	80
Viking Energy	1986	1988	1988	17
Wheelabrator-Frackville	1986	1988	1988	42

<sup>1</sup> Output purchased at avoided cost pending meeting conditions for being declared commercial.

<sup>2</sup> Output purchased under terms of contract having met conditions for being declared commercial.

<sup>3</sup> Two contracts were signed with Amity Landfill. Unit met conditions for commercial operation after second contract was in effect.

<sup>4</sup> Time between initial operation and commercial operation was delayed by boiler problems.