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APR 28 1995

CEPFOD Exhibit No. 1

SD  
4-26-95  
HPS  
R-943271

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Regarding

**PENNSYLVANIA POWER & LIGHT COMPANY  
Docket Number R-00943271**

**DOCUMENT  
FOLDER**

Exhibits Of  
Steven Andersen

Volume I of II  
PP&L Responses to Discovery

On Behalf of  
Central Eastern Pennsylvania Fuel Oil Dealers

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Economic & Policy Analysis, Inc.  
13300 Council Bluff Drive  
Austin, Texas 78727

April 12, 1995

Exhibit Index  
Volume I of II

Exhibit Number:

- 1 PP&L responses to discovery in Docket No. R-00943271 referenced or relied upon by CEPFOD witness Andersen:
  - A. CEPFOD 1, 2, 7, 11, 12, 17, 18, 19, 20, 24, 28, 30, 31, 32, 33, 42
  - B. OTS 4D, 7D, 9D, 31D, 43D, 44D, 45D, 46D
  - C. OCA Third Set: 15, 16, 18, 22; Fourth Set: 41, 43
  - D. OSBA 28, 30, 35, 36
  - E. 1993 FERC Form 1, Page 335

J. M. Kleha

**Pennsylvania Power & Light Company  
Response to Interrogatories of the  
Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995**  

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**Docket No. R-00943271**

- Q.1. Please provide a complete copy of all workpapers supporting Mr. Kleha's class cost of service study.
- A.1. See Attachment 1 and the responses to Question OTS-RS-33D of Interrogatories of the Office of Trial Staff Dated January 13, 1995; Questions 17, 18 and 20 of Interrogatories of the Office of Consumer Advocate, Set III, Dated January 30, 1995; Question 3 of Interrogatories of the PP&L Industrial Customer Alliance, Set II, Dated February 6, 1995; and Question 31 of Interrogatories of the Office of Small Business Advocate Dated February 17, 1995.

Also, see the filed direct testimony of the Company's fourteen witnesses and their accompanying exhibits, Exhibit Future 1, Section A and B of Exhibits JMK1 and JMK2, Exhibit JMK3, and Exhibit Regs. § 53.53, Parts I-VI.

Because Attachment 1 is voluminous, copies are being provided only to the Central Eastern Pennsylvania Fuel Oil Dealers. Copies will be provided to other parties upon request.

PENNSYLVANIA POWER & LIGHT COMPANY  
 FUNCTIONALIZATION OF OVERHEAD CONDUCTORS & DEVICES  
 ACCOUNT 365 AT 12/31/93

UNIT CODE	DESCRIPTION	INVESTMENT	SUBFUNCTION
625110	COPPER 4 & BELOW 1/C	\$ 1,797,982	SECONDARY
625111	COPPER 2 - 1/0 1/C	2,812,038	SECONDARY
625112	COPPER 2/0 - 4/0 1/C	5,469,195	SUBTRANS/PRIMARY
625113	COPPER 350 KCM 1/C	310,869	SECONDARY
625114	COPPER 500 KCM 1/C	21,713	SECONDARY
625115	COPPER 750 KCM 1/C	13,425	SECONDARY
625116	COPPER 1000 KCM 1/C	6,366	SECONDARY
625210	ALUMINUM 4 & BELOW 1/C	353,768	SECONDARY
625211	ALUMINUM 2 - 1/0 1/C	97,446,088	SECONDARY
625212	ALUMINUM 2/0 - 4/0 1/C	20,724,910	SUBTRANS/PRIMARY
625213	ALUMINUM 350 KCM 1/C	59,469,349	SUBTRANS/PRIMARY
625214	ALUMINUM 500 KCM 1/C	42,510,607	SUBTRANS/PRIMARY
625215	ALUMINUM 750 KCM 1/C	7,663,753	SECONDARY
625216	ALUMINUM 1000 KCM 1/C	685,085	SECONDARY
625220	ALUMINUM 4 & BELOW 2/C	1,705,783	SECONDARY
625221	ALUMINUM 2 - 1/0 2/C	192,168	SECONDARY
625222	ALUMINUM 2/0 - 4/0 2/C	349	SECONDARY
625230	ALUMINUM 4 & BELOW 3/C	351,311	SECONDARY
625231	ALUMINUM 2 - 1/0 3/C	38,208,675	SECONDARY
625232	ALUMINUM 2/0 - 4/0 3/C	19,691,042	SECONDARY
625241	ALUMINUM 2 - 1/0 4/C	684	SECONDARY
625242	ALUMINUM 2/0 - 4/0 4/C	3,850,833	SECONDARY
625310	STEEL 4 & BELOW 1/C	4,118,769	SECONDARY
625311	STEEL 2 - 1/0 1/C	8,539,002	SUBTRANS/PRIMARY
625312	STEEL 2/0 - 4/0 1/C	1,788,404	SUBTRANS/PRIMARY
		<u>\$317,732,168</u>	

SUMMARY	INVESTMENT	PERCENT
SUBTRANSMISSION/PRIMARY	\$ 138,501,467	43.59
SECONDARY	179,230,701	56.41
TOTAL	\$ 317,732,168	100.00

BASED ON UNIT CODE ANALYSIS OF OVERHEAD CONDUCTORS & DEVICES WITH INVESTMENT OF \$317 MILLION FROM ACCOUNT 365 TOTAL OF \$1 MILLION

PENNSYLVANIA POWER & LIGHT COMPANY  
 1993 ACCOUNT 3644 SUBFUNCTIONALIZATION 1 OF 2  
 HOOD POLES

UNIT CODE	NO. OF POLES	DESCRIPTION	INVESTMENT	SUBFUNCTION
613001	5	10 FOOT HOOD POLE	\$ 68	SECONDARY
613002	4	15 FOOT HOOD POLE	210	SECONDARY
613003	295	20 FOOT HOOD POLE	5,708	SECONDARY
613004	11,871	25 FOOT HOOD POLE	2,525,506	SECONDARY
613005	112,158	30 FOOT HOOD POLE	36,352,563	SECONDARY
613006	148,827	35 FOOT HOOD POLE	35,133,056	SECONDARY
613007	376,621	40 FOOT HOOD POLE	121,710,423	SPLIT
613008	146,371	45 FOOT HOOD POLE	62,892,961	SPLIT
613009	29,447	50 FOOT HOOD POLE	13,431,745	SUBTRANS/PRIMARY
613010	11,783	55 FOOT HOOD POLE	5,736,930	SUBTRANS/PRIMARY
613011	10,072	60 FOOT HOOD POLE	7,028,800	SUBTRANS/PRIMARY
613012	8,080	65 FOOT HOOD POLE	6,566,561	SUBTRANS/PRIMARY
613013	4,573	70 FOOT HOOD POLE	6,092,959	SUBTRANS/PRIMARY
613014	3,895	75 FOOT HOOD POLE	8,416,483	SUBTRANS/PRIMARY
613015	2,327	80 FOOT HOOD POLE	6,448,247	SUBTRANS/PRIMARY
613016	1,496	85 FOOT HOOD POLE	4,720,570	SUBTRANS/PRIMARY
613017	882	90 FOOT HOOD POLE	3,006,375	SUBTRANS/PRIMARY
613018	405	95 FOOT HOOD POLE	1,467,548	SUBTRANS/PRIMARY
613019	135	100 FOOT HOOD POLE	548,723	SUBTRANS/PRIMARY
613020	55	105 FOOT HOOD POLE	188,364	SUBTRANS/PRIMARY
613021	14	110 FOOT HOOD POLE	77,456	SUBTRANS/PRIMARY
613022	1	115 FOOT HOOD POLE	1,813	SPLIT
613023	0	120 FOOT HOOD POLE	0	SUBTRANS/PRIMARY
	869,317		322,353,069	

HOOD POLE SUMMARY		NO. OF POLES	INVESTMENT
50' & ABOVE	SUBTRANSMISSION/PRIMARY	73,165	\$ 63,732,574
35' & BELOW	SECONDARY	273,160	74,017,111
40' & 45'	COULD BE EITHER	522,992	184,603,384
TOTAL HOOD POLES		869,317	\$ 322,353,069

BASED ON UNIT CODE ANALYSIS OF HOOD POLES FROM 10' THROUGH 120' WITH INVESTMENT OF \$322 MILLION FROM TOTAL ACCOUNT 3644 INVESTMENT OF \$483 MILLION

PENNSYLVANIA POWER & LIGHT COMPANY  
 1993 ACCOUNT 3644 SUBFUNCTIONALIZATION 2 OF 2  
 MOOD POLES

STEP 1: FROM PAGE 1

MOOD POLE SUMMARY		INVESTMENT	NO. OF POLES
50' & ABOVE	SUBTRANSMISSION/PRIMARY	\$ 63,732,574	73,165
35' & BELOW	SECONDARY	74,017,111	273,160
40' & 45'	COULD BE EITHER	184,603,384	522,992
TOTAL MOOD POLES		\$ 322,353,069	869,317

STEP 2: SPLIT 40' & 45' POLES ON SAME % AS OVERHEAD CONDUCTORS ACCOUNT 365

%		INVESTMENT	NO. OF POLES
43.59	SUBTRANSMISSION/PRIMARY	\$ 80,468,615	227,972
56.41	SECONDARY	104,134,769	295,020
		\$ 184,603,384	522,992

STEP 3: COMBINED DATA FROM STEPS 1 & 2

SUBTRANSMISSION/PRIMARY	\$ 144,201,189	301,137
SECONDARY	178,151,880	568,180
TOTAL MOOD POLES	\$ 322,353,069	869,317

STEP 4: REMAINING INVESTMENT IN ACCOUNT 3644

SETS OF ATTACHMENTS AND OTHER

(A) UNIT CODE 615401 - SETS OF ATTACHMENTS - IS SPLIT ON A WEIGHTED NUMBER OF POLES. SUBTRANSMISSION/PRIMARY POLES ARE ASSUMED TO REQUIRE DOUBLE THE INVESTMENT IN ATTACHMENTS IN RELATION TO SECONDARY POLES

	POLES	WEIGHT	WEIGHTED POLE	WEIGHTED PERCENT	INVESTMENT UNIT CODE 615401
SUBTRANSMISSION/PRIMARY	301,137	2	602,274	51.46	\$ 21,972,785
SECONDARY	568,180	1	568,180	48.54	20,725,981
TOTAL	869,317		1,170,454	100	\$ 42,698,766

(B) OTHER INVESTMENT - HARDWARE AND DEVICES, GUYS, ANCHORS, ETC SPLIT ON THE NUMBER OF POLES

	POLES	PERCENT	OTHER INVESTMENT
SUBTRANSMISSION/PRIMARY	301,137	34.64	\$ 40,921,441
SECONDARY	568,180	65.36	77,212,048
	869,317	100	\$ 118,133,489

STEP 5: SUMMARY OF ACCOUNT 3644 SUBFUNCTIONALIZATION

	INVESTMENT	PERCENT
SUBTRANSMISSION/PRIMARY	\$ 207,095,418	42.86
SECONDARY	276,089,909	57.14
TOTAL ACCOUNT 3644 INVESTMENT	\$ 483,185,324	100.00

TOTAL INVESTMENT DOES NOT MATCH BOOK TOTAL DUE TO UNANALYZED PLANT

PENNSYLVANIA POWER & LIGHT COMPANY  
 1993 ACCOUNT 367 SUBFUNCTIONALIZATION  
 UNDERGROUND CONDUCTORS & DEVICES

UNIT CODE	DESCRIPTION	INVESTMENT	SUBFUNCTION
625110	COPPER 4 & BELOW 1/C	\$ 71,656	SECONDARY
625111	COPPER 2 - 1/0 1/C	1,865,838	SECONDARY
625112	COPPER 2/0 - 4/0 1/C	3,128,483	SUBTRANS/PRIMARY
625113	COPPER 350 KCM 1/C	96,727	SECONDARY
625114	COPPER 500 KCM 1/C	2,295,576	SUBTRANS/PRIMARY
625115	COPPER 750 KCM 1/C	66,482	SECONDARY
625116	COPPER 1000 KCM 1/C	27,966	SECONDARY
625211	ALUMINUM 2 - 1/0 1/C	73,704,586	SECONDARY
625212	ALUMINUM 2/0 - 4/0 1/C	2,174,070	SECONDARY
625213	ALUMINUM 350 KCM 1/C	838,317	SECONDARY
625214	ALUMINUM 500 KCM 1/C	252,575	SECONDARY
625215	ALUMINUM 750 KCM 1/C	12,281,407	SUBTRANS/PRIMARY
625216	ALUMINUM 1000 KCM 1/C	3,728,762	SECONDARY
625220	ALUMINUM 4 & BELOW 2/C	0	
625230	ALUMINUM 4 & BELOW 3/C	0	
625242	ALUMINUM 2/0 - 4/0 4/C	0	
		\$100,532,445	

SUMMARY	INVESTMENT	PERCENT
SUBTRANSMISSION/PRIMARY	\$ 17,705,466	17.61
SECONDARY	82,826,979	82.39
TOTAL	\$ 100,532,445	100.00

BASED ON UNIT CODE ANALYSIS OF UNDER GROUND CONDUCTORS & DEVICES WITH INVESTMENT OF \$100 MILLION FROM ACCOUNT 367 TOTAL OF \$1 MILLION

PENNSYLVANIA POWER & LIGHT COMPANY  
 SUBFUNCTIONALIZATION/CLASSIFICATION OF DISTRIBUTION PLANT  
 SUMMARY OF RESULTS  
 FOR COST ALLOCATION PURPOSES  
 YEAR ENDED DECEMBER 31, 1993

DIST. ACCT. NO.	DESCRIPTION (DIST1990)	VOLTAGE LEVEL FUNCTIONALIZATION		SECONDARY CUSTOMER COMPONENT BASED ON THE MINIMUM SIZE SYSTEM STUDY BALANCE IS DEMAND COMPONENT	
		69-138 KV AND PRIMARY % OF ACCOUNT TOTAL	SECONDARY % OF ACCOUNT TOTAL	CUSTOMER COMPONENT % OF SECONDARY	DEMAND COMPONENT % OF SECONDARY
360	LAND AND LAND RIGHTS	SEE NOTE	SEE NOTE	SEE NOTE	SEE NOTE
361	STRUCTURES AND IMPROVEMENTS *	98.84	1.16	0.00	100.00
362	STATION EQUIPMENT *	98.38	1.62	0.00	100.00
364	POLES, TOWERS AND FIXTURES	36.94	63.06	47.01	52.99
365	OVERHEAD CONDUCTORS AND DEVICES	43.59	56.41	65.14	34.86
366	UNDERGROUND CONDUIT	17.61	82.39	62.53	37.47
367	UNDERGROUND CONDUCTORS	17.61	82.39	62.53	37.47
368	LINE TRANSFORMERS	0.00	100.00	56.45	43.55
369	SERVICES	0.00	100.00	91.52	8.48
370	METERS	0.00	100.00	100.00	0.00
371	AREA LIGHTING FIXTURES	0.00	100.00	100.00	0.00
373	STREET LIGHTING	0.00	100.00	100.00	0.00

NOTE 1: ACCOUNT 360 (LAND AND LAND RIGHTS) IS FUNCTIONALIZED AND CLASSIFIED BY DIRECT ASSIGNMENT BASED ON AN ANALYSIS OF PLANT RECORDS.

NOTE 2: VOLTAGE LEVEL FUNCTIONALIZATION USES UNIT CODE ANALYSIS FOR LINES AND DIRECT ASSIGNMENT FOR SUBSTATIONS

PENNSYLVANIA POWER & LIGHT COMPANY  
 "OTHER" THAN SUBSTATION LOCATIONS  
 FOR COST ALLOCATION PURPOSES  
 YEAR ENDED DECEMBER 31, 1993

LOC.	DESCRIPTION	TOTAL INVESTMENT	TO OVERHEAD LINES		TO UNDERGROUND LINES		TO PRI/SEC SUBSTATIONS
			3602/3	3604/5	3602/3	3604/5	362
15	SYSTEM DISTRIBUTION PLANT	\$ 77,459,175	\$ 0	\$ 77,459,175	\$ 0	\$ 0	\$ 0
90	ELEC. METERS & DIST. TRANS.	12,224,755	0	0	0	0	12,224,755
96	U.G. 66KV OTHER THAN LTN	30,208	0	0	0	30,208	0
99	U.G. SYSTEM LTN	36,395	0	0	0	36,395	0
5751	LEHIGH DIVISION	750,431	431,035	319,396	0	0	0
5752	CENTRAL DIVISION	681,985	409,107	272,878	0	0	0
5753	NORTHERN DIVISION	2,264,380	606,545	1,657,835	0	0	0
5754	SUSQUEHANNA DIVISION	944,886	389,931	554,955	0	0	0
5755	HARRISBURG DIVISION	382,790	382,790	0	0	0	0
5756	LANCASTER DIVISION	1,637,054	1,034,560	602,494	0	0	0
	TOTALS	\$ 96,412,059	\$ 3,253,968	\$ 80,866,733	\$ 0	\$ 66,603	\$ 12,224,755

D. S. Hoch

**Pennsylvania Power & Light Company**  
**Response to Interrogatories of**  
**Central Eastern Pennsylvania Fuel Oil Dealers**  
**Dated March 7, 1995**  
**Docket No. R-00943271**

- Q.2. Please provide distribution transformer count and gross investment by transformer size and type.
- A.2. Attachment 1 and 2 provide the requested information.

# Pennsylvania Power & Light Company

## Single Phase Transformers

	<u>KVA Rating</u>	<u>Quantity</u>	<u>Investment(\$)</u>
<u>Line</u>			
	1	2,313	984,316.71
	3	1,296	119,115.97
	5	7,059	1,199,088.08
	7	3,070	444,709.62
	10	<u>76,734</u>	<u>24,672,275.00</u>
	15	<u>76,417</u>	<u>29,563,941.77</u>
	25	96,474	45,922,705.62
	37.5	1,463	897,922.15
	50	55,628	44,230,423.96
	75	587	591,642.42
	100	15,318	19,215,355.05
	150	34	43,415.78
	167	3,603	6,443,840.27
	200	18	25,351.07
	250	608	1,466,913.55
	333	302	981,839.71
	500	201	831,757.64
	768	3	8,364.99
	833	29	151,546.69
	1000	3	10,628.90
	1667	2	17,796.96
<u>Pad Mount</u>			
	10	143	121,584.51
	15	407	351,268.09
	25	9,393	9,268,311.00
	37.5	1	7,740.48
	45	1	639.36
	50	17,986	20,527,611.04
	75	7,938	10,382,413.73
	100	4,625	7,042,570.03
	167	1,068	2,186,178.92
<u>Submersible</u>			
	15	1	668.76
	25	190	147,576.35
	50	761	668,191.63
	75	430	371,881.11
	100	356	420,031.58
	167	157	240,489.75
	250	3	7,825.09
	500	2	8,791.91
<u>Network</u>			
	75	10	5,772.61
	100	49	36,627.05
	150	20	17,983.73
	200	34	48,025.75

# Pennsylvania Power & Light Company

## Three Phase Transformers

<u>KVA Rating</u>	<u>Quantity</u>	<u>Investment(\$)</u>
2500	34	631,741
2000	84	1,187,582
1500	240	2,633,674
1000	238	1,958,079
750	327	2,427,988
500	468	2,523,696
300	239	1,069,234
225	2	4,730
150	37	144,813

Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995

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Docket No. R-00943271

Q.7. Please provide PP&L's most recent estimates of avoided demand and energy costs.

A.7. The most recent estimates of PP&L's avoided demand and energy costs are contained in PP&L's 1994 Avoided Cost Filing, provided as Attachment 1.

Because Attachment 1 is voluminous, copies are being provided only to the Central Eastern Pennsylvania Fuel Oil Dealers. Copies will be provided to other parties upon request.

PENNSYLVANIA POWER & LIGHT COMPANY  
 APRIL 29, 1994

FORM 1  
 PROJECTED AND LEVELIZED ENERGY COSTS  
 1993-2003  
 MILLS/KILOWATT HOUR

	ALL HOURS	ANNUAL		WINTER(1)		SUMMER(2)		SPRING/FALL(3)	
		ON PEAK	OFF PEAK	ON PEAK	OFF PEAK	ON PEAK	OFF PEAK	ON PEAK	OFF PEAK
ACTUAL 1993	20.9	24.9	17.5	25.2	19.3	26.0	17.3	24.2	16.8
PROJECTED 1994	24.0	26.2	22.5	30.5	23.9	25.5	21.8	24.6	22.1
1995	25.1	27.3	23.6	29.0	24.3	25.3	22.2	27.4	23.8
1996	25.3	27.0	24.1	28.9	24.9	26.6	24.7	26.3	23.5
1997	25.9	28.0	23.7	29.4	23.8	29.8	24.6	28.3	23.2
1998	26.8	31.7	23.3	32.6	23.3	32.0	24.0	31.1	22.9
1999	28.8	32.6	26.1	33.8	26.0	31.9	26.1	32.4	26.1
2000	29.6	33.0	27.2	33.4	28.6	33.7	27.7	32.4	26.2
2001	31.1	32.9	29.8	32.7	29.9	33.1	30.4	32.9	29.4
2002	33.0	35.3	31.4	35.4	31.8	35.5	31.9	35.1	30.9
2003	34.2	36.3	32.7	37.2	33.6	36.7	33.1	35.6	32.0
LEVELIZED 1994-2003 (4)	28.0	30.5	25.9	31.9	26.5	30.4	26.1	30.1	25.5

  

	ANNUAL		WINTER(1)		SUMMER(2)		SPRING/FALL(3)	
	CR(C)HRS	OTHER HRS	CR(C)HRS	OTHER HRS	CR(C)HRS	OTHER HRS	CR(C)HRS	OTHER HRS
ACTUAL 1993	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
PROJECTED 1994								
1995								
1996								
1997								
1998								
1999								
2000								
2001								
2002								
2003								
LEVELIZED 1994-2003 (4)								

- (1) WINTER REFLECTS DECEMBER, JANUARY AND FEBRUARY OF THE YEAR INDICATED.
- (2) SUMMER REFLECTS JUNE, JULY AND AUGUST.
- (3) SPRING/FALL REFLECTS THE REMAINING 6 MONTHS.
- (4) ZERO RISK DISCOUNT RATE USED FOR LEVELIZATION = 5.75% (MARCH, 1994 DATA FOR 2003 MATURITY TREASURY BONDS).
- (5) CR(C) HOURS ARE THE SAME AS ON-PEAK HOURS (7AM TO 9PM).

G. S. Farber

**Pennsylvania Power & Light Company  
Response to Interrogatories of the  
Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995  
Docket No. R-00943271**

- Q.11. Please state the dollar amount of DSM expense and investment included in the Company's claimed revenue requirement. Provide dollar amounts by (a) primary account and (b) program and project number.
- A.11. Attachment 1 provides the amount of DSM program costs included in PP&L's future test year operating expense by program description and FERC account charged.

BUDGETED DSM PROGRAM COSTS  
12 MONTHS ENDED SEPTEMBER 30, 1995

Attachment I

PROGRAM	Amount	FERC Account Charged
<b>RESIDENTIAL</b>		
ASR Advance Sys Research	80,202	908
EEE Energy-Efficient Equipment	2,316,784	"
ETS Electric Thermal Storage	297,580	"
HEA Home Energy Analysis	600,649	"
LWH Leased Water Heater	70,239	"
REAP Res. Employee Assist. Prog.	0	"
TI Thermal Integrity Implementation (field personnel)	1,397,528 2,841,483	" "
<b>RESIDENTIAL SUB-TOTAL</b>	<b>7,604,466</b>	
<b>INDUSTRIAL &amp; COMMERCIAL</b>		
EEM Efficient Energy Management	621,658	"
ECC Energy-Conscious Construction	310,226	"
ETA&ES Electrotechnology Applications & Environmental Services Implementation (field personnel)	1,877,393 1,757,141	" "
<b>IND &amp; COM SUB-TOTAL</b>	<b>4,566,418</b>	
MED DSM PLANNING-STAFF	780,658	"
WRAP	2,976,123	"
<b>TOTAL</b>	<b>15,927,665</b>	

**Pennsylvania Power & Light Company  
Response to Interrogatories of the  
Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995**

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**Docket No. R-00943271**

- Q.12. Describe the method used by Mr. Kleha to allocate DSM expenses and investment among rate classes, and state the rationale for his treatment of these costs.
- A.12. Demand-side management (DSM) expenses are recorded in FERC Account 908 - Customer Assistance Expenses and are shown in Exhibit JMK 2 under the heading Customer Service and Informational Expenses. Customer Service and Informational Expenses are assigned on the basis of allocator C10 or the total number of customers by rate class.

**Pennsylvania Power & Light Company**  
**Response to Interrogatories of**  
**Central Eastern Pennsylvania Fuel Oil Dealers**  
**Dated March 7, 1995**  

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**Docket No. R-00943271**

Q.17. Please provide the following regarding wage and salary expense charged to Account 920:

- a. a representative list of departments and individuals wage and salary expense charged to Account 920;
- b. a description of the duties and responsibilities of the individuals and departments identified in response to part (a); and
- c. a representative statement of the dollar amounts charged.

A.17. a. FERC Account 920 - Administrative and General Salaries, includes salaries paid to officers and employees of the Company whose work is of a general nature and is not chargeable directly to particular operating functions. Actual charges by major department to FERC Account 920 for the period October-December 1994 were:

Chairman's Office	\$2,111,049
Financial	2,228,975
Information Services	980,892
Human Resource & Development	782,210
Nuclear	92,834
Power Production & Engineering	741,959
Division Operations	<u>2,228,709</u>
 Total	 <u>\$9,166,628</u>

- b. See Attachment 1 for cost areas included in major departments listed in item a. above.
- c. Wages charged to FERC Account 920 were 4.77% of total wages during the period October-December 1994.





**Pennsylvania Power & Light Company  
Response to Interrogatories of  
Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995**  

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**Docket No. R-00943271**

- Q.18. Please provide a breakout of Account 925 expenses between (a) costs related to Company employees, (b) cost related to payments for claims by parties that are not employed by PP&L, and (c) other expenses (please specify type and dollar amount).
- A.18. Costs and other expenses charged to FERC Account 925 - Injuries and Damages for the period October 1, 1994 through December 31, 1994 were as follows:
- a. Costs related to Company employees - \$1,511,633
  - b. Costs related to payments to non-employees and other expenses - \$408,962
  - c. Other expenses - included in item b.

R. J. Bernini

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995**  

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**Docket No. R-00943271**

- Q.19. Please provide a listing of each payments to a single vendor in excess of \$25,000 that was booked to Account 923 during the test year. State the purpose served by each such expenditure.
- A.19. Payments in excess of \$25,000 per vendor charged to FERC Account 923 - Outside Services for the period October 1, 1994 through December 31, 1994 are shown on Attachment I.

**Outside Services - A/C 923  
For The Period October 1994 Through December 1994**

<u>Month</u>	<u>Voucher No.</u>	<u>Amount</u>	<u>Payee</u>	<u>Description/Purpose</u>
October '94	830732	\$ 28,100.00	TLG Services, Inc.	Fossil Plant Decommissioning
	837188	\$ 106,233.00	Scott, Madden & Associates, Inc.	Professional Services - Corporate Restructuring
November '94	835716	\$ 64,473.00	Hewitt Associates	Flexible Benefits Program Services
	835905	\$ 30,235.00	Hewitt Associates	Flexible Benefits Program Services
	849269	\$ 33,950.00	Hewitt Associates	Flexible Benefits Program Services
	849270	\$ 49,087.00	Hewitt Associates	Flexible Benefits Program Services
	852581	\$ 58,500.00	Mainstream Access, Inc.	Change Management
	852708	\$ 94,193.00	Scott, Madden & Associates, Inc.	Corporate Restructuring
	852788	\$ 28,000.00	Deloitte & Touche	1994 Audit
	853745	\$ 41,009.80	Coopers & Lybrand	Consulting-Financial Initiative Strategy Team
	860441	\$ 41,699.34	Relocation Resources, Inc.	Third Party Relocation Costs

**Outside Services - A/C 923  
For The Period October 1994 Through December 1994**

<u>Month</u>	<u>Voucher No.</u>	<u>Amount</u>	<u>Payee</u>	<u>Description/Purpose</u>
November '94	860486	\$ 29,155.95	Korn/Ferry	Professional Service-executive search for General Counsel
	860577	\$ 40,000.00	Manchester, Inc.	Executive Outplacement
	860607	\$ 54,500.00	Mainstream Access, Inc.	Change Management
	862765	\$ 45,391.00	Mainstream Access, Inc.	Outplacement-executive
	866104	\$ 57,500.00	Deloitte & Touche	1994 Audit
	867136	\$ 50,925.78	Hewitt Associates	Flexible Benefit Program Services
	867137	\$ 34,877.00	Hewitt Associates	Flexible Benefit Program Services
December '94	869326	\$ 34,000.00	Mainstream Access	Change Management
	869353	\$ 49,000.00	Mainstream Access	Change Management
	875564	\$ 26,594.00	Mainstream Access	Outplacement-Executive
	876195	\$ 37,000.00	Resource Data International, Inc.	Consulting-Fossil Fuel Department Planning

**Outside Services - A/C 923  
For The Period October 1994 Through December 1994**

<u>Month</u>	<u>Voucher No.</u>	<u>Amount</u>	<u>Payee</u>	<u>Description/Purpose</u>
December '94	879222	\$ 45,500.00	M A R C , Inc.	Marketing Research - Customers/Employees
	881596	\$ 28,074.75	The Hunter Group, Inc.	Assessment of Human Resource/Payroll
	883887	\$ 76,200.00	Deloitte & Touche	1994 Audit
	885193	\$ 35,000.00	Chemical Bank Agency Service Corp.	Annual Agency & Restructuring Fees
	886334	\$ 172,969.94	EDS Corporation	Invoice Cancelled in January 1995
	887329	\$ 172,969.94	EDS Technical Products, Inc.	Technical Sevices & Monthly Support on Various Projects
		\$ 384,509.85	Various Outside Counsel	Legal Advice and Representation

R. J. Bernini

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995**  

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**Docket No. R-00943271**

- Q.20. Please identify all payments to a single vendor in excess of \$25,000 that were booked to Account 930. For each such payment, identify the vendor and provide a description of the service(s) provided and the purpose served.
- A.20. Payments in excess of \$25,000 per vendor charged to FERC Account 930 for the period October 1, 1994 through December 31, 1994 are shown on Attachment I.

**Miscellaneous General Expenses - A/C 930  
For The Period October 1994 Through December 1994**

<u>Month</u>	<u>Account No.</u>	<u>Account Description</u>	<u>Voucher No.</u>	<u>Amount</u>	<u>Payee</u>	<u>Description/Purpose</u>
October '94	93012	General Advertising Expenses	838818	\$ 27,780.82	National Advertising Mfg. Co.	Community Services-Advertising-Connect
	93029	Miscellaneous General Expenses- Other	833258	\$ 25,000.00	Advanced Composite Products, Inc.	Utility Electric Vehicle Prototype-Progress Pymt.
			842816	\$ 40,000.00	Advanced Composite Products, Inc.	Utility Electric Vehicle Prototype-Progress Pymt.
			845487	\$ 62,783.01	Remediation Technologies	Stroudsburg Coal Tar Recovery-Consultant- Administrative Costs
November '94	93029	Miscellaneous General Expenses- Other	851627	\$ 33,865.44	Keystone Block Transportation Co.	Shenandoah Gas Plant-Remediation Costs
			853649	\$ 43,924.81	Service Electric Cable TV	Lehigh Fiber Optics Loop Construction Payments
December '94	93029	Miscellaneous General Expenses- Other	868724	\$ 95,478.22	Remediation Technologies	Stroudsburg Coal Tar Recovery-Consultant- Administrative Costs
			879332	\$ 100,000.00	Electric Power Research Institute	Integrated Storage Planning Operations Work Stations
			883800	\$ 50,000.00	Electric Power Research Institute	Environmental Software Database
			884232	\$ 41,438.50	Service Electric Cable TV	Lehigh Fiber Optics Loop Payments to Others
			885303	\$ 25,000.00	Electric Power Research Institute	Contribution to Industrial Competitiveness Program

**Miscellaneous General Expenses - A/C 930  
For The Period October 1994 Through December 1994**

<u>Month</u>	<u>Account No.</u>	<u>Account Description</u>	<u>Voucher No.</u>	<u>Amount</u>	<u>Payee</u>	<u>Description/Purpose</u>
December '94	93029	Miscellaneous General Expenses- Other	885308	\$ 70,100.00	Electric Power Research Institute	Medical Waste Testing
			886562	\$ 28,582.17	F X Browne Associates, Inc.	Professional Services-Biostimulation Study

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995**

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**Docket No. R-00943271**

- Q.28. Please provide a listing of all investments in intangible plant with a gross book value exceeding \$25,000 and a narrative describing the nature and purpose of each such investment.
- A.28. Attachment 1 is a list and description of intangible plant investments over \$25,000.

Account 3010 - Organization, Intangible Plant

\$476,251.80 - Organization Costs

Account 3020 - Franchises and Consents, Intangible Plant

\$147,083.87 - Franchise Costs

Account 3032 - Misc. Intang Plt - Comptr Softwar

\$607,227.00 - Power Management System - Program Development System for use with Power Control Center and Division SCADA (Supervisory Control and Data Acquisition) Computer Systems

\$401,623.65 - CADAM (Computer-Aided Design & Manufacturing) Computer Aided Engineering Applications

\$314,250.20 - Relational Database Management Sys - provides Productive Methods to Develop Sys, Store Data and Access Data

\$285,180.00 - Nuclear Dept. - System Scheduling, Tracking and Resource Loading of Refueling and Inspection Outage Activities and Capital Construction Projects

\$845,901.20 - Computer Aide Software-Engineering-Automates the System Development Life for Building Information Systems

\$5,721,100.00 - Power Control Center Computer System Replacement Software PMS - Supports Operation of Electric Power System

\$540,436.05 - Support of Materials Planning, Acquisition and Control Activities for Maintenance and Modification Function at SSES

\$6,360,927.00 - Replace SCADA Computer System including Computer Data Exchange and Manual Machine Subsystem and all existing software and application programs

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Central Eastern Pennsylvania  
Fuel Oil Dealers  
Dated March 7, 1995**  

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**Docket No. R-00943271**

Q.24. Please provide the following load research summary data, by strata, for each residential class:

- a. average monthly and average annual energy usage,
- b. average monthly contribution to coincident peak,
- c. average customer NCP,
- d. sample size (customer count), and
- e. average contribution to class NCP.

A.24. The RS class load research is performed by analyzing two groups of customers. Those taking service under Rate Schedule RS with electric heat and those taking service under Rate Schedule RS without electric heat. The RTS class is studied separately. Attachment 1 provides the data, by strata, for items a. and d. The strata are defined by the annual kWh usage. The average monthly kWh and the annual kWh usage for item a. are for the population customers in each strata for the 12 months ended September 30, 1994.

Data for items b., c., and e. are unavailable. The response to Question 18 of Interrogatories of the Office of Small Business Advocate Dated February 17, 1995 explains that PP&L calculates class hourly demand estimates using a Ratio Estimation, Combined Estimator formula. This formula produces a total class estimate, but does not produce demand estimates for each strata.

**PENNSYLVANIA POWER & LIGHT COMPANY  
LOAD RESEARCH SUMMARY DATA**

	a.		d.
	Average Monthly kWh Usage (kWh x 1,000)	Annual kWh Usage (kWh x 1,000)	Sample Size
Electrically Heated Homes			
0-15,400 kWh	116,030	1,392,354	50
15,401-23,300 kWh	142,010	1,704,125	50
Over 23,300 kWh	195,359	2,344,307	50
Total	453,399	5,440,786	150
General Residential			
0-5,550 kWh	84,043	1,008,513	60
5,551-8,300 kWh	102,645	1,231,744	60
8,301-12,250 kWh	124,031	1,488,368	60
Over 12,250 kWh	153,345	1,840,143	60
Total	464,064	5,568,768	240
Total RS Rate	917,463	11,009,554	390
RTS			
0-23,900 kWh	8,049	96,589	40
23,901-31,000 kWh	9,524	114,283	40
Over 31,000 kWh	15,053	180,640	40
Total RTS Rate	32,626	391,512	120

**Pennsylvania Power & Light Company  
Response to Interrogatories of the  
Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995**

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**Docket No. R-00943271**

- Q. 30. Please state, by size and type, the number of Account 364 poles and towers that carry both primary and secondary conductor. Explain how the Company determined the appropriate split of the cost of these poles between primary and secondary, and provide supporting workpapers.
- A. 30. Pages 7-8 of Exhibit JMK-3 provide an explanation of the approach used to determine the appropriate breakdown of the costs for those poles that carry both primary and secondary conductors. Supporting workpapers are provided as Attachment 1.

PENNSYLVANIA POWER & LIGHT COMPANY  
 SUBFUNCTIONALIZATION OF OVERHEAD CONDUCTORS AND DEVICES  
 ACCOUNT 3650  
 AS OF DECEMBER 31, 1993

STEP 1: LIST INVESTMENT BY UNITCODE FOR OVERHEAD CONDUCTORS

UNITCODE	DESCRIPTION	CONDUCTOR INVESTMENT	SUBFUNCTION
625110	COPPER (4 & BELOW 1/C)	1,797,982	SECONDARY
625111	COPPER (2 - 1/0 1/C)	2,812,038	SECONDARY
625112	COPPER (2/0 - 4/0 1/C)	5,469,195	SUBTRANSMISSION / PRIMARY
625113	COPPER (350 KCM 1/C)	310,869	SECONDARY
625114	COPPER (500 KCM 1/C)	21,713	SECONDARY
625115	COPPER (750 KCM 1/C)	13,425	SECONDARY
625116	COPPER (1000 KCM 1/C)	6,366	SECONDARY
625210	ALUMINUM (4 & BELOW 1/C)	353,768	SECONDARY
625211	ALUMINUM (2 - 1/0 1/C)	97,446,088	SECONDARY
625212	ALUMINUM (2/0 - 4/0 1/C)	20,724,910	SUBTRANSMISSION / PRIMARY
625213	ALUMINUM (350 KCM 1/C)	59,469,349	SUBTRANSMISSION / PRIMARY
625214	ALUMINUM (500 KCM 1/C)	42,510,607	SUBTRANSMISSION / PRIMARY
625215	ALUMINUM (750 KCM 1/C)	7,663,753	SECONDARY
625216	ALUMINUM (1000 KCM 1/C)	685,085	SECONDARY
625220	ALUMINUM (4 & BELOW 2/C)	1,705,783	SECONDARY
625221	ALUMINUM (2 - 1/0 2/C)	192,168	SECONDARY
625222	ALUMINUM (2/0 - 4/0 2/C)	349	SECONDARY
625230	ALUMINUM (4 & BELOW 3/C)	351,311	SECONDARY
625231	ALUMINUM (2 - 1/0 3/C)	38,208,675	SECONDARY
625232	ALUMINUM (2/0 - 4/0 3/C)	19,691,042	SECONDARY
625241	ALUMINUM (2 - 1/0 4/C)	684	SECONDARY
625242	ALUMINUM (2 - 4/0 4/C)	3,850,833	SECONDARY
625310	STEEL ( 4 & BELOW 1/C)	4,118,769	SECONDARY
625311	STEEL (2 - 1/0 1/C)	8,539,002	SUBTRANSMISSION / PRIMARY
625312	STEEL (2/0 - 4/0 1/C)	1,788,404	SUBTRANSMISSION / PRIMARY
		317,732,166	

BASED ON SELECTED UNITCODES FROM CPR FOR LOCATION 0015 (SYSTEM DISTRIBUTION PLANT).

PENNSYLVANIA POWER & LIGHT COMPANY  
SUBFUNCTIONALIZATION OF OVERHEAD CONDUCTORS AND DEVICES - SUMMARY  
ACCOUNT 3650  
AS OF DECEMBER 31, 1993

STEP 2: SUMMARIZE CONDUCTOR INVESTMENT BY SUBFUNCTION

SUBFUNCTION	CONDUCTOR INVESTMENT	PERCENT OF INVESTMENT
SUBTRANSMISSION / PRIMARY	138,501,467	43.59
SECONDARY	179,230,699	56.41
	<u>317,732,166</u>	<u>100.00</u>

BASED ON SELECTED UNITCODES FROM CPR FOR LOCATION 0015 (SYSTEM DISTRIBUTION PLANT).

PENNSYLVANIA POWER & LIGHT COMPANY  
 SUBFUNCTIONALIZATION OF OVERHEAD CONDUCTORS AND DEVICES - SUMMARY  
 ACCOUNT 3650 TOTAL INVESTMENT  
 AS OF DECEMBER 31, 1993

STEP 3: SEGMENT TOTAL ACCOUNT INVESTMENT BY SUBFUNCTION

SUBFUNCTION	PERCENTAGE SPLIT	CONDUCTOR INVESTMENT
SUBTRANSMISSION/PRIMARY	43.59	182,466,697
SECONDARY	56.41	236,130,910
	<u>100.00</u>	<u>418,597,607</u>

BASED ON SELECTED UNITCODES FROM CPR FOR LOCATION 0015 (SYSTEM DISTRIBUTION PLANT).

PENNSYLVANIA POWER & LIGHT COMPANY  
 SUBFUNCTIONALIZATION OF WOOD POLES  
 ACCOUNT 3644  
 AS OF DECEMBER 31, 1993

STEP 1: LIST INVESTMENT BY UNITCODE FOR WOOD POLES (ACCOUNT 3644)

UNITCODE	DESCRIPTION	QUANTITY	POLE INVESTMENT	SUBFUNCTION
613001	10 FOOT WOOD POLE	5	68	SECONDARY
613002	15 FOOT WOOD POLE	4	210	SECONDARY
613003	20 FOOT WOOD POLE	295	5,708	SECONDARY
613004	25 FOOT WOOD POLE	11,871	2,525,506	SECONDARY
613005	30 FOOT WOOD POLE	112,158	36,352,563	SECONDARY
613006	35 FOOT WOOD POLE	148,827	35,133,056	SECONDARY
613007	40 FOOT WOOD POLE	376,621	121,710,423	EITHER PRIMARY OR SECONDARY
613008	45 FOOT WOOD POLE	146,371	62,892,961	EITHER PRIMARY OR SECONDARY
613009	50 FOOT WOOD POLE	29,447	13,431,745	SUBTRANSMISSION / PRIMARY
613010	55 FOOT WOOD POLE	11,783	5,736,930	SUBTRANSMISSION / PRIMARY
613011	60 FOOT WOOD POLE	10,072	7,028,800	SUBTRANSMISSION / PRIMARY
613012	65 FOOT WOOD POLE	8,080	6,566,561	SUBTRANSMISSION / PRIMARY
613013	70 FOOT WOOD POLE	4,573	6,092,959	SUBTRANSMISSION / PRIMARY
613014	75 FOOT WOOD POLE	3,895	8,416,483	SUBTRANSMISSION / PRIMARY
613015	80 FOOT WOOD POLE	2,327	6,448,247	SUBTRANSMISSION / PRIMARY
613016	85 FOOT WOOD POLE	1,496	4,720,570	SUBTRANSMISSION / PRIMARY
613017	90 FOOT WOOD POLE	882	3,006,375	SUBTRANSMISSION / PRIMARY
613018	95 FOOT WOOD POLE	405	1,467,548	SUBTRANSMISSION / PRIMARY
613019	100 FOOT WOOD POLE	135	548,723	SUBTRANSMISSION / PRIMARY
613020	105 FOOT WOOD POLE	55	188,364	SUBTRANSMISSION / PRIMARY
613021	110 FOOT WOOD POLE	14	77,456	SUBTRANSMISSION / PRIMARY
613022	115 FOOT WOOD POLE	1	1,813	SUBTRANSMISSION / PRIMARY
613023	120 FOOT WOOD POLE	0	0	SUBTRANSMISSION / PRIMARY
		869,317	322,353,067	

BASED ON UNITCODE ANALYSIS OF WOOD POLES FROM 10 FEET THRU 115 FEET.

PENNSYLVANIA POWER & LIGHT COMPANY  
SUBFUNCTIONALIZATION OF WOOD POLES - SUMMARY  
ACCOUNT 3644  
AS OF DECEMBER 31, 1993

STEP 2: SUMMARIZE WOOD POLE INVESTMENT BY SUBFUNCTION

SUBFUNCTION	POLE INVESTMENT
EITHER PRIMARY OR SECONDARY (40 FT AND 45 FT)	184,603,384
SUBTRANSMISSION / PRIMARY (50 FT AND ABOVE)	63,732,572
SECONDARY (35 FT AND BELOW)	74,017,111
	<hr/>
	322,353,067

PENNSYLVANIA POWER & LIGHT COMPANY  
 SPLIT WOOD POLES (ACCOUNT 3644) DESIGNATED EITHER PRIMARY OR SECONDARY  
 BASED ON OVERHEAD CONDUCTORS (ACCOUNT 3650)  
 AS OF DECEMBER 31, 1993

STEP 3: SEGMENT 40 AND 45 FOOT POLES BY PERCENT OF OVERHEAD CONDUCTOR INVESTMENT (ACCOUNT 3650)

SUBFUNCTION	PERCENT SPLIT ACCT. 3650	POLE INVESTMENT
SUBTRANSMISSION/PRIMARY	43.59	80,468,615
SECONDARY	<u>56.41</u>	<u>104,134,769</u>
	100.00	184,603,384

PENNSYLVANIA POWER & LIGHT COMPANY  
SUBFUNCTIONALIZATION OF WOOD POLES (ACCOUNT 3644)  
CONSOLIDATION OF PRIMARY/SECONDARY POLES  
AS OF DECEMBER 31, 1993

STEP 4: COMBINE RESULTS OF STEPS 1 AND 2 - POLE INVESTMENT

SUBFUNCTION	POLE INVESTMENT
SUBTRANSMISSION / PRIMARY	144,201,187
SECONDARY	<u>178,151,880</u>
	322,353,067

PENNSYLVANIA POWER & LIGHT COMPANY  
 SUBFUNCTIONALIZATION OF OVERHEAD CONDUCTORS AND DEVICES  
 UNITCODE 615401 - ATTACHMENTS  
 AS OF DECEMBER 31, 1993

STEP 5: SEGMENT INVESTMENT IN SETS OF ATTACHMENTS

SUBFUNCTION	POLES	WEIGHT	WEIGHTED POLES	WEIGHTED PERCENT	SETS OF ATTACHMENTS INVESTMENT
SUBTRANSMISSION / PRIMARY	301,137	2	602,274	51.46	21,971,278
SECONDARY	568,180	1	568,180	48.54	20,727,488
	<u>869,317</u>		<u>1,170,454</u>	<u>100.00</u>	<u>42,698,766</u>

NOTE: SETS OF ATTACHMENTS ARE SEGMENTED ON A WEIGHTED NUMBER OF POLES.  
 SUBTRANSMISSION/PRIMARY POLES ARE ESTIMATED TO REQUIRE TWICE THE INVESTMENT AS SECONDARY POLES.

PENNSYLVANIA POWER & LIGHT COMPANY  
 SUBFUNCTIONALIZATION OF WOOD POLES (ACCOUNT 3644)  
 HARDWARE AND DEVICES, GUYS, ANCHORS, ETC.  
 AS OF DECEMBER 31, 1993

STEP 6: SEGMENT INVESTMENT IN FIXTURES

SUBFUNCTION	POLES	PERCENT	FIXTURES INVESTMENT
SUBTRANSMISSION / PRIMARY	301,137	34.64	40,922,229
SECONDARY	<u>568,180</u>	<u>65.36</u>	<u>77,211,260</u>
	869,317	100.00	118,133,489

NOTE: SUBFUNCTIONALIZATION BASED ON NUMBER OF POLES

PENNSYLVANIA POWER & LIGHT COMPANY  
SUBFUNCTIONALIZATION OF WOOD POLES (ACCOUNT 3644)  
ALLOCATION BETWEEN PRIMARY / SECONDARY  
AS OF DECEMBER 31, 1993

STEP 7: SUMMARIZE ACCOUNT 3644

SUBFUNCTION	ACCOUNT INVESTMENT	PERCENT OF INVESTMENT
SUBTRANSMISSION / PRIMARY	207,093,229	42.86
SECONDARY	<u>276,092,093</u>	<u>57.14</u>
	483,185,322	100.00

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995**

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**Docket No. R-00943271**

Q.31. Please provide the following data regarding Account 365:

- a. miles (feet) of conductor by size and type; and
- b. embedded cost by conductor size and type.

A.31. Attachment 1 provides a list of the length (in feet) of and investment in overhead conductors recorded in FERC Account 365 by conductor size and type.

# Pennsylvania Power & Light Company

## Account 365

<u>Description</u>	<u>Length(ft)</u>	<u>Investment(\$)</u>
<b>Copper Conductor</b>		
4 & below 1/c	45,000,766	12,234,707.69
2-1/0 1/c	28,429,999	7,835,436.03
2/0-4/0 1/c	35,455,593	12,549,434.20
350 kcm 1/c	3,743,916	1,116,616.70
500 kcm 1/c	98,680	132,385.38
750 kcm 1/c	10,266	21,882.44
1000 kcm 1/c	42,744	50,017.50
<b>Aluminum Conductor</b>		
4 & below 1/c	2,882,656	490,979.79
2-1/0 1/c	166,381,234	97,466,088.00
2/0-4/0 1/c	36,271,871	23,707,062.92
350 kcm 1/c	56,418,875	66,750,035.62
500 kcm 1/c	21,854,223	44,859,036.35
750 kcm 1/c	2,040,347	8,852,289.04
1000 kcm 1/c	400,230	788,532.46
4 & below 2/c	7,487,856	2,363,366.02
2-1/0 2/c	363,606	221,316.72
2/0-4/0 2/c	185	348.53
4 & below 3/c	773,767	551,372.40
2-1/0 3/c	24,976,865	43,263,068.78
2/0-4/0 3/c	7,330,191	21,662,469.88
2-1/0 4/c	2,226	1,141.10
2/0-4/0 4/c	1,244,160	4,549,676.35
<b>Steel Conductor</b>		
4 & below 1/c	31,646,623	6,755,161.31
2-1/0 1/c	28,510,766	11,459,766.26
2/0-4/0 1/c	6,842,771	2,681,963.70
<b>Other Conductor</b>		
Fiber optic cable	41,969	123,105.65
<b>Wire copper bare stranded</b>		
2/0 bare str cu	8,223,848	1,707,679.42
<b>Wire AL XLP 600V</b>		
4/0 600v 1/c str al	77,482	85,705.07
350mcm 600v 1/c	14,045	21,644.84
<b>Wire AL XLP 15kv</b>		
2 15kv 2/c sol al	4,515	3,734.41
<b>Wire ACSR Bare Stranded</b>		
795.0 mcm ascr	10,444	30,099.64
1033.5 mcm ascr	190,401	194,662.74

# Pennsylvania Power & Light Company

Account 365

<u>Description</u>	<u>Length(ft)</u>	<u>Investment(\$)</u>
Wire Aluminum Bare		
1590 mcm bare al	13,933	63,551.84
2493 mcm bare al	9,673	2,254.55
1033.5 mcm al	68,580	190,438.91
Wire Steel Bare		
.375 inch bare stl	9,327,461	3,618,938.85
Wire copper weatherproof		
6 wp copper	59,518,901	7,322,880.17
Wire covered 2 cond copper		
10 cov 2/c cu	9,045	3,284.71
Counterpoise buried wire copper bare stranded		
00	26,029	11,170.42
Ground wire overhead wire copper stl bare stranded		
.50 inch oh gr	12,181	21,968.47
.37 inch oh gr	716,448	113,457.33
Ground wire overhead		
.37 inch oh gr	9,844,522	2,685,658.36
Ground wire overhead wire steel galv		
.50 inch oh grd	5,346	4,721.72
Counterpoise buried wire steel galv		
.37 inch	49,434	118,800.03

D. S. Hoch  
J. M. Kleha

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995  
Docket No. R-00943271**

Q.32. Please provide the following data regarding Account 367:

- a. miles (feet) of conductor by size and type;
- b. embedded cost by conductor size and type; and
- c. a division of conductor quantities and embedded cost between primary and secondary voltage facilities.

A.32. a. & b. Attachment 1 provides the length (in feet) of and investment in conductors recorded in FERC Account 367 by conductor size and type.

- c. The breakdown of underground conductor between primary and secondary voltage is based on analyses of conductor in system distribution plant and does not include the low tension network (see Attachment 2).

# Pennsylvania Power & Light Company

Account 367

	<u>Length(ft)</u>	<u>Investment(\$)</u>
Copper Conductor		
4 & below 1/c	228,280	178,783.98
2-1/0 1/c	2,414,255	4,266,075.70
2/0-4/0 1/c	2,757,669	5,789,440.22
350 kcm 1/c	487,705	696,948.99
500 kcm 1/c	3,234,020	14,759,207.83
750 kcm 1/c	114,541	694,143.85
1000 kcm 1/c	57,707	141,735.68
1500 kcm 1/c	26,639	2,665,548.16
Aluminum Condtr.		
4 & below 1/c	0	259.64
2-1/0 1/c	48,510,627	73,897,122.00
2/0-4/0 1/c	1,207,015	4,416,482.40
350 kcm 1/c	459,467	1,322,884.58
500 kcm 1/c	159,483	839,687.68
750 kcm 1/c	3,383,397	15,090,605.41
1000 kcm 1/c	518,702	6,511,239.39

PENNSYLVANIA POWER & LIGHT COMPANY  
 SUBFUNCTIONALIZATION OF UNDERGROUND CONDUCTORS AND DEVICES  
 ACCOUNT 3670  
 AS OF DECEMBER 31, 1993

STEP 1: LIST INVESTMENT BY UNITCODE FOR UNDERGROUND CONDUCTORS

UNITCODE	DESCRIPTION	CONDUCTOR INVESTMENT	SUBFUNCTION
625110	COPPER (4 & BELOW 1/C)	71,656	SECONDARY
625111	COPPER (2/0 - 1/0 1/C)	1,865,838	SECONDARY
625112	COPPER (2/0 - 4/0 1/C)	3,128,483	SUBTRANSMISSION / PRIMARY
625113	COPPER (350 KCM 1/C)	96,727	SECONDARY
625114	COPPER (500 KCM 1/C)	2,295,576	SUBTRANSMISSION / PRIMARY
625115	COPPER (750 KCM 1/C)	66,482	SECONDARY
625116	COPPER (1000 KCM 1/C)	27,966	SECONDARY
625211	ALUMINUM (2 - 1/0 1/C)	73,704,586	SECONDARY
625212	ALUMINUM (2/0 - 4/0 1/C)	2,174,070	SECONDARY
625213	ALUMINUM (350 KCM 1/C)	838,317	SECONDARY
625214	ALUMINUM (500 KCM 1/C)	252,575	SECONDARY
625215	ALUMINUM (750 KCM 1/C)	12,281,407	SUBTRANSMISSION / PRIMARY
625216	ALUMINUM (1000 KCM 1/C)	3,728,762	SECONDARY
625220	ALUMINUM (4 & BELOW 2/C)	0	SECONDARY
625230	ALUMINUM (4 & BELOW 3/C)	0	SECONDARY
625242	ALUMINUM (2/0 - 4/0 4/C)	0	SECONDARY
		100,532,445	

BASED ON SELECTED UNITCODES FROM CPR FOR LOCATION 0015 (SYSTEM DISTRIBUTION PLANT).

PENNSYLVANIA POWER & LIGHT COMPANY  
SUBFUNCTIONALIZATION OF UNDERGROUND CONDUCTORS AND DEVICES - SUMMARY  
ACCOUNT 3670  
AS OF DECEMBER 31, 1993

STEP 2: SUMMARIZE CONDUCTOR INVESTMENT BY SUBFUNCTION

SUBFUNCTION	CONDUCTOR INVESTMENT	PERCENT OF INVESTMENT
SUBTRANSMISSION / PRIMARY	17,705,466	17.61
SECONDARY	<u>82,826,979</u>	<u>82.39</u>
	100,532,445	100.00

**Pennsylvania Power & Light Company  
Response to Interrogatories of the  
Central Eastern Pennsylvania Fuel Oil Dealers  
Dated March 7, 1995  
Docket No. R-00943271**

- Q.33. Please state, by year and primary account, the dollar amount of RTS marketing costs incurred by PP&L since 1988.
- A.33. Costs incurred for PP&L's Electric Thermal Storage (ETS) program and primarily charged to FERC Account 908 for the years 1988 through 1994 are as follows:

<u>Year</u>	<u>Amount</u>
1988	\$5,088,469
1989	5,173,032
1990	3,937,450
1991	3,303,161
1992	2,042,488
1993	1,291,233
1994	999,488

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Central Eastern Pennsylvania  
Fuel Oil Dealers  
Dated March 7, 1995**  

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**Docket No. R-00943271**

Q. 42. Provide a copy of all studies prepared by or for PP&L that discuss, evaluate or quantify the incremental cost of RTS service.

A. 42. Copies of the following reports which evaluate the incremental costs of RTS service are provided as:

- Attachment 1: Demand-Side Management Plan - March 1994 Filing
- Attachment 2: 1993 Annual Conservation and Load Management Report
- Attachment 3: Load Management Options and RTS Rate Economic Analysis for Residential Thermal Storage Systems, April 1992

Because these documents are voluminous, copies are being provided only to the Central Eastern Pennsylvania Fuel Oil Dealers. Copies will be provided to other parties upon request.

**Pennsylvania Power & Light Company**

**1993  
Annual Conservation  
and Load Management Report**

**Submitted to the  
Pennsylvania Public Utility Commission**

FORM ACR-1: PROGRAM DESCRIPTION

COMPANY NAME: Pennsylvania Power & Light Company  
PROGRAM: Energy-Efficient Equipment Program -- Residential  
STATUS: Existing X Proposed \_\_\_\_  
CONTACT PERSON: Frank S. Mayberry

OBJECTIVE

The objective of this program is to encourage the use of energy-efficient electric equipment in new and existing residential dwelling units. The primary target for this program is the new construction market. In addition, existing electrically heated customers, who improve their home's thermal integrity in conjunction with upgrading from a conventional electric heating system to a ground-source heat pump, is a secondary target.

Energy-Efficient Equipment technologies have been included in PP&L's Comfort Home® Program and includes:

- A. High-efficiency heat pumps (HEHP) --
  - 1. Air-source heat pumps with a minimum heating seasonal performance factor (HSPF) of 6.9 for units with a cooling capacity less than 24,000 BTUH.
  - 2. Air-source heat pumps with a minimum HSPF of 7.2 for units with a cooling capacity equal to or greater than 24,000 BTUH.
  - 3. Ground-source heat pumps (closed loops -- both vertical and horizontal -- and open loops).
  - 4. High-efficiency heat pumps must be installed by a member of the Central Eastern Pennsylvania Heat Pump Association (CEHPA) to be eligible for grants.
- B. High-efficiency electric water heating --
  - 1. Thermally improved units that meet or exceed the PP&L Standard Energy Factor Rating (EFR). (The PP&L Standard EFR exceeds the DOE EFR.)
  - 2. Heat pump water heaters.
  - 3. Desuperheaters.
  - 4. Fully integrated units.
- C. High-efficiency electric appliances which are defined as appliances that have an energy-efficiency rating in the upper 50% of available products in the model line as indicated on the appliance's Energy Guide Label.
- D. High-efficiency air conditioning.

DETAILS OF ACTIVITY AND IMPLEMENTATION SCHEDULE

- A. Contact builders, developers, installers, and customers to encourage the installation of energy-efficient equipment in new construction. In addition, encourage existing electrically heated customers that are upgrading their conventional electric heating system to install a ground-source heat pump.
- B. Provide cash grants ranging from \$100 to \$1,000 to qualified participants depending on the application, size, and energy rating of the energy-efficient equipment. Cash grants are offered to builders, developers, contractors, and customers who install qualifying air-source heat pumps, ground-source heat pumps, or high-efficiency water heating in newly constructed dwelling units. In addition, cash grants are provided to existing electrically heated customers who upgrade to a ground-source heat pump. During 1993 and 1994, only existing electrically heated customers, who improve their homes' thermal integrity in conjunction with the upgrade to a ground-source heat pump are eligible for a grant.

FORM ACR-1: PROGRAM DESCRIPTION

COMPANY NAME: Pennsylvania Power & Light Company  
PROGRAM: Energy-Efficient Equipment Program -- Residential (cont'd)  
STATUS: Existing X Proposed \_\_\_\_\_  
CONTACT PERSON: Frank S. Mayberry

DETAILS OF ACTIVITY AND IMPLEMENTATION SCHEDULE (cont'd)

- C. Support the program by systemwide media advertisements, co-op advertising, bill inserts, and informational literature.
- D. Participate in business fairs, shows, and ally meetings with appropriate displays and materials.
- E. During 1993, 2,750 newly constructed electrically heated dwelling units installed HEHPs. In addition, 26 existing electrically heated customers upgraded to ground-source heat pumps or ground-source heat pumps with an ETS system. Also, 267 new electrically heated dwelling units installed energy-efficient electric water heating (desuperheaters, fully integrated or heat pump water heaters).
- F. The goal for 1994 is to have 3,303 participants in the Energy-Efficient Equipment Program; 2,203 high-efficiency air-source heat pumps, 850 ground-source heat pumps, and 250 high-efficiency water heating units.
- G. During 1994, grants will be provided to builders who participate in a Demonstration Home Program by installing energy-efficient equipment in a new home and opening it for public viewing of energy-efficient electric technology.
- H. The 1994 program information is consistent with the information reported in the 1994 DSM Plan filing for Energy-Efficient Equipment.

See ACR Forms 4 and 5 for a cost-benefit analysis of this program.

Year	ACTUAL AND/OR ANTICIPATED RESULTS		
	Peak Load Reduction Kw	Energy Savings Electric Mwh	Shifted Load On-Peak to Off-Peak Kw
1993	-403	10,198	N/A
1994	527	12,126	N/A

Year	PERSONNEL Estimated Manhours	MONETARY AND PERSONNEL RESOURCES				
		CATEGORIED PROGRAM EXPENSES				
		Payroll	Advertising	Customer Grants	Other	Total
1993	31,695	\$1,017,571	\$375,843	\$2,153,766*	\$275,060	\$3,822,240
1994	22,091	764,671	272,970	1,714,300	236,137	2,988,078

\* Customer grant amounts reflect actual grants paid during 1993 and include carryover amounts for grants paid in 1993 for system installed in 1992.

COST-BENEFIT EVALUATION  
GENERAL ASSUMPTIONS

1. Participants' Energy (EXACE) and Demand (DxACD) payments are based on the applicable tariff rate for 1993. For these purposes, it was assumed that the tariff rate escalates at 2.0% per year.
2. Utility Avoided Energy Cost (MCE) is equal to the incremental value of energy for the applicable period and increased to account for transmission and distribution losses.
3. Because PP&L has no identified need for additional generating capacity within the twenty-year study period, no capacity value can be assigned to programs based on avoided power plant construction. However, a value reflecting the benefits of reducing PP&L's peak loads for the Pennsylvania-New Jersey-Maryland (PJM) interconnection accounting practices -- "Accounting Capacity" -- was used for the Utility Avoided Capacity Costs (MCD) and the Capacity Savings (G).
4. Tax Credits (TC) are not applicable for all programs.
5. Incentives (I), if applicable, are provided by the utility.
6. Utility Costs (UC) include all administration expenses, etc., associated with the program excluding incentive costs.
7. Discount rate (d) for all parties is equal to PP&L's after-tax cost of money of 9%.
8. The inflation rate for utility and participant costs averages 4.2% over the 20-year period.
9. Total System Sales (S) include the effects of these programs.

ELECTRIC THERMAL STORAGE PROGRAM --  
NEW CONSTRUCTION AND ELECTRIC HEAT UPGRADE -- RESIDENTIAL  
SPECIFIC ASSUMPTIONS

Input data used in the Residential Electric Thermal Storage Program: Cost-benefit analyses are based on the major assumptions listed below:

1. Promotional period is assumed for 1994 to 1998, a five-year period.
2. Participants' demand and energy savings based on:
  - a. Increasing the overall program participation from 13,165 customers in 1993 to approximately 14,193 in 1994. (Approximately 65% of the customers have Heat Pump Plus (HPP) systems; the other 35% have ceramic or hydronic.)
  - b. The Residential Thermal Storage Program participation was 782 participants in 1993 and is estimated to be 1,028 participants in 1994.
  - c. Approximately 1.65 kw on-peak demand shifted per participant.
  - d. Installing the Electric Thermal Storage System compared to our electric baseline results in saving 1,073 kwh of energy per participant annually. These values are based on an average 2,000 square-foot home.
3. Participants' Demand and Energy Payments are based on the differential of the RS Rate and RTS Rate. This is estimated at \$568 per participant in 1994.
4. Utility Energy Benefits (BU) are equal to the incremental change in PP&L's net fuel cost to serve load resulting from the shift in energy use from the on-peak to the off-peak periods and increased by 9.0% to account for losses.
5. Participants' incremental costs to install an Electric Thermal Storage System compared to a conventional heating system are approximately \$2,655 per participant in 1994.
6. Utility's Cost (UC) includes all costs associated with program less incentive. Incentive Costs (I) were \$300-\$800 per participant for 1993 and are \$200-\$350 per participant for 1994.

FORM ACR - 4 COST BENEFIT ANALYSIS INPUTS

COMPANY: PENNSYLVANIA POWER & LIGHT COMPANY  
 PROGRAM: ELECTRIC THERMAL STORAGE (ETS) - RESIDENTIAL  
 YEAR FROM: 1994  
 YEAR TO: 2014

	REVENUE REDUCTION COST ('1000 \$) (CR)	TOTAL UTILITY BENEFITS ('1000 \$) (BU)	PARTICIPANT DEMAND SAVINGS MW (D)	UTILITY CAPACITY SAVINGS MW (S)	PARTICIPANT AVERAGE DEMAND COST \$ PER KW (ACD)	UTILITY AVOIDED CAPACITY COST \$ PER KW (MCD)	PARTICIPANT COST ('1000 \$) (PC)	TAX CREDITS \$ (TC)
I	YEAR							
1	1994	509.15	39.01	-5.69	2.789	0	18	2,128.00
2	1995	945.57	75.01	-10.57	5.179	0	19	1,824.00
3	1996	1,309.25	105.46	-14.63	7.17	0	20	1,520.00
4	1997	1,672.94	139.53	-18.69	9.162	0	21	1,520.00
5	1998	1,672.94	179.85	-18.69	9.162	0	32	0
6	1999	1,672.94	221.79	-18.69	9.162	0	44	0
7	2000	1,672.94	265.42	-18.69	9.162	0	58	0
8	2001	1,672.94	314.83	-18.69	9.162	0	72	0
9	2002	1,672.94	366.27	-18.69	9.162	0	87	0
10	2003	1,672.94	423.71	-18.69	9.162	0	104	0
11	2004	1,672.94	485.30	-18.69	9.162	0	121	0
12	2005	1,672.94	547.93	-18.69	9.162	0	140	0
13	2006	1,672.94	571.76	-18.69	9.162	0	148	0
14	2007	1,672.94	596.65	-18.69	9.162	0	152	0
15	2008	1,672.94	618.97	-18.69	9.162	0	158	0
16	2009	1,163.78	449.82	-13.00	6.374	0	164	0
17	2010	727.36	292.64	-8.13	3.984	0	171	0
18	2011	363.68	151.46	-4.06	1.992	0	177	0
19	2012	0.00	0.00	0.00	0	0	185	0
20	2013	0.00	0.00	0.00	0	0	192	0
21	2014	0.00	0.00	0.00	0	0	200	0

	INCENTIVE COST ('1000 \$) (I)	UTILITY COST ('1000 \$) (UC)	PARTICIPANT % (DP)	DISCOUNT RATES NON-PARTIC. % (DNP)	UTILITY % (DU)	ESCALATION RATE %	SYSTEM SALES MWH (S)	SALES OR DEMAND RATIO % (F)	UNCOLLECTABLE ACCOUNTS REDUCTION \$ (UA)
I	YEAR								
1	1994	269.50	844.21	9	9	9	0	3.17E+07	0
2	1995	210.00	729.90	9	9	9	0	3.24E+07	0
3	1996	150.00	621.02	9	9	9	0	3.29E+07	0
4	1997	0.00	517.10	9	9	9	0	3.32E+07	0
5	1998	0.00	456.88	9	9	9	0	3.39E+07	0
6	1999	0	0	9	9	9	0	3.45E+07	0
7	2000	0	0	9	9	9	0	3.52E+07	0
8	2001	0	0	9	9	9	0	3.58E+07	0
9	2002	0	0	9	9	9	0	3.65E+07	0
10	2003	0	0	9	9	9	0	3.71E+07	0
11	2004	0	0	9	9	9	0	3.78E+07	0
12	2005	0	0	9	9	9	0	3.84E+07	0
13	2006	0	0	9	9	9	0	3.90E+07	0
14	2007	0	0	9	9	9	0	3.95E+07	0
15	2008	0	0	9	9	9	0	4.01E+07	0
16	2009	0	0	9	9	9	0	4.07E+07	0
17	2010	0	0	9	9	9	0	4.12E+07	0
18	2011	0	0	9	9	9	0	4.17E+07	0
19	2012	0	0	9	9	9	0	4.23E+07	0
20	2013	0	0	9	9	9	0	4.28E+07	0
21	2014	0	0	9	9	9	0	--	0

FORM ACR - 5 BENEFIT COST ANALYSIS RESULTS  
 \*\* CUMULATIVE PRESENT WORTH DOLLARS \*\*

COMPANY: PENNSYLVANIA POWER & LIGHT COMPANY  
 PROGRAM: ELECTRIC THERMAL STORAGE (ETS) - RESIDENTIAL

PERIOD OF ANALYSIS		TOTAL UTILITY BENEFITS	TOTAL UTILITY COSTS	REVENUE REDUCTION COST	PARTICIPANT REVENUE REQUIREMENT	TOTAL PARTICIPANT BENEFITS	TOTAL PARTICIPANT COSTS	TOTAL ALL RATEPAYER BENEFITS	TOTAL ALL RATEPAYERS COSTS
BEGINNING YEAR	ENDING YEAR	\$ (BU)	\$ (CU)	\$ (CR)	\$ (RP)	\$ (BP)	\$ (CP)	\$ (BA)	\$ (CA)
1994	2014	2,517,940	3,347,910	13,405,230	0	13,993,640	6,254,470	2,517,940	9,013,960

DISCOUNT PAYBACK PERIOD	CUMULATIVE NET PRESENT VALUE				BENEFIT - COST RATIO				RATE IMPACT NON - PART. \$ PER KWH (RIMNP)
	PARTICIPANT \$ (NPVP)	NON - PART. \$ (NPVNP)	UTILITY \$ (NPVU)	RATEPAYER \$ (NPVA)	PARTICIPANT (BCRP)	NON - PART. (BCRNP)	UTILITY (BCRU)	RATEPAYER (BCRA)	
6	7,739,170	-14,235,200	-829,970	-6,496,020	2.24	0.15	0.75	0.28	0.000044

**PENNSYLVANIA POWER & LIGHT COMPANY**

**DEMAND-SIDE MANAGEMENT PLAN  
MARCH 1994 FILING**

## COST RECOVERY PLAN

The Commission's order entered on December 13, 1993, at Docket No. I-900005 permits utilities to choose alternative mechanisms for recovery of DSM costs. The two alternatives set forth in the Commission's order are: (1) automatic surcharge and (2) balancing account.

In 1994, PP&L will not seek automatic surcharge cost recovery for DSM program expenses above calendar year 1993 levels. Rather, incremental DSM program expenses will be deferred as a "regulatory asset" using the balancing account method. PP&L will review its cost recovery strategy as part of its annual DSM Plan filing and may choose a different method of recovery in future years.

The table below shows: the programs contained in this filing that are being designated for DSM cost deferral; the 1993 baseline expenditures for these programs; and the expected expenditures for 1994 through 1996. The Commission's December 13, 1993, order specifically provides that the costs of existing load management programs are not eligible for special cost recovery. The Commission indicated that it was taking this position because these programs "... have been in existence for years, and in our view, it would serve no purpose to allow them to be recovered early through the DSM cost recovery mechanism." PP&L's existing load management programs that are not eligible for DSM cost deferral are the Residential Electric Thermal Storage Program, Energy Management Rates and the Electric Thermal Storage components of the I&C Efficient Energy Management and Energy-Conscious Construction Programs. Because these programs are effective and efficient demand-side options, PP&L has included them in this filing and is seeking PUC approval for them.

The Commission's December 13, 1993, order permits special recovery of DSM costs above a baseline level and mandates that these costs be recovered from the customer class or classes targeted by the DSM programs. PP&L is using calendar year 1993 costs as the baseline level. The following table shows annual projected expenditures above that level for 1994-1996. The Company will record these amounts in a deferral account and will identify amounts deferred by the applicable customer class.

**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-4D.
- a) Provide a detailed discussion explaining the derivation of each proposed tariffed net monthly minimum charge. Also provide the minimum charge studies performed for each tariff. In addition, provide an itemized breakdown of each element of each minimum charge and explain why each element should be a part of the net monthly charge. Include in the discussion, but not limited to, the following:
    - i) the supporting work papers,
    - ii) the references utilized,
    - iii) the support in the record, and
    - iv) all technical studies performed.
  
  - b) Provide a detailed discussion explaining at what level each proposed tariffed net monthly charge would be set at if PP&L could recover all fixed costs elements in the minimum charge. Include in the discussion, but not limited to, the following:
    - i) the supporting work papers,
    - ii) the references utilized,
    - iii) the support in the record, and
    - iv) all technical studies performed.
  
  - c) Provide a detailed schedule showing the calculation of the proposed net monthly charge for each tariff using only the customer related billing, metering, and service lines.

- A. OTS-RS-4D. a) The derivations of minimum charges for Rate Schedules GS-1, GS-3, and LP-4 can be found in the responses to Questions OTS-RS-20D, OTS-RS-23D, and OTS-RS-24D of Interrogatories of the Office of Trial Staff Dated January 13, 1995, respectively.

The Rate Schedule LP-5 minimum charge is derived as follows: At \$6/KW and a minimum 300 BKW, the minimum bill is  $\$6/\text{KW} * 300 \text{ KW} = \$1,800$ .

The net monthly minimum charge for Rate Schedules RS, RTS, and GH are derived from the following process.

1. The investment in selected distribution plant accounts is split or subfunctionalized based on voltage level. For example, as shown in Exhibit JMK 3, the investment in overhead conductor (Account 365) is subfunctionalized into subtransmission, primary, and secondary voltages.
2. A Minimum Size System Study was performed to classify the distribution plant into its demand and customer components. The methodology used in the study was based on the NARUC Cost Allocation Manual. For example, as shown in Exhibit JMK 3, the minimum size secondary voltage overhead conductor is used to determine the customer component for overhead conductor.
3. The results of the subfunctionalization and classification of distribution plant are inputs to the cost allocation studies. The customer-related costs are allocated to each rate schedule based on the number of customers served under that rate schedule. The cost allocation study determines the revenue requirements and related demand, energy, and customer components.
4. The results of the cost allocation studies (shown in Exhibit JMK 2) provide input to the rate design analysis that sets the monthly minimum charge.

- b) The proposed net monthly charge for each rate schedule if all costs are recovered is shown on Attachment 1.
- c) The proposed net monthly charge for each rate schedule (using only the customer-related billing, metering, and service lines is shown on Attachment 2.

PENNSYLVANIA POWER & LIGHT COMPANY  
CUSTOMER RELATED COSTS BY TARIFF  
BASED ON COST ALLOCATION STUDY  
FOR FUTURE TEST YEAR  
(\$1,000)

	RS	RTS	GS-1	GS-3	GH
1 ELECTRIC PLANT IN SERVICE					
2 DISTRIBUTION PLANT SECONDARY CUSTOMER COMPONENT					
3 OVERHEAD LINES	300,113	4,092	34,159	5,331	1,258
4 UNDERGROUND LINES	118,516	1,616	13,490	2,105	497
5 LINE TRANSFORMERS	121,939	1,656	18,684	5,553	934
6 SERVICES	205,271	2,792	25,714	5,231	1,058
7 METERS	39,574	3,057	13,650	16,003	4,029
8 TOTAL DISTRIBUTION	785,413	13,213	105,697	34,223	7,776
9 GENERAL PLANT CUSTOMER COMPONENT	49,222	721	5,923	1,272	293
10 INTANGIBLE PLANT CUSTOMER COMPONENT	3,616	53	435	94	22
11 TOTAL ELECTRIC PLANT IN SERVICE	838,251	13,987	112,055	35,589	8,091
12 DEPRECIATION RESERVE ON ABOVE	300,479	4,859	39,992	12,080	2,695
13 NET PLANT (LINE 11 - LINE 12)	537,772	9,128	72,063	23,509	5,396
14 ADJUSTMENTS TO RATE BASE	(41,706)	(695)	(5,896)	(2,456)	(449)
15 WORKING CAPITAL	6,239	102	827	251	56
16 TOTAL CUSTOMER RELATED RATE BASE	502,305	8,535	66,994	21,304	5,003
17 RETURN AT 10.17% (ROE = 13%)	51,088	868	6,814	2,166	509
18 OPERATION & MAINTENANCE EXPENSE	113,448	1,857	14,192	5,660	1,043
19 DEPRECIATION EXPENSE	26,148	463	3,575	1,258	292
20 TAXES OTHER THAN INCOME AND GROSS RECEIPTS	10,150	165	1,315	384	88
21 DEFERRED INCOME TAXES	4,038	68	540	171	39
22 INVESTMENT TAX CREDIT	(882)	(15)	(118)	(37)	(9)
23 OTHER OPERATING REVENUES-CREDIT	(5,371)	(87)	(703)	(208)	(48)
24 ANNUALIZATION AND LATE PAYMENT REVENUES	(3,314)	(56)	(429)	(155)	(32)
25 STATE AND FEDERAL INCOME TAXES	18,836	322	2,480	813	191
26 GROSS RECEIPTS TAX	10,009	167	1,293	470	97
27 TOTAL REVENUE REQUIREMENTS (LINES 17 TO 26)	224,150	3,752	28,959	10,522	2,170
28 AVERAGE CUSTOMERS	1,066,688	14,544	121,411	18,948	4,473
29 REVENUE REQTS/CUST/MONTH	\$ 17.51	\$ 21.50	\$ 19.88	\$ 46.28	\$ 40.43

PENNSYLVANIA POWER & LIGHT COMPANY  
CUSTOMER RELATED COSTS BY TARIFF  
USING BILLING, METERING, AND SERVICES ONLY  
BASED ON COST ALLOCATION STUDY  
FOR FUTURE TEST YEAR  
(\$1,000)

	RS	RTS	GS-1	GS-3	GH
1 ELECTRIC PLANT IN SERVICE					
2 DISTRIBUTION PLANT SECONDARY CUSTOMER COMPONENT					
3 OVERHEAD LINES	0	0	0	0	0
4 UNDERGROUND LINES	0	0	0	0	0
5 LINE TRANSFORMERS	0	0	0	0	0
6 SERVICES	205,271	2,792	25,714	5,231	1,058
7 METERS	39,574	3,057	13,650	16,003	4,029
8 TOTAL DISTRIBUTION	244,845	5,849	39,364	21,234	5,087
9 GENERAL PLANT CUSTOMER COMPONENT	38,617	577	4,621	1,018	239
10 INTANGIBLE PLANT CUSTOMER COMPONENT	2,837	42	340	74	18
11 TOTAL ELECTRIC PLANT IN SERVICE	286,299	6,468	44,325	22,326	5,344
12 DEPRECIATION RESERVE ON ABOVE	125,915	2,481	18,274	7,675	1,801
13 NET PLANT (LINE 11 - LINE 12)	160,384	3,987	26,051	14,651	3,543
14 ADJUSTMENTS TO RATE BASE	(14,269)	(321)	(2,530)	(1,796)	(313)
15 WORKING CAPITAL	2,087	45	316	151	36
16 TOTAL CUSTOMER RELATED RATE BASE	148,202	3,711	23,837	13,006	3,266
17 RETURN AT 10.17% (ROE = 13%)	15,073	378	2,424	1,323	332
18 OPERATION & MAINTENANCE EXPENSE	92,323	1,569	11,635	5,180	941
19 DEPRECIATION EXPENSE	10,036	242	1,608	880	214
20 TAXES OTHER THAN INCOME AND GROSS RECEIPTS	4,649	90	643	255	61
21 DEFERRED INCOME TAXES	1,380	31	214	107	25
22 INVESTMENT TAX CREDIT	(301)	(7)	(47)	(23)	(6)
23 OTHER OPERATING REVENUES-CREDIT	(2,403)	(47)	(338)	(137)	(32)
24 ANNUALIZATION AND LATE PAYMENT REVENUES	(1,928)	(36)	(259)	(124)	(25)
25 STATE AND FEDERAL INCOME TAXES	5,695	143	898	490	123
26 GROSS RECEIPTS TAX	5,820	110	784	372	76
27 TOTAL REVENUE REQUIREMENTS (LINES 17 TO 26)	130,344	2,473	17,562	8,323	1,709
28 AVERAGE CUSTOMERS	1,066,688	14,544	121,411	18,948	4,473
29 REVENUE REQTS/CUST/MONTH	\$ 10.18	\$ 14.17	\$ 12.05	\$ 36.60	\$ 31.84

**Pennsylvania Power & Light Company  
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Dated January 13, 1995**

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**Docket No. R-00943271**

Q.OTS-RS-7D. Provide a detailed discussion explaining how the proposed rate increase for each tariff was derived. Also, provide the rationale included in the discussion, but not limited to, the following:

- i. the supporting work papers,
- ii. the references utilized,
- iii. the support in the record, and
- iv. all technical studies performed.

A.OTS-RS-7D. The allocation of the proposed rate increase was arrived at by examining the increase required for each rate class to bring it to the system average rate of return. Exhibit OGK 3 illustrates the class rates of return at present rate levels and the percent of system rate return it represents. If all classes were to achieve the system rate of return under the proposed rate increase, the rate increase required by each class also is shown in this Exhibit.

Following such a simple rate design philosophy does not consider the issues of value of service, social objectives, and market risk. Therefore, it is appropriate to consider the customer impact of the rate increase allocation in light of these issues.

It was decided that each rate class' share of the rate increase would be tempered by:

- The need to adjust some of the rate designs to correct for changes that have occurred since the Company's last base rate increase in 1985 (interruptible service options – Rate Schedules LP-4 and LP-5, obsolete street lighting fixtures – Rate Schedule SI-1, rate class cost drift–Rate Schedules RS, RTS, GH-1, and GH-2)
- A self-imposed maximum rate class increase design limit not to exceed 50% of the overall increase amount ( $11.70 \times 1.50 = 17.55$ )
- The desire for all rate classes to move significantly toward the system average rate of return.

This produced the proposed rate increase assignment as shown below.

Comparison of the rate class percent system rate of return at proposed rates with the present rates illustrates the results of applying these principles.

Rate Schedule	Proposed Increase	Percent of System Rate of Return	
		Proposed	Present
RS	15.29%	89.77%	79.89%
RTS	17.39%	-4.23%	-32.28%
GS-1	3.89%	153.79%	197.13%
GS-3	6.72%	115.34%	135.84%
LP-4	10.16%	116.72%	122.57%
LP-5	15.45%	98.33%	73.05%
LPEP	5.51%	94.89%	110.67%
ISA	0.15%	8.06%	10.81%
SL/AL	14.30%	65.49%	64.57%
GH(R)	16.14%	88.50%	78.66%
Standby	0.70%	244.35%	336.25%
System	11.70%	100.00%	100.00%

J. J. Slivka  
J. F. Sipics

**Pennsylvania Power & Light Company**  
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Q.OTS-RS-9D. Provide the Company's Design Peak Day firm retail requirement calculations, by tariff, for the Historic and Future Test Years. Also provide the Company's Design Peak Day power supply by source, needed to meet its Design Peak Day firm retail requirements.

A.OTS-RS-9D. Attachment 1 provides the contributions to the peak day load by tariff for the Historic and Future Test Years.

Attachment 2 provides power supply by source for the Historic and Future Test Years.

Contribution to Peak

	Historic Test Year January 18, 1994 <u>7 p.m.</u> (MW)	<u>Future Test Year</u> (MW)
RS	3,148	3,032
RTS	258	265
GS-1 (includes BL)	233	274
GS-3 (includes IS-1)	944	1,107
LP-4	584	616
LP-5	629	695
LPEP	18	22
ISA	63	68
GH	158	155
Street/Area Lighting	27	10
Standby	<u>14</u>	<u>14</u>
Total PUC	6,076	6,258
Resale 66 KV	140	144
Resale 12 KV	44	43
UGI	121	135
Company Use	<u>22</u>	<u>25</u>
TOTAL	6,403	6,605

**Power Supply by Source**  
**(Winter Capacity Ratings)**

	<b><u>1993-1994</u></b> <b><u>Winter</u></b> <b>(MW)</b>	<b><u>1994-1995</u></b> <b><u>Winter</u></b> <b>(MW)</b>
Steam Capacity		
Susquehanna	1,905	1,950
Brunner Island	1,469	1,469
Montour	1,525	1,525
Sunbury	389	389
Martins Creek	1,940	1,940
Holtwood	73	73
Keystone (PL Share 12.34%)	210	210
Conemaugh (PL Share 11.39%)	<u>194</u>	<u>194</u>
	7,705	7,750
Diesel Capacity	22	22
Combustion Turbine Capacity	486	486
Hydro Capacity		
Holtwood	102	102
Wallenpaupack	44	44
1/3 Safe Harbor Output	<u>139</u>	<u>139</u>
	285	285
Total NUG Output Purchased	<u>504</u>	<u>504</u>
Total Installed Capacity	9,002	9,047
Total Capacity Sold Under Contract	<u>-1,200</u>	<u>-1,203</u>
Net Capacity	7,802	7,844

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- Q.OTS-RS-31D. In Statement 6 (Slivka), page 8, line 2, the twelve coincident peak (12 CP) allocation methodology is mentioned. Describe this methodology along with the data and its utilization in determining the demand for each customer class.
- A.OTS-RS-31D. The 12 CP allocation methodology is as stated in Statement 6 (Slivka), page 8, line 2 "Each rate class contribution to each of the 12 monthly system peaks is averaged to calculate the 12 Coincident Peak (12 CP) demand allocator for that class." The data that is used in this computation is as stated in Statement 6 (Slivka), page 7, line 18 through page 8, line 2. Attachment 1 contains the data by rate class for each month of the 12 month period ended September 30, 1994 and the computed 12 Coincident Peak allocator.

**Pennsylvania Power and Light Company**  
**Contributions to Monthly System Peaks**  
**Generation Level - in KW**  
**Year Ended September 30, 1994**

	12 Month <u>Average</u>	14-Oct-93 <u>1000</u>	1-Nov-93 <u>1900</u>	29-Dec-93 <u>1800</u>	18-Jan-94 <u>1900</u>	2-Feb-94 <u>800</u>	2-Mar-94 <u>1900</u>
RS	2,016,144	1,420,771	2,085,239	2,859,449	3,147,834	2,716,675	2,717,380
RTS	97,047	17,930	145,053	239,246	257,775	54,638	218,542
GS-1	235,744	204,180	166,506	255,558	233,183	239,908	199,901
GS-3	1,120,665	1,133,376	909,008	955,976	944,101	1,143,503	821,069
LP-4	666,849	641,391	588,428	554,184	584,084	688,839	569,289
LP-5	719,064	718,000	702,428	613,217	629,173	693,374	638,957
LPEP	24,063	19,939	27,766	25,692	17,384	29,498	32,551
ISA	58,066	100,443	64,555	12,640	63,107	71,999	55,141
GH	120,614	115,081	91,053	144,933	158,325	216,751	120,337
St./Area Ltg.	9,568	62	26,454	26,429	26,567	8,450	26,479
Standby	<u>2,106</u>	<u>257</u>	<u>1,430</u>	<u>411</u>	<u>14,096</u>	<u>0</u>	<u>0</u>
PPUC	5,069,930	4,371,430	4,807,920	5,687,735	6,075,629	5,863,635	5,399,646
		8-Apr-94 <u>800</u>	23-May-94 <u>1600</u>	14-Jun-94 <u>1400</u>	20-Jul-94 <u>1800</u>	4-Aug-94 <u>1600</u>	14-Sep-94 <u>1200</u>
RS		1,777,868	1,074,054	1,570,602	2,197,204	1,688,711	957,936
RTS		38,030	18,884	35,881	85,719	37,047	15,824
GS-1		168,553	241,876	309,714	273,085	313,749	222,717
GS-3		962,817	1,237,269	1,510,307	1,122,400	1,328,137	1,380,021
LP-4		626,155	681,160	818,433	733,245	764,943	752,033
LP-5		717,157	734,288	824,846	791,650	794,483	771,198
LPEP		33,260	16,431	33,265	24,438	22,559	5,976
ISA		62,439	71,782	24,179	65,152	51,829	53,523
GH		126,838	87,482	120,054	69,267	89,111	108,139
St./Area Ltg.		62	62	62	62	62	62
Standby		<u>0</u>	<u>0</u>	<u>8,655</u>	<u>0</u>	<u>421</u>	<u>0</u>
PPUC		4,513,179	4,163,288	5,255,998	5,362,222	5,071,052	4,267,429

**Pennsylvania Power & Light Company**  
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- Q.OTS-RE-43D. Reference PP&L Statement 6. Provide the average annual customer usage by customer class for the years 1989 through 1994.
- A.OTS-RE-43D. Attachment 1 provides average annual customer usage by customer class for the years 1989 to 1994 on an actual basis. Attachment 2 provides average use assuming normal weather conditions.

PENNSYLVANIA POWER & LIGHT COMPANY  
 AVERAGE KWH USE - INCLUDING UGI

	TOTAL COMPANY	----- ELEC HEAT	RESIDENTIAL GENERAL	----- TOTAL	COMMERCIAL	INDUSTRIAL	OTHER
1989	25,057	17,522	7,158	10,064	65,276	1,602,803	964,045
1990	24,883	16,743	7,199	9,947	65,814	1,592,102	969,015
1991	24,885	16,633	7,384	10,101	67,197	1,556,197	1,016,102
1992	25,234	17,281	7,191	10,207	67,645	1,611,226	1,091,198
1993	26,019	17,466	7,470	10,503	69,268	1,685,252	1,238,559
1994	26,779	17,996	7,565	10,767	70,783	1,790,862	1,306,508

PENNSYLVANIA POWER & LIGHT COMPANY  
 AVERAGE KWH USE - INCLUDING UGI  
 ADJUSTED FOR WEATHER

	TOTAL COMPANY	----- ELEC HEAT	RESIDENTIAL GENERAL	----- TOTAL	COMMERCIAL	INDUSTRIAL	OTHER
1989	25,073	17,531	7,170	10,075	65,325	1,602,803	964,992
1990	25,407	18,230	7,275	10,430	66,594	1,592,102	977,950
1991	25,131	17,733	7,297	10,362	67,322	1,556,197	1,017,421
1992	25,517	17,766	7,313	10,437	68,271	1,611,226	1,099,985
1993	25,930	17,707	7,320	10,472	68,807	1,685,252	1,229,669
1994	26,545	17,683	7,444	10,588	70,218	1,790,862	1,294,929

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Q.OTS-RE-44D. Reference PP&L Statement 6.

- a) Provide the change in customers by rate class for the twelve-month periods ending September 30, 1989 through September 30, 1994.
- b) Provide the change in customers for the future test year.

A.OTS-RE-44D. Attachment 1 provides the change in year-end customers for the twelve-month ended historical periods from September 30, 1989 through September 30, 1994. It also provides the increase in customers for the future test year ended September 30, 1995.

**Pennsylvania Power and Light Company**  
**Change in Year-end Customers Over Prior Year**  
**12 Months Ended September 30**

	Historical Years						Future
	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	Test Yr. <u>1995</u>
RS	15,702	13,258	9,869	9,571	11,514	10,517	17,462
RTS	2,164	2,035	1,769	1,407	973	609	485
RTD	33	21	6	1	21	17	13
GS-1	3,021	2,142	1,747	743	1,144	1,319	2,161
GS-3	689	744	329	811	516	516	382
LP-4	11	3	10	30	-10	7	11
LP-5	-1	-4	2	4	1	-1	1
LPEP	0	0	0	0	0	1	0
ISA	1	0	0	0	0	0	0
IS-1	0	0	0	0	0	1	0
IS-2	0	-1	0	-3	0	0	0
ISL	0	1	0	-1	0	0	0
BL	-4	-3	-1	7	-7	-2	1
SA	0	0	0	0	0	0	0
SM	-117	-60	-28	-51	-21	-8	-14
SHS	89	38	53	94	94	67	32
SE	3	5	3	4	1	2	-1
TS	0	-1	0	0	0	0	0
SI-1	-6	-1	-3	-1	0	0	0
GH-1	-32	-20	-40	-41	-35	-34	-48
GH-2	-94	-55	-52	-69	-54	-50	-44
Standby	0	8	1	-1	0	1	0
FERC	0	0	0	0	0	0	0
UGI	0	0	0	0	0	0	0
<b>Total</b>	<b>21,459</b>	<b>18,110</b>	<b>13,665</b>	<b>12,505</b>	<b>14,137</b>	<b>12,964</b>	<b>20,441</b>

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Q.OTS-RE-45D. Reference PP&L Exhibit JJS-1.

- a) Provide the calculation in detail used to generate the 1993 weather normalized sales by customer class.
- b) If the thirty-year NOAA methodology was not employed, restate the 1993 sales using the thirty-year NOAA average degree days.
- c) Provide a list of all adjustments to the future test years to reflect the use of a NOAA 30 year weather normalization and include the supporting calculations.

A.OTS-RE-45D. a) Attachment 1, pages 1-2, shows 1993 actual sales, weather adjustments, and weather-normalized sales for the classes which show weather sensitivity. Industrial sales are not weather sensitive. The calculation of the weather adjustments are based on the following data which are described below and included as part of Attachment 1.

- Normal and actual weather (p. 3) - PP&L does not use NOAA degree days calculated on a 65° F base. Analysis of PP&L system output and average temperature indicates that more appropriate bases for weather-normalization are 55° F for heating degree days and 70° F for cooling degree days. The use of alternative bases in calculating degree days implicitly recognizes a range of temperature between 55° F and 70° F where only base load occurs and weather does not significantly impact PP&L's daily electric use. The normal and actual weather data used are based on a representation of weather during each billing month rather than a calendar month, because customers billed early in each month actually used much of their electricity in the previous month.

- Customers (p. 4) - The number of customers billed in each class during the month.
- Billing factor (p. 4) - The billing factor is the average number of days billed in a month divided by 30.
- Weather response per customer per degree day variance from normal (p. 5) - This is the expected KWH response per customer in a given class for a change of one degree day from the normal number of billing month degree days. The heating response is used for January through May and October through December. The cooling response is used for June through September.

Each class' monthly weather adjustment is calculated using the following formula:

$$\begin{aligned} \text{Weather adjustment} &= \text{Response per customer per degree} \\ &\quad \text{day} \\ &\quad \times (\text{Billing month degree day variance} \\ &\quad \quad \text{from normal}) \\ &\quad \times (\text{Number of billed customers}) \\ &\quad \times (\text{Billing factor}) \end{aligned}$$

- b) The sales for 1993 cannot be restated using thirty-year NOAA average degree days and PP&L's weather-normalization equations shown above. The coefficients in those equations representing the response per customer per degree day were the result of analysis of sales, customers, and billing month degree days on 55° F and 70° F bases. The equations can only be used with data having the same definitions as that used in their estimation. Degree days on a 65° F base do not meet that criteria. In order to use NOAA degree days on a 65° F base in weather-normalization, a separate study would be necessary to determine the specification of the equation (linear or non-linear) and the coefficients of the equation.
- c) A change to NOAA 30-year average degree days would not change the long-term forecast because the model does not use weather-normalized sales as an input. Rather, it uses actual historical sales and actual degree days.

PENNSYLVANIA POWER & LIGHT COMPANY  
WEATHER NORMALIZED MWH SALES

MONTH	ELECTRICALLY HEATED HOMES			GENERAL RESIDENTIAL			COMMERCIAL		
	ACTUAL MWH	WEATHER ADJUSTMENT	WEATHER NORMALIZED MWH	ACTUAL MWH	WEATHER ADJUSTMENT	WEATHER NORMALIZED MWH	ACTUAL MWH	WEATHER ADJUSTMENT	WEATHER NORMALIZED MWH
JAN93	711,920	126,286	838,205	515,154	26,439	541,593	829,063	38,463	867,526
FEB93	738,292	67,189	805,481	480,982	14,039	495,020	844,942	20,449	865,391
MAR93	741,144	-98,602	644,542	478,048	-20,163	457,885	827,164	-29,364	797,800
APR93	520,483	-4,362	516,102	431,185	-910	430,278	745,336	-1,327	744,009
MAY93	313,460	23,779	337,239	373,011	4,956	377,967	708,134	7,242	715,376
JUN93	278,812	-3,671	276,141	402,086	-10,356	391,730	736,336	-7,675	728,661
JUL93	324,720	-22,011	302,708	530,954	-62,014	468,940	829,748	-46,000	783,748
AUG93	301,824	-9,677	292,147	488,292	-27,239	461,054	800,649	-20,249	780,401
SEP93	311,302	-12,745	298,556	494,595	-35,755	458,840	819,739	-26,549	793,190
OCT93	311,704	-9,824	301,881	393,444	-2,028	391,417	713,759	-2,980	710,779
NOV93	427,834	-12,400	415,434	407,731	-2,554	405,177	723,282	-3,754	719,528
DEC93	589,714	30,893	620,607	475,016	6,346	481,361	795,235	9,326	804,561
	5,572,188	76,855	5,649,043	5,470,499	-109,239	5,361,260	9,373,388	-62,418	9,310,971

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING.

PENNSYLVANIA POWER & LIGHT COMPANY  
 WEATHER NORMALIZED MWH SALES  
 -----

MONTH	OTHER			TOTAL COMPANY			
	ACTUAL MWH	FERC WEATHER ADJUSTMENT	UGI WEATHER ADJUSTMENT	WEATHER NORMALIZED MWH	ACTUAL MWH	WEATHER ADJUSTMENT	WEATHER NORMALIZED MWH
JAN93	137,747	4,625	8,396	150,769	2,883,805	204,209	3,088,014
FEB93	135,535	2,750	-2,107	136,177	2,945,330	102,319	3,047,649
MAR93	146,445	-3,586	-3,947	138,912	2,950,822	-153,682	2,797,161
APR93	122,773	-251	1,305	123,827	2,551,700	-5,544	2,546,156
MAY93	103,280	916	1,003	105,200	2,235,972	37,897	2,273,869
JUN93	103,994	-891	-1,200	101,903	2,305,162	-23,793	2,281,369
JUL93	120,844	-3,854	-3,419	113,571	2,573,414	-137,299	2,436,116
AUG93	121,031	-4,377	-1,928	114,726	2,495,717	-63,469	2,432,248
SEP93	123,642	-3,000	-618	120,024	2,552,788	-78,668	2,474,120
OCT93	137,127	-275	-134	136,718	2,319,953	-15,240	2,304,713
NOV93	127,913	-304	-435	127,174	2,461,132	-19,447	2,441,685
DEC93	154,243	616	-301	154,558	2,774,376	46,879	2,821,255
	1534575	-7,629	-3,386	1523560	31,050,172	-105,817	30,944,355

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING.

PENNSYLVANIA POWER & LIGHT COMPANY  
 1993  
 WINTER AND SUMMER WEATHER PARAMETERS  
 =====

	JAN	FEB	MAR	APR	MAY	JUN	JUL
<b>BILLING MONTH WEATHER PARAMETERS</b> =====							
NORMAL WWP	851	864	597	321	86	5	0
ACTUAL WWP	655	755	754	328	47	2	0
NORMAL SWP	0	0	0	0	0	31	101
ACTUAL SWP	0	0	0	0	8	46	191
	AUG	SEP	OCT	NOV	DEC	Y-T-D	
<b>BILLING MONTH WEATHER PARAMETERS</b> =====							
NORMAL WWP	0	2	84	245	542	3,577	
ACTUAL WWP	0	4	80	265	494	3,384	
NORMAL SWP	117	87	4	0	0	320	
ACTUAL SWP	158	119	7	0	0	529	

PENNSYLVANIA POWER AND LIGHT  
MONTHLY CUSTOMERS AND BILLING FACTORS  
USED IN WEATHER NORMALIZATION OF SALES

YEAR	MONTH	BILLING FACTORS	ELECTRIC HEATING	GENERAL RESIDENTIAL	COMMERCIAL
1993	1	1.0533	316283	731791	134419
1993	2	1.0050	317139	732308	134683
1993	3	1.0017	317618	732653	134720
1993	4	1.0150	317411	731582	134727
1993	5	0.9933	317375	731036	134880
1993	6	1.0250	317485	730524	135029
1993	7	1.0217	318331	731490	135319
1993	8	0.9850	318633	731535	135620
1993	9	1.0183	320068	732349	135614
1993	10	0.9883	321210	732755	135973
1993	11	0.9933	322738	734661	136318
1993	12	1.0267	324137	735843	136534

**Weather Response Per Customer Per Degree Day Variance from Normal**  
**(KWH Per Customer Per Degree Day)**

<b><u>Customer Class</u></b>	<b><u>Heating Response</u></b>	<b><u>Cooling Response</u></b>
Electrically Heated Homes	1.934	0.752
General Residential	0.175	0.922
Commercial	1.386	3.697
Resale		
Blakely	1,227	1,094
Catawissa	371	578
Citizens	5,455	6,817
Duncannon	350	1,159
Ephrata	3,637	11,126
Hatfield	266	2,300
Lehighton	1,117	2,919
Mifflinburg	1,512	1,061
Olyphant	712	1,112
Perkasie	1,989	4,390
Quakertown	3,000	8,021
Schuylkill Haven	895	1,235
St. Clair	254	1,045
Watsonstown	206	0
Weatherly	630	0
Kutztown	1,204	1,410
Lansdale	1,587	16,495
Sullivan County	631	403
UGI	33,449	36,373

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

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**Docket No. R-00943271**

Q.OTS-RE-46D. Reference Direct Testimony of Oliver G. Kasper.

- a) Page 5, Lines 8 and 9. Provide the list of names of the several large industrial customers having production facilities in other states.
- b) Page 8, Lines 18 and 19. Provide a list of current, and a list and/or number of prospective customers of the new rate LP-6.
- c) Page 12. Interruptible customers are all interruptible customers required to have a portion of their load as firm, and if so, how is that firm portion calculated?
- d) Page 17. How do the aims of EDI/IDI programs reconcile with the aims of your Demand Side Management program?

A.OTS-RE-46D. (a) (b) The following is a list of customers who may choose to be served under the new Rate Schedule LP-6:

Air Products & Chemicals*	Hercules Cement*
Alumax Mill Products*	Kellogg Co.*
Armstrong World Industries*	Keystone Cement Co.*
AT&T Micro Electronics*	LaFarge Corporation*
Bethlehem Steel Corporation*	Liquid Carbonic, Inc.*
BOC Gases*	Merck and Co.*
Commonwealth of Pennsylvania	Navy Ship Parts*
Essroc Materials, Inc.*	Praxair, Inc.*
	Thomson Consumer*

\* Customers who have production facilities in other states.

- c) Interruptible service customers are not required to have a portion of their load as firm.
- d) The purpose of PP&L's EDI/IDI programs is to encourage economic development in its service area by saving jobs and creating new jobs. Participants in the program receive credits for increasing production or expanding physical plant. Not only do the participants benefit from the programs, non-participants

benefit as well. Additional load on the system that results from economic development activities spreads fixed costs over a broader base, thus keeping individual customer rates lower than would otherwise be the case.

Demand Side Management (DSM) programs are intended to promote the most effective use of electricity. DSM programs are designed to change the usage of electricity on the customer's side of the meter in an attempt to alter load shape and reduce utility costs. DSM programs encourage energy efficiency, provide rate options for load shaping flexibility, and encourage the use of electricity to improve efficiency and productivity. A reduction in the growth of the summer and winter peaks may help to defer the need for the additional generation and helps keep overall rates lower.

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- Q.15. Please refer to page 8, lines 2-4. Please provide each class' contribution to the monthly peak demand for each of the past five years. Please provide this information on a computer disk.
- A.15. Attachment I provides class contributions to monthly peak demands for October 1989 to September 1994. A disk marked "OCA Set III Q.15" also is being provided with this data in an Excel spreadsheet format.

PENNSYLVANIA POWER & LIGHT COMPANY  
CLASS CONTRIBUTION TO MONTHLY PEAK DEMAND

DATE	HOUR ENDED	RS	RTS	GS1	GS3	LP4	LP5	LPEP	ISA	GH	SLAL	L55	PPUC
19OCT89	1900	1,714,502		152,283	760,374	523,228	680,231	722	95,093	87,696	19,904	15,684	4,049,717
21NOV89	1900	2,350,240		185,730	856,154	596,984	634,093	1,031	11,056	137,772	26,348	7,734	4,807,143
22DEC89	900	2,824,365		258,933	1,070,610	589,261	640,464	515	15,076	262,586	64	16,911	5,678,786
08JAN90	1800	2,238,840		203,388	863,980	530,518	642,270	3,401	57,118	132,385	26,135	9,897	4,707,932
26FEB90	800	2,591,847		259,772	967,117	613,035	616,782	1,443	22,724	251,130	64	12,237	5,336,149
07MAR90	800	2,300,874		204,120	965,145	632,524	623,560	2,989	81,310	215,606	64	4,484	5,030,676
09APR90	900	1,718,211		213,675	964,283	578,919	631,592	1,236	21,561	167,926	64	330	4,297,797
17MAY90	1200	978,351		258,458	1,116,512	667,483	693,275	618	92,195	118,781	64	4,268	3,930,006
29JUN90	1400	1,384,317		313,926	1,176,179	666,671	696,475	1,133	19,475	109,489	64	3,320	4,371,049
19JUL90	1700	1,741,356		295,149	1,108,459	665,890	721,070	206	97,496	91,327	64	825	4,707,844
28AUG90	1700	1,754,375		244,537	1,078,155	640,088	731,740	1,031	108,166	93,580	64	4,155	4,655,890
07SEP90	1400	1,169,379		291,494	1,218,196	673,091	739,983	928	14,767	125,056	64	3,651	4,236,610
30OCT90	800	1,668,914		179,260	871,673	552,686	659,425	1,957	61,944	143,237	64	3,503	4,142,664
12NOV90	1800	2,023,397		235,563	839,963	532,887	645,902	412	79,323	104,890	25,790	10,765	4,498,892
05DEC90	1800	2,250,523		280,337	922,686	556,465	681,128	309	107,437	123,931	25,800	0	4,948,615
22JAN91	800	2,573,018	36,439	208,107	989,544	607,716	620,356	3,298	81,624	232,837	12,548	0	5,365,487
12FEB91	800	2,258,224	36,212	204,662	973,819	628,658	630,316	1,958	104,503	213,785	3,506	0	5,055,644
12MAR91	800	2,005,620	32,376	188,590	965,686	589,109	606,193	1,134	70,725	193,273	64	0	4,652,769
03APR91	800	1,661,859	25,779	178,385	906,469	579,719	595,300	1,443	85,367	155,225	64	2,475	4,192,088
30MAY91	1500	1,350,854	22,183	362,899	1,301,375	704,956	721,474	516	12,681	126,883	64	619	4,604,505
17JUN91	1700	1,750,787	27,072	269,001	1,095,841	631,385	693,846	1,856	77,790	88,168	62	0	4,635,808
23JUL91	1400	1,774,819	31,269	341,007	1,352,408	718,357	711,626	1,237	76,987	113,126	62	1,030	5,121,926
29AUG91	1700	1,931,636	30,740	253,834	1,120,545	644,761	739,874	0	88,427	96,478	62	155	4,906,512
17SEP91	1700	1,756,553	30,841	239,732	1,121,934	667,356	725,900	1,134	55,344	102,274	62	3,502	4,704,631
21OCT91	900	1,527,798	20,489	195,392	1,039,890	583,510	633,633	1,031	15,384	143,126	62	9,321	4,169,637
27NOV91	800	2,045,792	40,062	168,406	974,380	645,991	658,610	7,005	17,924	173,789	4,367	7,057	4,743,383
19DEC91	800	2,530,323	45,429	204,149	1,004,186	644,905	685,366	2,784	102,526	207,500	12,720	0	5,439,888
16JAN92	1800	2,629,219	190,148	243,497	1,040,718	599,042	668,962	1,237	103,858	171,022	26,321	0	5,674,025
10FEB92	800	2,581,000	47,006	208,180	1,038,853	620,918	650,919	3,710	21,255	230,324	4,871	0	5,407,036
16MAR92	900	2,151,159	30,677	223,067	1,109,411	625,908	678,322	0	23,891	222,867	62	0	5,065,365
02APR92	2000	1,978,114	111,695	208,867	832,443	523,079	673,795	1,030	99,975	108,521	26,267	0	4,563,787
08MAY92	1100	1,227,036	16,321	237,923	1,050,085	585,282	687,069	720	26,785	114,286	62	412	3,945,981
08JUN92	1400	1,168,874	17,927	236,084	1,337,616	705,713	731,099	26,358	14,903	112,989	62	1,904	4,353,528
14JUL92	1500	1,547,926	25,367	326,146	1,319,972	717,807	723,398	8,648	88,253	99,547	62	5,613	4,862,738
27AUG92	1400	1,422,599	26,574	322,106	1,384,544	745,833	759,127	4,428	11,199	108,126	62	0	4,784,597
10SEP92	1300	1,159,757	18,707	295,597	1,410,469	764,540	769,559	927	15,293	132,941	62	1,791	4,569,643
20OCT92	900	1,590,159	26,448	227,845	1,098,280	622,853	698,990	1,030	101,608	161,544	62	2,319	4,531,139
16NOV92	900	1,947,675	30,342	184,240	1,025,972	607,500	698,560	825	16,852	161,924	62	659	4,674,612
10DEC92	1800	2,482,592	172,081	210,223	885,129	550,950	662,390	1,133	105,832	112,105	26,388	1,535	5,210,359
11JAN93	1800	2,324,146	200,354	200,504	1,005,610	593,991	664,344	618	84,808	133,970	26,462	1,030	5,235,837
02FEB93	800	2,776,300	54,779	212,995	1,072,135	666,967	699,064	18,123	62,787	226,599	8,422	3,296	5,801,467
19MAR93	800	2,585,794	49,206	205,648	1,015,736	640,579	695,530	35,238	73,257	215,631	62	3,493	5,520,174
05APR93	900	1,700,102	21,039	216,308	1,021,284	607,959	686,860	25,668	23,658	148,658	62	753	4,452,351
11MAY93	1700	1,287,006	17,363	256,275	1,063,407	662,644	736,420	30,900	94,860	91,429	62	0	4,240,367
18JUN93	1700	1,644,508	25,728	272,840	1,152,130	692,686	705,290	24,625	76,424	84,879	62	0	4,679,172
08JUL93	1400	1,824,412	22,318	357,509	1,348,222	698,995	723,022	27,913	38,470	100,406	62	0	5,141,329
26AUG93	1700	1,946,102	28,362	308,383	1,189,282	705,507	732,175	32,519	100,105	88,976	62	0	5,131,474
03SEP93	1500	1,694,202	23,306	299,736	1,286,223	738,492	745,320	16,054	95,787	103,450	62	432	5,003,065
14OCT93	1000	1,420,771	17,930	204,180	1,133,376	641,391	718,000	19,939	100,443	115,081	62	257	4,371,430
01NOV93	1900	2,085,239	145,053	166,506	909,008	588,428	702,429	27,766	64,555	91,053	26,454	1,430	4,807,920
29DEC93	1800	2,859,449	239,246	255,558	955,976	554,184	613,216	25,692	12,640	144,933	26,429	411	5,687,734
18JAN94	1900	3,147,834	257,775	233,183	944,101	584,084	629,174	17,384	63,107	158,325	26,567	14,096	6,075,629
02FEB94	800	2,716,675	54,638	239,908	1,143,503	688,839	693,373	29,498	71,999	216,751	8,450	0	5,863,634
02MAR94	1900	2,717,379	218,542	199,901	821,069	569,289	638,957	32,551	55,141	120,337	26,479	0	5,399,646
08APR94	800	1,777,868	38,030	168,553	962,817	626,155	717,157	33,260	62,439	126,838	62	0	4,513,178
23MAY94	1600	1,074,055	18,884	241,876	1,237,269	681,160	734,289	16,431	71,782	87,482	62	0	4,163,289
15JUN94	1400	1,570,601	35,882	309,714	1,510,307	818,433	824,846	33,265	24,179	120,054	62	8,655	5,255,998
20JUL94	1800	2,197,204	85,719	273,085	1,122,400	733,245	791,650	24,438	65,152	69,267	62	0	5,362,223
04AUG94	1600	1,668,712	37,047	313,749	1,328,137	764,943	794,483	22,559	51,829	89,111	62	421	5,071,052
14SEP94	1200	957,936	15,824	222,717	1,380,021	752,033	771,198	5,976	53,523	108,139	62	0	4,267,428

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- Q.16. Please refer to page 8, lines 6-12. Please provide copies of the calculations described.
- A.16. Attachment 1, pages 1-32, provides the calculations of forecasted class average monthly peak contributions. For each class, there are two pages of regression results quantifying the relationship between 12 month ended average monthly energy sales and 12 month ended average monthly peak contribution. These are followed by two pages showing the resulting forecast of average monthly peak contribution.

To determine a rate class' contribution to a particular monthly peak in the forecast period, its average monthly contribution is multiplied by 12, and the monthly contributions during the prior 11 months are subtracted. The results of this calculation are shown on Page 33 of Attachment 1.

Finally, the sum of the forecasts of rate class contributions to monthly peaks are compared to the forecast of monthly peaks. Any difference is allocated proportionately to the classes. These results are shown on Page 34 of Attachment 1.

Page 35 of Attachment 1 shows the calculation of the 12 CP demand allocators from the class monthly peak contributions. For small classes, such as RTS, LPEP, ISA, and Standby, estimates of monthly contributions to peak are based on experience during the historic test year. RTS is subtracted from the sum of Electrically Heated Homes and General Residential contributions to get a final RS value. LPEP, ISA, and Standby are subtracted from the total LP5 shown on page 34 to get a final LP5 contribution.

**Pennsylvania Power and Light Company  
Contributions to Monthly System Peaks  
Generation Level - in KW  
Year Ended September 30, 1995**

	<u>12 Month Average</u>	<u>Oct-94</u>	<u>Nov-94</u>	<u>Dec-94</u>	<u>Jan-95</u>	<u>Feb-95</u>	<u>Mar-95</u>
RS	2,044,232	1,537,435	2,232,748	2,925,201	3,032,158	2,597,287	2,669,174
RTS	97,365	18,996	144,141	201,949	264,780	49,372	259,073
GS-1	268,662	248,251	211,006	290,663	273,982	263,260	232,082
GS-3	1,224,068	1,218,025	1,024,575	1,041,450	1,106,975	1,258,680	955,759
LP-4	693,487	624,527	591,035	542,026	616,091	735,148	605,395
LP-5	767,820	779,419	754,574	568,703	694,126	780,376	710,985
LPEP	23,258	23,787	21,930	19,739	22,488	24,362	24,362
ISA	66,294	62,222	62,222	71,437	68,034	70,992	70,992
GH	128,090	148,321	119,888	168,874	154,915	197,596	120,087
St./Area Ltg.	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Standby	<u>2.100</u>	<u>250</u>	<u>1.430</u>	<u>410</u>	<u>14.040</u>	<u>0</u>	<u>0</u>
PPUC	5,325,375	4,671,233	5,173,547	5,840,452	6,257,587	5,987,073	5,657,909
		<u>Apr-95</u>	<u>May-95</u>	<u>Jun-95</u>	<u>Jul-95</u>	<u>Aug-95</u>	<u>Sep-95</u>
RS		1,907,698	1,336,961	1,439,838	1,992,308	1,603,993	1,255,983
RTS		33,547	46,106	41,611	46,362	43,391	19,048
GS-1		206,475	272,321	309,271	302,259	344,760	269,608
GS-3		1,099,849	1,333,265	1,476,612	1,212,759	1,421,007	1,539,860
LP-4		667,855	724,197	773,975	794,739	816,179	830,682
LP-5		794,913	791,879	769,615	883,941	832,084	853,227
LPEP		26,236	24,362	24,362	22,488	22,488	22,488
ISA		69,513	68,034	66,555	66,555	47,981	70,992
GH		144,226	97,234	110,877	66,755	90,223	118,083
St./Area Ltg.		10,000	10,000	10,000	10,000	10,000	10,000
Standby		<u>0</u>	<u>0</u>	<u>8.650</u>	<u>0</u>	<u>420</u>	<u>0</u>
PPUC		4,960,312	4,704,359	5,031,366	5,398,166	5,232,526	4,989,971

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Q.18. Please provide work papers showing the development of all allocators and direct assignments used in performing the calculations for JMK 2. Specifically, provide class coincident and non-coincident monthly demands showing the development of the demand allocators. Identify and show the development of allocators WCAP and ED00N, appearing at pages 63, line 50, and page 87, line 14, respectively.

A.18. Attachment 1 provides class non-coincident demands (class maximum demands) for the 12-months ended September 30, 1995. Average ratios of historical class maximum demands to the class average contribution to peak are applied to the forecast of contribution to peak to calculate forecasted class maximum demands.

Attachment 2 provides customer allocators for the 12-months ended September 30, 1995. PP&L forecasts average annual customers, it does not forecast monthly customers. Because average customer levels are close to mid-year customer levels, customer numbers for September 1995, which is three months beyond mid-year, are estimated by taking three-twelfths of the change in average customers from 1995 to 1996 and adding it to 1995 average customers.

Attachment 3 provides energy allocators for the 12-months ended September 30, 1995. Energy allocators at the sales level for the future test year are a combination of the forecast of sales by rate schedule and the sales annualization adjustment by rate schedule. To obtain energy of sales at the generation level, a loss factor is applied to the voltage level at which the rate schedule is served.

Attachment 4 provides the information used to develop allocators WCAP and ED00N. Allocator WCAP is used to assign the Company's cash working capital requirement associated with its test year level of operation and maintenance expenses as shown on Page 2 of Exhibit Future 1, Schedule C-4. Allocator ED00N is used to assign the nuclear portion of annual depreciation and amortization expense and is identical to Allocator

ED07. Pages 33, 54, 95, and 96 of Exhibit JMK 2 provide the remaining non-program generated allocators which generally are self-explanatory. The weighted customer allocators consist of the CW series. Allocator CW1, based on a review of the cost of meters for each rate class, is used to assign meter investment. Allocator CW2, based on a review of the cost of reading large power and other meters, is used to assign meter reading expense. Allocator CW4, based on a review of actual late payments charged to rate classes, is used to assign late payment charges. Allocator CW5, based on a review of write-offs by rate class, is used to assign uncollectible accounts expense. Allocators CW6 and CW7 are used to directly assign customer deposits and customer advances based on historical activity. Allocators CW8 and CW9, based on a review of the number of customers taking single phase, two-phase, and three-phase service, are used to assign line transformers.

### Class Maximum Demand - Generation Level

	<u>Contri. to Peak</u>				<u>Class Max.</u>				<u>Ratio</u>			
	<u>Actual 1992</u>	<u>Actual 1993</u>	<u>Actual HTY 9/94</u>	<u>Forecast FTY 9/95</u>	<u>Actual 1992</u>	<u>Actual 1993</u>	<u>Actual HTY 9/94</u>	<u>Forecast FTY 9/95</u>	<u>Actual 1992</u>	<u>Actual 1993</u>	<u>Actual HTY 9/94</u>	<u>Avg.</u>
GRS	865	996	981	997	1,291	1,476	1,487	1,492	1.4925	1.4819	1.5158	1.4967
EHH	1,018	1,087	1,132	1,144	1,824	1,990	2,338	2,169	1.7917	1.8307	2.0654	1.8959
GS1	244	246	236	269	430	422	403	465	1.7623	1.7154	1.7076	1.7285
GS3	1,128	1,096	1,121	1,224	1,410	1,413	1,522	1,590	1.2500	1.2892	1.3577	1.2990
LP4	639	649	667	694	765	794	818	844	1.1972	1.2234	1.2264	1.2157
LP5	758	795	803	859	861	900	947	987	1.1359	1.1321	1.1793	1.1491
GH	145	129	121	128	236	237	226	228	1.6276	1.8372	1.8678	1.7775
SL	7	7	10	10	26	27	27	27	3.7143	3.8571	2.7000	3.4238
R12	35	37	37	38	41	43	44	45	1.1714	1.1622	1.1892	1.1743
R66	114	117	118	125	134	140	152	153	1.1754	1.1966	1.2881	1.2201
UGI	82	93	95	96	124	139	151	147	1.5122	1.4946	1.5895	1.5321
COUSE	21	21	20	23	31	40	38	40	1.4762	1.9048	1.9000	1.7603
SYSTEM	5,056	5,273	5,341	5,607	7,173	7,621	8,153	8,186				

Forecast for FTY class maximums based on historic relationship between class maximum and contribution to peak.

**PP&L***Future Test Year Customers*

<b>Rate Class</b>	<b>1995 Avg. Cust.</b>	<b>Sept 1995 Yr End Cust</b>	<b>1996 Avg Cust</b>
RS	1,063,101	1,066,365	1,076,156
RTS	14,440	14,544	14,855
RTD	320	323	330
GS-1	121,071	121,387	122,333
GS-3	18,895	18,944	19,092
IS-1	4	4	4
LP4	840	843	850
LP5	119	119	120
LPEP	1	1	1
ISA	1	1	1
GH1	1,580	1,570	1,540
GH2	2,915	2,903	2,865
BL	24	24	24
STL	1,000	1,010	1,040
Standby	9	9	9
RESALE 12KV	9	9	9
RESALE 66KV	9	9	9
UGI	1	1	1
<b>TOTALS</b>	<b>1,224,339</b>	<b>1,228,066</b>	<b>1,239,239</b>

**Pennsylvania Power and Light Company**  
**12 Months Ended September 30, 1995**  
**Energy Allocators**  
**(Thousand kWh)**

	<u>Sales</u>	<u>Annualization Adjustment</u>	<u>Annualized Sales</u>	<u>Loss Factor</u>	<u>Annualized Energy</u>
RS	10,899,001	102,080	11,001,081	0.08047231	11,886,363
RTS	385,160	7,347	392,507	0.08047231	424,093
GS-1	1,496,385	34,935	1,531,320	0.08047231	1,654,549
GS-3	6,709,042	71,335	6,780,377	0.08047231	7,326,012
IS-1	3,828	-	3,828	0.08047231	4,136
LP-4	4,521,059	87,745	4,608,804	0.05364821	4,856,058
LP-5	5,587,277	141,796	5,729,073	0.0268241	5,882,751
LPEP	148,928	-	148,928	0.0268241	152,923
ISA	540,441	-	540,441	0.0268241	554,938
GH-1	462,090	(14,239)	447,851	<u>1/</u>	483,622
GH-2	97,756	1,009	98,765	0.08047231	106,713
BL	5,508	207	5,715	0.08047231	6,175
St. Ltg.	107,737	(1,938)	105,799	0.08047231	114,314
Standby	<u>11,598</u>	<u>-</u>	<u>11,598</u>	0.0268241	<u>11,909</u>
	<b>30,975,810</b>	<b>430,277</b>	<b>31,406,087</b>		<b>33,464,556</b>

1/ 437,910 of GH-1 is served at secondary voltage  
9,941 of GH-1 is served at primary voltage

FUTURE TEST YEAR COST ALLOCATION

PENNSYLVANIA POWER & LIGHT COMPANY  
 COST ALLOCATION DETAILS - FUTURE TEST YEAR ENDED 9/30/95

PART 1

\$1,000

ASSIGNMENT TO ATLANTIC CITY ELECTRIC, JERSEY CENTRAL POWER & LIGHT, AND BALTIMORE GAS & ELECTRIC

	INPUT	ALLOC	OUTPUT	COST DATA REFERENCE	TOT ELECTRIC DEPARTMENT	ATLANTIC CITY	JCP&L	BG&E	NET ELECTRIC DEPARTMENT
1	PROGRAM GENERATED ALLOCATORS								
2	AND DETAIL OF COMPONENTS								
3	EXP APPLICABLE FOR WORKING CASH								
4	TOTAL O & M BEFORE ADJUST			EE80	1,511,326	18,257	114,578	19,938	1,358,553
5	DEMAND COMPONENT			EE80D	386,757	2,530	33,698	10,731	339,798
6	ENERGY COMPONENT			EE80E	977,671	15,727	80,880	9,207	871,857
7	CUSTOMER COMPONENT			EE80C	146,897	0	0	0	146,897
8	LESS UNCOLLECTIBLE			EE51	16,932	0	0	0	16,932
9	TOTAL APPLICABLE EXPENSE			WCAP	1,571,676	20,001	122,147	21,140	1,408,388
10	DEMAND COMPONENT			WCAPD	457,750	4,296	41,537	12,027	399,890
11	ENERGY COMPONENT			WCAPE	985,915	15,705	80,610	9,113	880,487
12	CUSTOMER COMPONENT			WCAPC	128,011	0	0	0	128,011
13	TOTAL DEPRECIATION AND								
14	AMORTIZATION EXPENSE								
15	NUCLEAR			ED00N	187,579	0	20,981	12,380	154,218
16	NON-NUCLEAR			ED000	195,808	2,880	13,540	430	178,958
17	DEMAND COMPONENT			ED000D	159,098	2,880	13,540	430	142,248
18	CUSTOMER COMPONENT			ED000C	36,710	0	0	0	36,710
19	DEPRECIATION & AMORTIZATION			ED00	383,387	2,880	34,521	12,810	333,176
20	DEMAND COMPONENT			ED00D	346,677	2,880	34,521	12,810	296,466
21	CUSTOMER COMPONENT			ED00C	36,710	0	0	0	36,710

FUTURE TEST YEAR COST ALLOCATION

PENNSYLVANIA POWER & LIGHT COMPANY  
 COST ALLOCATION DETAILS - FUTURE TEST YEAR ENDED 9/30/95

PART 2

\$1,000

ASSIGNMENT TO FERC SYSTEM SUPPLY CUSTOMERS  
 CAPACITY ALLOCATION METHOD-MONTHLY PEAK RESPONSIBILITY

PROGRAM GENERATED ALLOCATORS AND DETAIL OF COMPONENTS	INPUT	ALLOC	OUTPUT	NET ELECTRIC DEPARTMENT	SYSTEM	SUPPLY	RESALE	UGI	PENNA. JURISDICT
					TRANSMISSION	PRIMARY	TOTAL		
3 EXP APPLICABLE FOR WORKING CASH									
4 TOTAL O & M BEFORE ADJUST			EE80	1,358,553	24,360	8,070	32,430	16,962	1,309,161
5 DEMAND COMPONENT			EE80D	339,875	6,410	2,349	8,759	4,881	326,235
6 ENERGY COMPONENT			EE80E	871,909	17,934	5,713	23,647	12,081	836,181
7 CUSTOMER COMPONENT			EE80C	146,769	16	8	24	0	146,745
8 LESS UNCOLLECTIBLE			EE51	16,932	0	0	0	0	16,932
9 TOTAL APPLICABLE EXPENSE			WCAP	1,341,621	24,360	8,070	32,430	16,962	1,292,229
10 DEMAND COMPONENT			WCAPD	339,875	6,410	2,349	8,759	4,881	326,235
11 ENERGY COMPONENT			WCAPE	871,909	17,934	5,713	23,647	12,081	836,181
12 CUSTOMER COMPONENT			WCAPC	129,837	16	8	24	0	129,813
13 TOTAL-DEPRECIATION AND 14 AMORTIZATION EXPENSE									
15 NUCLEAR			ED00N	154,218	3,363	1,030	4,393	2,657	147,168
16 NON-NUCLEAR			ED00D	178,958	2,493	870	3,363	1,966	173,629
17 DEMAND COMPONENT			ED00D	142,248	2,489	868	3,357	1,966	136,925
18 CUSTOMER COMPONENT			ED00C	36,710	4	2	6	0	36,704
19 DEPRECIATION & AMORTIZATION			ED00	333,176	5,856	1,900	7,756	4,623	320,797
20 DEMAND COMPONENT			ED00D	296,466	5,852	1,898	7,750	4,623	284,093
21 CUSTOMER COMPONENT			ED00C	36,710	4	2	6	0	36,704

FUTURE TEST YEAR COST ALLOCATION

PENNSYLVANIA POWER & LIGHT COMPANY  
 COST ALLOCATION DETAILS - FUTURE TEST YEAR ENDED 9/30/95

PART 3

PPUC JURISDICTIONAL COST ALLOCATION  
 CAPACITY ALLOCATION METHOD-MONTHLY PEAK DEMAND RESPONSIBILITY

	INPUT	ALLOC	OUTPUT	TOTAL PENNA. JURISDICT	RS	RTS	GS-1	GS-3	LP-4	
1	PROGRAM GENERATED ALLOCATORS									
2	AND DETAIL OF COMPONENTS									
3	EXP APPLICABLE FOR WORKING CASH									
4	TOTAL O & M BEFORE ADJUST									
5			EE80	1,309,161	543,441	19,098	73,177	265,751	162,688	
6			EE80D	326,234	131,174	6,617	17,304	76,959	40,366	
7			EE80E	836,181	297,004	10,597	41,497	183,159	121,338	
8			EE80C	146,745	115,263	1,884	14,377	5,632	984	
9			EE51	16,932	13,795	121	1,182	1,375	339	
10	TOTAL APPLICABLE EXPENSE			1,292,229	529,646	18,977	71,995	264,376	162,349	
11			WCAPD	326,234	131,174	6,617	17,304	76,959	40,366	
12			WCAPE	836,181	297,004	10,597	41,497	183,159	121,338	
13			WCAPC	129,813	101,468	1,763	13,195	4,257	645	
14	TOTAL DEPRECIATION AND AMORTIZATION EXPENSE									
15			ED00N	147,168	56,494	2,690	7,424	33,828	19,164	
16			ED00O	173,629	82,444	3,403	11,020	33,857	16,371	
17			ED00D	136,925	56,296	2,940	7,445	32,599	16,217	
18			ED00C	36,704	26,148	463	3,575	1,258	154	
19	DEPRECIATION & AMORTIZATION			ED00	320,797	138,938	6,093	18,444	67,685	35,535
20			ED00D	284,093	112,790	5,630	14,869	66,427	35,381	
21			ED00C	36,704	26,148	463	3,575	1,258	154	

FUTURE TEST YEAR COST ALLOCATION

PENNSYLVANIA POWER & LIGHT COMPANY  
 COST ALLOCATION DETAILS - FUTURE TEST YEAR ENDED 9/30/95

PART 3

PPUC JURISDICTIONAL COST ALLOCATION  
 CAPACITY ALLOCATION METHOD-MONTHLY PEAK DEMAND RESPONSIBILITY

1 PROGRAM GENERATED ALLOCATORS 2 AND DETAIL OF COMPONENTS	INPUT	ALLOC	OUTPUT	LP-5	LPEP	ISA	GH	SL/AL	STANDBY
3 EXP APPLICABLE FOR WORKING CASH									
4 TOTAL O & M BEFORE ADJUST		EEBO		187,585	5,061	17,371	24,074	10,507	408
5 DEMAND COMPONENT		EEBDD		40,076	1,215	3,461	8,273	679	110
6 ENERGY COMPONENT		EEBOE		146,993	3,821	13,865	14,752	2,857	298
7 CUSTOMER COMPONENT		EEBOC		516	24	45	1,049	6,971	0
8 LESS UNCOLLECTIBLE		EE51		120	0	0	0	0	0
9 TOTAL APPLICABLE EXPENSE		WCAP		187,465	5,061	17,371	24,074	10,507	408
10 DEMAND COMPONENT		WCAPD		40,076	1,215	3,461	8,273	679	110
11 ENERGY COMPONENT		WCAPE		146,993	3,821	13,865	14,752	2,857	298
12 CUSTOMER COMPONENT		WCAPC		396	24	45	1,049	6,971	0
13 TOTAL DEPRECIATION AND 14 AMORTIZATION EXPENSE									
15 NUCLEAR		ED00N		21,219	643	1,832	3,540	276	58
16 NON-NUCLEAR		ED000		15,825	476	1,348	3,856	4,985	44
17 DEMAND COMPONENT		ED0000		15,716	469	1,334	3,564	301	44
18 CUSTOMER COMPONENT		ED000C		109	7	14	292	4,684	0
19 DEPRECIATION & AMORTIZATION		ED00		37,044	1,119	3,180	7,396	5,261	102
20 DEMAND COMPONENT		ED00D		36,935	1,112	3,166	7,104	577	102
21 CUSTOMER COMPONENT		ED00C		109	7	14	292	4,684	0

**Pennsylvania Power & Light Company  
Response to Interrogatories of the  
Office of Consumer Advocate, Set III  
Dated January 30, 1995**

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**Docket No. R-00943271**

Q.22. Please refer to page 7, line 12. Please provide any evidence PP&L has to support the statement that three steps better reflects cost of service than two steps in the kilowatt hour rate for residential customers.

A.22. For data concerning the customer component developed from cost of service, see the response to Question OTS-RS-4D of Interrogatories of The Office of the Trial Staff, dated January 13, 1995.

The Company's proposed three-step, declining block rate structure recovers the balance of the fixed customer costs (not recovered in the monthly charge) within the first two energy blocks of the rate. By adding the intermediate block of 600 KW, the Company is able to recover these fixed customer costs over a larger KWH range.

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Office of Consumer Advocate, Set IV  
Dated February 1, 1995  
Docket No. R-00943271**

- Q.41. If not provided elsewhere, please provide the number of customers by rate schedule as of September 30 of the years 1991, 1992, 1993, and 1994.
- A.41. Attachment 1 provides customers by rate schedule for the years ended September 30, 1991, 1992, 1993, and 1994.

**Pennsylvania Power and Light Company**  
**Year-end Customers**  
**12 Months Ended September 30**

	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
RS	1,017,301	1,026,872	1,038,386	1,048,903
RTS	11,070	12,477	13,450	14,059
RTD	271	272	293	310
GS-1	116,020	116,763	117,907	119,226
GS-3	16,719	17,530	18,046	18,562
LP-4	805	835	825	832
LP-5	114	118	119	118
LPEP	0	0	0	1
ISA	1	1	1	1
IS-1	3	3	3	4
IS-2	3	0	0	0
ISL	1	0	0	0
BL	25	32	25	23
SA	0	0	0	0
SM	213	162	141	135
SHS	522	616	710	777
SE	52	56	57	59
TS	17	17	17	17
SI-1	6	5	5	5
GH-1	1,728	1,687	1,652	1,618
GH-2	3,120	3,051	2,997	2,947
Standby	9	8	8	9
FERC	18	18	18	18
UGI	1	1	1	1
<b>Total</b>	<b>1,168,019</b>	<b>1,180,524</b>	<b>1,194,661</b>	<b>1,207,625</b>

**Pennsylvania Power & Light Company  
Response to Interrogatories of  
the Office of Consumer Advocate, Set IV  
Dated February 1, 1995  
Docket No. R-00943271**

- Q.43. If not provided previously, provide budgeted customers and sales by rate schedule for each month of the future test year.
- A.43. Attachment 1, pages 1-2, provides forecasted sales by rate schedule for each month of the future test year. PP&L does not forecast monthly customers by rate schedule.

The SAS System

PENNSYLVANIA POWER & LIGHT COMPANY  
MONTHLY SALES BY RATE  
12 MONTHS ENDED SEPTEMBER 1995

	MEGAWATT HOURS							
	TOTAL	1994:10	1994:11	1994:12	1995:1	1995:2	1995:3	1995:4
RS	10,894,124	696,039	797,607	1,087,903	1,358,937	1,224,605	1,118,538	923,596
RTS	385,160	20,300	28,642	40,129	52,614	52,762	51,480	35,850
RTD	4,877	310	357	488	610	552	506	415
GS1	1,496,385	110,968	112,002	129,450	147,801	136,235	138,305	122,621
GS3	6,709,044	534,145	518,824	557,317	604,782	565,135	582,859	539,026
LP4	4,521,059	369,686	349,952	364,635	376,982	369,997	379,275	362,772
LP5	5,598,875	478,834	461,445	441,014	444,071	438,823	471,703	465,744
LPEP	148,928	12,693	11,702	10,533	12,000	13,000	13,000	14,000
ISM	540,441	42,070	42,070	48,301	46,000	48,000	48,000	47,000
IS1	3,828	275	480	600	657	542	541	256
BL	5,508	400	450	482	556	499	587	434
SA	29,113	2,690	2,810	3,063	3,015	2,536	2,534	2,095
SE	9,120	838	867	956	958	771	783	658
SHS	58,745	5,396	5,592	6,124	6,015	5,042	5,064	4,249
SI1	367	34	36	39	38	31	32	27
SM	9,875	895	1,004	1,101	1,038	794	875	731
TS	517	44	42	44	44	39	44	42
GH1	462,090	32,265	37,037	49,019	56,880	54,875	54,050	41,825
GH2	97,756	5,433	7,006	10,484	13,573	12,762	12,593	9,874
RESALE 12KV	213,198	15,323	16,481	19,680	21,750	20,959	19,739	17,398
RESALE 66KV	695,280	52,846	54,125	61,068	70,409	66,719	65,313	58,051
UGI	484,000	34,000	41,000	54,000	58,000	49,000	46,000	56,000
<b>TOTAL SYSTEM ELECTRIC SALES</b>	<b>32,368,288</b>	<b>2,415,486</b>	<b>2,489,532</b>	<b>2,886,428</b>	<b>3,276,730</b>	<b>3,063,677</b>	<b>3,011,821</b>	<b>2,702,664</b>
<b>PPUC ELECTRIC SALES</b>	<b>30,975,810</b>	<b>2,313,317</b>	<b>2,377,926</b>	<b>2,751,680</b>	<b>3,126,571</b>	<b>2,926,999</b>	<b>2,880,769</b>	<b>2,571,215</b>
<b>FERC ELECTRIC SALES</b>								
UGI	484,000	34,000	41,000	54,000	58,000	49,000	46,000	56,000
12 KV & 66 KV	908,478	68,169	70,606	80,748	92,159	87,678	85,052	75,449
<b>TOTAL FERC SALES</b>	<b>1,392,478</b>	<b>102,169</b>	<b>111,606</b>	<b>134,748</b>	<b>150,159</b>	<b>136,678</b>	<b>131,052</b>	<b>131,449</b>

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING.

PENNSYLVANIA POWER & LIGHT COMPANY  
MONTHLY SALES BY RATE  
12 MONTHS ENDED SEPTEMBER 1995

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	MEGAWATT HOURS				
	1995:5	1995:6	1995:7	1995:8	1995:9
RS	753,968	678,750	756,896	756,804	740,481
RTS	21,570	19,467	21,690	20,300	20,356
RTD	335	302	337	336	329
GS1	112,327	114,492	124,677	124,125	123,382
GS3	533,925	544,500	570,167	573,668	584,696
LP4	380,665	382,807	388,001	391,743	404,544
LP5	486,981	489,289	467,154	471,960	481,857
LPEP	13,000	13,000	12,000	12,000	12,000
ISM	46,000	45,000	45,000	35,000	48,000
IS1	114	67	67	63	166
BL	464	412	381	422	421
SA	2,064	1,840	1,916	2,108	2,442
SE	646	581	616	693	753
SHS	4,159	3,772	3,948	4,464	4,920
SI1	27	22	24	26	31
SM	717	555	669	732	764
TS	44	43	44	44	43
GH1	31,435	27,683	25,448	24,912	26,661
GH2	5,243	4,692	5,454	5,402	5,240
RESALE 12KV	15,590	15,650	16,559	17,344	16,725
RESALE 66KV	52,734	50,448	52,336	57,008	54,223
UGI	27,000	28,000	32,000	32,000	27,000
TOTAL SYSTEM ELECTRIC SALES	2,489,009	2,421,370	2,525,383	2,531,154	2,555,034
PPUC ELECTRIC SALES	2,393,685	2,327,272	2,424,488	2,424,802	2,457,086
FERC ELECTRIC SALES					
UGI	27,000	28,000	32,000	32,000	27,000
12 KV & 66 KV	68,324	66,098	68,895	74,352	70,948
TOTAL FERC SALES	95,324	94,098	100,895	106,352	97,948

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING.

**Pennsylvania Power & Light Company**  
**Response to Interrogatories of**  
**the Office of Small Business Advocate**  
**Dated February 17, 1995**  
**Docket No. R-00943271**

Q. 28. The OSBA observes that in its minimum size distribution classification approach that PP&L uses the minimum size equipment currently being installed. With respect to that assumption:

- a. Please provide all your reasons for using this approach.
- b. for each category of distribution equipment, please define the size and nature of the actual minimum size equipment currently on the system, and the ratio of embedded costs for actual minimum size equipment to current minimum size equipment.
- c. For each category of distribution equipment, please define the share of embedded costs that is accounted for by plant that is less than the current minimum size.

A. 28. a. The classification of PP&L's distribution plant into its demand and customer components is based on the Minimum Size Method described in the NARUC Cost Allocation Manual, published in January 1992. The NARUC manual recommends using the minimum size equipment (pole, conductor, cable, transformer, and service) that currently is being installed on a utility's system.

- b. The following table reflects the minimum size equipment that exists on PP&L's system and the ratio of the embedded cost of that equipment to the minimum size equipment currently being installed. For services in Account 369, the current minimum size equipment being installed and the existing minimum size equipment are the same.

<u>Account</u>	<u>Description</u>	<u>Embedded Cost of Existing Minimum Size Equipment</u>	<u>Ratio to Minimum Size Currently Being Installed</u>
364	10 Foot Wood Pole	\$67	0
365	4 & Below 1/C Overhead Conductor	353,033	.0036
367	4 & Below 1/C Underground Conductor	259	0
368.2	1 KVA Overhead Transformer	984,316	.0399
368.4	5 KVA Pad Mount Transformer	121,584	.0131

- c. The following table reflects the proportionate share by account of the embedded cost of existing equipment that is smaller in size than the minimum size equipment currently being installed on PP&L's system. For services in Account 369, the minimum size currently being installed is the only size service.

<u>Account</u>	<u>Embedded Cost of Plant Smaller Than Current Minimum Size Plant</u>	<u>Percent of Account Total</u>
364	\$76,851,188	12.86%
365	353,033	0.08
376	259	0.00
368.2	2,747,230	2.52
368.4	472,852	1.04

**Pennsylvania Power & Light Company**  
**Responses to Interrogatories of**  
**the Office of Small Business Advocate**  
**Dated February 17, 1995**  
**Docket No. R-00943271**

Q. 30. For each of the community programs identified in Exhibit Future 1 A-1 page 8 (HELP, CARES, WRAP, and "OnTrack"), please identify:

- a. The total cost of the program;
- b. The beneficiaries of the program;
- c. The cost allocation method for the program and the location of the costs in the cost allocation study.

A. 30. a. The total costs included in the future test year for Operation HELP, CARES, WRAP, and OnTrack are as follows:

Operation HELP	\$ 38,000
CARES	221,768
WRAP	3,097,300
OnTrack	<u>1,016,000</u>
Total	\$4,373,068

b. The beneficiaries of these programs are primarily low-income customers who cannot pay the full amount of their electric service bills. The income guidelines for each program are as follows:

Operation HELP	175% of Poverty Level
CARES	No income guidelines
WRAP	150% of Poverty Level
OnTrack	150% of Poverty Level

Attachment 1 shows the federal poverty level guidelines by family size and percent of poverty. This information is provided annually by the U. S. Department of Health and Human Services.

The CARES program is available to any residential customer who is confronted with a hardship and cannot pay his or her electric bill. However, PP&L's experience shows that most CARES customers have incomes at or below 150% of the federal poverty level.

- c. The costs associated with these programs are reflected in the amounts shown on Pages 69-70 of Exhibit JMK 2 and are assigned using allocator C10 –Total Customers.

## Household Income Matrix \*

	(A)	(B)	(C)	(D)	(E)	(F)
Family Size	Less than 75%	76 - 100%	101-125%	126-150%	151-175%	Over 175%
1	\$0 to \$5,602	\$5,603 to \$7,470	\$7,471 to \$9,337	\$9,338 to 11,205	\$11,206 to 13,072	\$13,073 and above
2	\$0 to \$7,522	\$7,523 to \$10,030	\$10,031 to \$12,537	\$12,538 to \$15,045	\$15,046 to \$17,552	\$17,553 and above
3	\$0 to \$9,442	\$9,443 to \$12,590	\$12,591 to \$15,737	\$15,738 to \$18,885	\$18,886 to \$22,032	\$22,033 and above
4	\$0 to \$11,362	\$11,363 to \$15,150	\$15,151 to \$18,937	\$18,938 to \$22,725	\$22,726 to \$26,512	\$26,513 and above
5	\$0 to \$13,282	\$13,283 to \$17,710	\$17,711 to \$22,137	\$22,138 to \$26,565	\$26,566 to \$30,992	\$30,993 and above
6	\$0 to \$15,202	\$15,203 to \$20,270	\$20,271 to \$25,337	\$25,338 to \$30,405	\$30,406 to \$35,472	\$35,473 and above
7	\$0 to \$17,122	\$17,123 to \$22,830	\$22,831 to \$28,537	\$28,538 to \$34,245	\$34,246 to \$39,952	\$39,953 and above
8	\$0 to \$19,042	\$19,043 to \$25,390	\$25,391 to \$31,737	\$31,738 to \$38,085	\$38,086 to \$44,432	\$44,433 and above
Each Add'l Person	\$0 to \$1,920	\$1,921 to \$2,560	\$2,561 to \$3,200	\$3,201 to \$3,840	\$3,841 to \$4,480	\$4,481 and above

U. S. Department of Health and Human Services, Federal Register,  
Thursday, February 9, 1995

\* These income guidelines are effective March 1, 1995 through February 29, 1996

**Pennsylvania Power & Light Company  
Response to Interrogatories of the  
Office of Small Business Advocate  
Dated February 17, 1995**

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**Docket No. R-00943271**

- Q.35. Regarding allocator CW8 as derived on page 197 of Exhibit JMK 2, please provide supporting evidence for the 2:1 factor for two-phase service and the 3:1 factor for three-phase service with respect to both the rate base/depreciation costs and the O&M costs for the customer component of line transformers to which these allocators are applied.
- A.35. The ratio of labor costs for two-phase and three-phase transformer installations compared to the labor cost for a single-phase transformer installation was obtained from technical review of the data contained in PP&L's Compatible Units System (CUS). This system is used to "price out" the cost of distribution service facilities that are placed into operation.

Based on the CUS's labor component data for compatible units, a two-phase transformer installation is estimated to have a 2:1 labor ratio and a three-phase transformer installation is estimated to have a 3:1 labor ratio when compared to a single-phase transformer installation. These ratios were used to develop the CW8 allocator which then is used to assign distribution transformer plant investment and associated operating expenses.

**Pennsylvania Power & Light Company**  
**Response to Interrogatories of the**  
**Office of Small Business Advocate**  
**Dated February 17, 1995**  

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**Docket No. R-00943271**

- Q.36. Regarding allocator CW9 as derived on page 197 of Exhibit JMK 2, please provide supporting evidence for the 1.555:1 factor for two and three phase service with respect to both the rate base/depreciation costs and the O&M costs for the customer component of services to which these allocators are applied.
- A.36. The ratio of labor costs for installing the most typical three-phase and two-phase overhead service compared to the labor cost for installing the most typical single-phase overhead service was obtained from a technical review of the data contained in PP&L's Compatible Units System (CUS). This system is used to "price out" the cost of distribution service facilities that are placed in operation.

Based on the CUS's labor component data for compatible units, both a two-phase overhead service installation and a three-phase overhead service installation are estimated to have a 1.555:1 labor ratio when compared to a single-phase overhead service installation. This ratio was used to develop the CW9 allocator which then is used to assign distribution overhead service plant investment and associated operating expenses.

Check appropriate box:

Original signed form

Conformed copy

Form Approved  
OMB No. 1902-0021  
(Expires 7/31/95)



Includes PPUC Section

# FERC Form No. 1: ANNUAL REPORT OF MAJOR ELECTRIC UTILITIES, LICENSEES AND OTHERS

This report is mandatory under the Federal Power Act, Sections 3, 4(a), 304 and 309, and 18 CFR141.1. Failure to report may result in criminal fines, civil penalties and other sanctions as provided by law. The Federal Energy Regulatory Commission does not consider this report to be of a confidential nature.

Exact Legal Name of Respondent (Company)

Pennsylvania Power & Light Company

Year of Report

Dec. 31, 19 93

Name of Respondent		This Report is:	Date of Report	Year of Report
PENNSYLVANIA POWER & LIGHT COMPANY		(1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	(Mo, Da, Yr)	Dec. 31, 1993
<b>MISCELLANEOUS GENERAL EXPENSES (Accounting 930.2) (Electric)</b>				
Line No.	Description (a)	Amount (b)		
1	Industry Association Dues	\$803,593		
2	Nuclear Power Research Expenses	None		
3	Other Experimental and General Research Expenses	7,168,958		
4	Publishing and Distributing Information and Reports to Stockholders; Trustee, Registrar, and Transfer Agent Fees and Expenses, and Other Expenses of Servicing Outstanding Securities of the Respondent	2,416,254		
5	Other Expenses (List items of \$5,000 or more in this column showing the (1) purpose, (2) recipient and (3) amount of such items. Group amounts of less than \$5,000 by classes if the number of items so grouped is shown)			
6	Directors' fees:			
7	Jeffrey J. Burdge	\$33,600		
8	E. Allen Deaver	33,650		
9	Edward Donley	33,100		
10	William J. Flood	33,100		
11	Daniel G. Gambet	31,100		
12	Elmer D. Gates	32,800		
13	Stuart Heydt	31,950		
14	Clifford L. Jones	32,250		
15	John T. Kauffman	33,300		
16	Robert Y. Kaufman	31,950		
17	Ruth Leventhal	29,400		
18	Norman Robertson	34,000		
19	David L. Tressler	30,600		
20		420,800		
21				
22	Directors' Expenses	96,959		
23	Directors' Retirement Plan	149,170		
24				
25	Participation in business associations and organizations and other			
26	expenditures promoting economic growth, development and education:			
27				
28				
29	Pennsylvania Chamber of Business and Industry-Education Foundation	71,080		
30	Pennsylvania Economy League	29,215		
31	Center For Workforce Preparation	25,000		
32	National Environmental Policy Institute	25,000		
33	Copyright Clearance Center Inc.	13,463		
34	The Conference Board, Inc.	13,000		
35	United States Chamber of Commerce	11,000		
36	Lehigh Valley Business Conference on Health Care	10,290		
37	Pennsylvania Business Roundtable	10,000		
38	National Association of Manufacturers	10,000		
39	Power Engineering Education Foundation	10,000		
40	Allentown-Lehigh County Chamber of Commerce	8,287		
41	The Scranton Plan	5,750		
42	National Academy of Engineering	5,000		
43	Pennsylvania Environmental Council, Inc.	5,000		
44	86 Items Less Than \$5,000 Each	25,482		
45		277,567		
46				

Name of Respondent  
 PENNSYLVANIA POWER & LIGHT  
 COMPANY

This Report is:  
 (1)  An Original  
 (2)  A Resubmission

Date of Report  
 (Mo, Da, Yr)

Year of Report  
 Dec. 31, 1993

MISCELLANEOUS GENERAL EXPENSES (Accounting 930.2) (Electric)

Line No.	Description (a)	Amount (b)
1	Environmental Cleanup and Remediation Costs:	
2	Tamaqua Gas Plant	\$1,067,713
3	Columbia Gas Plant	1,054,412
4	Novak Superfund Site	722,974
5	Hauto Site	522,640
6	Spencer Transformer Site	126,990
7	Brodhead Creek Gas Plant	114,863
8	Douglassville Superfund Site	30,357
9	Delta Quames and Disposal	9,444
10	Shamokin Gas Plant	9,278
11	Carlisle Gas Plant	7,550
12		\$3,666,221
13		
14		
15		
16		
17	Corporate Strategy Effort	1,226,948
18	"Trees for the Future" Program	82,702
19	EMF (electromagnetic fields) related activities	75,471
20	Fuel Cell Technology Study	16,041
21	Work performed at retired Suburban Plant	11,175
22		
23		
24		
25	Contributions to organizations providing vital fire protection and	
26	ambulance service for the safety of employees and protection	
27	of the Respondent's facilities - 148 items less than \$5,000 each	23,575
28		
29	Miscellaneous	46,003
30		
31		
32		
33		
34		
35	TOTAL	\$16,481,437