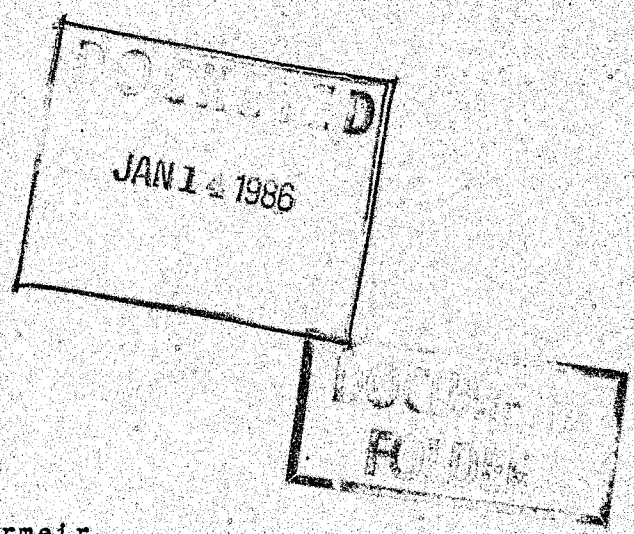
R-850152

1-7-85

Q.IR-OCA-7-8. Please provide the Minimum Size Study referenced at Page 2 of Exhibit WFS-1, as well as all supporting workpapers, data, and assumptions used in the development of that study.

A.IR-OCA-7-8. The requested study is provided as Attachment IR-OCA-7-8.



Responsible Witness: W. F. Sundermeir
Supervisor, Rate Division

PECO ELECTRIC

ACCT 101 AS OF 12/31/81 (Acct 101.1)

PRIMARY LINES - AERIAL (ACCOUNT 365)

	CONDUCTOR FT	COST @ .442 *
MINIMUM (EQUIV)	8,205,752	3,626,942
ACTUAL (> MIN)		19,356,076
Δ (DEMAND RELATED)		15,729,134
TOTAL GROUP		83,703,623
% (DEMAND RELATED)		18.791 %

* CPR Code 5440 fo 4/0 Aluminum

PRIMARY LINES - UNDERGROUND (ACCOUNTS 366, 367)

		COST @ 2.115 (ft
MINIMUM (EQUIV)	14,022,960	29,657,503
ACTUAL (> MIN)		46,366,342
Δ (DEMAND RELATED)		16,708,839
TOTAL GROUP		132,212,918
% (DEMAND RELATED)		12.638 %

(A) WTD. AVG. (CU) single 12,675,901 ft CPR 6422 $ 40,869,406

(CU) multiple 19,878,846 ft CPR 6424 $ 27,967,784

32,554,747 ft $ 68,837,190

$2.115/ft

SECONDARY LINES - AERIAL (ACCOUNT 365)

	CONDUCTOR FEET	COST @ .404 *
MINIMUM (EQUIV)	376,752	152,208
ACTUAL (> MINIMUM)		263,912
Δ DEMAND RELATED		111,704
TOTAL GROUP		49,800,378
% DEMAND RELATED		0.224%

* CPR Code 5240 for 4/0 Aluminum

SECONDARY LINES - UNDERGROUND (ACCOUNTS 366, 367)

		Cost @ $1.125/Ft (a)
MINIMUM (EQUIV)	2,335,118	2,627,008
ACTUAL (> MINIMUM)		1,724,844
Δ (DEMAND RELATED)		2097836
TOTAL GROUP		33,394,590
% (DEMAND RELATED)		6.282%

(a) UND AVG (Cu - Single)	4,208,226	CPR 6222	$7,235,272
(Cu - Mult	1,526,163	CPR 6224	745,819
(Al - Single)	13,917,227	CPR 6261	14,38,569
(Al - Mult)	714,501	CPR 6263	615,948
	20,366,127 ft		$22,915,608

$1.125/ft

SECONDARY SERVICES - AERIAL (ACCOUNT 369)

	CONDUCTOR FEET	COST @ .224 *
MINIMUM (EQUIV)	8775	1966
ACTUAL (>MINIMUM)		6705
Δ (DEMAND) RELATED)		4739
TOTAL GROUP		23,971,005
%		0.020%

* CPR Code 1240 for #4 Aluminum

SECONDARY SERVICES - UNDERGROUND (ACCOUNT 369)

		COST @ .510 (@
MINIMUM (EQUIV)	1,130,171	1,706,558
ACTUAL (>MINIMUM)		2,111,270
Δ (DEMAND) RELATED)		404,712
TOTAL GROUP		25,587,111
%		1.582%

* @ Wtd. Avg. (Cu) 2,323,001 CPR 2221 2,878,206
(Al) 45,908 CPR 2252 121,942
(Al) 12,617,674 CPR 2261 19,636,475
14,786,583 ft $22,636,623 $1.51

4/27/82

SECTION TRANSFORMERS - DEMAND & CUSTOMER

AS OF DEC 31, 1981

(USED FOR ACCOUNT # 368)

	AERIAL	UNDERGROUND	TOTAL
TOTAL NUMBERS	119,919	14,674	
AVG. MIN. COST.	$ 509.47	$ 701.97	
CUSTOMER COMPONENT	$ 61,095,133	$ 10,300,708	$ 71,395,841
TOTAL INVESTMENT	$ 101,664,766	$ 21,277,889	$ 122,942,655

	DEMAND	CUSTOMER	TOTAL
TOTAL INVEST.	$ 51,546,814	$ 71,395,841	$ 122,942,655
%	41.928	58.072	

4/27/82

SEC'DY TRANSFORMERS: AVG MIN SIZE
AS OF DEC. 31 1981

	CPR#	QUANTITY	INVESTMENT
AERIAL	115025	227	$ 203.351
	113902	10,594	5,470,678
	113025	3	860
	110025	1	545
	112025	13,558	6,070,916
	120025	28	17.205
	612025	515	66736
	117025	507	163,961
	177251	2	1,238
	113702	32	38,075
	113802	1,282	1 559 990
	122025	174	92,943
		26,923	$ 13, 716, 558 → $509.
(UNDERGROUND)	353025	1720	$ 1,257,242
	350025	98	65,026
	356025	211	145,607
	817025	69	29, 364
	352025	142	75, 184
		2240	$ 1,572, 423 → $701.9

PECO ELECTRIC

ACCT 101 AS OF 12/31/81

ACCT 360	DEMAND	CUSTOMER	TOTAL
PRIMARY -			
ACCT 364	23,891	43,149	67,040
ACCT 365	22,070	95,381	117,451
TOTAL	45,961	138,530	184,491
%	24.912	75.088	100.000
SECONDARY			
ACCT 364	15,404	27,820	43,224
ACCT 365	122	54,313	54,435
	15,526	82,133	97659
%	15.898	84.102	100.000

ACCT 369	DEMAND	CUSTOMER	TOTAL
AERIAL	5	27,383	27388
UNDERGROUND	618	38,424	39,043
TOTAL	623	65,807	66.430
%	9.378	99.062	100.000

PECo EXHIBIT RCW - #1

1-7-85

R-850152

Phila

RJS

PENNSYLVANIA PUBLIC UTILITY COMMISSION

VS.

PHILADELPHIA ELECTRIC COMPANY

DOCKET NO. R-850152

PROPOSED RATE OP OFF-PEAK SERVICE

JANUARY 1986

RATE OP OFF-PEAK SERVICE

AVAILABILITY.

In conjunction with Rates R, R-H and with residence service under Rate GS, for any Customer receiving service at 120/240 volts, 3 wires, or 120/208 volts, 3 wires, for the operation of 240-volt or 208-volt domestic equipment of a type approved by the Company. Any load connected for service under Rate OP may not be connected for service under any other rate during the period that service under Rate OP is interrupted. Service may be interrupted during on-peak periods as established by the Company. (C)

(Not available when the source of supply is service purchased from a neighboring company under a borderline-purchase agreement.)

SPECIAL RULES AND REGULATIONS.

The normal control device furnished by the Company has a limited capacity. The Customer shall notify the Company before connecting any load in addition to an existing water heater. If necessary, the Company will install a control device with a rating of 100 amperes to accommodate the additional 240-volt controlled load. For controlled loads larger than 100 amperes the control device shall be furnished, installed and maintained by the Customer.

MONTHLY RATE TABLE.

OP-1 - SEVEN-DAY CONTROL. Service may be interrupted every day for a total of not more than 6-1/2 hours per day during scheduled periods which may vary from Customer to Customer. (C)

CUSTOMER CHARGE - $3.50 per month.
ENERGY CHARGE - 5.51¢ per kWh.

OP-2 - FIVE-DAY CONTROL. Service may be interrupted during the five weekdays for a total of not more than 6-1/2 hours per day during scheduled periods which may vary from Customer to Customer.

CUSTOMER CHARGE - $4.50 per month.
ENERGY CHARGE - 5.51¢ per kWh.

MINIMUM CHARGE: The minimum charge per month will be the Customer Charge.

STATE TAX ADJUSTMENT CLAUSE and ENERGY COST RATE apply to this rate.

PAYMENT TERMS.

Standard.

0606G-34

(C) Indicates change.

R-850152

1-7-85

Phil

RDS

Q.IR-OCA-21-4. For each summer month of 1984, please provide the following data:

a. The number of HT customers served;
b. The number of HT customers for whom actual demand measurements for the hour of the monthly system coincident peak demand was not available for use in estimating the HT class coincident peak demand contribution;
c. kWh sales for all HT customers;
d. kWh sales for those customers referenced in part (b) of this request;
e. The sum of the actual coincident system peak demands for those HT customers for whom actual demand measurements for the hour of the monthly system coincident peak demand was available for use in estimating the HT class coincident peak demand contribution;
f. All workpaper, equations, and assumptions used to estimate the total system coincident peak demand for the HT class for cost allocation purposes of actual system coincident peak demand data was not available for 100 percent of the HT customers served during the month; and
g. The distribution of HT customer sales by meter reading date.

A.IR-OCA-21-4. a. The number of HT customers served for each summer month of 1984 are as follows:

June	July	August	September
2,276	2,279	2,278	2,276

b. The requested data is as follows:

June	July	August	September
1,935	1,922	1,925	1,934

c. kWh sales at meters of all HT customers are as follows:

June	July	August	September
1,121,651,065	1,244,077,302	1,209,208,150	1,077,722,900

d. The requested data at meters is as follows:

June	July	August	September
410,365,935	405,536,173	409,489,440	357,703,110

e. The requested data at meters is as follows:

June	July	August	September
1,366,113	1,295,040	1,353,704	1,372,441

f. This information is voluminous and is available for inspection at the Company's main office located at 2301 Market Street, Philadelphia, PA.

g. This data is voluminous and would require significant manhours to compile; however, the data is available for inspection at the Company's main office located at 2301 Market Street, Philadelphia, PA.

Responsible Witness: W. F. Sundermeir, Supervisor, Rate Division

1-7-85

RDS PLL

Q.IR-OCA-21-5. For each summer month of 1984, please provide the following data:

a. The number of PD customers served;
b. The number of PD customers for whom actual demand measurements for the hour of the monthly system coincident peak demand was not available for use in estimating the PD class coincident peak demand contribution;
c. kWh sales for all PD customers;
d. kWh sales for those customers referenced in part (b) of this request;
e. The sum of the actual coincident system peak demands for those PD customers for whom actual demand measurements for the hour of the monthly system coincident peak demand was available for use in estimating the PD class coincident peak demand contribution;
f. All workpapers, equations, and assumptions used to estimate the total system coincident peak demand for the PD class for cost allocation purposes of actual system coincident peak demand data was not available for 100 percent of the PD customers served during the month; and
g. The distribution of PD customer sales by meter reading date.

A.IR-OCA-21-5. a. The number of HT customers served for each summer month of 1984 are as follows:

June	July	August	September
2,836	2,800	2,780	2,759

b. The requested data is as follows:

June	July	August	September
2,642	2,593	2,580	2,571

c. kWh sales at meters of all HT customers are as follows:

June	July	August	September
173,127,330	187,047,700	188,039,940	182,586,370

d. The requested data at metering is as follows:

June	July	August	September
157,201,890	169,247,529	170,418,660	166,913,810

e. The requested data at meters is as follows:

June	July	August	September
34,721	39,944	39,800	39,385

f. This information is voluminous and is available for inspection at the Company's main office located at 2301 Market Street, Philadelphia, PA.

g. This data is voluminous and would require significant manhours to compile; however, the data is available for inspection at the Company's main office located at 2301 Market Street, Philadelphia, PA.

Responsible Witness: W. F. Sundermeir, Supervisor, Rate Division

1-7-86

Phil

RDS

Q.IR-OCA-7-17. Please provide the number of feet (or miles) of overhead distribution lines of each size ani type presently installed on the PECo system.

A.IR-OCA-7-17. The Company is unable to furnish the information as requested. The length of overhead distribution lines as of December 31, 1984, divided on the basis of voltage level and service are:

Distribution Lines	Conductor Feet
High Tension	963,136
Primary	180,804,835
Secondary	138,505,510
Street lighting	392,287

Responsible Witness: W. F. Sundermeir
Supervisor, Rate Division

1-7-86
Phila
Jal

Q. IR-OCA-21-8. With respect to the Company response to IR-OCA-7-8, please provide the following:

- (a) The size (or sizes) of copper wire used to compute the weighted average in footnote (A) at the bottom of page 1 of the attachment to the response;
- (b) The size (or sizes) of copper and aluminum wire used to compute the weighted averages in footnotes (a) at the bottom of pages 2 and 3 of the attachment to the response; and
- (c) The sizes and types of transformers represented by each CPR # category for which data is provided on page 4 of the attachment to the response, and the rationale used to select those CPR # categories as the basis for computing average minimum transformer costs.

A-IR-OCA-21-8. The requested information is presented below:

		CPR Bracket	Wire Size
a) Cu Single	CPR #6422	250 MCM & above, 4-33 kV	500 MCM Cu
Cu Mult.	CPR #6424	250 MCM & above, 4-33 kV	500 MCM Cu
b) Page 2			
Cu Single	CPR #6222	250 MCM & above, 220/110 V	350 MCM Cu
Cu Mult.	CPR #6224	250 MCM & above, 220/110 V	350 MCM Cu
Al Single	CPR #6261	4/0 & below, 220/110 V	4/0 Al
Al Mult.	CPR #6263	4/0 & below, 220/110 V	4/0 Al
Page 3			
Cu	CPR #2221	4/0 & below, 220/110 V	#4 Cu
Al	CPR #2552	250 MCM & above, 220/110 V	#2 Al
Al	CPR #2261	4/0 & below, 220/110 V	#2 Al

c)	CPR #	Description			
Aerial	115025	33 kV to < 600 V	1 phase	25 kVa	
	113902	13.2 kV to < 600 V	1 phase	25 kVa	
	113025	13.2 kV to < 600 V	1 phase	25 kVa	
	110025	4.16 kV to < 600 V	1 phase	25 kVa	indoor
	112025	2.4 kV to < 600 V	1 phase	25 kVa	indoor
	170025	2.4 kV to < 600 V	1 phase	25 kVa	pad mount
	612025	Secondary	1 phase	25 kVa	
	117025	Primary to 120/240 V	1 phase	25 kVa	
	177251	2.4 kV to < 600 V	1 phase	25 kVa	special
	113702	13.2 kV to < 600 V	1 phase	25 kVa	pad mount
	113802	13.2 kV to < 600 V	1 phase	25 kVa	
	122025	2.4 kV to < 600 V	3 phase	25 kVa	

Under-ground	353025	13.2 kV to < 600 V	1 phase	25 kVa
	350025	13.2 kV to < 600 V	1 phase	25 kVa
	356025	4.16 kV to < 600 V	1 phase	25 kVa
	317025	Secondary	1 phase	25 kVa
	352025	2.4 kV to < 600 V	1 phase	25 kVa

These categories were used to get an average cost for the installation of a 25 kVa transformer, which is the most common and the predominant minimum sized transformer. Since the 25 kVa transformer is installed in a variety of situations, an average of the cost of 25 kVa installations was used.

Responsible Witness: W. F. Sundermeir, Supervisor, Rate Division

R-850152

1-7-86
Phila
jat

Q. IR-OCA-7-18. Please provide the number of distribution transformers of each size and type presently installed on the PECo system.

A. IR-OCA-7-18. The requested information is included as Attachment IR-OCA-7-18.

Responsible Witness: W. F. Sundermeir, Supervisor, Rate Division

Primary Transformers	
Capacity kVa	Total
10	37
24	84
25	216
34-1/2	1
37-1/2	3
48	6
50	137
75	149
100	65
150	364
167	65
200	3
225	2
250	43
300	344
333	96
334	1
500	200
667	3
750	13
1,000	38
1,500	5
2,000	18
2,500	1
3,750	2
	1,896

Secondary Transformers	
Capacity kVa	Total
1	3
1-1/2	1
2-1/2	27
3	381
5	1,783
7-1/2	1,071
9	6
10	10,843
15	9,085
25	29,737
30	2,618
37	22
37-1/2	7,106
45	1,731
50	29,656
60	1
75	19,394
100	11,401
112-1/2	1,036
150	2,166
167	5,116
200	169
210	266
225	418
250	16
300	1,190
333	16
334	34
371	3
500	397
750	97
1,000	39
1,500	7
2,500	1
	135,837

PHILADELPHIA ELECTRIC COMPANY
2301 MARKET STREET
P.O. BOX 8699
PHILADELPHIA, PA. 19101
(215) 841-4000

JOHN H. AUSTIN, JR.
PRESIDENT

R-850152
1-7-86
Phila
jat

December 27, 1985

Mr. Jerry Rich, Secretary
Pennsylvania Public Utility Commission
North Office Building
Post Office Box 3265
Harrisburg, Pennsylvania 17120

SUBJECT: SUPPLEMENT NO. 18 TO TARIFF ELECTRIC-PA. P.U.C. No. 26
Issued December 30, 1985 - to become effective February 28, 1986
Revisions To: Auxiliary Service Rider
Curtailment HT Rider and
Night Service HT Rider

Dear Mr. Rich:

Enclosed for filing with the Commission are eight copies of SUPPLEMENT No. 18 TO TARIFF ELECTRIC-PA. P.U.C. No. 26, filed to become effective February 28, 1986.

This supplement provides for revisions to the Auxiliary Service Rider, the Curtailment HT Rider and the Night Service HT Rider. The revisions clarify the interaction of these three riders. As revised, it is clear that both firm and curtailable supply is available for back-up power, supplementary power, and maintenance power. The billing provisions for firm and curtailable supply are set forth with provisions for optional transmission and distribution reservation charges.

The same penalty for failure to curtail has been added to the Auxiliary Service Rider, the Curtailment HT Rider, and the Night Service HT Rider. This $24 per kW penalty is presently applicable to the Curtailment HT Rider but not the Auxiliary Service Rider or the supplemental energy provision of the Night Service HT Rider. An additional penalty has been added to all three of the riders in the event that a customer fails to curtail for a second time.

Since the appropriate provisions of the Curtailment HT Rider have now been included in the Auxiliary Service Rider, the Curtailment HT Rider is no longer available to customers served on the Auxiliary Service Rider. A revision to the supplemental energy portion of the Night Service HT Rider clarifies that it cannot be used as back-up or maintenance power for customers on the Auxiliary Service Rider.

A copy of this tariff supplement will be provided to all customers presently served on the Auxiliary Service Rider, the Curtailment HT Rider, and the Night Service HT Rider.

Would you please acknowledge receipt of the foregoing on the enclosed copy of this letter.

Sincerely,

Enclosures

PHILADELPHIA ELECTRIC COMPANY

ELECTRIC SERVICE TARIFF

COMPANY OFFICE LOCATIONS

PHILADELPHIA DIVISION:	DIVISION OFFICE: 2301 Market Street, Philadelphia
	District Offices: 535 Adams Avenue 1819 E. Allegheny Avenue 3501 N. Broad Street 2009 S. Broad Street 55 W. Chelten Avenue 3925-B Walnut Street
DELAWARE DIVISION:	18 E. Fifth Street, Chester
EASTERN DIVISION:	400 Park Avenue, Warminster Mechanicsville & Street Roads, Bensalem
MAIN LINE DIVISION:	213 W. County Line Road, Ardmore 76 S. 69th Street, Upper Darby
SCHUYLKILL DIVISION:	680 Ridge Pike, Plymouth Meeting 500 Germantown Pike, Plymouth Meeting 365 High Street, Pottstown
WESTERN DIVISION:	175 N. Cain Road, Coatesville 3211 Lincoln Highway, Thorndale

For List of Communities Served, See Pages 4 and 5.

Issued December 30, 1985

Effective February 28, 1986

ISSUED BY: J. H. AUSTIN, JR., President
2301 MARKET STREET
PHILADELPHIA, PA. 19101

NOTICE.

THIS SUPPLEMENT MAKES CHANGES EXISTING RATES. SEE PAGE 2.

LIST OF CHANGES MADE BY THIS SUPPLEMENT

CHANGES

AUXILIARY SERVICE RIDER (2nd Rev. Page 52, Orig. Page 52A)

This rider is revised to provide firm and curtailable supply for auxiliary services and for a penalty for failure to curtail.

CURTAILMENT HT RIDER (2nd Rev. Page 55)

This rider is revised to exclude customers served on the Auxiliary Service Rider and to modify the penalty for failure to curtail.

NIGHT SERVICE HT RIDER (4th Rev. Page 61)

This rider is revised to modify the penalty for failure to curtail supplemental energy and to exclude the use of supplemental energy for back-up or maintenance power.

Tariff Electric-Pa. P.U.C. No. 26, first filed to be effective November 23, 1983, is modified so that it now consists of the ORIGINAL TARIFF with the following changes:

PAGE NUMBER	EFFECTIVE DATE	SUPPL. NUMBER	PAGE SUPERSEDED
2[15]	Feb. 28, 1986	18	2[10],2[11],2[12]
3[15]	" " "	18	3[10],3[11],3[12]
10[1]	Apr. 13, 1985	12	10
11[1]	" " "	12	11
12[1]	" " "	12	12
17[1]	Jul. 27, 1984	5	17
18[1]	" " "	5	18
19[1]	" " "	5	19
21[1]	Jan. 14, 1986	17	21
23[2]	Jan. 25, 1985	11	23,23[1]
30[4]	Apr. 10, 1985	13	30[3]
31[1]	Oct. 12, 1984	7	31
33[2]	Jan. 25, 1985	11	33,33[1]
35[3]	Apr. 13, 1985	12	35[2]
36[1]	" " "	12	36
37[2]	Jan. 25, 1985	11	37,37[1]
38[2]	" " "	11	38,38[1]
39[3]	Apr. 13, 1985	12	39[2]

PAGE NUMBER	EFFECTIVE DATE	SUPPL. NUMBER	PAGE SUPERSEDED
40[2]	Jan. 25, 1985	11	40,40[1]
41[2]	" " "	11	41,41[1]
43[2]	" " "	11	43,43[1]
46[2]	" " "	11	46,46[1]
48[2]	" " "	11	48,48[1]
49[2]	" " "	11	49,49[1]
50[1]	Jun. 3, 1985	14	50
51[2]	Jan. 25, 1985	11	51,51[1]
52[2]	Feb. 28, 1986	18	52[1]
52A	" " "	18	-
55[2]	" " "	18	55[1]
57[1]	Jun. 3, 1985	14	57
58[1]	" " "	14	58
60[2]	Jan. 25, 1985	11	60,60[1]
61[4]	Feb. 28, 1986	18	61[3]
62[2]	Jan. 25, 1985	11	62,62[1]
63[2]	" " "	11	63,63[1]
66[2]	" " "	11	66,66[1]

[1] First Revised Page; [2] Second Revised Page, etc.

TABLE OF CONTENTS

STANDARD RIDERS-Continued

Applicable to rates as indicated in Applicability Index of Riders

AUXILIARY SERVICE RIDER (C)

APPLICABILITY. Service to those customers, including qualifying facilities of small power producers and cogenerators as defined in the Public Utility Regulatory Policies Act, operating in parallel with the Company, any part of whose electric requirements are regularly provided by facilities owned by that Customer, and where the Company supply can be substituted for that of the Customer, will be supplied only under the provisions of this rider.

EXTENT OF SUPPLY. The maximum demand requirement and, when applicable, the firm capacity demand (see Paragraph on Curtailable Supply) available from the Company will be defined by contract except for customers served on Rates R, R-H and GS-without demand measurement.

CONTROL OF SUPPLY. In case the number of kilowatts contracted for is less than the Customer's maximum demand as estimated by the Company, the Company may require the Customer to limit his demand to the load in kilowatts contracted for by means of a circuit breaker or fuses, of types approved by the Company, to be furnished, installed, connected and maintained by the Customer at his expense. The fuse size or the setting of the circuit breaker and its adjustment shall be under the sole control of the Company.

PARALLEL OPERATION. The Customer shall not at any instant operate any source of supply in parallel with the Company's service until written permission is given by the Company for such parallel operation. The Company shall have the right to inspect the Customer's installation in accordance with Tariff Rule 9.3.

TYPES OF AUXILIARY SERVICES. The following types of auxiliary service are available:

BACK-UP POWER supply is available to replace the energy used by the Customer whenever the Customer's own generating capacity is interrupted on an unscheduled basis.

SUPPLEMENTARY POWER supply is available to add to the Customer's own generating capacity.

MAINTENANCE POWER supply is available to replace the Customer's own generating capacity during periods of scheduled maintenance. The supply of maintenance power will be on a scheduled basis that is acceptable to the Company with at least thirty days' advance written approval from the Company required. The supply of maintenance power will be terminated when the Customer's generating capacity is returned to normal operation as indicated by the recorded demands on the Company's metering equipment or upon notification to the Company by the Customer, whichever occurs first.

FIRM SUPPLY. Auxiliary service will be billed under the provisions of the rate applicable to the voltage of the service supply from the Company and applicable riders except that charges for maintenance power will be prorated in accordance with the number of days that the service is supplied during the billing month.

DEFINITION OF PEAK HOURS. On-Peak Hours are defined as the hours between 8:00 am and 8:00 pm, Eastern Standard Time or Daylight Saving Time, whichever is in common use, daily except Saturdays, Sundays and holidays; except that the on-peak hours will end at 4:00 pm on Fridays. Off-Peak Hours are defined as the hours other than those specified as on-peak hours.

(Continued)

(C) Indicates change.

STANDARD RIDERS-Continued

Applicable to rates as indicated in Applicability Index of Riders

AUXILIARY SERVICE RIDER-Continued

CURTAILABLE SUPPLY. Customers may agree to curtail their demand during on-peak hours to a value specified in the contract. This demand value is the firm capacity demand required by the Customer and shall provide for a minimum of 1,000 kilowatts of curtailable demand during on-peak hours. The Customer shall reduce demand to the firm capacity value after a minimum of 30 minutes prior notice by the Company when, in the sole judgment of the Company, any capacity limitations exist. Customers with curtailable load will be billed under the provisions of the normal service rate and applicable riders except that during the eight months of October through May the billing demand will not be less than 40% of the firm capacity nor less than 80% of the highest billing demand in the preceding months of June through September, but in no case shall the minimum billing demand be greater than 80% of the firm capacity demand, except as indicated under the paragraph on Penalty For Failure to Curtail. Curtailable load will be prorated in accordance with the number of days that the maximum registered demand exceeds the firm capacity demand. There shall be a monthly transmission reservation charge of $2.16 per kilowatt of curtailable load plus, when applicable, a distribution reservation charge of $0.98 per kilowatt of curtailable load. The State Tax Adjustment Clause shall be applicable to these charges. These charges will apply in all months; however, in any month in which the Customer's on-peak billing demand exceeds the firm capacity demand, there will be a credit determined by multiplying the transmission charge and, when applicable, the distribution charge by the demand in excess of the firm capacity demand. If the Customer does not elect to reserve transmission and distribution capacity, the reservation charge will be waived; however, the Customer will be at risk for additional curtailment as a result of the unavailability of transmission and distribution capacity. If a Customer does not elect to reserve transmission and distribution capacity and subsequently wants to reserve such capacity, the Customer must pay for any additional costs that the Company incurs to provide such capacity. When a Customer elects to pay the reservation charge, the option to waive this charge will no longer be available. (C)

PENALTY FOR FAILURE TO CURTAIL. The first time that the Customer is notified by the Company to curtail to the firm capacity demand and the Customer fails to curtail to this demand, a penalty of $24 per kilowatt shall be applicable to each kilowatt of maximum registered demand that is in excess of the Customer's firm capacity demand during the curtailment period. In addition, if the failure to curtail occurs in a summer month the minimum billing demand in the following months of October through May shall not be less than 80% of the maximum measured demand during the period in which the Customer failed to curtail. The second time that the Customer fails to curtail, the same penalty shall be applicable and curtailable supply will not be available to the Customer for a period of three years.

DISTRIBUTION FACILITIES. Any investment in additions or changes to Company distribution facilities required to provide auxiliary service will be paid by the Customer before the interconnection of Company and Customer facilities. In addition, when required by the Company, the cost of communication equipment, such as telemetering or telephone, will be paid by the Customer.

LIABILITY. The Customer shall hold the Company harmless from all losses and damages to the Customer. The Customer shall reimburse the Company or third parties for all losses and damages to the Company or third parties resulting from the Customer's operation or use of non-Company owned generating facilities under the provisions of this rider.

TERM. In accordance with the applicable rate schedule, except that customers with curtailable load shall notify the Company at least three years prior to termination of curtailable supply under the provisions of this rider.

(C) Indicates change.

STANDARD RIDERS-Continued

Applicable to rates as indicated in Applicability Index of Riders

CURTAILMENT HT RIDER

APPLICABILITY. To customers who agree to curtail their demand to a value specified in an agreement between the Customer and the Company. The demand value specified in the agreement is the firm capacity demand required by the Customer and shall provide for a minimum of 1,000 kilowatts of curtailable demand during the on-peak hours. The Customer shall reduce demand to the firm capacity value after a minimum of 30 minutes prior notice by the Company. The total curtailable load to be accepted under this rider will be limited to 120,000 kilowatts. This rider is not available to customers served under the provision of the Auxiliary Service Rider. (C)

DEFINITION OF PEAK HOURS. On-Peak Hours are defined as the hours between 8:00 am and 8:00 pm, Eastern Standard Time or Daylight Saving Time, whichever is in common use, daily except Saturdays, Sundays and holidays; except that the on-peak hours will end at 4:00 pm on Fridays. Off-Peak Hours are defined as the hours other than those specified as on-peak hours.

CURTAILMENT LIMITATIONS. The number of curtailment occurrences shall not exceed 20 and the total curtailed hours shall not exceed 200 hours in a twelve-month period beginning May 1st of each year.

SERVICE RATE. Rate HT, including all terms and guarantees, is applicable to service on this rider; except that, during the eight months of October through May the billing demand will not be less than 40% of the firm capacity nor less than 80% of the highest billing demand in the preceding months of June through September, but in no case shall the minimum billing demand be greater than 80% of the firm capacity, except as indicated under the paragraph on Penalty for Failure to Curtail.

A monthly credit shall be applicable based on the kilowatts obtained by subtracting the firm capacity demand from the Customer's maximum registered demand during the on-peak hours. The credit shall be $2.00 per kilowatt. In no case shall the Customer's bill be less than the minimum charge specified in Rate HT.

PENALTY FOR FAILURE TO CURTAIL. The first time that the Customer is notified by the Company to curtail to the firm capacity demand and the Customer fails to curtail to this demand, the credit shall not be applicable and a penalty of $24 per kilowatt shall be applicable to each kilowatt of maximum registered demand that is in excess of the Customer's firm capacity demand during the curtailment period. In addition, if the failure to curtail occurs in a summer month the minimum billing demand in the following months of October through May shall not be less than 80% of the maximum measured demand during the period in which the Customer failed to curtail. The second time that the Customer fails to curtail, the same penalty shall be applicable and the Customer shall be removed from the Curtailment HT Rider for a period of three years. (C)

COMMUNICATION EQUIPMENT. When required by the Company, the cost of communication equipment, such as telemetering or telephone, will be paid by the Customer. (C)

TERM OF CONTRACT. The Customer shall notify the Company at least three years prior to termination of service under the provisions of this rider. The Company may agree to accept termination within the three-year period. The Customer may discontinue service under the provisions of this rider at any time during the first year of service on this rider; however, such Customer shall not be reconsidered for service on this rider for a three-year period following the termination of service on this rider. The firm capacity demand can be changed at any time upon the request by the Customer and approval by the Company.

(C) Indicates change.

STANDARD RIDERS-Continued

Applicable to rates as indicated in Applicability Index of Riders

NIGHT SERVICE HT RIDER

APPLICABILITY. To service supplied during off-peak hours for demands in excess of those supplied during on-peak hours. The demand specified for off-peak hours shall be limited to an amount determined by the Company which shall be dependent upon the capacity of the facilities available for such supply.

DEFINITION OF PEAK HOURS. On-Peak Hours are defined as the hours between 8:00 am and 8:00 pm, Eastern Standard Time or Daylight Saving Time, whichever is in common use, daily except Saturdays, Sundays and holidays; except that the on-peak hours will end at 4:00 pm on Fridays. Off-Peak Hours are defined as the hours other than those specified as on-peak hours.

SERVICE RATE. Rate HT, including all its terms and guarantees, is applicable to service supplied during on-peak hours. The capacity charge and blocking of the energy charge of said rate shall be based on the billing demand for on-peak hours except that, when the greatest demand during off-peak hours, as determined by measurement, exceeds the demand specified for off-peak hours, the amount of such excess shall be added to the billing demand for on-peak hours and the resultant sum shall then constitute the basis for said capacity charge and blocking of the energy charge.

MONTHLY RATE TABLE.

BILLING AND METERING CHARGE: $10.00
NIGHT SERVICE CAPACITY CHARGE:
Per kW of off-peak billing demand per month: $0.82

STATE TAX ADJUSTMENT CLAUSE applies to this rider.

DETERMINATION OF OFF-PEAK BILLING DEMAND. The off-peak billing demand shall be the amount by which the greatest demand during off-peak hours, as determined by measurement, exceeds the billing demand for on-peak hours, whether the latter is a minimum or an actual demand, except that, when said greatest demand during off-peak hours exceeds the demand specified for off-peak hours, said greatest off-peak demand shall be reduced by the amount of the excess in determining the off-peak billing demand.

SUPPLEMENTAL ENERGY. Supplemental energy during the on-peak period will be available up to the total of the kilowatt-hours billed during the off-peak period for the current month. The load supplied by supplemental energy must be 10,000 kW or more, must be separately metered, and must be completely interruptible on notice of at least one-half hour when, in the sole judgment of the Company, any capacity limitations exist.

Supplemental energy will be billed at the Company's hourly PJM Billing Rate, plus one cent. The measured demand of the load supplied by supplemental energy will not be included in the calculation of the on-peak billing demand. The PJM dispatch rate will be made available to the Customer on request, in order to estimate the Company's PJM Billing Rate. If the Customer fails to interrupt the load supplied by supplementary energy at the time designated by the Company, Rate HT billing will be applicable for the monthly billing without modification for supplementary energy. In addition, a (C) penalty of $24 per kilowatt shall be applicable to each kilowatt of demand measured on the separately metered interruptible load during the curtailment period, and if the failure to curtail occurs in a summer month the minimum billing demand in the following months of October through May shall not be less than 80% of the maximum measured demand during the period in which the Customer failed to curtail. The second time that the Customer fails to curtail the same penalty shall be applicable and the Customer will not be supplied supplemental energy for a period of three years.

Additional metering expenses required to separately meter supplemental energy, the expense to (C) provide the PJM dispatch rate to the Customer and, when required by the Company, the cost of communication equipment, such as telemetering or telephone, will be paid by the Customer.

The Energy Cost Rate, State Tax Adjustment and Rate HT Time-of-Use Adjustment are not applicable to supplemental energy billing. The HT Curtailment Rider and the Employment and Economic Recovery Rider are not applicable to the separately metered load supplied by supplemental energy. In (C) addition, supplemental energy shall not be used as back-up or maintenance power as defined in the Auxiliary Service Rider.

OTHER RIDERS. Where the Off-Peak Rider and this rider are applied to the same contract, the Off-Peak Rider will be applied only to the provisions of the contract, and this rider will then be applied to the contract as modified. This rider will not be applied in conjunction with the Temporary Service Rider.

TERM. Annual.

(C) Indicates change.

R-850152
1-7-86
Jat Phila

EFFECT OF THE LUKENS SHIFT ON PENNSYLVANIA EMPLOYMENT

		(All Dollar Amounts in $000)
(1)	ADL's 1986 Net Impact on All Customers:	$ 5,006
(2)	ADL's 1986 Lukens Savings:	$ 20,359
(3)	Total Impact on Other Customers:	$ 25,365
(4)	Industrial Effect: (47 percent of Impact Recovered in Industrial Rates)	$ 11,992
(5)	Residential and Commercial Effect: (53 percent of Impact Recovered in Residential and Commercial Rates)	$ 13,443
	Industrial Effect:	
(6)	1986 Estimated Pennsylvania Industrial Electric Revenues:	$ 3,172,602
(7)	Percent Rate Increase:	0.376%
(8)	Industrial Elasticity:	-.14
(9)	Percent Production Loss:	-0.0526%
(10)	May 1982 Manufacturing Employment:	1,189,000
(11)	Estimated Industrial Job Loss:	625
(12)	Multiplier:	1.5
(13)	Total Pennsylvania Job Loss:	938
	Residential Effect:	
(14)	Disposable Income Loss:	$ 13,443
(15)	Percent Spent out of Pennsylvania:	0.33
(16)	State Income Loss:	$ 8,962
(17)	Estimated 1985 Pennsylvania State Income:	$161,446,000
(18)	Estimated 1985 State Employment:	5,655,000
(19)	Equivalent Job Loss:	314
(20)	Multiplier:	1.5
(21)	Total Pennsylvania Job Loss:	471
(22)	TOTAL JOB LOSS DUE TO LUKENS SHIFT:	1,409

EFFECT OF THE LUKENS SHIFT ON PENNSYLVANIA EMPLOYMENT

Sources and Notes

(1) Arthur D. Little, Inc., Supplemental Economic Impact Report of the Electric Supply Options of the Lukens Steel Company, page 12.
(2) Arthur D. Little, Inc., Supplemental Economic Impact Report of the Electric Supply Options of the Lukens Steel Company, page 12. PECo Lukens Bill minus PP&L Lukens Bill.
(3) Sum of Net Impact (1) and Lukens Savings (2).
(4) 1980 Pennsylvania Industrial Sales as Percent of Total State Sales, from Edison Electric Institute, 1980 Statistical Yearbook of the Electric Utility Industry, Tabel 42. Percentage applied to Total Impact on Other Consumers (3).
(5) Remainder of Total Impact (3) assumed to be recovered in increased Residential and Commercial Rates.
(6) Total revenues from industrial customers in Pennsylvania in 1986 derived from revenues in 1980 assuming a 2.0 percent annual growth in industrial sales and a 7.0 percent annual growth in industrial rates. Revenues in 1980 derived from Edison Electric Institute, 1980 Statistical Yearbook of the Electric Utility Industry, Table 60.
(7) Industrial Effect (4) divided by Estimated Industrial Revenues.
(8) K.P. Anderson, "Industrial Location and Electric Utility Price Competition," March 1979, p. 24.
(9) Rate Increase (7) times Elasticity (8).
(10) U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, August 1982, Table B-8.
(11) Percent Production Loss (9) times Employment (10).
(12) Multiplier derived from Arthur D. Little, Inc., Economic and Environmental Impacts of the Electric Power Supply Options of the Lukens Steel Company, page 33. Job Loss of 560 translates to Job Loss of 840 in all of Pennsylvania.
(13) Industrial Job Loss (11) times Multiplier (12).
(14) Disposable Income Loss Equal to Residential and Commerical Effect (5).
(15) Percent Spent out of Pennsylvania = 1-(1/multiplier).
(16) State Income Loss equals Disposable Income Loss (14) times Portion Spent in state (1.0-(15)).
(17) Derived from U.S. Department of Commerce, Bureau of Economic Analysis, 1980 OBERS BEA Regional Projections, Volume One, Methodology, Concepts, and State Data, State 42, Table 3. (1972 CPI = 125.3, 1980 CPI = 246.8, 1985 CPI estimated by assuming 7.0 percent annual growth after 1980. CPI Data from EEI, 1980 Statistical Yearbook of the Electric Utility Industry, Table 82.)
(18) 1980 OBERS BEA Regional Projections, State 42, Table 4.
(19) State Income Loss (16) times State Employment (18) divided by State Income (17).
(20) See note (12).
(21) Multiplier times Equivalent Job Loss (19).
(22) Industrial Job Loss (13) plus Residential and Commercial Job Loss (21).

Cross-Examination
GSA Exhibit No. 11
R-850152
1-7-86
Phila
jat

PHILADELPHIA ELECTRIC COMPANY

Results of Cost-of-Service Studies at the Then Present Rates
Four Coincident Peak Method
1974 through 1984

Line	Rate Class	1974 (1)	1975 (2)	1976 (3)	1978 (4)	1979 (5)	1981(a) (6)	1982(b) (7)	1983(c) (8)	1984 (9)
	Rate of Return									
1	High Tension	5.51%	7.92%	7.84%	9.41%	9.86%	7.48%	9.69%	11.08%	11.65%
2	Primary	7.50	10.20	9.66	10.08	10.64	8.62	11.12	13.29	14.39
3	Secondary	10.49	11.40	11.21	13.21	12.72	11.32	13.09	15.36	15.57
4	Residential	5.12	6.40	6.22	7.30	6.15	7.09	4.78	6.28	5.87
5	Street Lighting	4.85	6.16	6.25	6.52	5.18	5.15	5.37	7.08	8.72
6	Total Company	6.00%	7.84%	7.77%	9.04%	8.64%	6.23%	8.17%	9.62%	9.70%
	Deviation									
7	High Tension	- 0.49	+ 0.08	+ 0.07	+ 0.37	+ 1.22	+ 1.25	+ 1.52	+ 1.46	+ 1.95
8	Primary	+ 1.50	+ 2.36	+ 1.89	+ 1.04	+ 2.00	+ 2.39	+ 2.95	+ 3.67	+ 4.69
9	Secondary	+ 4.49	+ 3.56	+ 3.44	+ 4.17	+ 4.08	+ 5.09	+ 4.92	+ 5.74	+ 5.87
10	Residential	- 0.88	- 1.44	- 1.55	- 1.74	- 2.49	- 3.14	- 3.39	- 3.34	- 3.83
11	Street Lighting	- 1.15	- 1.68	- 1.52	- 2.52	- 3.46	- 1.08	- 2.80	- 2.54	- 0.98

(a) Year Ending March 31, 1981.
(b) Year Ending March 31, 1982.
(c) Year Ending October 31, 1983.

Source: PAIEUG Exhibit 1, Schedule 7 in Docket No. R-842590.

Cross-Examination
GSA Exhibit No. 12
R-850152
1-7-86
Phila
jat

PHILADELPHIA ELECTRIC COMPANY

Comparison of Cost-of-Service Study Results
Four Coincident Peak Method

Line	Rate Class	Last Case* (R-842590) (1)	This Case (R-85012) (2)
1	Test Year: Costs	Dec. 1984	June, 1986
2	: Alloc. Factors	198_	1984
	Rate of Return		
3	High Tension	15.61%	5.51%**
4	Primary	18.80	6.21
5	Secondary	18.77	8.07
6	Residential	9.54	6.39
7	Street Lighting	12.04	12.58
8	Total Company	13.40%	6.39%
	Deviation		
9	High Tension	+ 2.21	- 0.88**
10	Primary	+ 5.40	- 0.18
11	Secondary	+ 5.37	+ 1.68
12	Residential	- 3.86	0.00
13	Street Lighting	- 1.36	+ 6.19
Source:		PAIEUG Exhibit 1, Schedule 3	WFS-1, Pages 6 and 6a

* At PECO's proposed rates.
** Includes SEPTA and AMTRAK

Staff Exh 19

Q.DR-Staff-RSS-11. Provide copies of all contracts governing the transfer of power between the Company and AMTRAK and vice versa if applicable.

A.DR-Staff-RSS-11. A copy of the contract for service to Amtrak has been provided to the Commission staff

Responsible Witness: R. C. Williams, Manager, Rate Division

AGREEMENT

between

NATIONAL RAILROAD PASSENGER CORPORATION (AMTRAK)

and

PHILADELPHIA ELECTRIC COMPANY (PE)

for

ELECTRIC SERVICE

and

MAINTENANCE AND OPERATION OF

FREQUENCY CONVERSION FACILITIES

for

RAILROAD TRACTION SERVICE

AGREEMENT, dated as of the First day of January, 1984, by and between National Railroad Passenger Corporation (hereinafter called "AMTRAK") and Philadelphia Electric Company (hereinafter called "PE") for electric traction and signal service requirements of AMTRAK.

WHEREAS, AMTRAK is a mixed-ownership government corporation, and not an agency of the United States Government, created by virtue of Act of Congress and organized and existing pursuant to the laws of the District of Columbia, with its headquarters in Washington D.C., and a place of business at 1617 John F. Kennedy Boulevard, Philadelphia, Pennsylvania.

WHEREAS, PE is a public utility organized and existing under the laws of the Commonwealth of Pennsylvania with its principal place of business at 2301 Market Street, Philadelphia, Pennsylvania.

WHEREAS, PE supplies to AMTRAK electric traction and signal energy in the corridor from Waterside, New York to Perryville, Maryland to Thorndale, Pennsylvania.

WHEREAS, PE, pursuant to the provisions of this Agreement, will continue to own, operate and maintain the conversion facilities necessary to convert standard 60 hertz three phase power to 25 hertz single phase power as required by AMTRAK.

NOW, THEREFORE, intending to be legally bound hereby, the parties agree as follows:

1. Term of Agreement and Effective Date

This Agreement shall be for a term of one year and thereafter from year to year unless terminated by written notice sent by either party on or before November 1st of any year, in which event this Agreement shall terminate on the date specified in said notice (which date may be any day selected by the terminating party or midnight December 31st of the year during which notice is sent, whichever date is later). The first term shall begin on the First day of January, 1984. To the extent that the payments by AMTRAK to PE for any period subsequent to January 1, 1984, have been less than the charges payable hereunder, AMTRAK shall pay the difference to PE within 60 days of the execution of this Agreement. To the extent that payments by AMTRAK to PE for any period subsequent to January 1, 1984, have been in excess of the charges payable hereunder, PE shall credit the difference to AMTRAK within 60 days of the execution of this Agreement.

1A. Option to Purchase

AMTRAK shall have the right at any time during the term of this Agreement and any renewal or extension hereof, upon thirty days' written notice, to purchase each of the conversion facilities at Richmond, Lamokin and Somerset substations (hereinafter "the facilities") for One Dollar ($1.00) and upon such other reasonable terms and conditions as may be appropriate. In the event that the exercise of such option does not result in AMTRAK consummating the purchase of some or all of

those facilities, this option to purchase will not lapse but will continue during the term of this Agreement and any renewal or extension hereof. In the event that AMTRAK exercises its option to purchase, then all charges payable by AMTRAK pursuant to Paragraph 7 of this Agreement shall terminate to the extent that those charges relate to the facility or facilities purchased by AMTRAK.

2. Rate

AMTRAK agrees, subject to the provisions of Paragraph 10 of this Agreement, to pay for electric service supplied hereunder for traction and signal service requirements of the railroad, in accordance with the then applicable tariff rate, currently Rate "HT", High Tension Power, and the rules, regulations and all applicable riders of the tariff of PE (Electric Tariff - PA. P.U.C. No. 26) on file with the Pennsylvania Public Utility Commission, and any supplements thereto or any tariffs issued to supersede said tariff, which may hereafter be filed. In addition, AMTRAK agrees to pay routine costs for the operation and maintenance of frequency converters at Richmond, Lamokin, Somerset, and Metuchen Substations in accordance with Paragraphs 7 and 8 hereof. All charges billed to AMTRAK pursuant to this Agreement are subject to audit by AMTRAK or its representatives.

3. Characteristics of Service

Electric energy hereunder shall be supplied by PE to AMTRAK at Richmond, Lamokin, Somerset, and Metuchen Substations

in the form of unregulated alternating current, 60 hertz, 3 phase, 3 wires, nominally 13,200 volts. Energy may be received at 25 hertz, single phase, through the interconnection with Pennsylvania Power & Light Company at Thorndale and Baltimore Gas and Electric Company at Perryville for alternate supply and use under the conditions set forth in Paragraphs 9 and 10 hereof. Service for incidental requirements for signal system and other miscellaneous uses will be supplied at such available frequency and voltage as may be established by PE from time to time and separately metered and billed under the appropriate tariff.

4. Available Capacity

PE will make available to AMTRAK facilities which will convert the 60 hertz, 3 phase energy to 25 hertz, single phase energy with the designated output capacities at the following existing locations:

	Number of Units	Output Capacity of Each Unit in Kilowatts	Total Output Capacity in Kilowatts	Total Output Capacity in Kilovolt-Amperes
Lamokin Substation	3	16,500	49,500	70,700
Richmond Substation	2	30,000	60,000	85,700
Somerset Substation	3	6,000	18,000	22,500
Metuchen Substation	1	25,000	25,000	35,700
Total			152,500	214,600
Largest Unit for Reserve			30,000	42,850
Aggregate Firm Output Capacity			122,500	171,750

With all of the above-stated units in operative condition, the aggregate firm conversion output capacity made available hereunder will not exceed 122,500 kilowatts and 171,750 kilovolt-amperes.

5. Contract Limits

The minimum monthly billing demand under this Agreement will be 49,000 kilowatts, and PE shall not be required to supply three phase, 60 hertz input capacity for a billing demand in excess of 122,500 kilowatts, such supply to be in accordance with provisions as set forth herein. AMTRAK agrees to pay each month during the term of this Agreement, or any extension hereof, such minimum charges as required by the then applicable tariff, currently Rate "HT", for these contractual limits.

6. Delivery and Metering Points

All electrical capacity and energy to be furnished hereunder will be delivered to AMTRAK and metered at the following locations:

(a) At the 60 hertz, 3 phase, 13,200 volt service entrance to Lamokin Substation.

(b) At the 60 hertz, 3 phase, 13,200 volt service entrance to Richmond Substation.

(c) At the 60 hertz, 3 phase, 13,200 volt service entrance to Somerset Substation.

(d) At the 60 hertz, 3 phase, 13,200 volt service entrance to Metuchen Substation.

(e) At the existing metering locations provided by Amtrak at Perryville, Maryland and Thorndale, Pennsylvania under conditions set forth in Paragraphs 9 and 10 hereof.

7. Charges for Operation and Maintenance of Richmond, Lamokin and Somerset Substations

In consideration of PE owning, operating and maintaining frequency conversion facilities at Richmond, Lamokin and Somerset Substations necessary to convert energy from 60 hertz, 3 phase power, to 25 hertz, single phase power, AMTRAK will pay PE, in addition to the charges under the then applicable tariff, currently Rate "HT", monthly charges for daily operation functions and routine maintenance of these conversion facilities in accordance with Schedule 1 hereof.

In addition, AMTRAK shall reimburse PE for actual costs of major repairs, major parts replacement and capital expenditures at these conversion facilities at the above substations not included in Schedule 1 which are required following the effective date hereof. Major repairs and major parts replacement includes work that is not normally performed by PE under its current standard practices as routine repair or maintenance. Charges for major work and capital expenditures will be made in accordance with Schedule 2 hereof. Written approval based upon an estimate shall be obtained by PE from AMTRAK prior to making any such expenditure. AMTRAK shall

reimburse PE for these expenditures within 60 days after presentation of the bill. Nothing herein shall obligate AMTRAK to pay PE for capital costs incurred as a result of PE's failure properly to maintain said substations in accordance with the work program outlined in Schedule 1.

8. Special Facilities Charges for Operation of Metuchen Substation

AMTRAK shall, in addition to the charges set forth in Paragraph 7 hereof, reimburse PE for its costs to convert and deliver power at Metuchen Substation.

On January 12, 1932, PE entered into an agreement with Public Service Electric and Gas Company (hereinafter "PS"), under the terms of which PS agreed to take firm emergency power from PE and to transmit and deliver such firm emergency power for the account of PE at Metuchen Switching Station, and since the Metuchen Switching Station of PS and the 60 hertz transmission system of PS as interconnected with that of PE form the most practical and economical means of transmitting from the power sources of PE and delivering to AMTRAK such firm emergency power, it is agreed that AMTRAK shall reimburse PE for its contractual payments and obligations to PS arising from the January 12, 1932 agreement, excluding those obligations under paragraph VI, "Liquidation of Investment upon Termination." The agreement between PS and PE dated January 12, 1932 is incorporated herein by reference. Such reimbursement shall commence from the effective date of this Agreement and shall

consist of, in part, a monthly charge for operation and routine maintenance in the amount of $38,445, or as modified by PS as permitted by their agreement and the cost of any renewals or replacements to the Metuchen facilities incurred by PE.

In addition, AMTRAK shall reimburse PE for actual capital expenditures for new or replaced facilities at the above substation which may be required following the effective date hereof. Written approval based upon an estimate shall be obtained by PE from AMTRAK prior to making any such expenditure. AMTRAK shall reimburse PE for these capital expenditures within 60 days after presentation of the bill.

9. Operation at Perryville and Thorndale

Power may also be supplied through interconnecting facilities and metered at 25 hertz, single phase on AMTRAK'S transmission system at Perryville, Maryland and Thorndale, Pennsylvania.

AMTRAK shall continue to provide, at said metering points, suitable switches to permit such parallel operation under normal operating conditions and for separating and disconnecting same in emergencies.

Whenever an emergency exists, the systems shall be separated at Perryville and/or Thorndale. Parallel operation may be resumed after normal conditions are re-established. The load dispatching organizations of AMTRAK and PE shall cooperate and keep each other fully informed in order to accomplish the purpose of such parallel operation. The AMTRAK load dispatching

organization shall have final jurisdiction over its power system.

AMTRAK shall continue to make available such existing circuits or channels for communication and telemetering as are required by PE.

10. Determination of Billing Kilowatts and Kilowatt Hours

A. Demand Charge

The monthly billing demand of AMTRAK shall be the greatest sum of the coincidental thirty-minute demands measured at the Lamokin, Richmond, Somerset and Metuchen delivery points, adjusted for power factor and not less than 49,000 kilowatts. The demands registered on the meters at Perryville and Thorndale will not be included in the computation of the monthly billing demand.

B. Energy Charge

The monthly billing kilowatt-hours of AMTRAK shall be the sum of the kilowatt-hours measured at Lamokin, Richmond, Somerset, Metuchen, Perryville, and Thorndale delivery and metering points. For the purpose of billing, meter registrations indicating energy flows north at Perryville and east at Thorndale will be deemed positive and meter registrations indicating energy flows south at Perryville and west at Thorndale will be deemed negative.

11. Indemnification and Insurance

A. With respect to claims, damages, or lawsuits directly or indirectly related to maintenance or operation of the Richmond, Lamokin, and Somerset substations pursuant to this Agreement:

(i) PE shall defend, indemnify, and hold harmless Amtrak, its officers, employees, agents, contractors, and successors from any and all damages, claims, or lawsuits for personal injury, death, or property damage, sustained by PE, its officers, employees, agents, contractors, or invitees; and

(ii) Amtrak shall defend, indemnify and hold harmless PE, its officers, employees, agents and successors from any and all damages, claims or lawsuits for personal injury, death, or property damage, sustained by any person or party other than PE, its officers, employees, agents, contractors, or invitees.

B. Each party to this Agreement shall at its sole cost and expense procure, provide and deliver to the other party and thereafter maintain in effect during the term of this Agreement, public liability insurance, as well as contractual liability insurance covering all liabilities assumed by the party under paragraph (a) of this section, without exception or restriction of any kind. Said insurance shall be in limits of not less than Five Hundred Thousand Dollars ($500,000.00) single limit, bodily

injury, death, and/or property damage whether of PE, Amtrak, or others, and shall contain a waiver of subrogation against the other party, and said insurance shall be with such companies and in such form as shall be acceptable to the other party. Said insurance shall be endorsed to provide that the other party will be notified in writing by the insurance carrier at least thirty (30) days in advance of any cancellation or charges which modify the coverage provided thereunder. The providing of such insurance shall not be deemed a limitation of the liability of a party as provided in this Agreement, but shall be additional security therefore. Each party reserves the right to self insure in lieu of purchasing the liability insurance required in this section.

12. Disputes

Other than matters which are within the exclusive jurisdiction of the Pennsylvania Public Utility Commission, any dispute, claim or controversy between the parties hereto relating to the interpretation, application or implementation of this Agreement shall be submitted to binding arbitration in the following manner:

A. The party wishing to initiate arbitration shall notify the other in writing of its desire to submit the matter to arbitration. Such notice shall contain a statement of the issues and shall designate one arbitrator.

B. Within fifteen (15) days of such notice, the other party shall respond in writing by designating a second arbitrator.

C. Within fifteen (15) days of designation of the second arbitrator, the two arbitrators designated as aforesaid shall appoint a third arbitrator to serve as chairman. If the two arbitrators so designated fail to appoint a third arbitrator within the time provided herein, the initiating party may request the Chief Judge of the United States District Court for the district in which the said party's principal office is located to appoint a third arbitrator.

D. The arbitrators shall promptly hear and decide the issues submitted to them in accordance with the rules for commercial arbitration of the American Arbitration Association, giving to both parties reasonable notice of the time and place of hearing.

E. The arbitrators, or a majority of them, shall promptly render their decision and award in writing to the parties.

F. Any arbitration award rendered hereunder shall be final and binding upon the parties. Judgment upon any such arbitration award may be entered in any United States District Court having jurisdiction over the parties.

G. Each party shall bear its own costs and expenses of arbitration, including the cost and any expenses of the arbitrator designated by it. The fees of the chairman and any other remaining expenses of the arbitrators shall be borne equally by the parties.

H. The parties agree that every reasonable effort shall be made to obtain the prompt resolution of disputes which are submitted to arbitration pursuant to this Agreement. The parties further specifically agree that neither party shall be entitled to delay the arbitration process significantly by insisting on the application of extensive procedural steps or other actions which cannot clearly be expected to improve the ability of the arbitrators to render a reasonable and fair decision.

13. Assignability

This Agreement may not be assigned by AMTRAK to any agency, corporation or other entity which assumes responsibility for the railroad electric traction service without the prior written consent of PE.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date state above.

ATTEST: Courtney S. Marks
Corporate Secretary

NATIONAL RAILROAD PASSENGER CORPORATION (AMTRAK)

BY: G L Sharp
G. L. Sharp - General Manager
Operations - East

ATTEST:

PHILADELPHIA ELECTRIC COMPANY (PE)

BY:

DESCRIPTION AND CHARGES FOR OPERATING AND MAINTENANCE COSTS AT RICHMOND, LAMOKIN AND SOMERSET SUBSTATIONS

Fixed monthly charge for operation and routine maintenance:

Richmond - $ 56662 /month *
Lamokin - $ 82485 /month *
Somerset - $ 13117 /month *

Operation shall include daily operation of Richmond and Lamokin Substations. Routine maintenance and inspections shall be performed periodically at Richmond, Lamokin and Somerset Substations in accordance with established PE practices to keep equipment in good operating condition. The routine maintenance and inspection will be performed as outlined below and will include the replacement of minor parts as required in accordance with Paragraph 7 of the Agreement. Recommendations for major repairs and major parts replacement to be done in accordance with the said Paragraph 7 will be made following periodic inspections.

1. Circuit Breakers:
   Inspection and time breakers, replace contacts, change or filter insulating oil as necessary.

2. Disconnects and Ground Switches:
   Inspect, clean, lubricate contacts and mechanism.

3. Frequency Converters:
   As required, remove end bells clean and inspect windings. Inspect for oil leaks; inspect frame shift tracks, limit switches, motors and contactors; lubricate, inspect high pressure and circulating oil pumps. Perform electrical tests on motor generator, motor exciter, generator exciter, and auxiliary exciter. Perform protective relaying tests.

4. Starting Transformers:
   Perform appropriate electrical tests and replace oil as necessary.

5. Batteries, Chargers and M-G Sets:
   Inspect and test.

6. Building Equipment:
   Inspect doors, crane and air cleaning systems.

SCHEDULE 1

7. Cooling Water and DC Supply at Richmond: Maintain the filtered water system for cooling and a DC power source for operation of these frequency converters.

Hourly operation of Somerset Substation - upon request by AMTRAK $107.00/hour of operation*

* Above charges are subject to escalation based on general wage adjustment of PE, such escalation to be applied to the billings following effective date of such adjustment.

SCHEDULE 1

CHARGES FOR MAJOR REPAIRS, MAJOR PARTS REPLACEMENT AND CAPITAL EXPENDITURES AT RICHMOND, LAMOKIN AND SOMERSET SUBSTATIONS

The charges for PE labor and material for major repairs, major parts replacement and capital expenditures performed on the frequency conversion facilities at Richmond, Lamokin and Somerset Substations at the request of AMTRAK are to be as follows:

1. Cost of labor increased by current percentage to cover labor additives.

2. Material at storeroom prices plus the current percentage for store and purchasing expense.

3. Transportation at PE rates.

4. Plus 10% of the above costs (1 to 3 inclusive) for administration and profit.

SCHEDULE 2

DIRECT TESTIMONY OF

RAYMOND C. WILLIAMS

APRIL, 1984

Q. Will you first explain how the rate increase was spread among the various classes of customers.

A. Yes. With Supplement No. 3, like all rate design efforts, several factors were considered in developing the distribution of the rate increase to the various classes of customers.

The principal factors that I considered were the results of our current cost of service study and the approach to the distribution of rate increases that had been ordered by the Commission in our last two rate cases at Dockets R-822291, R-811626. In each of these cases the rate increase was distributed to each rate classification in proportion to the revenue from that classification after all fuel revenue was removed. In each of these cases a limitation was placed on the ratio of the rate of return of an individual class to the system average rate of return. The revenue eliminated by this limitation on the rate of return from an individual class was collected from all of the remaining classes whose rate of return was less than the system average rate of return. In this case we have used a 140% limitation on the rate of return of any class as compared to the system average rate of return.

PECO Statement No. 10B

R-850152
1-7-86
Phila
fat

PHILADELPHIA ELECTRIC COMPANY

ELECTRIC OPERATIONS

REBUTTAL TESTIMONY OF

RAYMOND C. WILLIAMS

Docket No. R-842590

September, 1984

Rate	Increase Per Original Cost of Service Study		Increase Per Revised Cost of Service Study	
	$(000)	%	$(000)	%
R	$75,532	11.8%	$74,842	11.7%
RH	6,563	6.7	6,576	6.7
OP	844	3.4	848	3.5
GS	14,737	4.6	15,006	4.7
PD	12,161	6.9	12,649	7.2
HT	37,019	4.4	36,980	4.3
SLP	1,732	13.9	1,712	13.7
SLS	2,816	17.5	2,793	17.4

In order to present as accurate a study as possible, we would adopt the revised class revenue allocations as the Company's proposal in this proceeding. Mr. Rosenthal's further proposal to reject the proposed 140% cap, however, should not be accepted, as it would move Rates GS and PD further away from the system average return, which is inconsistent with the results of the cost of service study and not in accordance with prior Commission decisions.

Q. OCA witness Miller proposes that the increase be allocated across the board including fuel costs with a 140% cap on class rates of return. Would you please comment on this proposal?

A. Yes. First, this proposal is based upon the revised cost of service study presented by Mr. Miller. The various errors and flaws in Mr. Miller's study are fully addressed by Mr. Sundermeir, and fully support rejection of Mr. Miller's proposed class revenue allocations. Second, I believe my method of allocating the increase across the

board without fuel costs more properly reflects the fact that increases in fuel costs have not contributed to the base rate increase requested in this proceeding. Third, proposals similar to that advanced by Mr. Miller have been rejected by the Commission in the Company's last two rate proceedings.

Fourth, in any event, Table 10 to Mr. Miller's testimony demonstrates that even employing the results of his cost of service study the Company's proposed class revenue allocations move all classes of service toward the system average rate of return, and with the exception of the street lighting classes and a one percentage point difference for Rate PD, the Company's allocations move classes of service closer to system average than the class revenue allocations proposed by Mr. Miller.

Finally, as explained by Mr. Sundermeir, the principal impact of Mr. Miller's study is to allocate greater costs to customer classes with greater off peak usage. As a policy matter, I believe this is inappropriate as it would discourage conservation and reductions to peak demand.

Q. Witness Miller argues that the Company's exclusion of fuel costs in the allocation of the increase is inconsistent with its proposed ECR reduction. Do you agree?

A. No, I do not. The true measure of any proposed allocation

PAIEUG
Exh. No. 7
Page 1 of 2

STATEMENT NO. 2

R-850152
1-7-86
Phila
Sat

DIRECT TESTIMONY OF

RAYMOND C. WILLIAMS

FEBRUARY 1983

Q. Will you first explain how the rate increase was spread among the various classes of customers.

A. Yes. With Supplement No.40, like all rate design efforts, several factors were considered in developing the distribution of the rate increase to the various classes of customers. The two principal factors that I considered were the results of our cost of service study and the fact that energy costs do not have any part in the present need for additional revenue.

An energy cost of about 2.8¢ per kilowatt-hour is now included in our base rates. These energy costs are recovered under the provisions of the Energy Cost Rate and the application of an over-under collections mechanism on an annual basis assures exact reconciliation of total estimated energy cost with total actual energy cost; therefore, energy costs do not contribute to the instant need for additional revenue. I believe it is appropriate that the base rate increase should be distributed to each rate classification proportionately to the revenue from that classification excluding all fuel but subject to a limitation which is discussed below. The application of an equal percentage rate increase to revenues from all classes of customers after total energy costs are removed results in rates of return for the various classes that move generally toward the system average rate of return. This reduces the disparity between the various rates of return from the individual classes, and is consistent with proper cost of service principle.

R-85015 2

Statement No. 2A 1-7-86
Phila
Jan

Philadelphia Electric Company
Electric Operations

REBUTTAL TESTIMONY

OF

RAYMOND C. WILLIAMS

July 1983

REBUTTAL TESTIMONY OF RAYMOND C. WILLIAMS

Q. Mr. Williams, what is the purpose of your rebuttal testimony?

A. The purpose of my rebuttal testimony is to respond to criticisms and proposals by opposing parties regarding the Company's proposed class revenue allocations and residential rate design.

Q. Do you agree with Dr. Rohr's proposal that the increase granted by the Commission in this proceeding be allocated across the board including fuel costs?

A. No, I do not. First, as explained in my direct testimony, the Company recovers fuel cost increases through the Energy Cost Rate; therefore energy costs do not contribute to the instant need for additional revenue. For this reason, I believe it would be more appropriate to allocate the increase across the board excluding fuel costs, as approved by the Commission in the company's most recent rate proceeding. Second, the only support offered by Dr. Rohr for his proposal is his marginal cost study as set forth at page 20 of his testimony. As the table on page 20 shows, the results of Dr. Rohr's study equally support my proposed method of allocating the increase, particularly when one focuses on Case B, which includes marginal distribution costs.

(under all proposals except that of Dr. Rohr) because its rate of return is below the average for the Company, it does not seem to be the appropriate time to propose further disproportional increases within the residential class.

Q. Drs. Feldman and Wirtshafter assert that certain apartment owners who take service under Rate HT and then submeter and resell to their tenants at Rate RH are losing money under PECO's rate schedules. Do you agree?

A. Drs. Feldman and Wirtshafter incorrectly compare the 5.7¢/kwh end-block price of Rate RH with the total average price paid by a Rate HT customer who uses no energy in the tail block. During the winter months, the total average price of Rate RH at 1,000 kwh is 7.4¢/kwh, at 2,000 kwh is 6.6¢/kwh and during the summer Rate RH at 1,000 kwh is 8.8¢/kwh. These are the prices that should be compared to the average price of Rate HT winter and summer of 6.2¢/kwh. There is still a margin of return for the owner.

Q. Mr. Williams does the design of Rate HT properly reflect line losses?

A. Yes. Rate HT is designed on the basis of cost/revenue curves similar to those set forth at pp. 46-49 of

Exhibit WFS-1, and the costs used to develop these curves properly reflect line losses. Therefore, in allocating the increase across the board excluding fuel costs, it is appropriate to remove fuel costs on a line loss adjusted basis.

Q. Mr. Williams, Judge Shane has requested that an existing PECO bill for a Rate R and RH customer be made a part of the record in this case. Have you obtained copies of these existing bills?

A. Yes, I have attached hereto as Exhibit RCW-3 examples of various Rate R and RH bills. I have included in the exhibit not only a simple bill where the customer is fully paid each month and has only Rate R, but also examples of customers with off-peak service on Rate OP, gas service, budget billed customers, and customers with special agreements. My purpose in including these various types of bills is to demonstrate that there are a myriad of different billing situations that must be considered when any change is made to the billing format.

Q. Has the Company recently revised its residential bill?

A. Yes, in May 1982 PECO converted from a simple postcard type bill to the present multipage envelope bill that was designed with the assistance of customer groups and

1-7-86 Phila
IR-PAIEUG-1-50 sat

Q. IR-PAIEUG-1-50. Please provide a copy of all workpapers used to develop the proposed charges for Rate HT.

A. IR-PAIEUG-1-50. The requested information is included as Attachment IR-PAIEUG-1-50.

Responsible Witness: W. F. Sundermeir, Supervisor, Rate Division

PHILADELPHIA ELECTRIC COMPANY - ELECTRIC OPERATIONS
HIGH TENSION CLASS OF SERVICE
TOTAL ANNUAL UNIT COST-TO-SERVE BASED ON
TWELVE MONTHS ENDED 6/30/86

	TOTAL CLASS	COST COMPONENT DEMAND 4-PEAK	DEMAND CLASS PEAK	ENERGY	CUSTOMER
COST TO SERVE(1000$)					
OPERATING EXPENSE					
TOTAL EXPENSE ALLOCATED ON A SCHEDULES	184511	180045	4466	0	0
TOTAL EXPENSE ALLOCATED ON C SCHEDULES	319222	0	0	319222	0
TOTAL EXPENSE ALLOCATED ON D SCHEDULES	2002	0	0	0	2002
TOTAL EXPENSE ALLOCATED ON B & E SCHEDULES (1)	50237	48495	1203	0	539
TOTAL EXPENSE ALLOCATED ON F & G SCHEDULES (5)	109881	105073	3882	0	926
TOTAL EXPENSE ALLOCATED ON H SCHEDULES	6096	4122	137	1798	39
TOTAL OPERATING EXPENSE	671949	337735	9688	321020	3506
CARRYING CHARGES ON INVESTMENT OF					
RETURN ON RATE BASE (2) AT 12.0200%	308235	288680	10596	6402	2557
INCOME TAXES (3)	140007	131125	4813	2908	1161
REVENUE TAXES (4)	22534	15239	505	6645	145
TOTAL CARRYING CHARGES	470776	435044	15914	15955	3863
TOTAL ANNUAL REVENUE REQUIREMENT	1142725	772779	25602	336975	7369
COST FUNCTION DIVISOR		2135188	2381938	12947425	2316
TOTAL UNIT ANNUAL COST TO SERVE ($/KW,$/KWH,$/CUST)		361.92551	10.74839	0.02603	3181.77893
			335.18		
ALLOCATION TO COST COMPONENT (SUM OF A & D) EXPENSE	186513	180045	4466	0	2002
-- PERCENTAGES		0.96532	0.02394	0.0	0.01073
ALLOCATION TO COST COMPONENT BASED ON ALLOCATED O.C. RATE BASE ELEMENT					
TOTAL O.C. RATE BASE ELEMENT ALLOCATED ON A	3105159	2994512	110647	0	0
TOTAL O.C. RATE BASE ELEMENT ALLOCATED ON C	53265	0	0	53265	0
TOTAL O.C. RATE BASE ELEMENT ALLOCATED ON D	26381	0	0	0	26381
TOTAL O.C. RATE BASE ELEMENT ALLOCATED ON E (1)	50496	48745	1209	0	542
TOTAL O.C. RATE BASE ELEMENT ALLOCATED ON F & G (5)	-670951	-641592	-23707	0	-5652
TOTAL O.C. RATE BASE ELEMENT	2564350	2401665	88149	53265	21271
-- PERCENTAGES		0.93656	0.03437	0.02077	0.00829
ALLOCATED TO COST COMPONENT ON SAME SCHEDULE AS (2) SINCE INCOME TAXES ARE PROPORTIONAL TO RETURN ALLOCATED TO COST COMPONENT BASED ON TOTAL REVENUE REQUIREMENT					
RETURN	308235	288680	10596	6402	2557
INCOME TAXES	140007	131125	4813	2908	1161
OPERATING EXPENSE	671949	337735	9688	321020	3506
TOTAL	1120191	757540	25097	330330	7224
-- PERCENTAGES		0.67626	0.02240	0.29489	0.00645
ALLOCATION TO COST COMPONENT (SUM OF A & D) PLANT	3131540	2994512	110647	0	26381
-- PERCENTAGES		0.95624	0.03533	0.0	0.00842

Attachment IR-PAIEUG-1-50

1985 -TARIFF 26, #3 ,SYSTEM RETURNS
CLASS

URS SE	F(M)	ENERGY CMPNT	DEMAND CMPNT	CUSTOMER COMPONENT 100.	500.	1300.	50000.	0.	0.	TOTAL COST TO SERVE 100.	500.	1300.	50000.	0.	0.
		C 2.603	$335.18			$ 3181.78									
0.	0.0	0.0	0.0	2.65	0.53	0.20	0.01	0.0	0.0	2.65	0.53	0.20	0.01	0.0	0.0
50.	0.266	1.30	7.43	2.65	0.53	0.20	0.01	0.0	0.0	11.38	9.26	8.94	8.74	0.0	0.0
00.	0.432	2.60	12.07	2.65	0.53	0.20	0.01	0.0	0.0	17.32	15.20	14.87	14.67	0.0	0.0
50.	0.558	3.90	15.59	2.65	0.53	0.20	0.01	0.0	0.0	22.14	20.02	19.69	19.50	0.0	0.0
00.	0.660	5.21	18.43	2.65	0.53	0.20	0.01	0.0	0.0	26.29	24.17	23.84	23.65	0.0	0.0
50.	0.730	6.51	20.39	2.65	0.53	0.20	0.01	0.0	0.0	29.55	27.43	27.10	26.90	0.0	0.0
00.	0.778	7.81	21.73	2.65	0.53	0.20	0.01	0.0	0.0	32.19	30.07	29.74	29.55	0.0	0.0
00.	0.829	10.41	23.16	2.65	0.53	0.20	0.01	0.0	0.0	36.22	34.10	33.77	33.57	0.0	0.0
00.	0.854	13.01	23.85	2.65	0.53	0.20	0.01	0.0	0.0	39.52	37.40	37.07	36.87	0.0	0.0
00.	0.907	15.62	25.33	2.65	0.53	0.20	0.01	0.0	0.0	43.60	41.48	41.16	40.96	0.0	0.0
00.	0.969	18.22	27.07	2.65	0.53	0.20	0.01	0.0	0.0	47.94	45.82	45.49	45.29	0.0	0.0
30.	1.000	19.00	27.93	2.65	0.53	0.20	0.01	0.0	0.0	49.59	47.46	47.14	46.94	0.0	0.0

SLOPE OF COST TO SERVE VS. HOURS USE CURVE

OURS USE	TOTAL COST TO SERVE 100.	500.	1300.	50000.	0.	0.	AVERAGE SLOPE
150.	0.0964	0.0964	0.0964	0.0964	0.0	0.0	0.0964
300.	0.0668	0.0668	0.0668	0.0668	0.0	0.0	0.0668
600.	0.0375	0.0375	0.0375	0.0375	0.0	0.0	0.0375

HT Pricing

PHILADELPHIA ELECTRIC COMPANY-ELECTRIC OPERATIONS

RATE HT--7 LARGE CUSTOMERS

CALCULATION OF REVENUE INCREASE SUPPLEMENT NO. 15

12 MONTHS ENDED
JUNE 30, 1985 & 1986

12 MONTHS SAMPLE	SUPPLEMENT NO. 11 BILLS, KW AND KWH FROM SAMPLE	SUPPLEMENT NO. 11 PRICING	SUPPLEMENT NO. 11 REVENUE	SUPPLEMENT NO. 15 BILLS, KW AND KWH FROM SAMPLE	SUPPLEMENT NO. 15 PRICING	SUPPLEMENT NO. 15 REVENUE
	(1)	(2)	(3)=(1)*(2)	(4)	(5)	(6)=(4)*(5)
CUSTOMER CHARGE	84 BILLS	$ 220.45	$ 18,518	84 BILLS	$ 264.15	$ 22,189
ALL KW	3,188,205 KW	5.37	17,120,661	3,188,205 KW	9.44	30,096,655
FIRST 150 HRS USE	478,230,000 KWH	0.0739	35,341,197	478,230,000 KWH	0.0964	46,101,372
NEXT 150 HRS USE	448,837,000 KWH	0.0556	24,955,337	448,837,000 KWH	0.0668	29,982,312
ADDITIONAL USE	1,411,512,000 KWH	0.0376	53,072,851	1,411,512,000 KWH	0.0375	52,931,700
HIGH VOLTAGE DISCOUNT	2,527,620 KW	0.30	-758,286	2,527,620 KW	0.30	-758,286
BASE REVENUE			$ 129,750,278			$ 158,375,942

PHILADELPHIA ELECTRIC COMPANY-ELECTRIC OPERATIONS

RATE HT
CALCULATION OF REVENUE INCREASE SUPPLEMENT NO. 15
12 MONTHS ENDED
JUNE 30, 1985 & 1986

MONTHS SAMPLE	SUPPLEMENT NO. 11 BILLS, KW AND KWH FROM SAMPLE	PRICING	REVENUE	SUPPLEMENT NO. 15 BILLS, KW AND KWH FROM SAMPLE	PRICING	REVENUE	
	(1)	(2)	(3)=(1)*(2)	(4)	(5)	(6)=(4)*(5)	
STOMER CHARGE	27,512 BILLS	$ 220.45	$ 6,065,020	27,512 BILLS	$ 264.15	$ 7,267,295	
L KW	24,494,179 KW	5.37	131,533,741	24,494,179 KW	9.44	231,225,050	
RST 150 HRS USE	3,654,963,716 KWH	0.0739	270,101,819	3,654,963,716 KWH	0.0964	352,338,502	
XT 150 HRS USE	3,366,781,298 KWH	0.0556	187,193,040	3,366,781,298 KWH	0.0668	224,900,991	
DITIONAL USE	3,019,493,022 KWH	0.0376	113,532,938	3,019,493,022 KWH	0.0375	113,230,988	
GH VOLTAGE DISCOUNT>66KV			-22,128			-22,128	
GH VOLTAGE DISCOUNT-66KV			-81,385			-81,385	
GH VOLTAGE DISCOUNT-33 KV			-606,481			-606,481	
UB-TOTAL			$ 707,716,564			$ 928,252,832	
ACCOUNTED FOR			99,292			130,233	(A)
SE REVENUE			$ 707,815,856			$ 928,383,065	
TAL RATE HT---------- 12 MOS. ENDED 6/30/85							
ROFORMA BASE REVENUE-EXCL NSR & 7 LARGE CUSTS			$ 714,950,596			$ 937,741,109	(B)
IGHT SERVICE RIDER			3,520,126			3,520,126	
ASE REVENUE OF 7 LARGE CUSTS			129,750,278			158,375,942	
OTAL PROFORMA BASE REVENUE			$ 848,221,000			$ 1,099,637,177	
URTAILMENT RIDER			-113,000			-113,000	(C)
DJUSTED BASE REVENUE			$ 848,108,000			$ 1,099,524,177	
TAL RATE HT---------- 12 MOS. ENDED 6/30/86							
ASE REVENUE			$ 860,983,000			$ 1,116,182,000	(D)
URTAILMENT RIDER			0			-113,000	(C)
DJUSTED BASE REVENUE			$ 860,983,000			$ 1,116,069,000	

) (LN.9,COL.6 / LN.9,COL.3) * LN.10,COL.3
) (LN.11,COL.6 / LN.11,COL.3) * LN.12,COL.3
) ANALYSIS OF THE CURTAILMENT INDICATES A REVENUE LOSS
) (LN.15,COL.6 / LN.15.,COL.3) * LN.18,COL.3

Exhibit No. 10
R-850152
1-7-86
Phlas
Sat

Hypothetical Illustrating the Difference Between Using the Bary Curve and a Coincident Peak Demand Allocation Method for Intraclass Rate Design

Line	Description	1,000 kW Maximum 200 Hrs Use (1)	400 Hrs Use (2)	600 Hrs Use (3)	Total Rate Class (4)
1	Customer NCP	1,000 kW	1,000 kW	1,000 kW	3,000 kW
2	Coincidence Factor per Bary Curve	.660	.829	.907	
3	Contribution to Class NCP	660 kW	829 kW	907 kW	2,396 kW
4	Percent of Demand-Related Costs	27.5%	34.6%	37.9%	100.0%
5	Suppose that the 4CP Average Demands Were	630 kW	745 kW	775 kW	2,150 kW
6	Percent of Demand-Related Costs	29.3%	34.7%	36.0%	100.0%
7	Percent Difference in Demand Cost Responsibility Between Bary Curve and Coincident Peak Methods	6.5%	0.3%	(5.0)%	-