

FUEL COST & OF ( SUMMARY )  
 JULY 1986

AUGUST 1986

SEPTEMBER 1986

OCTOBER 1986

NOVEMBER 1986

DECEMBER 1986

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	JULY 1986	AUGUST 1986	SEPTEMBER 1986	OCTOBER 1986	NOVEMBER 1986	DECEMBER 1986
TOTAL OIL	8,426,000	8,066,000	8,227,000	6,922,000	8,408,000	10,649,000
TOTAL PECCOL	4,865,000	5,712,000	3,650,000	3,660,000	3,374,000	4,032,000
TOTAL GAS	537,000	632,000	557,000	317,000	100,000	4,032,000
HINENOUTH	5,202,000	5,272,000	5,168,000	5,468,000	4,004,000	0
TOTAL IC	1,129,000	2,168,800	966,400	475,500	493,500	4,887,000
NUCLEAR	19,451,941	16,213,277	11,519,182	11,319,838	10,804,909	11,582,197
OTHER	0	0	0	0	0	0
NET INTCH	1,378,000	23,000	0	0	0	0
PUR POWER	18,196	88,196	97,196	145,196	3,845,000	5,447,000
2PARTY TRANS	5,225,800	5,295,800	5,261,000	5,891,000	5,921,000	6,394,000
CONTRACT CAP	0	0	0	0	0	0
FUEL HANDL'G	839,735	831,978	812,520	816,886	810,367	810,703
OIL, COAL, GAS, HINENOUTH AND IC	20,159,000	21,850,600	18,408,400	16,840,500	17,187,500	19,840,500
TOTAL FOSSIL	20,159,000	21,850,600	18,408,400	16,840,500	17,187,500	19,840,500
FOSSIL AND NUCLEAR	39,609,941	36,064,077	29,922,582	28,160,338	27,992,409	31,422,697
TOTAL FUEL	39,609,941	36,064,077	29,922,582	28,160,338	27,992,409	31,422,697
INTERCHANGE AND PURCHASE	6,621,196	5,406,196	11,034,196	10,071,196	10,076,196	12,488,196
INTCH & PUR	6,621,196	5,406,196	11,034,196	10,071,196	10,076,196	12,488,196
FOSSIL, NUCLEAR, INTERCHANGE, PURCHASE AND OTHER	41,231,137	41,470,273	40,956,778	39,231,534	39,066,605	43,910,893
TOTAL ENERGY	41,231,137	41,470,273	40,956,778	39,231,534	39,066,605	43,910,893
TOTAL ENERGY AND CONTRACT CAPACITY	41,231,137	41,470,273	40,956,778	39,231,534	39,066,605	43,910,893
SUBTOT	41,231,137	41,470,273	40,956,778	39,231,534	39,066,605	43,910,893
ENERGY, CONTRACT CAPACITY AND FUEL HANDLING	42,070,872	42,302,251	41,769,298	39,048,420	38,876,972	44,721,596
GRAND TOTAL	42,070,872	42,302,251	41,769,298	39,048,420	38,876,972	44,721,596

	JANUARY 1987	FEBRUARY 1987	MARCH 1987	APRIL 1987	MAY 1987	JUNE 1987	TOTAL
FUEL COST & OF ( SUMMARY )							
TOTAL OIL	16,190,000	9,751,000	7,342,000	6,038,000	4,856,000	7,681,000	102,570,000
TOTAL RECOAL	6,603,000	5,147,000	5,859,000	5,135,000	5,016,000	4,777,000	57,570,000
TOTAL GAS	0	0	41,000	596,000	566,000	465,000	3,659,000
KINHOUTH	5,329,000	4,578,000	4,203,000	4,260,000	5,846,000	5,230,000	60,331,000
TOTAL IC	801,000	807,700	169,800	460,000	146,000	292,000	6,573,200
ACCLEARN	13,690,958	10,644,141	11,646,438	7,714,046	8,444,899	7,981,924	134,036,750
OTHER	0	0	0	0	0	0	0
NET INTCH	(12,675,000)	4,921,000	1,760,000	11,493,000	10,977,000	23,511,000	60,393,000
PUR POWER	1,007,200	657,200	435,280	174,280	61,200	79,280	3,716,856
SPARTY TRAYS	5,855,000	5,199,000	5,392,000	4,939,000	4,471,000	4,550,000	64,398,000
CONTRACT CAP	0	0	0	0	0	0	0
FUEL HANDL'G	0	0	0	0	0	0	4,922,189
OIL, COAL, GAS, KINHOUTH AND IC	28,931,000	20,283,700	17,394,800	16,009,000	16,454,000	18,465,000	232,703,200
TOTAL FOSSIL							
FOSSIL AND NUCLEAR	42,629,958	30,927,841	29,041,238	24,603,046	24,918,899	26,446,924	366,739,950
TOTAL FUEL							
INTERCHANGE AND PURCHASE	(5,815,720)	10,777,280	7,587,280	16,606,280	15,509,280	20,140,280	128,507,856
INTCH & PUR							
FOSSIL, NUCLEAR, INTERCHANGE, PURCHASE AND OTHER	36,814,238	41,705,121	36,628,518	41,309,326	40,428,179	54,595,204	495,247,806
TOTAL ENERGY							
OTAL ENERGY AND CONTRACT CAPACITY	36,814,238	41,705,121	36,628,518	41,309,326	40,428,179	54,595,204	495,247,806
ADTOT							
ENERGY, CONTRACT CAPACITY AND FUEL HANDLING	36,814,238	41,705,121	36,628,518	41,309,326	40,428,179	54,595,204	500,169,995
RAND TOTAL							

STEAM PHILADELPHIA AREA STATIONS

COAL-PE STM.	269,000	316,000	204,000	200,000	165,000	220,000
01L-PE STM.	153,000	146,000	146,000	214,000	145,000	180,000
PHILA STEAM	422,000	462,000	350,000	314,000	331,000	406,000

MINEHOULTH

KEYSTONE STA	203,000	192,000	183,000	205,000	179,000	160,000
CONEWAUKESHA	169,000	182,000	182,000	170,000	157,000	159,000
COAL-MINEHTH	372,000	374,000	365,000	303,000	336,000	339,000

FOSSIL STEAM	794,000	836,000	715,000	677,000	667,000	745,000
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NUCLEAR (NOTE: SALEM 2 MW SOLD TO CPU INCLUDED).

PEACH BOT82	250,117	201,339	252,759	216,140	290,270	206,102
PEACH BOT83	229,561	272,656	206,693	188,222	132,811	266,502
SALEM#1	282,000	264,000	242,000	247,000	274,000	247,000
SALEM #2	317,000	273,000	136,000	0	0	21,000
LIMERICK #1	663,000	629,000	511,000	643,000	546,000	565,000
LIMERICK #2	0	0	0	0	0	0
MW,NUCLEAR	1,749,678	1,719,997	1,348,452	1,224,362	1,243,081	1,307,604

INTERNAL COMBUSTION

DIESEL	60	60	60	30	140	40
GAS TURBINE	4,460	11,550	4,520	1,060	1,770	0
CROVDON	12,700	21,500	10,400	6,500	5,900	4,200
INT. COMB.	17,220	32,910	14,980	7,590	7,810	4,240

TOTAL FOSSIL, NUCLEAR & I. C. (NOTE: SALEM 2 MW SOLD TO CPU INCLUDED).  
 TOTAL FAN 2,560,698 2,568,907 2,076,432 1,996,952 1,917,091 2,056,844

STATEMENT OF OPERATIONS - ELECTRIC PRODUCTION 1 OF 5  
 OPERATING STATISTICS - MWH OUTPUT  
 PHILADELPHIA AREA STATIONS

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 MAY 1987 JUNE 1987

TOTAL 26,510,502

STATION	JANUARY 1987	FEBRUARY 1987	MARCH 1987	APRIL 1987	MAY 1987	JUNE 1987	TOTAL
COAL-PE STM.	355,000	277,000	296,000	271,000	266,000	251,000	3,108,000
OIL-PE STM.	277,000	186,000	113,000	102,000	78,000	132,000	1,749,000
PHILA STEAM	632,000	433,000	409,000	373,000	342,000	303,000	4,657,000
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PHILADELPHIA AREA STATIONS	1,264,000	896,000	818,000	746,000	786,000	686,000	8,359,000
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WINEHOLTH	174,000	171,000	205,000	113,000	191,000	193,000	2,109,000
COKE/STONE STA	188,000	144,000	99,000	170,000	204,000	163,000	1,795,000
COAL-WINEH/TH	362,000	315,000	304,000	223,000	395,000	356,000	4,104,000
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FOSSIL STEAM	994,000	749,000	713,000	656,000	737,000	739,000	9,041,000

NUCLEAR (NOTE: SALEM 2 MWH SOLD TO GPU INCLUDED).

BEACH BOTB2	276,873	14,290	0	0	248,293	275,960	2,322,163
BEACH BOTB3	259,465	228,681	237,790	246,797	156,899	0	2,426,079
SALEM#1	253,000	257,000	283,000	281,000	300,000	287,000	3,227,000
SALEM #2	255,000	209,000	207,000	275,000	210,000	302,000	2,205,000
LIMERICK #1	561,000	486,000	555,000	0	0	0	5,159,000
LIMERICK #2	0	0	0	0	0	0	0
PHILADELPHIA	1,615,338	1,194,971	1,282,790	802,797	915,192	664,980	15,339,262

INTERNAL COMBUSTION

ISEL	210	100	10	80	0	0	790
AS TURBINE	660	260	0	4,100	240	930	29,770
ROTDON	10,700	12,000	2,600	8,100	2,000	3,300	99,700
INT. COMB.	11,770	12,360	2,610	12,280	2,240	4,230	130,260

TOTAL FOSSIL, NUCLEAR & I. C. (NOTE: SALEM 2 MWH SOLD TO GPU INCLUDED).

TOTAL FAN	2,621,108	1,955,151	1,998,400	1,471,077	1,659,432	1,608,210	26,510,502
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STATEMENT OF OPERATIONS - ELECTRIC PRODUCTION 2 OF 5  
 JULY 1986 AUGUST 1986 SEPTEMBER 1986 OCTOBER 1986 NOVEMBER 1986 DECEMBER 1986

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OPERATING STATISTICS - MW OUTPUT (CONTINUED)

INTERCHANGE & PURCHASE

INTERCHANGE POWER						
RECEIVED PJM	234,000	213,000	301,000	182,000	295,000	294,000
DELIV'D PJM	(120,000)	(174,000)	(95,000)	(80,000)	(104,000)	(90,000)
NET INTCH	104,000	39,000	206,000	102,000	191,000	194,000

PURCHASED POWER	516	2,516	2,776	3,916	0,516	16,516
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TWO PARTY TRANSACTIONS						
ALLG'Y PJM	173,000	175,000	174,000	191,000	192,000	208,000
CENTL HD3 IN	0	0	0	0	0	0

TOTAL INTERCHANGE & PURCHASE INTCH & PJM	279,516	216,516	302,776	296,916	391,516	420,516
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HYDRO

HYDRO-RIVER FLOW GENERATION CONDENSED	79,000	57,000	52,000	65,000	123,000	101,000
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PUMP STORAGE GENERATION	143,000	112,000	114,000	95,000	01,000	106,000
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PUMP STORAGE INPUT	(190,000)	(176,000)	(165,000)	(131,000)	(128,000)	(143,000)
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NET HYDRO	24,000	(17,000)	1,000	49,000	76,000	144,000
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OTHER PRODUCTION (PRECOMMERCIAL)

OTHER	0	0	0	0	0	0
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(NOTE: SALEM 2 MW SOLD TO GPU INCLUDED IN TOTAL OUTPUT)  
 TOTAL OUTPUT 2,864,414 2,790,423 2,462,140 2,344,868 2,305,407 2,621,360

SALES	2,550,600	2,601,100	2,543,900	2,240,700	2,139,800	2,441,700
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COMPANY USE	2,723	2,635	2,926	2,323	3,324	4,231
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(NOTE: SALEM 2 MW SOLD TO GPU EXCLUDED IN "LOSS" CALCULATIONS)						
LOSSES	303,091	194,680	(84,670)	101,845	242,203	175,429
XLSSS-OUTPUT	10.58	6.96	(3.44)	4.34	10.16	6.69

STATEMENT OF OPERATIONS - ELECTRIC PRODUCTION 2 OF 5  
 OPERATING STATISTICS - NET OUTPUT (CONTINUED)  
 INTERCHANGE & PURCHASE

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TOTAL

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	JANUARY 1987	FEBRUARY 1987	MARCH 1987	APRIL 1987	MAY 1987	JUNE 1987	TOTAL
INTERCHANGE POWER	136,000	282,000	259,000	418,000	387,000	725,000	3,726,000
RECEIVED FROM	(336,000)	(113,000)	(148,000)	(16,000)	(25,000)	(4,000)	(1,517,000)
DELIVERED FROM	(200,000)	169,000	111,000	404,000	364,000	721,000	2,409,000
NET INTERCHANGE	156,000	169,000	111,000	404,000	364,000	721,000	2,409,000
INTERCHANGE & PURCHASE	9,216	350,616	295,116	565,116	506,916	667,316	4,581,992
NET INTERCHANGE & PURCHASE	165,216	519,616	406,116	969,116	1,013,832	1,388,316	6,990,984
2 PARTY TRANSACTIONS	187,000	166,000	172,000	156,000	141,000	144,000	2,079,000
CHY PWR	0	0	0	0	0	0	0
ITL HDN	0	0	0	0	0	0	0
NET INTERCHANGE & PURCHASE	187,000	166,000	172,000	156,000	141,000	144,000	2,079,000
DO	0	0	0	0	0	0	0
DO-RIVER FLOW GENERATION	139,000	172,000	259,000	259,000	205,000	123,000	1,773,000
STORAGE GENERATION	90,000	91,000	96,000	81,000	80,000	116,000	1,205,000
STORAGE INPUT	(129,000)	(132,000)	(142,000)	(114,000)	(125,000)	(160,000)	(1,743,000)
WIND	99,000	131,000	213,000	225,000	160,000	79,000	1,194,000
PRODUCTION (PRECOMMERCIAL)	0	0	0	0	0	0	0
SALEN 2 MW SOLD TO GPU INCLUDED IN TOTAL OUTPUT	2,729,329	2,436,967	2,506,516	2,261,193	2,321,348	2,554,526	30,286,694
OUTPUT	2,729,329	2,436,967	2,506,516	2,261,193	2,321,348	2,554,526	30,286,694
USE	2,442,500	2,152,000	2,365,900	2,220,900	2,065,000	2,203,900	28,656,000
SALEN 2 MW SOLD TO GPU EXCLUDED IN "LOSS" CALCULATIONS	81,874	(130,106)	135,152	4,640	3,423	2,723	44,515
OUTPUT	81,874	(130,106)	135,152	4,640	3,423	2,723	44,515
INPUT	3,000	(4,933)	5,339	35,653	1,580	10,900	1,585,979
INPUT	3,000	(4,933)	5,339	35,653	1,580	10,900	1,585,979
NET OUTPUT	78,874	(135,039)	129,813	3,060	1,843	1,143	42,930
NET OUTPUT	78,874	(135,039)	129,813	3,060	1,843	1,143	42,930

Data Request (1) (11) (a)

Production Cost Model - Narrative Description

## DESCRIPTION OF TWO AREA PRODUCTION COST PROGRAM

### INTRODUCTION

This report describes a long range system generation simulation computer program which calculates production costs such as fuel, startup, operation and maintenance for a pool composed of one or two areas over any number of years. Fossil fuel, nuclear, run of river, pondage and pumped hydro units can be individually or jointly owned. A maximum of 490 units may be modeled with pumped storage hydro units counting as two (pumping & generating modes). Maintenance can be scheduled on a pool or individual area basis. Costs are developed on a weekly basis from a chronological sequence of daily load cycles.

The weekly load shape is divided into 84 bi-hourly intervals and each interval is economically dispatched. Each interval on the pool demand is dispatched using incremental cost curves adjusted for penalty factors. Spinning reserve can be checked each interval on a pool or an individual area basis. If two areas are to be analyzed, an interconnection tie limit can be designated. Then the area generation will be adjusted if the interconnection tie flow exceeds the limit. Economy interchange and its cost based on the true split saving are calculated for each interval. Costs are accumulated on an annual basis.

### DEMANDS

An annual area megawatt peak demand and weekly, daily, and bi-hourly per unit load shapes are used to develop the bi-hourly megawatt loads of each area.

#### Weekly Area Peaks

Fifty-four weekly area peak megawatt loads are calculated from the annual area megawatt peak demand and fifty-four weekly values in per-unit of the annual peak demand. Since all weeks must start at 8 a.m. Monday, the calendar must be stretched into the previous or next year.

### Daily Area Peaks

The weekly peak area demands are used to calculate daily area peak megawatt demands through the use of typical seasonal weekly load shapes and the seven values in per-unit of the weekly area peak demand.

### Bi-Hourly Area Demands

The daily area peak demands for the week are used to calculate bi-hourly area megawatt demands. Typical seasonal average weekday, Saturday and Sunday load shapes consisting of twelve bi-hourly values in per-unit of the daily area peak demands are used.

The bi-hourly pool megawatt demands are determined by summing the individual area bi-hourly loads.

### MAINTENANCE SCHEDULING

Up to 125 maintenance cycles may be used. Each of these cycles contains up to six entries. Each entry represents the number of consecutive weeks that maintenance is to be scheduled each year. The last (non zero) entry in any cycle is the signal to repeat this maintenance cycle.

Each existing unit can be assigned a maintenance cycle and a year to start the maintenance. This information is used to determine the number of consecutive weeks the unit is to be put on maintenance in a particular year.

For example, assume a typical maintenance cycle is made up of the following entries: 2 3 1 0 0 0. The first year maintenance begins, a two-week outage is required. The second and third year, a three and one-week outage is required respectively. The fourth year, the cycle is repeated and two weeks of maintenance are required.

When new units are installed, the maintenance cycles are not used in the first year of service. In the second year a special number of maintenance weeks is provided. The first entry in the maintenance cycle assigned to the new unit takes control in the third year of service.

Maintenance can be scheduled on a pool or on an individual area basis. A group of weeks can be designated as non-maintenance weeks for the pool or for each individual area if maintenance scheduling is to be done on that basis.

If desired, particular weeks for particular units can be specified and the manual maintenance option used.

The actual maintenance scheduling is done in the following manner. The capacity of those units to be taken out of service under the manual maintenance option is added to the peak demand of those weeks that the units will be out of service. The generating unit of those remaining having the largest capacity is selected for scheduling first. The available maintenance weeks are searched to find the one with the lowest peak demand plus capacity on planned outage. The generating unit is assigned one week of maintenance for that week. If more than one consecutive week of maintenance is required, the adjacent week with the next lowest peak demand plus generating capacity on planned outage is selected. This process is continued until all weeks of maintenance for this unit are accounted for. The peak megawatt demands of the weeks selected for this unit's maintenance are modified temporarily by adding the generating unit's capacity to them. The next largest unit has its maintenance scheduled on this modified load shape and the process is repeated until all units requiring maintenance are scheduled. This technique insures the proper leveled distribution of maintenance scheduling for all units over the weeks available for maintenance during the year.

#### FORCED OUTAGE REPRESENTATION

Forced outages are recognized for hydro units by modifying the megawatt values by the factor  $(1 - \text{forced outage rate})$ . Fossil steam, combustion turbines and nuclear generating units are forced out by a "Monte Carlo" routine. This routine operates as follows: for each available unit a random number is

generated. The random number, having a value between zero and one, is compared to the forced outage rate of the unit. If the random number is equal to or less than the forced outage rate, the unit is considered as forced out for the period selected. The period of time covered by one forced outage can be one bi-hourly interval.

#### INCREMENTAL COST CURVES

Up to five points (four straight line segments) can be used to represent a thermal unit's power curve. Each year for each thermal unit, the incremental cost vs. megawatt output curve is developed from the fuel cost, minimum heat input and the incremental heat rate vs. megawatt output curve. Then the costs are modified by the unit penalty factor. This modified curve is then entered into an economic schedule point by point.

#### ECONOMIC SCHEDULE

The economic loading schedule steps can be specified. By default the program will use a schedule covering the range from 2 mills/kwhr to 175 mills/kwhr. For all thermal units, each incremental cost point is compared to each specified schedule value until they match. When this occurs, the associated mw value is stored in the schedule. Totals are accumulated by pool and individual area (owned and internal) generation.

Each week the schedule is modified to account for capacity maintenance outages, additions and retirements. The schedule is also adjusted for any must run units.

#### HYDRO DISPATCH

All hydro scheduling is done on a weekly basis on the pool load shape.

##### Run-of-River

Run-of-river hydro is scheduled first. A maximum of five different seasonal megawatt capacities are allowed for each installation. The appropriate capa-

city for the current week is subtracted from the (bi-hourly) pool load shape.

#### Pondage

Pondage hydro is scheduled after the run-of-river hydro. A maximum of five different seasonal weekly energies are allowed for each installation. These energies represent the megawatt-hour output for a full week during any season.

Pondage hydro is dispatched in the following manner. The appropriate energy for the current week is divided by five to obtain the maximum available energy per day (based on a five day week). The number of hours of scheduling per day is found by dividing the daily energy by the capacity. If the number of hours of scheduling per day exceeds 18, scheduling will not be done on a five day week, but on a seven day week to prevent generation during the lowest off-peak hours.

Assuming conditions call for seven day scheduling, the number of hours of scheduling per day is calculated as above. If this number exceeds 24 hours per day, the installation is run at full capacity, 24 hours per day, seven days per week.

Whether scheduling on a five or seven day week, peak shaving is done to assure that the largest bi-hourly pool demand of each day are reduced by the capacity of the installation.

Variable generation can be simulated by allowing the user to specify the number of smaller units he wishes to assign to the installation. The capacity of each of these smaller units must equal the installation capacity/number of units. In this case the pool load shape is now peak shaved in several passes (equal to the number of units specified) giving a smoother load shape modification.

#### Pumped Storage

Pumped storage hydro is scheduled after pondage hydro. It is scheduled in order of decreasing efficiency and if two units have the same efficiency, then

in order of decreasing size.

Pumped storage scheduling is based on developing economic megawatt levels over intervals of time from the pool incremental cost curve developed for the week (Economic Schedule) and the cycle efficiency of the installation. These megawatt levels, the chronological bi-hourly load shape for the week, and the physical constraints of the installation are used to optimize the economic generation and pumping schedule for the week.

The dispatch of the pumped hydro is made on the basis of the following constraints and assumptions:

1. The pond is full at the beginning and end of each week.
2. The influence of variable head will not be considered.
3. It is not economic to use pumped hydro generation unless the ratio of the average incremental cost of the demand to be increased by pumping, to the average incremental cost of the load to be decreased by generation, is less than or equal to the hydro cycle efficiency.

The basic idea shown is that certain economic mw levels exist above which the savings incurred by generation must be greater than or equal to the cost incurred by pumping. If these conditions do not exist, then operation will not occur.

#### GAS TURBINE DISPATCH

Gas turbines not designated as peak shaving are entered into the economic table for dispatch on an equal incremental cost basis or where they may be started to supply adequate spinning reserve. Peak shaving gas turbines are designated by the user entering the number of hours of daily operation desired. The hours are converted to bi-hourly intervals by dividing by two and rounding to the next highest number. The pool load shape is peak shaved Monday through Friday by subtracting the capacity from the highest intervals.

### INTERCONNECTION TIE LINES

After the economic schedule for area and pool generating capacity have been modified for the week and all the hydro and peak shaving gas turbines have been dispatched, each bi-hourly interval is dispatched. The thermal generation equal to the modified bi-hourly pool demand is found in the economic table. This pool generation is composed of the internal generation components of each area if two areas are being studied.

The bi-hourly tie line flow between areas is calculated as the differences between the first area's modified demand and its internal generation.

If a tie limit is specified between areas and the calculated tie flow exceeds it, then the logic will adjust the generation of each area by an amount equal to the difference between the tie flow and the limit.

### SPINNING RESERVE

Spinning reserve can be determined bi-hourly on a pool or individual area basis. The spinning reserve requirement is specified in the input data as a percentage of the unmodified pool or individual area loads, a fixed mw value, or the higher of the previous two.

If the pool option is selected, the process is as follows:

1. If a tie-line limit is not specified, then the difference between the pool thermal capacity associated with the thermal generation found in the economic schedule is the excess capacity on-line. If this excess capacity is enough to cover the spinning percentage (converted to megawatts) then the program goes on to the next interval. If it is not sufficient, then additional units are started to satisfy the spinning reserve requirements.

2. If a tie-line limit is specified and the area generation has been modified to the limit the flow between areas, then the pool thermal capacity is the sum of the individual area on-line capacities associated with the internal generation of each area. If the excess capacity is enough to cover the pool spinning percentage (converted to megawatts), the program continues. If it is not enough, the program schedules additional units.

If the area reserve option is selected, the area megawatt requirements is determined from the bi-hourly area demand and the area percentage spinning reserve required. Each area's internal generation is scheduled to meet the demand. If enough excess capacity does not exist to cover each individual area requirement, the program schedules additional units in that particular area. If an area reserve requirement has not been corrected after all available units have been exhausted, then the generation in each area will be adjusted within the tie line limits.

#### COSTS

The fuel cost associated with the megawatt-hour output of each unit is calculated bi-hourly. Once all the bi-hourly intervals have been considered for the entire week, the variable operation and maintenance cost based on the weekly megawatt-hour output and the start-up cost based on the number of starts the unit had during the week are calculated.

#### INTERCHANGE

Bi-hourly interchange energy between areas is calculated as the difference between the first area's demand and its owned component of the pool generation.

The cost of the interchange energy is determined in the following manner:

1. The 'incremental' cost of the interchange energy supplied by the export area is determined.

2. The incremental cost of the interchange energy if it was supplied by the import area is determined.
3. The savings resulting from coordinated economic dispatch is the cost difference between items 1 and 2 above times the energy.
4. The cost of the interchange to the import company is equal to the cost the export area incurred supplying the energy (item 1 x energy) plus one-half the savings (item 3).

#### SEASONAL FUEL COST FACTORS

Fuel costs for any one unit may be changed a maximum of four times a year. For each unit, four(4) beginning week numbers and seasonal fuel cost factors associated with each week number may be specified.

The fuel cost used by the program will equal the original input fuel cost times the annual fuel escalation times the seasonal fuel cost factor in effect.

#### ADDENDUM TO "DESCRIPTION OF PRODUCTION COST PROGRAM"

The PECO production cost computer program has been modified so that three dispatching areas can be modeled. A maximum of 41 companies/entities within these three areas may be represented individually. Each one requires a bi-hourly load model as described above.

Transmission limitations among areas are defined by a polygon shaped curve. The areas' economic dispatch is adjusted so that their interchange levels fall within this transmission limitation curve.

o Data Request (1) (ii) (b)

o Production Cost Model Input Data

## INPUT DATA CARD EXPLANATIONS

### #5 CARD - ANNUAL FOSSIL FUEL ESCALATION CURVES

These numbers are multiplied by the input base fuel prices on the unit data cards.

Column 12 - Fuel Type Number

1 = Coal

4 = Gas

2 = #6 Oil (1%)

5 = #6 Oil (.5%)

3 = #2 Oil

Column 14-72 - Annual factors used to multiply base fuel prices by the first number is 1985 and the last is 1995.

### #9 CARD - DAILY LOAD SHAPE

There is one card for each month and each card represents the typical week of that month (Monday - Sunday)

Column 1- 2 - Week Number

Column 3- 8 - Monday Factor

Column 9-14 - Tuesday Factor

Column 15-20 - Wednesday Factor

Column 21-26 - Thursday Factor

Column 27-32 - Friday Factor

Column 33-38 - Saturday Factor

Column 39-44 - Sunday Factor

Column 45-80 - Not Used By Program - Comments Only

### #10 CARD - BI-HOURLY LOAD SHAPE

There are three cards for each month. The first card represents a typical weekday, the second card shows a typical Saturday and the third card is a typical Sunday. The days begin at 8:00 AM.

Column 1- 2 - Week Number

Column 3-74 - Bi-Hourly Factors

### #12 CARD - SEASONAL FUEL COST FACTOR

Factor to reflect seasonal price changes of fossil fuels. This number is multiplied by the annual escalation factor and the fuel price on the unit data card to obtain the projected fuel price.

Column 13-14 - Fossil Fuel Type

1 = Coal

4 = Gas

2 = #6 Oil (1%)

5 = #6 Oil (.5)

3 = #2 Oil

Column 16-17 - Week Number

Column 19-23 - Factor (Winter)

Column 25-26 - Week Number

Column 28-32 - Factor (Spring)

Column 34-35 - Week Number

- Column 37-41 - Factor (Summer)
- Column 43-44 - Week Number
- Column 46-50 - Factor (Fall)
- Column 52-80 - Fuel Type (Comment - Not Used By Program)

#13 CARD - UNIT DATA CARDS

These cards supply the basic data input for each of the units.

1st Card

- Column 4-11 - Unit Name
- Column 16 - Type Of Unit
  - 1 = Fossil Steam - Oil
  - 2 = Run Of River Hydro
  - 3 = Pondage Hydro
  - 4 = Pumped Storage Hydro
  - 5 = Nuclear
  - 6 = Internal Combustion
  - 7 = Fossil Steam - Coal
- Column 17-18 - For CT's - Number of hours during the Monday - Friday period that the unit must run. For all others number of years that the unit is must run.
- Column 19-20 - Week number that unit goes into service (for new units only)
- Column 21-26 - Net capacity of the unit.
- Column 30 - Interconnection Accounting selector switch = 1 - normal unit.
- Column 3 - Maintenance cycle number.
- Column 34-38 - Maintenance cycle starting year.
- Column 39-40 - Number of weeks of maintenance during the first year after installation.
- Column 41-45 - Immature forced outage rate for new units. The program decreases this number over five years until it reaches the mature forced outage rate.
- Column 46-50 - Mature forced outage rate for all years.
- Column 51-55 - Transmission penalty factor adjustment to model transmission losses.
- Column 56-60 - Fuel cost - (\$/MBTU).
- Column 61-65 - Minimum load heat requirement total heat (MBTU) at the first incremental MW level.
- Column 71-75 - Variable O&M cost (\$/MWH) represents an estimate of the maintenance cost in proportion to the generation. This is used only for ordering the units for dispatching purposes only.
- Column 76-77 - Fuel accumulation number - references type of fuel used.
- Column 78-79 - Company abbreviation.

Column 80 - Joint-Owned Switch  
- J = Joint Owned Unit - If this is used, then the next card is the percentages owned by each company.

2nd Card

Column 4 - Third Card Switch blank  
no third unit data card  
= 1 third unit data card

Column 5- 8 - First year to begin of fuel escalation for nuclear units - year of installation (not used).

Column 10-12 - Escalation curve number applies to the curve numbers on the annual and seasonal curves.

Column 14-18 - Net MW at a point on the unit's incremental energy curve.

Column 19-23 - Incremental heat rate at the same point on the energy curve.

Column 25-29, 30-34  
36-40, 41-45  
47-51, 52-56  
58-62, 63-67 } Repeat of Column 14-18, 19-23

Column 72 - Variable O&M escalation curve number provided on #41 card

3rd Card

Column 4- 8 - Maintenance Outage Rate  
Added to forced outage rate at night and on weekends.

Column 9-13 - Hot Start Curve Number  
Selects a cool-down rate curve.

Column 14-18 - Immature outage year.  
Year to start immature forced outage rate if different than the installation year.

Column 19-23 - Daytime Outage Rate  
Added to forced outage rate during daytime hours.

Column 24-25 - Minimum number of bi-hours that the unit must run if started.  
Default - 3 bi-hours - steam  
24 bi-hours - nuclear  
0 bi-hours - IC

#16 CARD ANNUAL PEAKS

This number is multiplied by the factor on the 9, 10 and 21 cards to obtain the bi-hourly load.

Column 1- 2 - Company abbreviation  
Column 6- 9 - Company projected peak.

#21 CARD - MONTHLY AND WEEKLY LOAD SHAPE

The first two cards represent the typical month and the next six cards are the factors to model the typical week.

1st 2 Cards

Column 12-52 - Monthly Factors

Next 6 Cards

Column 12-73 - Weekly Factors

#24 CARD - NUCLEAR SEASONAL FUEL FACTOR

Fuel cost for nuclear units in \$/MBTU multiplied by fuel cost on unit data cards, which is set to 1.00 for all nuclear units.

Column 4-11 - Unit Name.

Column 16-17 - Week Number - Week 1 unless the unit is an addition during year.

Column 19-23 - Fuel Price (\$/MBTU).

Column 25-26 - Week Number - For a price change during the year.

Column 29-32 - New Fuel Price (\$/MBTU)

#28 CARD - PERFORMANCE FACTOR

This card is used for a performance factor or as a factor to re-rate the capacity to allow for seasonal changes due to ambient conditions.

Column 4-11 - Unit Name.

Column 13 - Negative or blank.

Blank - Factor is to be used as a performance factor.

Negative - Re-ration factor for the capacity shown in the unit data cards.

Column 14 - Week Number.

Column 15-19 - Performance factor or re-ration factor.

Columns 20-27

28-35 } Repeat of Columns 13-19

36-43 }

44-51 }

#41 CARD - VARIABLE O&M ESCALATION CURVES

These numbers are multiplied by the input variable O&M costs on the unit data cards.

Column 12 - Escalation Curve Number.

Columns 14-72 - Annual factors used to multiply base variable O&M numbers by. The first number is for 1985.



PROJECT: SO  
 GROUP: H  
 TYPE: F

HEADER: UNITS  
 LEVEL: 01.01  
 USERID: T406CIB

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START COL 1 2 3 4 5 6 7 8

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13	11985	5	22	941	115	950	127	1005
4	DELAPR0	2	1	130	1			
4	11985	5	22	947	101	959	130	992
13	EDVSTN1	2	730	270	2			
4	11985	1	152	868	259	809	260	957
13	EDVSTN2	2	730	270	1			
4	11985	1	152	807	162	808	163	891
4	EDVSTN3	2	730	270	1			
4	11985	5	38	1026	247	1038	346	1070
13	EDVSTN4	2	1	376	1			
4	11985	5	38	1026	247	1038	346	1070
13	RICHAN0	2	1	177	1			
4	11985	5	76	1166	165	1197	177	1366
13	SCHUVIL1	2	1	172	1			
4	11985	5	26	893	60	904	90	933
4	SCHUVIL3	2	1	53	1			
5	1985	5	53	480	178	1		
4	SOUTHK1	1	20	1110	61	1236	125	1415
13	SOUTHK2	2	1	178	1			
4	11985	5	25	1102	66	1340	134	1497
13	DELAPM09	2	6	16	1367	10		
4	11985	3	16	1367	10			
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13	DELAPM12	1	6	16	1392	16		
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PROJECT: SO  
 GROUP: M  
 TYPE: F

PERIOD: UNITS  
 LEVEL: 01.01  
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Sheet 7

START COL 1 2 3 4 5 6 7 8

COL	START	PROJECT	GROUP	TYPE	PERIOD	LEVEL	USERID	DATE	TIME	PAGE
13	1	HOSERP1	3	1	10 1367	10	1 44 1905	.053	1.0 B.579	246
4	1	11905	3	1	10 1367	10	1 44 1905	.076	1.0 B.579	246
13	1	HOSERP2	3	1	10 1367	10	1 44 1905	.035	1.0 B.579	246
4	1	11905	3	1	10 1367	10	1 44 1905	.235	1.0 B.373	562
13	1	HOSERP3	3	1	10 1367	10	1 44 1905	.196	1.0 B.373	562
4	1	11905	3	1	10 1367	10	1 44 1905	.204	1.0 B.373	565
13	1	CROVGE1	3	1	46 1170	46	1 44 1905	.494	1.0 B.373	524
4	1	11905	3	1	46 1170	46	1 44 1905	.225	1.0 B.373	562
13	1	CROVGE2	3	1	43 1219	43	1 44 1905	.171	1.0 B.373	565
4	1	11905	3	1	43 1219	43	1 44 1905	.294	1.0 B.373	562
13	1	CROVGE3	3	1	54 1046	54	1 44 1905	.111	1.0 B.364	706
4	1	11905	3	1	54 1046	54	1 44 1905	.262	1.0 B.364	706
13	1	CROVGE4	3	1	48 1170	48	1 44 1905	.076	1.0 B.364	394
4	1	11905	3	1	48 1170	48	1 44 1905	.325	1.0 B.364	394
13	1	CROVGE5	3	1	59 1197	59	1 44 1905	.204	1.0 B.364	394
4	1	11905	3	1	59 1197	59	1 44 1905	.189	1.0 B.364	394
13	1	CROVGE6	3	1	59 1197	59	1 44 1905	.111	1.0 B.364	706
4	1	11905	3	1	59 1197	59	1 44 1905	.067	1.0 B.364	394
13	1	CROVGE7	3	1	26 1515	26	1 44 1905	.204	1.0 B.364	394
4	1	11905	3	1	26 1515	26	1 44 1905	.076	1.0 B.364	394
13	1	CROVGE8	3	1	26 1515	26	1 44 1905	.076	1.0 B.364	394
4	1	11905	3	1	26 1515	26	1 44 1905	.076	1.0 B.364	394

PROJECT: SO  
 GROUP: H  
 TYPE: F

REVISION: UNITS  
 LEVEL: 01.01  
 USERID: T406CHB

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UNITS

Sheet 8

START COL	1	2	3	4	5	6	7	8	
13	RICHM21	1	6	26	1 44 1905	.077	1.0 B.364	394	B.10926PE
4	11985	3	26 1515						3
13	RICHM72	1	6	26	1 44 1905	.158	1.0 B.364	394	B.10926PE
4	11905	3	26 1515						3
4	RICHM73	1	6	26	1 44 1905	.079	1.0 B.364	394	B.10926PE
4	11905	3	26 1515						3
13	RICHM74	1	6	26	1 44 1905	1.0	1.0 B.364	394	B.10926PE
4	11985	3	26 1515						3
4	RICHM21	1	6	36	1 44 1905	.122	1.0 B.364	526	7.00126PE
4	11905	3	36 1460						3
4	RICHM22	1	6	36	1 44 1905	.041	1.0 B.364	526	7.00126PE
4	11985	3	36 1460						3
13	RICHM01	1	6	36	1 44 1905	.036	1.0 B.364	526	7.00126PE
4	11985	3	36 1460						3
4	RICHM02	1	6	36	1 44 1905	.156	1.0 B.364	526	7.00126PE
4	11905	3	36 1460						3
13	RICHM01	1	6	36	1 44 1905	.014	1.0 B.364	526	7.00126PE
4	11985	3	36 1460						3
4	RICHM02	1	6	36	1 44 1905	.041	1.0 B.364	526	7.00126PE
4	11905	3	36 1460						3
13	RICHM01	1	6	36	1 44 1905	.041	1.0 B.364	526	7.00126PE
4	11985	3	36 1460						3
4	RICHM02	1	6	36	1 44 1905	.115	1.0 B.364	526	7.00126PE
4	11985	3	36 1460						3
13	FALLSP1	1	6	10	1 44 1905	.034	1.0 B.551	246	7.00426PE
4	11985	3	10 1367						3
4	FALLSP2	1	6	10	1 44 1905	.215	1.0 B.551	246	7.00426PE
4	11985	3	10 1367						3
13	FALLSP3	1	6	10	1 44 1905	.034	1.0 B.551	246	7.00426PE
4	11985	3	10 1367						3
4	SCHUPP10	1	6	16	1 44 1905	.134	1.0 B.551	225	8.00126PE
4	11905	3	16 1408						3
4	SCHUPP11	1	6	10	1 44 1905	.252	1.0 B.521	244	7.07726PE
4	11905	3	10 1553						3
13	SOUTHPC	1	6	16	1 44 1905	.202	1.0 B.520	223	8.79226PE
4	11985	3	16 1392						3

PROJECT: SO  
 GROUP: H  
 TYPE: F

MEMBER UNITS  
 LEVEL: 01.01  
 USERID: T006C88

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UNITS

Sheet 9

START COL 1-----2-----3-----4-----5-----6-----7-----8-----9-----0

13	SOUTHPM4	1	6	16	1.44	1905	.059	1.0	5.526	223	0.79226PE
4	11905	3	16	1392						3	
13	SOUTHPM5	1	6	16	1.44	1905	.039	1.0	5.526	223	0.79226PE
4	11905	3	16	1392						3	
13	SOUTHPM6	1	6	16	1.44	1905	.089	1.0	5.526	223	0.79226PE
4	11905	3	16	1392						3	
13	CHESTPM7	1	6	16	1.44	1905	.051	1.0	5.525	223	0.79226PE
4	11905	3	16	1392						3	
13	CHESTPM8	1	6	16	1.44	1905	.140	1.0	5.525	223	0.79226PE
4	11905	3	16	1392						3	
13	CHESTPM9	1	6	16	1.44	1905	.093	1.0	5.525	223	0.79226PE
4	11905	3	16	1392						3	
13	PLYMNO9	1	6	35	1.44	1905	.317	1.0	5.533	515	0.14526PE
4	11905	3	35	1472						3	
13	PLYMNO15	1	6	35	1.44	1905	.550	1.0	5.533	515	0.14526PE
4	11905	3	35	1472						3	
13	CROBYO1	1	6	3	1.44	1905	.99	.26	5.579	31	15.6026PE
4	1905	3	3	1045						3	
5	CROBYO2	1	6	3	1.44	1905	.99	.26	5.579	31	15.6026PE
4	1905	3	3	1045						3	
5	DELANRED	1	6	3	1.44	1905	.99	.26	5.522	31	15.6026PE
4	1905	3	3	1045						3	
5	SCHVAK1D	1	6	3	1.44	1905	.99	.26	5.521	31	15.6026PE
4	1905	3	3	1045						3	
5	SOUTHMKD	1	6	3	1.44	1905	.99	.26	5.526	31	15.6026PE
4	1905	3	3	1045						3	
4	CONOX	1	6	350	1					1	20PE
4	121280	1042070	2315350	4929610						5	
4	CONOY	1	60	1						1	20PE
4	110080	10	5190	2310080						4	
4	CONO2	1	30	1						1	20PE
4	1	2130	14	2520	29	1350	48	1740		1	20PE
4	CONDN	1	60	1						1	20PE
4	130060	19	4272							5	
1	MDVNZ12	1	220	1	02	1905	.059	1.			20PLJ
7	PE1.00	2775	232	.691	2						
4	MDVNZ14	1	220	1	02	1904	.059	1.			20PLJ
4	PE1.00	2775	232	.691	2						
7	MDVNZ16	1	220	1	02	1905	.059	1.			20PLJ
4	PE1.00	2775	232	.691	2						
7	MDVNZ18	1	220	1	02	1904	.059	1.			20PLJ
4	PE1.00	2775	232	.691	2						

START COL 1-----2-----3-----4-----5-----6-----7-----8

UNITS

Sheet 10

START COL	1	2	3	4	5	6	7	8
7	2775	232	.691	2				
4	CONEMH1	730	600	1		.254	1.1516	4374
4	PS2250PE2072AE0383DP0372P110106C1056HE1645JC0129PP0972UC0111							3.0392PMU
4	11905	1	500	779	717	799	766	802
13	CONEMH2	2	730	600	1	.276	1.1516	4374
4	PS2250PE2072AE0383DP0372P110106C1056HE1645JC0129PP0972UC0111							3.0392PMU
4	11905	1	500	779	717	799	766	802
13	KEYSTN1	2	730	790	1	.177	1.1220	4361
4	PS2264PE2099AE0247DP0370P11095B0C2099JC1806PM0000							2.4591PMU
4	11905	1	500	756	678	773	790	791
13	KEYSTN2	2	730	790	1	.250	1.1220	4361
4	PS2264PE2099AE0247DP0370P11095B0C2099JC1806PM0000							2.4591PMU
4	11905	1	500	756	678	773	790	791
13	CONEMH0	2			1.45	1.985		.037
4	PS2250PE2072AE0383DP0372P110106C1056HE1645JC0129PP0972UC0111							1.5600
4	1905	3	8	1008				1.5603
5	KEYSTN0	6	6	1.45	1.985			.083
4	PS2264PE2099AE0247DP0370P11095B0C2099PM167JC0139							1.5603
4	1905	3	8	1030				1.5603
5	SALEHT3	6	6	1.44	1.905			.070
4	PS4259PE4259AE0741DP0741							1.04
4	11905	3	29	1563				1.362
13	SALEHT1	11.020						453
4	1905 PERFORMANCE FACTORS							5.817
4	128							1953
4	EDVSTN1	-1.9955	-14.9995	-241.012	-61.9995	-47.9960		
4	EDVSTN2	-1.9927	-141.000	-241.017	-411.000	-47.9939		
4	EDVSTN3	-11.003	-141.000	-24.9998	-411.000	-471.002		
4	EDVSTN4	-11.003	-141.000	-24.9998	-411.000	-471.002		
4	CROBY1	-11.001	-141.000	-241.011	-411.000	-471.001		
4	CROBY2	-11.003	-141.000	-241.027	-411.001	-471.002		
4	DELAHRE7	-1.9970	-141.000	-241.017	-411.000	-47.9970		
4	DELAHRE6	-1.9984	-141.000	-241.015	-411.000	-47.9968		
4	SCHNYL1	-11.000	-141.001	-241.005	-411.001	-471.000		
4	RICHMND9	-1.9922	-141.000	-241.022	-411.000	-47.9926		
4	SOUTHAK1	-1.9912	-141.000	-241.019	-411.000	-47.9924		
4	EDVPM10	-11.250	-131.000	-23.7500	-371.000	-491.250		
4	EDVPM20	-11.250	-131.000	-23.7500	-371.000	-491.250		
4	EDVPM30	-11.375	-131.000	-23.8750	-371.000	-491.375		
4	EDVPM40	-11.375	-131.000	-23.8750	-371.000	-491.375		
4	HOSRPH2	-11.222	-131.000	-23.7776	-371.000	-491.222		
4	HOSRPH3	-11.222	-131.000	-23.7776	-371.000	-491.222		
4	DELAPM09	-11.250	-131.000	-23.7500	-371.000	-491.250		
4	DELAPM11	-11.250	-131.000	-23.7500	-371.000	-491.250		
4	DELAPM12	-11.250	-131.000	-23.7500	-371.000	-491.250		

PROJECT: SO  
 GROUP: M  
 TYPE: F

MEMBER: UNITS  
 LEVEL: 01.01  
 USERID: T406CJM

DATE: 05/12/19  
 TIME: 16:13  
 PAGE: 07 OF 09

UNITS

Sheet 11

START COL 1 2 3 4 5 6 7 8

4	SCRPN10	-11.250-131.000-23.7500-371.000-491.250	MID TEMP BASE
4	SCRPN11	-11.222-131.000-23.7778-371.000-491.222	MID TEMP BASE
4	CROVEE11	-11.229-131.000-23.7708-371.000-491.229	MID TEMP BASE
4	CROVEE12	-11.229-131.000-23.7708-371.000-491.229	MID TEMP BASE
4	CROVEE21	-11.165-131.000-23.7963-371.000-491.165	MID TEMP BASE
4	CROVEE22	-11.256-131.000-23.7442-371.000-491.256	MID TEMP BASE
4	CROVEE31	-11.229-131.000-23.7708-371.000-491.229	MID TEMP BASE
4	CROVEE32	-11.165-131.000-23.7963-371.000-491.165	MID TEMP BASE
4	CROVEE41	-11.229-131.000-23.7708-371.000-491.229	MID TEMP BASE
4	CROVEE42	-11.165-131.000-23.7963-371.000-491.165	MID TEMP BASE
4	RICHGE01	-11.237-131.000-23.7797-371.000-491.237	MID TEMP BASE
4	RICHGE92	-11.237-131.000-23.7797-371.000-491.237	MID TEMP BASE
4	RICHGE41	-11.269-131.000-23.7308-371.000-491.269	MID TEMP BASE
4	RICHGE42	-11.269-131.000-23.7308-371.000-491.269	MID TEMP BASE
4	RICHGE43	-11.269-131.000-23.7308-371.000-491.269	MID TEMP BASE
4	RICHGE44	-11.269-131.000-23.7308-371.000-491.269	MID TEMP BASE
4	RICHGE71	-11.269-131.000-23.7308-371.000-491.269	MID TEMP BASE
4	RICHGE72	-11.269-131.000-23.7308-371.000-491.269	MID TEMP BASE
4	RICHGE73	-11.269-131.000-23.7308-371.000-491.269	MID TEMP BASE
4	RICHGE74	-11.269-131.000-23.7308-371.000-491.269	MID TEMP BASE
4	RICHMO21	-11.194-131.000-23.8056-371.000-491.194	MID TEMP BASE
4	RICHMO22	-11.194-131.000-23.8056-371.000-491.194	MID TEMP BASE
4	RICHMO31	-11.194-131.000-23.8056-371.000-491.194	MID TEMP BASE
4	RICHMO32	-11.194-131.000-23.8056-371.000-491.194	MID TEMP BASE
4	RICHMO51	-11.194-131.000-23.8056-371.000-491.194	MID TEMP BASE
4	RICHMO52	-11.194-131.000-23.8056-371.000-491.194	MID TEMP BASE
4	RICHMO61	-11.194-131.000-23.8056-371.000-491.194	MID TEMP BASE
4	RICHMO62	-11.194-131.000-23.8056-371.000-491.194	MID TEMP BASE
4	FALLSP41	-11.222-131.000-23.7778-371.000-491.222	MID TEMP BASE
4	FALLSP42	-11.222-131.000-23.7778-371.000-491.222	MID TEMP BASE
4	FALLSP43	-11.222-131.000-23.7778-371.000-491.222	MID TEMP BASE
4	FALLSP44	-11.222-131.000-23.7778-371.000-491.222	MID TEMP BASE
4	SOUTHPP3	-11.250-131.000-23.7500-371.000-491.250	MID TEMP BASE
4	SOUTHPP4	-11.250-131.000-23.7500-371.000-491.250	MID TEMP BASE
4	SOUTHPP5	-11.250-131.000-23.7500-371.000-491.250	MID TEMP BASE
4	SOUTHPP6	-11.250-131.000-23.7500-371.000-491.250	MID TEMP BASE
4	CHESTPM7	-11.250-131.000-23.7500-371.000-491.250	MID TEMP BASE
4	CHESTPM8	-11.250-131.000-23.7500-371.000-491.250	MID TEMP BASE
4	CHESTPM9	-11.250-131.000-23.7500-371.000-491.250	MID TEMP BASE
4	PLYMO09	-11.229-131.000-23.8000-371.000-491.229	MID TEMP BASE
4	PLYMO15	-11.229-131.000-23.8000-371.000-491.229	MID TEMP BASE
4	SCINM15	-11.000-14.5000-19.2000-42.5000-471.000	WINTER BASE

1986 PEAKS FIRST TIME

1986 PE

1986 6160 PECCO

12	0.9964	1.0032	1.0018	0.9984	1.0043	1.0030
12	0.9969	1.0022	0.9958	0.9990	1.0026	0.9998
12	0.7464	0.7565	0.8064	0.7690	0.7744	0.7460
12	0.7240	0.7189	0.7338	0.6834	0.6753	0.6997
12						0.6706
12						0.6623

START COL	1	2	3	4	5	6	7	8
12	0.6667	0.6607	0.6997	0.7614	0.7209	0.7500	0.7955	0.8864
12	0.8198	0.9223	1.0000	0.6915	0.9464	0.9545	0.8669	0.7922
12	0.8506	0.7992	0.7255	0.6769	0.6051	0.6575	0.6656	0.6948
12	0.6964	0.7351	0.7159	0.7484	0.7269	0.7727	0.7873	0.7597
1	09 02 1986 PE							
2	10.91910	92760	98931	00000	90520	75900	6317	0.0
2	60.91720	97771	00000	96200	92690	77360	8015	0.0
2	100.96580	96121	00000	94010	90750	75450	6162	0.0
1	140.96000	99201	00000	94840	90320	66890	7832	0.0
1	190.85060	98290	96411	00000	90820	66520	7173	0.0
1	230.81630	99970	95191	00000	90780	73620	6397	0.0
1	270.82710	96990	79611	00000	81090	65470	6676	0.0
1	320.84791	00000	99680	92860	82800	62080	7066	0.0
1	360.83301	00000	92850	86360	80170	59899	7339	0.0
1	400.94400	96851	00000	97360	94100	69930	7792	0.0
1	450.99161	00000	98760	95720	90370	79650	8172	0.0
1	490.91970	91181	00000	99400	88540	60450	8360	0.0
1	999							
1	10 02 1986 PE							
2	10.94660	97140	93120	89880	95490	70730	86860	82250
2	10.64340	94850	90420	94300	91260	89030	94230	78940
2	10.77000	88510	87570	82620	97160	93190	84650	73590
2	60.98160	99320	95680	92950	94460	97520	89870	82500
2	60.91330	99320	94520	88910	91620	98920	92570	92320
2	60.83060	90380	91310	88880	92700	99330	96180	89400
1	100.98080	96640	96190	93470	92410	96040	89870	82070
1	100.91660	96640	95020	88800	89240	97390	92820	92700
1	100.79370	86190	86590	83980	86990	94630	93590	85860
1	140.95420	99580	93740	88770	88710	86190	80080	62780
1	140.88070	99580	95220	88220	87160	92800	93370	99310
1	140.76140	85470	86860	84240	85330	91150	95980	85920
1	190.92300	99660	98770	97060	91800	82910	84540	79030
1	190.84960	97660	95710	89310	88040	87210	92410	98560
1	190.78250	90090	92820	90880	91080	90630	99660	89480
1	230.90760	98440	99950	99950	96390	88960	79860	65700
1	230.87820	99590	99390	96710	96580	92040	77990	70360
1	230.82230	92360	96240	95650	96160	94960	99590	93190
1	270.84160	95010	98430	99970	97410	88210	85620	81600
1	270.82550	97550	99970	99060	99500	95440	96330	97510
1	320.80580	96780	98550	97200	97340	99090	89320	72900
1	360.89930	96790	99500	99140	99580	93600	99890	90120
1	360.84760	99500	96720	91440	90800	95160	96700	99370
1	400.95390	99670	97100	94750	94300	96690	89220	79090
1	400.87710	96790	88350	86720	90770	98100	84540	75960
1	450.94300	99960	92980	91110	96330	96920	88670	79240
1	450.85740	93580	88730	89210	92710	96920	90140	87510
1	450.78450	84880	85340	84810	92790	96500	92580	83090
1	490.92210	94470	91450	89380	96370	95980	80830	82000
1	490.83780	91350	87390	83620	92970	96370	90300	89840

1 490.76070.04350.05350.04020.93550.96370.92730.04250.73250.66960.60440.9079  
 1 999

1986 NUCLEAR SEASONAL FUEL FACTOR

1 24  
 4 PCHNOT2 01 .6400  
 4 PCHBOT3 01 .7000  
 4 LIMERCK1 01 .7300  
 4 SALEH1 01 .7000 09 .6700  
 4 SALEH2 01 .5800 40 .6600  
 1 999

1986 SEASONAL FUEL COST FACTORS

1 12  
 13 01 01 1.031 15 1.041 27 1.072 40 1.103 COAL  
 13 02 01 1.161 15 1.129 27 1.214 40 1.299 HEAVY OIL LX SULF.  
 13 03 01 1.036 15 1.022 27 1.099 40 1.175 LIGHT OIL  
 13 04 01 1.005 15 .9649 27 1.214 40 1.279 GAS  
 13 05 01 1.205 15 1.172 27 1.260 40 1.348 HEAVY OIL RX SULF  
 1 999

Data Request (1) (ii) (c)

Production Cost Model - Narrative of Input Data  
Evolutionary Changes

Item 1 (ii) (c)

As explained in the Addendum to "Description of Production Cost Program" contained in the response to Item 1 (ii) (a) two changes have been made to the Prod Cost model. The first change was to provide load models for all PJM members as independent companies to create a multi-area program. Prior to this change, the program functioned as a two area program with PECO as one area and the remainder of PJM as a second area. This change permits the program to determine on a bi-hourly basis the buying and selling members of PJM. Using this knowledge of what particular members are buying/selling members in an bi-hourly calculating period a more accurate prediction of the selling cost/replacement value for interchange transactions is determined. As a result, the Interchange billing price for PECO purchases and sales is a more accurate simulation of the costs PECO can expect to incur.

The second change was to model three dispatching areas within the PJM. The load models of the individual members are then assigned to one of the dispatching areas and economy interchange between areas (including 2 party transfers) is examined with respect to the transmission limitation curve for transfer between areas. This feature permits the ProdCost program to simulate the operational problems of energy transfer limitations and dispatch the areas to different cost levels when required. This added feature also provides a more accurate prediction of PECO's generation and fuel requirements for the period being investigated.

In addition to these two major changes, minor changes had been made to facilitate input data handling problems and to speed the data processing time. In addition, the output summary portion has had some changes to meet Department and Corporate requirements and incorporate changes to the PECO system.

**Data Request (2) (1)**

**Actual Unit Data Report**

Actual Data Report

Unit Name	Cromby	Eddystone	Schuylkill	Conemaugh
Unit Number	1	1	1	2
Date of Commercial Operation	1954	1960	1958	1971
Fuel Type	Coal & Oil	Coal	Oil	Coal
Name Plate Capacity (KW)	187,500	353,600	190,400	193,939
Architect/Engineer	PECO	PECO	PECO	Gilbert
Constructor	UE&C	UE&C	UE&C	Ebasco
Steam System Supplier	B & W	C. E.	C. E.	C. E.
Turbine Supplier	G. E.	West.	G. E.	G. E.
Unit Name	Cromby	Eddystone	Keystone	Peach Bottom
Unit Number	2	2	1	2
Date of Commercial Operation	1955	1960	1967	1974
Fuel Type	Oil	Coal	Coal	Nuclear
Name Plate Capacity (KW)	230,000	353,600	196,466	489,485
Architect/Engineer	PECO	PECO	Gilbert	Bechtel
Constructor	UE&C	UE&C	Ebasco	Bechtel
Steam System Supplier	C. E.	C. E.	C. E.	G. E.
Turbine Supplier	West.	G. E.	West.	G. E.
Unit Name	Delaware	Eddystone	Keystone	Peach Bottom
Unit Number	7	3	2	3
Date of Commercial Operation	1953	1974	1968	1974
Fuel Type	Oil	Oil	Coal	Nuclear
Name Plate Capacity (KW)	156,250	391,000	196,466	489,485
Architect/Engineer	PECO	UE&C	Gilbert	Bechtel
Constructor	UE&C	UE&C	Ebasco	Bechtel
Steam System Supplier	B & W	C. E.	C. E.	G. E.
Turbine Supplier	G. E.	West.	West.	G. E.
Unit Name	Delaware	Eddystone	Conemaugh	Salem
Unit Number	8	4	1	1
Date of Commercial Operation	1953	1974	1970	1977
Fuel Type	Oil	Oil	Coal	Nuclear
Name Plate Capacity (KW)	156,250	391,000	193,939	498,303
Architect/Engineer	PECO	UE&C	Gilbert	PSE&G
Constructor	UE&C	UE&C	Ebasco	UE&C
Steam System Supplier	B & W	C. E.	C. E.	West.
Turbine Supplier	G. E.	West.	G. E.	West.
Unit Name	Salem	Muddy Run		
Unit Number	2	1,2,3,4,5,6		
Date of Commercial Operation	1981	1967		
Fuel Type	Nuclear	Hydro		
Name Plate Capacity (KW)	498,303	100,000 EA.		
Architect/Engineer	PSE&G	PECO		
Constructor	UE&C	Arundel		
Steam System Supplier	West.	N/A		
Turbine Supplier	West.	B.L.H.		

Unit Name	Limerick	Muddy Run
Unit Number	1	7,8
Date of Commercial Operation		1968
Fuel Type	Nuclear	Hydro
Name Plate Capacity (KW)	1,152,000	100,000 EA.
Architect/Engineer	Bechtel	PECO
Constructor	Bechtel	Arundel
Steam System Supplier	G. E.	N/A
Turbine Supplier	G. E.	B.L.H.

Unit Name	Eddystone	Schuylkill	Delaware	Salem
Unit Number	10,20	10	9	3
Date of Commercial Operation	1967	1969	1970	1971
Fuel Type	Oil	Oil	Oil	Oil
Name Plate Capacity (KW)	18,600 EA	18,600	21,250	17,824
Architect/Engineer	PECO	PECO	PECO	PSE&G
Constructor	PECO	PECO	PECO	UE&C
Steam System Supplier	N/A	N/A	N/A	N/A
Turbine Supplier	P&W	P&W	P&W	P&W

Unit Name	Eddystone	Schuylkill	Falls	Croydon
Unit Number	30,40	11	1,2,3	11,12,21,22 31,32,41,42
Date of Commercial Operation	1970	1971	1970	1974
Fuel Type	Oil	Oil	Oil	Oil
Name Plate Capacity (KW)	21,250 EA.	21,250 EA.	21,250 EA.	68,300 EA.
Architect/Engineer	PECO	PECO	PECO	PECO
Constructor	PECO	PECO	PECO	PECO
Steam System Supplier	N/A	N/A	N/A	N/A
Turbine Supplier	P&W	P&W	P&W	G. E.

Unit Name	Southwark	Chester	Moser
Unit Number	3,4,5	7,8,9	1,2,3
Date of Commercial Operation	1967	1969	1970
Fuel Type	Oil	Oil	Oil
Name Plate Capacity (KW)	18,600 EA.	18,600 EA.	21,250 EA.
Architect/Engineer	PECO	PECO	PECO
Constructor	PECO	PECO	PECO
Steam System Supplier	N/A	N/A	N/A
Turbine Supplier	P&W	P&W	P&W

Unit Name	Southwark	Delaware	Richmond
Unit Number	6	10,11,12	81,91,92
Date of Commercial Operation	1968	1969	1973
Fuel Type	Oil	Oil	Oil
Name Plate Capacity (KW)	18,600 EA.	18,600 EA.	65,300 EA.
Architect/Engineer	PECO	PECO	PECO
Constructor	PECO	PECO	PECO
Steam System Supplier	N/A	N/A	N/A
Turbine Supplier	P&W	P&W	G. E.

Data Request (2) (1.1)

Actual Unit Data Report  
5 Year Historical Data

Actual Unit Data Report  
Item 2(ii)

Years Ending

Description                      6/30/81      6/30/82      6/30/83      6/30/84      6/30/85

Nuclear Units

Peach Bottom 2

Net Winter Capacity (MW)	1051	1052	1065	1065	1065
Net Summer Capacity (MW)	1051	1051	1051	1051	1051
Planned Outage Factor %	22.2	18.1	0	17.5	100
Unit Derating Factor %	*	*	2.4	0.9	0
Equiv. Avail. Factor %	71.1	73.1	85.0	36.4	0
Net Capacity Factor %	63.5	53.0	82.9	33.7	0
Equiv. Forced Out. Rate %	6.4	4.4	7.0	53.9	0
Avg. Net Oper. Heat Rate	10,585	10,904	10,747	10,961	0
Avg. Net Oper. Cost	.354	.256	.244	.424	-

Peach Bottom 3

Net Winter Capacity (MW)	1065	1050	1065	1065	1065
Net Summer Capacity (MW)	1035	1035	1035	1036	1035
Planned Outage Factor %	25.4	25.4	21.2	21.2	7.5
Unit Derating Factor %	*	*	2.6	0.9	2.2
Equiv. Avail. Factor %	62.7	69.7	59.4	66.3	82.8
Net Capacity Factor %	60.9	62.7	57.9	57.8	76.3
Equiv. Forced Out. Rate %	11.2	5.7	.6	7.6	6.3
Avg. Net Oper. Heat Rate	10,746	10,498	10,811	10,666	10,818
Avg. Net Oper. Cost	.354	.256	.244	.418	.608

Salem 1

Net Winter Capacity (MW)	1100	1100	1100	1100	1100
Net Summer Capacity (MW)	1079	1079	1081	1081	1079
Planned Outage Factor %	13.2	25.4	19.5	24.7	2.2
Unit Derating Factor %	*	*	1.1	0.9	4.2
Equiv. Avail. Factor %	65.7	56.6	38.7	59.8	60.9
Net Capacity Factor %	43.7	60.0	36.6	59.3	59.8
Equiv. Forced Out. Rate %	17.4	17.4	42.6	20.0	36.7
Avg. Net Oper. Heat Rate	10,967	11,272	10,918	10,517	10,580
Avg. Net Oper. Cost	.265	.300	.468	.538	.744

Salem 2

Net Winter Capacity (MW)		1120	1120	1120	1120
Net Summer Capacity (MW)		1106	1107	1107	1106
Planned Outage Factor %		0	34.8	0	19.7
Unit Derating Factor %		*	14.9	0.8	2.0
Equiv. Avail. Factor %		97.8	38.3	26.5	30.5
Net Capacity Factor %		87.6	37.5	23.8	28.7
Equiv. Forced Out. Rate %		17.1	22.3	71.9	61.8
Avg. Net Oper. Heat Rate		10,583	11,430	11,122	10,988
Avg. Net Oper. Cost		.512	.506	-	.597

(2)

Description	<u>Years Ending</u>				
	6/30/81	6/30/82	6/30/83	6/30/84	6/30/85
<u>Coal Fired Units</u>					
<u>Eddystone 1</u>					
Net Winter Capacity (MW)	321	321	321	321	319
Net Summer Capacity (MW)	301	301	301	304	311
Planned Outage Factor %	33.3	27.6	28.5	22.6	0
Unit Derating Factor %	*	*	2.8	6.6	6.7
Equiv. Avail. Factor %	26.0	45.9	18.6	21.3	68.8
Net Capacity Factor %	29.2	41.4	14.6	16.3	55.8
Equiv. Forced Out. Rate %	59.5	31.3	67.6	27.0	29.8
Avg. Net Oper. Heat Rate	11,087	11,489	12,282	12,526	11,047
Avg. Net Oper. Cost	1.852	2.073	2.024	2.079	2.113
<u>Eddystone 2</u>					
Net Winter Capacity (MW)	343	343	343	343	333
Net Summer Capacity (MW)	334	334	334	330	324
Planned Outage Factor %	18.1	28.4	0	16.1	31.8
Unit Derating Factor %	*	*	8.0	2.5	11.0
Equiv. Avail. Factor %	59.4	45.2	70.9	35.3	42.1
Net Capacity Factor %	54.4	41.4	57.6	27.3	35.4
Equiv. Forced Out. Rate %	25.4	35.0	25.2	37.8	36.3
Avg. Net Oper. Heat Rate	10,310	10,523	10,663	11,418	11,097
Avg. Net Oper. Cost	1.852	2.073	2.024	2.079	2.113
<u>Cromby 1</u>					
Net Winter Capacity (MW)	162	162	153	153	147
Net Summer Capacity (MW)	150	152	152	150	144
Planned Outage Factor %	17.5	16.5	16.3	1.0	21.5
Unit Derating Factor %	*	*	1.7	5.2	2.5
Equiv. Avail. Factor %	70.7	68.1	68.1	86.5	64.9
Net Capacity Factor %	56.0	54.9	55.8	72.2	47.8
Equiv. Forced Out. Rate %	9.5	13.8	16.0	6.2	15.5
Avg. Net Oper. Heat Rate	10,274	10,269	10,452	10,965	11,052
Avg. Net Oper. Cost	1.742	1.957	1.938	1.928	2.046
<u>Keystone 1</u>					
Net Winter Capacity (MW)	850	850	850	850	850
Net Summer Capacity (MW)	832	833	850	850	850
Planned Outage Factor %	12.2	12.2	8.1	18.7	0
Unit Derating Factor %	*	*	1.3	1.3	0.9
Equiv. Avail. Factor %	71.7	67.3	73.5	79.0	87.1
Net Capacity Factor %	71.6	54.3	69.4	75.5	83.9
Equiv. Forced Out. Rate %	17.5	21.8	18.5	10.8	12.8
Avg. Net Oper. Heat Rate	10,311	9,562	10,239	9,775	9,563
Avg. Net Oper. Cost	1.088	1.174	1.230	1.165	1.213

Years Ending

Description	6/30/81	6/30/82	6/30/83	6/30/84	6/30/85
<u>Keystone 2</u>					
Net Winter Capacity (MW)	850	850	850	850	850
Net Summer Capacity (MW)	834	835	850	850	850
Planned Outage Factor %	14.8	5.8	16.0	16.0	25.7
Unit Derating Factor %	*	*	2.8	1.4	1.7
Equiv. Avail. Factor %	72.3	76.8	66.2	80.3	52.9
Net Capacity Factor %	62.8	74.3	60.9	76.5	50.4
Equiv. Forced Out. Rate %	13.4	17.1	18.3	17.2	22.2
Avg. Net Oper. Heat Rate	9,610	9,771	10,526	9,856	10,053
Avg. Net Oper. Cost	1.088	1.174	1.230	1.165	1.213
<u>Conemaugh 1</u>					
Net Winter Capacity (MW)	851	851	850	850	850
Net Summer Capacity (MW)	833	842	850	850	850
Planned Outage Factor %	9.0	19.0	15.6	10.2	10.2
Unit Derating Factor %	*	*	3.8	2.3	2.7
Equiv. Avail. Factor %	65.5	71.8	61.7	79.1	75.7
Net Capacity Factor %	53.4	65.6	56.4	74.8	71.2
Equiv. Forced Out. Rate %	31.4	32.3	19.2	10.8	15.5
Avg. Net Oper. Heat Rate	10,211	10,118	9,759	9,478	9,572
Avg. Net Oper. Cost	1.491	1.723	1.565	1.270	1.509
<u>Conemaugh 2</u>					
Net Winter Capacity (MW)	851	850	850	850	850
Net Summer Capacity (MW)	834	838	850	850	850
Planned Outage Factor %	6.0	13.7	0	0	10.1
Unit Derating Factor %	*	*	5.3	4.9	4.2
Equiv. Avail. Factor %	69.8	54.1	69.7	75.2	79.6
Net Capacity Factor %	65.6	45.5	64.1	70.6	74.7
Equiv. Forced Out. Rate %	29.3	35.2	26.8	16.0	11.5
Avg. Net Oper. Heat Rate	10,218	10,321	10,019	9,555	9,779
Avg. Net Oper. Cost	1.491	1.723	1.565	1.270	1.509
<u>Oil Fired Steam Units</u>					
<u>Schuylkill 1</u>					
Net Winter Capacity (MW)	175	175	175	175	175
Net Summer Capacity (MW)	166	166	166	166	166
Planned Outage Factor %	9.7	14.2	13.3	31.4	0
Unit Derating Factor %	*	*	0.4	2.2	3.2
Equiv. Avail. Factor %	75.6	62.6	28.8	46.3	60.3
Net Capacity Factor %	38.8	25.3	9.9	28.5	21.3
Equiv. Forced Out. Rate %	12.4	34.8	73.1	24.9	26.8
Avg. Net Oper. Heat Rate	10,397	10,785	10,903	10,747	10,984
Avg. Net Oper. Cost	5.694	5.409	5.392	5.301	5.211

Description	Years Ending				
	6/30/81	6/30/82	6/30/83	6/30/84	6/30/85
<b>Eddystone 3</b>					
Net Winter Capacity (MW)	380	380	380	380	380
Net Summer Capacity (MW)	380	379	377	377	380
Planned Outage Factor %	2.3	3.1	13.4	15.2	0
Unit Derating Factor %	*	*	0.7	0.9	0.6
Equiv. Avail. Factor %	70.2	81.0	76.7	67.8	89.5
Net Capacity Factor %	22.4	18.0	13.8	26.4	24.3
Equiv. Forced Out. Rate %	38.9	14.5	11.8	13.9	11.6
Avg. Net Oper. Heat Rate	12,232	13,724	15,158	12,125	12,840
Avg. Net Oper. Cost	6.324	7.283	7.423	6.154	6.405
<b>Eddystone 4</b>					
Net Winter Capacity (MW)	380	380	380	380	380
Net Summer Capacity (MW)	380	380	378	378	380
Planned Outage Factor %	5.7	6.9	5.1	0	29.4
Unit Derating Factor %	*	*	0.5	1.6	5.3
Equiv. Avail. Factor %	76.0	79.8	78.5	91.7	61.7
Net Capacity Factor %	24.4	19.0	14.3	30.4	14.9
Equiv. Forced Out. Rate %	23.9	12.7	7.4	5.6	16.6
Avg. Net Oper. Heat Rate	12,072	13,667	14,042	12,349	12,981
Avg. Net Oper. Cost	6.324	7.283	7.423	6.154	6.405
<b>Cromby 2</b>					
Net Winter Capacity (MW)	224	224	211	211	211
Net Summer Capacity (MW)	201	210	210	210	201
Planned Outage Factor %	2.9	4.8	0	8.5	*
Unit Derating Factor %	*	*	2.1	3.9	2.1
Equiv. Avail. Factor %	85.3	76.7	74.8	76.8	73.8
Net Capacity Factor %	48.9	36.7	36.3	40.9	36.9
Equiv. Forced Out. Rate %	8.5	18.1	22.2	12.0	20.2
Avg. Net Oper. Heat Rate	10,273	10,380	10,282	10,372	10,373
Avg. Net Oper. Cost	5.340	5.055	4.771	5.029	5.131
<b>Delaware 7</b>					
Net Winter Capacity (MW)	128	128	128	128	128
Net Summer Capacity (MW)	126	126	124	124	126
Planned Outage Factor %	5.0	11.7	19.7	2.9	10.1
Unit Derating Factor %	*	*	2.0	1.2	0.1
Equiv. Avail. Factor %	77.2	74.1	38.1	74.0	80.4
Net Capacity Factor %	77.3	28.1	10.0	41.1	35.0
Equiv. Forced Out. Rate %	18.0	13.8	31.7	25.2	5.7
Avg. Net Oper. Heat Rate	10,742	10,840	11,929	10,604	10,730
Avg. Net Oper. Cost	5.756	6.008	6.001	5.428	5.378

Description	<u>Years Ending</u>				
	6/30/81	6/30/82	6/30/83	6/30/84	6/30/85
<u>Delaware 8</u>					
Net Winter Capacity (MW)	128	128	128	128	128
Net Summer Capacity (MW)	126	124	124	124	124
Planned Outage Factor %	21.4	3.4	4.9	8.4	11.3
Unit Derating Factor %	*	*	2.1	2.3	6.9
Equiv. Avail. Factor %	53.2	69.0	68.9	67.8	65.4
Net Capacity Factor %	19.8	19.0	19.0	26.1	25.0
Equiv. Forced Out. Rate %	48.7	29.3	14.1	19.0	28.6
Avg. Net Oper. Heat Rate	11,429	11,916	11,623	10,924	10,192
Avg. Net Oper. Cost	5.756	6.008	6.001	5.428	5.378

Actual Unit Data Report  
Item 2(ii)

Description	<u>Years</u>				
	1980	1981	1982	1983	1984
<u>Richmond 81</u>					
Net Winter Capacity	64	66	66	66	66
Net Summer Capacity	48	48	58	58	58
Planned Outage Factor	19.1	0.0	0	0.1	0
Unit Derating Factor	*	*	0	0.3	0
Equiv. Avail. Factor	70.7	73.2	19.8	97.3	93.5
Net Capacity Factor	12.1	6.5	0.4	7.9	2.0
Equiv. Forced Out. Rate	49.4	39.6	99.2	7.4	64.0
<u>Richmond 91</u>					
Net Winter Capacity	64	66	66	66	66
Net Summer Capacity	48	48	56	58	58
Planned Outage Factor	31.1	0.2	0	4.5	0
Unit Derating Factor	*	*	0.3	1.5	0
Equiv. Avail. Factor	61.0	88.2	95.7	76.7	90.0
Net Capacity Factor	9.5	7.9	2.7	5.2	3.4
Equiv. Forced Out. Rate	51.6	45.1	35.4	64.4	18.4
<u>Richmond 92</u>					
Net Winter Capacity	64	66	66	66	66
Net Summer Capacity	48	48	55	58	58
Planned Outage Factor	29.4	11.2	23.1	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	45.0	83.7	71.7	91.9	95.2
Net Capacity Factor	7.4	6.8	2.5	7.3	3.5
Equiv. Forced Out. Rate	89.7	57.2	41.3	36.9	21.1
<u>Croydon 11</u>					
Net Winter Capacity	63	63	63	63	58
Net Summer Capacity	49	49	56	58	51
Planned Outage Factor	40.2	2.4	3.1	0	0
Unit Derating Factor	*	*	16.5	31.5	16.5
Equiv. Avail. Factor	47.1	89.3	50.8	57.8	74.8
Net Capacity Factor	8.1	6.1	0.9	4.0	3.8
Equiv. Forced Out. Rate	75.8	84.6	375.1	279.2	165.3
<u>Croydon 12</u>					
Net Winter Capacity	63	63	63	63	58
Net Summer Capacity	49	49	55	57	51
Planned Outage Factor	38.8	33.9	8.6	0	7.0
Unit Derating Factor	*	*	18.3	38.5	17.3
Equiv. Avail. Factor	43.8	64.1	69.5	59.6	70.7
Net Capacity Factor	7.0	1.7	1.8	4.3	3.3
Equiv. Forced Out. Rate	106.3	61.4	424.3	335.8	255.5

(2)

Description	<u>Years</u>				
	1980	1981	1982	1983	1984
<u>Croydon 21</u>					
Net Winter Capacity	63	63	63	63	61
Net Summer Capacity	49	49	56	57	55
Planned Outage Factor	12.8	31.4	11.9	0	0
Unit Derating Factor	*	*	13.5	19.1	13.1
Equiv. Avail. Factor	51.1	44.5	62.8	67.5	78.7
Net Capacity Factor	2.2	0.3	3.1	10.4	11.1
Equiv. Forced Out. Rate	719.2	119.3	148.6	111.6	82.2
<u>Croydon 22</u>					
Net Winter Capacity	63	63	63	63	56
Net Summer Capacity	49	49	52	57	48
Planned Outage Factor	28.8	2.5	8.9	4.9	0
Unit Derating Factor	*	*	14.7	21.0	0.9
Equiv. Avail. Factor	56.1	57.3	74.9	29.1	53.7
Net Capacity Factor	10.1	3.6	1.4	1.3	2.2
Equiv. Forced Out. Rate	58.9	163.2	255.6	555.5	91.5
<u>Croydon 31</u>					
Net Winter Capacity	63	63	63	63	58
Net Summer Capacity	49	49	54	57	51
Planned Outage Factor	32.1	15.5	0.1	8.3	0
Unit Derating Factor	*	*	10.8	28.3	15.9
Equiv. Avail. Factor	51.9	73.3	74.4	59.2	70.2
Net Capacity Factor	9.0	4.7	1.5	4.5	4.0
Equiv. Forced Out. Rate	99.1	58.3	201.6	299.9	170.1
<u>Croydon 32</u>					
Net Winter Capacity	63	63	63	63	61
Net Summer Capacity	49	49	57	57	55
Planned Outage Factor	19.3	0.2	27.4	9.3	0
Unit Derating Factor	*	*	3.5	15.1	7.9
Equiv. Avail. Factor	47.8	96.9	65.1	62.2	76.0
Net Capacity Factor	2.0	0.9	2.4	11.6	10.6
Equiv. Forced Out. Rate	734.9	2.0	92.1	92.8	75.5
<u>Croydon 41</u>					
Net Winter Capacity	63	63	63	63	58
Net Summer Capacity	49	49	57	57	51
Planned Outage Factor	22.2	0	0	5.1	13.4
Unit Derating Factor	*	*	13.4	21.7	11.5
Equiv. Avail. Factor	59.9	78.2	36.9	57.8	67.4
Net Capacity Factor	9.9	5.2	0.5	4.4	3.9
Equiv. Forced Out. Rate	95.1	112.8	151.5	162.1	160.7

(3)

Description	<u>Years</u>				
	1980	1981	1982	1983	1984
<u>Croydon 42</u>					
Net Winter Capacity	63	63	63	63	61
Net Summer Capacity	49	49	55	57	55
Planned Outage Factor	0	0	17.3	0.1	0
Unit Derating Factor	*	*	14.0	15.9	9.7
Equiv. Avail. Factor	50.4	96.0	66.8	60.6	81.5
Net Capacity Factor	0.7	0.2	2.9	10.9	11.7
Equiv. Forced Out. Rate	347.6	83.5	257.6	98.4	67.3
<u>Eddystone 10</u>					
Net Winter Capacity	17	18	13	14	18
Net Summer Capacity	13	13	13	14	16
Planned Outage Factor	0	0.9	0	0.9	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	96.9	93.8	94.9	96.2	80.0
Net Capacity Factor	1.0	1.3	1.2	1.6	1.1
Equiv. Forced Out. Rate	65.0	80.4	68.5	45.1	90.6
<u>Eddystone 20</u>					
Net Winter Capacity	17	18	13	14	18
Net Summer Capacity	13	13	13	14	16
Planned Outage Factor	4.4	0.3	0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	89.8	89.6	87.2	77.6	92.4
Net Capacity Factor	0.9	1.4	0.8	1.0	1.8
Equiv. Forced Out. Rate	81.6	85.4	81.4	95.5	57.8
<u>Eddystone 30</u>					
Net Winter Capacity	19	20	15	16	20
Net Summer Capacity	15	15	15	16	17
Planned Outage Factor	0.2	0.4	0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	94.5	92.3	93.3	91.8	98.3
Net Capacity Factor	1.3	1.8	1.4	1.9	2.2
Equiv. Forced Out. Rate	74.5	64.0	69.8	66.7	35.2
<u>Eddystone 40</u>					
Net Winter Capacity	19	20	15	16	20
Net Summer Capacity	15	15	15	16	17
Planned Outage Factor	0.2	1.0	2.0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	98.7	97.4	95.8	94.6	41.8
Net Capacity Factor	1.5	1.8	1.4	2.1	0.3
Equiv. Forced Out. Rate	27.9	38.8	25.9	51.2	99.4

(4)

Description	<u>Years</u>				
	1980	1981	1982	1983	1984
<u>Southwark 3</u>					
Net Winter Capacity	17	18	18	18	18
Net Summer Capacity	13	13	16	16	15
Planned Outage Factor	0.5	0.5	0	0	0
Unit Derating Factor	*	*	0.0	0	0
Equiv. Avail. Factor	81.8	93.0	91.2	69.2	63.3
Net Capacity Factor	2.3	1.2	0.8	0.9	0.9
Equiv. Forced Out. Rate	88.3	82.1	89.0	85.5	96.4
<u>Southwark 4</u>					
Net Winter Capacity	17	18	18	18	18
Net Summer Capacity	13	13	16	16	16
Planned Outage Factor	1.8	0.4	0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	92.1	97.2	92.3	99.0	87.7
Net Capacity Factor	1.4	1.4	0.7	1.3	1.2
Equiv. Forced Out. Rate	82.5	64.0	81.5	29.0	86.6
<u>Southwark 5</u>					
Net Winter Capacity	17	18	18	18	18
Net Summer Capacity	13	13	16	16	15
Planned Outage Factor	1.9	0.4	0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	97.0	98.3	89.4	96.6	97.0
Net Capacity Factor	2.5	1.3	1.1	1.2	1.7
Equiv. Forced Out. Rate	18.5	49.7	88.2	58.6	10.9
<u>Southwark 6</u>					
Net Winter Capacity	17	18	18	18	18
Net Summer Capacity	13	13	16	16	15
Planned Outage Factor	2.2	0.3	0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	92.3	87.5	89.6	94.1	91.9
Net Capacity Factor	2.1	1.2	0.8	1.1	1.1
Equiv. Forced Out. Rate	71.8	91.8	90.5	76.5	72.2
<u>Chester 7</u>					
Net Winter Capacity	17	18	18	18	18
Net Summer Capacity	13	15	16	16	15
Planned Outage Factor	6.2	2.3	0	0	0
Unit Derating Factor	*	*	0	0	2.2
Equiv. Avail. Factor	88.8	97.2	97.6	94.0	88.5
Net Capacity Factor	1.0	1.6	0.8	0.9	0.9
Equiv. Forced Out. Rate	83.6	15.8	40.4	82.5	104.1

(5)

Description	<u>Years</u>				
	1980	1981	1982	1983	1984
<u>Chester 8</u>					
Net Winter Capacity	17	18	18	18	18
Net Summer Capacity	13	15	16	16	16
Planned Outage Factor	3.6	1.1	0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	93.8	96.0	97.1	68.9	70.3
Net Capacity Factor	0.9	1.2	0.7	0.4	1.0
Equiv. Forced Out. Rate	65.7	90.1	48.0	98.2	94.5
<u>Chester 9</u>					
Net Winter Capacity	17	18	18	18	18
Net Summer Capacity	13	13	16	16	16
Planned Outage Factor	4.5	1.0	0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	92.9	93.8	93.3	92.8	76.1
Net Capacity Factor	1.2	1.5	1.0	0.9	1.3
Equiv. Forced Out. Rate	62.0	75.9	68.5	76.4	92.5
<u>Delaware 9</u>					
Net Winter Capacity	19	19	20	20	20
Net Summer Capacity	15	19	17	17	17
Planned Outage Factor	0.3	0.7	0.0	0	0
Unit Derating Factor	*	*	0.0	0	0
Equiv. Avail. Factor	93.3	75.3	94.5	99.3	79.4
Net Capacity Factor	1.1	1.2	0.8	1.7	1.5
Equiv. Forced Out. Rate	76.0	94.2	68.5	2.1	88.9
<u>Delaware 10</u>					
Net Winter Capacity	17	17	18	18	18
Net Summer Capacity	13	17	15	16	17
Planned Outage Factor	0.2	0.3	0.0	0	0
Unit Derating Factor	*	*	0.2	0	0
Equiv. Avail. Factor	95.6	92.6	92.6	94.8	93.5
Net Capacity Factor	1.1	0.9	0.5	0.8	1.1
Equiv. Forced Out. Rate	73.3	85.0	88.3	72.6	82.2
<u>Delaware 11</u>					
Net Winter Capacity	17	17	18	18	18
Net Summer Capacity	13	17	15	16	16
Planned Outage Factor	0.1	3.7	0.0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	97.5	93.9	77.3	98.3	68.8
Net Capacity Factor	1.0	1.1	0.4	1.2	1.6
Equiv. Forced Out. Rate	60.9	63.1	92.8	42.9	93.8

(6)

Description	<u>Years</u>				
	1980	1981	1982	1983	1984
<u>Delaware 12</u>					
Net Winter Capacity	17	17	18	18	18
Net Summer Capacity	13	17	16	16	17
Planned Outage Factor	0.9	0.6	0.0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	53.3	58.2	94.8	94.4	70.3
Net Capacity Factor	0.3	0.4	0.5	1.1	0.6
Equiv. Forced Out. Rate	98.4	98.7	80.4	62.8	97.8
<u>Schuylkill 10</u>					
Net Winter Capacity	17	18	18	18	18
Net Summer Capacity	13	13	16	16	17
Planned Outage Factor	1.5	6.4	0.4	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	93.0	67.7	79.4	94.1	91.7
Net Capacity Factor	2.3	0.3	0.6	1.1	1.9
Equiv. Forced Out. Rate	66.3	98.8	78.4	75.8	73.8
<u>Schuylkill 11</u>					
Net Winter Capacity	19	20	20	20	20
Net Summer Capacity	15	15	18	17	18
Planned Outage Factor	2.5	1.1	0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	96.2	90.2	49.3	75.2	60.3
Net Capacity Factor	2.6	0.2	0.6	1.1	2.2
Equiv. Forced Out. Rate	26.1	30.9	98.4	93.2	91.7
<u>Moser 1</u>					
Net Winter Capacity	19	20	20	20	20
Net Summer Capacity	15	15	19	18	19
Planned Outage Factor	0.0	3.1	0.1	1.2	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	96.7	95.7	97.0	93.6	86.4
Net Capacity Factor	4.4	4.2	1.6	2.3	1.8
Equiv. Forced Out. Rate	42.5	22.2	4.9	59.6	82.0
<u>Moser 2</u>					
Net Winter Capacity	19	20	20	20	20
Net Summer Capacity	15	15	19	18	19
Planned Outage Factor	0.3	1.8	0.1	1.2	0
Unit Derating Factor	*	*	0.1	0	0
Equiv. Avail. Factor	84.9	94.5	94.0	94.2	89.9
Net Capacity Factor	2.7	3.1	1.6	1.7	1.0
Equiv. Forced Out. Rate	86.1	13.8	55.5	54.7	85.0

Description	<u>Years</u>				
	1980	1981	1982	1983	1984
<u>Moser 3</u>					
Net Winter Capacity	19	20	20	20	20
Net Summer Capacity	15	15	19	18	19
Planned Outage Factor	0.4	1.9	0.1	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	92.3	96.8	97.8	97.3	95.9
Net Capacity Factor	3.8	3.4	1.2	1.9	2.0
Equiv. Forced Out. Rate	67.7	30.1	43.9	46.0	43.2
<u>Falls 1</u>					
Net Winter Capacity	19	20	20	20	20
Net Summer Capacity	15	15	17	18	18
Planned Outage Factor	0	0.1	2.3	0	0.8
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	94.0	98.4	95.5	96.6	95.5
Net Capacity Factor	1.6	2.1	0.6	0.1	1.9
Equiv. Forced Out. Rate	76.8	40.0	37.6	96.1	29.3
<u>Falls 2</u>					
Net Winter Capacity	19	20	20	20	20
Net Summer Capacity	15	15	16	18	18
Planned Outage Factor	0	0.1	0	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	81.9	98.6	69.0	53.3	89.5
Net Capacity Factor	1.8	1.9	0.7	1.3	1.9
Equiv. Forced Out. Rate	90.6	37.1	97.0	96.3	76.6
<u>Falls 3</u>					
Net Winter Capacity	19	20	20	20	20
Net Summer Capacity	15	15	16	18	18
Planned Outage Factor	0	0	0.1	0	0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	99.9	97.6	98.8	94.2	92.5
Net Capacity Factor	1.9	1.7	0.4	0.1	1.7
Equiv. Forced Out. Rate	0	37.2	58.5	94.7	68.5
<u>Muddy Run 1</u>					
Net Winter Capacity	110	110	110	110	110
Net Summer Capacity	110	110	110	110	110
Planned Outage Factor	0	12.3	0.0	8.0	12.0
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	98.4	83.5	90.4	83.4	82.0
Net Capacity Factor	18.3	15.4	16.6	15.2	15.8
Equiv. Forced Out. Rate	0.3	7.6	16.7	10.3	2.3

(8)

Description	<u>Years</u>				
	1980	1981	1982	1983	1984
<u>Muddy Run 2</u>					
Net Winter Capacity	110	110	110	110	110
Net Summer Capacity	110	110	110	110	110
Planned Outage Factor	0	12.3	0	8.0	12.0
Unit Derating Factor	*	*	0.1	0	0
Equiv. Avail. Factor	98.2	82.9	75.3	86.0	81.1
Net Capacity Factor	18.4	15.3	12.9	16.0	12.3
Equiv. Forced Out. Rate	0.4	7.8	57.9	0.6	17.8
<u>Muddy Run 3</u>					
Net Winter Capacity	110	110	110	110	110
Net Summer Capacity	110	110	110	110	110
Planned Outage Factor	0	15.8	0	8.1	3.9
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	87.9	75.6	95.0	74.7	91.4
Net Capacity Factor	17.1	13.7	17.2	12.7	16.1
Equiv. Forced Out. Rate	25.5	22.0	1.2	4.6	8.0
<u>Muddy Run 4</u>					
Net Winter Capacity	110	110	110	110	110
Net Summer Capacity	110	110	110	110	110
Planned Outage Factor	0	15.8	0	8.1	3.9
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	90.3	74.9	90.7	60.8	91.3
Net Capacity Factor	17.2	13.6	16.0	10.7	15.4
Equiv. Forced Out. Rate	9.5	16.5	5.9	33.5	5.5
<u>Muddy Run 5</u>					
Net Winter Capacity	110	110	110	110	110
Net Summer Capacity	110	110	110	110	110
Planned Outage Factor	45.5	0	18.6	0	34.8
Unit Derating Factor	*	*	0.0	0	0
Equiv. Avail. Factor	53.0	97.1	77.6	87.7	50.7
Net Capacity Factor	4.9	15.6	14.7	11.3	10.8
Equiv. Forced Out. Rate	6.5	0.8	2.5	36.4	2.2
<u>Muddy Run 6</u>					
Net Winter Capacity	110	110	110	110	110
Net Summer Capacity	110	110	110	110	110
Planned Outage Factor	43.9	0	18.6	0	34.8
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	55.1	95.8	77.7	90.5	50.0
Net Capacity Factor	10.4	16.3	14.3	15.2	10.6
Equiv. Forced Out. Rate	1.9	6.3	0	4.2	9.6

(9)

Description	<u>Years</u>				
	1980	1981	1982	1983	1984
<u>Muddy Run 7</u>					
Net Winter Capacity	110	110	110	110	110
Net Summer Capacity	110	110	110	110	110
Planned Outage Factor	15.6	0	21.6	7.7	0.9
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	74.5	81.6	72.9	53.0	93.9
Net Capacity Factor	6.9	12.8	12.1	10.3	15.5
Equiv. Forced Out. Rate	21.0	47.6	4.9	12.1	1.0
<u>Muddy Run 8</u>					
Net Winter Capacity	110	110	110	110	110
Net Summer Capacity	110	110	110	110	110
Planned Outage Factor	15.6	0	21.6	15.0	0.9
Unit Derating Factor	*	*	0	0	0
Equiv. Avail. Factor	80.8	83.3	72.0	48.1	94.8
Net Capacity Factor	15.7	12.5	13.1	10.2	17.3
Equiv. Forced Out. Rate	0.8	42.7	9.6	3.7	0.4
<u>Salem 3</u>					
Net Winter Capacity	48	48	48	48	48
Net Summer Capacity	38	38	43	43	43
Planned Outage Factor	0	6.1	0	0	0
Unit Derating Factor	*	*	3.1	1.0	1.1
Equiv. Avail. Factor	89.3	81.5	96.0	91.3	92.3
Net Capacity Factor	0.7	0.5	0.3	1.8	1.1
Equiv. Forced Out. Rate	186.3	669.9	139.8	77.2	66.7

Combustion Turbine  
Historical Summary Report

	1980	1981	1982	1983	1984	5 Yr. Avg.
<u>Schuylkill</u>						
Avg. Net Oper. Heat Rate	14,581	14,878	15,522	15,365	15,265	15,122
Avg. Cost	7.504	9.859	15.063	10.005	9.686	10.423
<u>Eddystone</u>						
Avg. Net Oper. Heat Rate	13,977	15,876	14,406	15,062	15,487	14,962
Avg. Cost	7.107	10.842	9.963	9.331	9.579	9.364
<u>Chester</u>						
Avg. Net Oper. Heat Rate	14,958	15,118	14,461	15,052	15,329	14,984
Avg. Cost	7.043	9.880	10.281	9.975	9.479	9.332
<u>Delaware</u>						
Avg. Net Oper. Heat Rate	14,280	13,160	14,402	15,012	14,338	14,238
Avg. Cost	8.099	9.496	10.456	9.484	9.070	9.321
<u>Southwark</u>						
Avg. Net Oper. Heat Rate	14,519	15,714	14,856	15,257	15,876	15,244
Avg. Cost	8.315	11.152	10.498	9.639	10.009	9.923
<u>Falls</u>						
Avg. Net Oper. Heat Rate	14,692	14,678	14,341	14,694	14,701	14,621
Avg. Cost	6.855	9.612	10.014	9.867	9.350	9.140
<u>Moser</u>						
Avg. Net Oper. Heat Rate	14,180	14,288	14,709	14,157	14,647	14,396
Avg. Cost	7.631	9.965	10.249	9.161	9.118	9.225
<u>Salem</u>						
Avg. Net Oper. Heat Rate	15,930	16,004	19,164	25,244	17,207	18,710
Avg. Cost	8.392	10.753	11.708	10.431	9.138	10.084
<u>Richmond</u>						
Avg. Net Oper. Heat Rate	12,439	12,668	13,058	12,995	12,637	12,759
Avg. Cost	6.618	8.605	8.920	7.867	7.976	7.997
<u>Croydon</u>						
Avg. Net Oper. Heat Rate	12,520	12,966	12,582	11,965	12,091	12,425
Avg. Cost	5.906	7.849	8.257	7.382	7.411	7.361

Data Request (3) (1)

Comparative Data  
5 Year Historic Average Versus Test Year Projection

Comparison Unit Data Report  
Item 3(i)

Description	Historical				Average
	Average	6/30/87	6/30/88	6/30/89	

Nuclear Units

Peach Bottom No. 2

Planned Outage Factor %	31.6	28.8	0.0	26.9	18.5
Equiv. Avail. Factor %	53.1	59.4	85.5	57.5	67.5
Net Capacity Factor %	46.6	59.3	85.4	57.1	67.3
Avg. Net. Oper. Heat Rate	10,769	10,812	10,812	10,812	10,812
Avg. Oper. Cost	.304	.932	.903	.995	.938

Peach Bottom No. 3

Planned Outage Factor %	20.1	17.3	92.1	0.0	36.4
Equiv. Avail. Factor %	68.2	63.4	11.3	86.4	53.7
Net Capacity Factor %	63.1	63.1	11.3	86.5	53.7
Avg. Net. Oper. Heat Rate	10,715	10,829	10,824	10,824	10,827
Avg. Oper. Cost	.387	.994	2.000	0.898	.994

Salem No. 1

Planned Outage Factor %	17.0	0.0	42.2	30.7	24.3
Equiv. Avail. Factor %	56.3	80.8	49.1	58.9	62.9
Net Capacity Factor %	51.9	80.3	48.7	58.4	62.5
Avg. Net. Oper. Heat Rate	10,839	10,738	10,739	10,737	10,738
Avg. Oper. Cost	.475	.889	.990	.934	.930

Salem No. 2

Planned Outage Factor %	13.6	32.6	28.8	0.0	20.5
Equiv. Avail. Factor %	44.5	54.0	56.7	81.5	64.1
Net Capacity Factor %	41.1	53.4	56.2	80.7	63.5
Avg. Net. Oper. Heat Rate	10,899	10,741	10,748	10,747	10,746
Avg. Oper. Cost	.527	.881	.882	.904	.892

Limerick No. 1

Planned Outage Factor %		27.4	9.0	30.7	22.4
Equiv. Avail. Factor %	Not	56.4	71.7	57.4	61.8
Net Capacity Factor %	Commercial	55.8	71.7	57.0	61.6
Avg. Net. Oper. Heat Rate		10,818	10,806	10,815	10,812
Avg. Oper. Cost		.802	.540	.543	.621

Coal Fired Units

Eddystone No. 1

Planned Outage Factor %	22.4	0.0	26.9	17.3	14.7
Equiv. Avail. Factor %	36.1	70.7	52.4	59.9	61.0
Net Capacity Factor %	31.5	50.1	38.6	43.1	43.9
Avg. Net. Oper. Heat Rate	11,686	10,229	10,293	10,240	10,251
Avg. Oper. Cost	2.025	2.128	2.280	2.464	2.297

Years Ending

Description	Historical Average	6/30/87	6/30/88	6/30/89	Average
<u>Eddystone No. 2</u>					
Planned Outage Factor %	18.9	28.8	24.9	0.0	17.9
Equiv. Avail. Factor %	50.6	53.9	58.8	75.3	62.7
Net Capacity Factor %	43.2	37.2	41.3	53.1	43.9
Avg. Net. Oper. Heat Rate	10,802	10,436	10,286	10,191	10,290
Avg. Oper. Cost	2.025	2.128	2.280	2.464	2.297
<u>Cromby No. 1</u>					
Planned Outage Factor %	14.6	7.7	0.0	19.2	9.0
Equiv. Avail. Factor %	71.7	81.8	88.9	70.8	80.5
Net Capacity Factor %	57.3	54.6	62.1	46.6	54.4
Avg. Net. Oper. Heat Rate	10,602	10,889	10,848	11,065	10,922
Avg. Oper. Cost	1,919	2.100	2.257	2.460	2.262
<u>Keystone No. 1</u>					
Planned Outage Factor %	10.2	7.7	7.7	9.6	8.3
Equiv. Avail. Factor %	75.7	76.0	78.6	74.4	76.3
Net Capacity Factor %	70.9	70.3	72.9	68.9	70.7
Avg. Net. Oper. Heat Rate	9,891	9,708	9,714	9,703	9,709
Avg. Oper. Cost	1.172	1.290	1.389	1.497	1.391
<u>Keystone No. 2</u>					
Planned Outage Factor %	15.7	0.0	11.5	13.4	8.3
Equiv. Avail. Factor %	69.7	74.8	66.1	65.6	68.8
Net Capacity Factor %	66.4	69.6	61.8	61.1	64.2
Avg. Net. Oper. Heat Rate	9,938	9,704	9,710	9,707	9,707
Avg. Oper. Cost	1.172	1.291	1.392	1.504	1.391
<u>Conemaugh No. 1</u>					
Planned Outage Factor %	12.8	0.0	9.6	11.5	7.0
Equiv. Avail. Factor %	69.8	73.6	65.1	61.7	66.8
Net Capacity Factor %	64.3	68.8	61.2	57.3	62.4
Avg. Net. Oper. Heat Rate	9,801	9,632	9,649	9,674	9,650
Avg. Oper. Cost	1.499	1.594	1.722	1.858	1.717
<u>Conemaugh No. 2</u>					
Planned Outage Factor %	6.0	9.6	11.5	9.6	10.2
Equiv. Avail. Factor %	69.7	65.1	65.4	65.1	65.2
Net Capacity Factor %	64.1	60.6	61.6	60.5	60.9
Avg. Net. Oper. Heat Rate	9,945	9,634	9,633	9,663	9,643
Avg. Oper. Cost	1.499	1.593	1.707	1.849	1.716
<u>Oil Fired Steam Units</u>					
<u>Schuylkill No. 1</u>					
Planned Outage Factor %	7.5	5.8	5.8	5.8	5.8
Equiv. Avail. Factor %	54.8	63.5	65.7	67.3	65.5
Net Capacity Factor %	24.8	16.9	19.3	20.5	18.9
Avg. Net. Oper. Heat Rate	10,763	10,142	10,103	10,131	10,125
Avg. Oper. Cost	5.438	4.768	5.164	5.668	5.228

Years Ending

Description	Historical				Average
	Average	6/30/87	6/30/88	6/30/89	
<u>Eddystone No. 3</u>					
Planned Outage Factor %	6.8	9.6	0.0	7.7	5.8
Equiv. Avail. Factor %	77.0	76.4	82.0	76.5	78.3
Net Capacity Factor %	21.0	12.4	15.5	14.9	14.3
Avg. Net. Oper. Heat Rate	13,216	13,255	12,932	12,879	13,009
Avg. Oper. Cost	6.613	6.110	6.521	7.079	6.599
<u>Eddystone No. 4</u>					
Planned Outage Factor %	9.4	9.6	0.0	7.7	5.8
Equiv. Avail. Factor %	77.5	78.1	88.7	80.8	82.5
Net Capacity Factor %	20.6	13.1	15.7	16.1	14.9
Avg. Net. Oper. Heat Rate	13,022	13,085	12,854	12,720	12,873
Avg. Oper. Cost	6.613	6.110	6.521	7.079	6.599
<u>Cromby No. 2</u>					
Planned Outage Factor %	3.2	42.2	7.7	7.7	19.2
Equiv. Avail. Factor %	77.5	45.8	81.8	72.1	66.6
Net Capacity Factor %	39.9	16.4	34.3	29.5	26.7
Avg. Net. Oper. Heat Rate	10,336	10,345	10,006	10,089	10,106
Avg. Oper. Cost	5.082	4.690	4.850	5.356	5.004
<u>Delaware No. 7</u>					
Planned Outage Factor %	9.9	5.8	5.8	5.8	5.8
Equiv. Avail. Factor %	68.8	77.5	77.6	79.4	78.2
Net Capacity Factor %	38.3	18.4	24.6	21.7	21.6
Avg. Net. Oper. Heat Rate	10,969	10,591	10,347	10,542	10,482
Avg. Oper. Cost	5.67	4.998	5.372	5.872	5.434
<u>Delaware No. 8</u>					
Planned Outage Factor %	9.9	5.8	5.8	5.8	5.8
Equiv. Avail. Factor %	64.9	71.0	71.7	71.8	71.5
Net Capacity Factor %	21.8	15.2	18.0	17.8	17.0
Avg. Net. Oper. Heat Rate	11,217	10,836	10,928	10,674	10,812
Avg. Oper. Cost	5.67	4.998	5.372	5.872	5.434

Combustion Turbine  
Comparison Unit Data Report  
Item 3(i)

<u>Description</u>	<u>Historical Average</u>	<u>Future Test Year Prediction</u>
<u>Richmond</u>		
Avg. Net Oper. Heat Rate	12,759	12,033
Avg. Net Fuel Cost	7.997	6.853
<u>Croydon</u>		
Avg. Net Oper. Heat Rate	12,425	10,993
Avg. Net Fuel Cost	7.361	6.363
<u>Simple Cycle</u>		
Avg. Net Oper. Heat Rate	15,285	14,023
Avg. Net Fuel Cost	9.602	8.158

**Purchased and Interchange Power  
Historic and Projected Test Year**



## Notes for Data Requirement Tabulations

### General

- A - Data for Historical Filing Requirements is from NERC-GADS reports for PECO Units. 1980 and 1981 NERC Reports are for the full year. 1982 to present NERC Reports provide quarterly statistics. Therefore, Historical Statistics for years ending 6/30/81 and 6/30/82 are estimates based on full year data, for the remaining years the values reported are actual statistics for the years shown.
- B - Since the NERC-GADS data for 1985 has not been processed, the data for the Hydro and CT units represents the last 5 years of statistics on a calendar year basis per agreement with the PUC Staff.
- C - The Unit Derating Factor is not a calculated value in the NERC-GADS report and, therefore, the first two years could not be estimated, as explained in Note A.
- D - All cost data is presented in ¢/KWH.
- E - All heat rate information is in BTU/Net KWH.
- F - The calculation, as determined by NERC, of equivalent forced outage hours on some combustion turbine units resulted in an equivalent forced outage rate greater than 100%.
- G - Historical cost data on combustion turbine units is provided by accounting designator group.
- H - Future test year projections of combustion turbine operating characteristics have been summarized into 3 groups:
  1. Croydon - which includes all Croydon units.
  2. Richmond - which includes all Richmond G.E. units.
  3. Simple Cycle - which includes all other remaining CT units.

Received January 28, 1986  
R-850152  
Hbg-TK 1/28/86

**RECEIVED**

**JAN 29 1986**  
**SECRETARY'S OFFICE**  
**Public Utility Commission**

ENERGY COST RATE FACTOR

Preliminary

Energy Cost Rate Factor Applicable to Service  
Rendered on June 27, 1986 and Thereafter\*

DOCUMENT  
FILED

Credit: ..... (2.768) mills per kilowatt-hour  
or  
(\$0.002768) per kilowatt hour

**DOCKETED**  
**JAN 30 1986**

\*Use prior to June 27, 1986 will be billed  
under Energy Cost Rate No. 10

PHILADELPHIA ELECTRIC COMPANY

J. H. AUSTIN, JR., President

Revised - 1/28/86

PHILADELPHIA ELECTRIC COMPANY

Computation of Energy Cost Rate Factor  
 Application Period: June 27, 1986 through June 1987  
 Computation Period: June 27, 1986 through June 1987

1. Energy Cost Rate Factor =	$\left( \frac{F}{S_t} - B - \frac{E}{S_a} \right) \times \frac{1}{1-T}$	
2. F = Cost of Energy (Schedule E-2, Sheet 2 of 3) .....		\$476,536,383
3. E = Experienced Net Under-Collection (Sch. E-4, 5 of 5) .....		(\$37,110,868)
4. S <sub>t</sub> = Projected Sales for Comp. Period (Sch. E-2, Sh 3 of 3) .....		28,298,319 MWh
5. S <sub>a</sub> = Proj. Retail Sales For Comp. Period (Sch. E-2, Sh 3 of 3) ...		27,686,260 MWh
6. $\frac{F}{S_t} - \frac{E}{S_a}$ Projected Cost per kWh .....		18.180 m/kWh
7. B = Base Cost .....	-	<u>20.823 m/kWh</u>
8. Excess Cost (Line 6 - Line 7) .....		(2.643) m/kWh
9. $\frac{1}{1-T}$ (T = 4.5%) .....	x	1.04712
10. Energy Cost Rate Factor - Calculated (Line 8 x Line 9) .....		<u>(2.768) m/kWh</u>

Philadelphia Electric Company  
 System Sales - MWH  
 Estimated 7/1/86 - 6/30/87

Month	Retail (PECo) (1)	Resale (PECo Plus Interdepartment) (2)	Resale (SE to CP) (3)	Total Projected Sales (4)=(1)+(2)+(3)
July 1986	2,485,121	46,300	7,900	2,539,321
August	2,524,916	45,600	7,200	2,577,716
September	2,436,719	38,700	5,900	2,481,319
October	2,166,517	42,500	7,300	2,216,317
November	2,097,720	38,300	7,500	2,143,520
December	2,341,624	51,400	9,100	2,402,124
January 1987	2,529,691	52,317	9,800	2,591,808
February	2,409,857	43,647	8,300	2,461,804
March	2,278,774	44,454	8,500	2,331,728
April	2,195,196	40,221	6,400	2,241,817
May	2,024,831	38,404	6,400	2,069,635
June	<u>2,195,294</u>	<u>39,416</u>	<u>6,500</u>	<u>2,241,210</u>
12- Month Total	27,686,260	521,259	90,800	28,298,319

Revised 1/28/86

PHILADELPHIA ELECTRIC COMPANY-ELECTRIC OPERATIONS  
 ENERGY COST RATE RECONCILIATION  
 ESTIMATED REPORT ENDED JUN:87

TOTAL SYSTEM SALES KWH	CURRENT ENERGY COST (2/1X)	TOTAL ENERGY COST	ALLOC. FACTOR	ENERGY COST PECO RETAIL CUSTOMER KWH	RETAIL CUSTOMER SALES	ENERGY COST RECOVERED IN BASE RATES	ENERGY COST OVER BASE	FUEL REVENUE EXCL. GRT	HT TIME OF USE ADJ.	TOTAL PERIOD REVENUE	CURRENT PERIOD RECOVERY
1	(2/1X)	2	3	4=2X3	5	6=5XBASE	7=4-6	(F/ST)-B MILLS/KWH	9=8X5	10	11=10+9, 12=11-7
***** (C) *****											
JUN'86 2539321000.	15.626	39678920.	0.9807	38913117.	2485121000.	51747675.	-12834557.	-3.983258	-9898878.	0.	-9898878.
AUG'86 2577716000.	15.506	39970948.	0.9813	39223491.	2524916000.	52576326.	-13352835.	-3.983258	-10057392.	0.	-10057392.
SEP'86 2481119000.	15.923	39510345.	0.9813	38771502.	2436719000.	50739800.	-11968298.	-3.983258	-9706080.	0.	-9706080.
OCT'86 2216517000.	16.616	36827359.	0.9784	36031888.	2166517000.	45113383.	-9081695.	-3.983258	-8629796.	0.	-8629796.
NOV'86 2143520000.	17.124	36704687.	0.9803	35981605.	2097720000.	43680824.	-7699219.	-3.983258	-8355760.	0.	-8355760.
DEC'86 2402124000.	17.617	42318853.	0.9763	41315896.	2341624000.	48759637.	-7443741.	-3.983258	-9327293.	0.	-9327293.
JAN'87 2591809000.	13.607	35267966.	0.9767	34446222.	2529691000.	52675756.	-18229534.	-3.983258	-10076612.	0.	-10076612.
FEB'87 2461804000.	16.331	40206617.	0.9781	39242136.	2409857000.	50180452.	-10856516.	-3.983258	-9599082.	0.	-9599082.
MAR'87 2331728000.	14.942	34841599.	0.9786	334995989.	2278774000.	47460911.	-13354922.	-3.983258	-9076945.	0.	-9076945.
APR'87 2241817000.	17.613	39488697.	0.9792	38664590.	2195196000.	45710566.	-7045976.	-3.983258	-8744032.	0.	-8744032.
MAY'87 2069635000.	18.725	38754305.	0.9807	38006347.	2024831000.	42163056.	-4156709.	-3.983258	-8065424.	0.	-8065424.
JUN'87 2241210000.	23.635	52970887.	0.9916	51996223.	2195294000.	45712607.	6283616.	-3.983258	-8744422.	0.	-8744422.
YEARLY TOTAL 28298319000.		476536383.		446771006.	27686260000	576510993.	-109739986.		-110281516.	0.	-110281516.
											-541530.

BASE = 20.823 MILLS/KWH

(A) AVERAGE ENERGY COST FACTOR FOR PERIOD EXCLUDING GRT AND CORRECTION FACTOR

(B) RATE HT TIME-OF-USE ADJUSTMENT INCLUDED IN ECR CALCULATION  
 PER COMMISSION ORDER ENTERED MAY 21, 1982 AT RATE  
 CASE NO. R-811626, PAGE 60.

(C) BEGINNING MAY, 1989, FUEL COSTS AND SALES ASSOCIATED WITH NIGHT SERVICE HT RIDER-SUPPLEMENTAL ENERGY WILL BE EXCLUDED FROM TOTAL FUEL COSTS AND SYSTEM SALES.

REVISED - 1/28/86

REFERENCE:  
 ENERGY COST RATE FACTOR  
 1/28/86

PHILADELPHIA ELECTRIC COMPANY-ELECTRIC OPERATIONS  
 ENERGY COST RATE RECONCILIATION  
 ESTIMATED REPORT ENDED JAN'87

	D/J	INT.	INT.	INTEREST
	RECOVERY	RATE	FACTOR	16-15X14X15/100
	13-12	14	15	
JUL '86	2935679.	12.25	20./12	599368
AUG '86	3295443.	12.25	19./12	639179
SEP '86	2262218.	12.25	18./12	415683
OCT '86	451699.	12.25	17./12	78388
NOV '86	-656541.	12.25	16./12	-107235
DEC '86	-1883552.	12.25	15./12	-288419
JAN '87	8153122.	12.25	14./12	1165217
FEB '87	1257234.	12.25	13./12	166845
MAR '87	4277977.	12.25	12./12	524052
APR '87	-1698056.	12.25	11./12	-190678
MAY '87	-3908715.	12.25	10./12	-399015
JUN '87	-15028038.	12.25	9./12	-1380701.

YEARLY TOTAL TO DATE -541530. 1222684.

REVISED - 1/28/86

REFERENCE: ENERGY COST RATE FACTOR  
 SCHEDULE NO. 1  
 SHEET 2 OF 2

Philadelphia Electric Company  
STATEMENT OF REASONS

- I. The projected ECRF of (2.768) m/kWh is a decrease of 0.140 m/kWh in comparison to the current ECR of (2.628) m/kWh. The reasons for this decrease are as follows:
1. A reduction in the cost of energy of 7.355 m/kWh as a result of the fuel savings anticipated when Limerick Unit #1 begins commercial operation.
  2. An undercollection of \$37,110,868 applicable to the current ECRF which will be recovered by the correction factor of the proposed rate. This undercollection resulted in a 55.4% decrease to the "E" factor.

Residential Bill Analysis

The monthly cost of energy to the average Residential customer (500 kWh) will decrease 0.1% or \$0.07 from \$58.30 to \$58.23.

Revised - 1/28/86

1/28/86 Hbg  
R-85015-2

ILLUSTRATIVE 80/20 ECR CALCULATIONS

**RECEIVED**

**JAN 29 1986**

**SECRETARY'S OFFICE  
Public Utility Commission**

Constant:

Projected energy costs: \$40M  
Base portion: \$ 8M  
ECR portion: \$32M  
Projected sales: 200,000 MWH  
Rates per KWH:  
Base = 0.04¢/Kwh  
ECR = 0.16¢/Kwh

Assumption: actual sales = projected sales

Case I:

Actual energy costs: \$40M  
Base portion \$ 8M  
ECR portion \$32M  
Revenue  
Base @ 0.04¢/Kwh \$ 8M  
Cost (8)  
ECR @ 0.16¢/Kwh \$32M  
Cost (32)

Energy costs (incurred)/overcollected \$0M  
Difference to be (refunded)/recouped 0  
(Cost)/Benefit to company 0

Case II:

Actual costs: \$30M  
Base portion \$ 6M  
ECR portion \$24M  
Revenue  
Base @ 0.04¢/Kwh \$8.0M  
Cost (6)  
ECR @ 0.16¢/Kwh \$32  
Cost (24)  
Energy costs over-  
collected +\$10M  
difference to be  
refunded 8M  
Benefit to Co. \$ 2M

**DOCKETED**  
JAN 30 1986

Case III:

Actual costs: \$50M  
Base portion \$10M  
ECR portion \$40M  
Revenue  
Base @ 0.04¢/Kwh \$8M  
Cost (10)  
ECR @ 0.16¢/Kwh \$32M  
Cost (40)  
Energy cost unrecovered (10)M  
Difference to be recouped 8  
Costs not recovered \$ (2)M

**DOCU  
FOLDS**

Q.DR-Staff-REO-1. Provide the complete output from the production cost simulations for the 12-month periods ending 6/30/86 and 6/30/87 which support the claimed fuel savings level for the two-year period.

A.DR-Staff-REO-1. As stated in Exhibit TPH-2, Page D-21a, the ProdCost simulation covered the period from 7/1/86 to 6/30/88. Therefore, the output for the 12-month periods ending 6/30/87 and 6/30/88 are provided as Attachment DR-Staff-REO-1.

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JAN 29 1986  
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Public Utility Commission

EX-111  
JAN 29 1986

DOCKETED  
JAN 30 1986

Responsible Witness: J. J. Carroll, Staff Engineer, Services Division

ELECTRIC GENERATION AND FUEL COST ESTIMATES

MMH JULY 1986 AUGUST 1986 SEPTEMBER 1986 OCTOBER 1986 NOVEMBER 1986 DECEMBER 1986

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PAGE 45 OF 69

OIL-PE STM.	197,000	219,000	216,000	304,000	295,000	149,000
COAL-PE STM.	297,000	324,000	128,000	197,000	177,000	226,000
COAL-MINERTH	370,000	373,000	319,000	334,000	343,000	356,000
INT.COMB.	11,350	12,660	5,250	12,020	12,080	5,890
TOTAL FOSSIL	875,350	928,660	720,250	847,020	827,080	736,890

MMH NUCLEAR	1,682,183	1,588,536	1,464,924	1,219,337	991,067	1,202,513
NET HYDRO	24,000	(4,000)	8,000	60,000	79,000	146,000
OTHER	0	0	0	0	0	0

RECEIVED PUM	248,000	255,000	235,000	194,000	353,000	304,000
DELIV'D PUM	(173,000)	(170,000)	(156,000)	(187,000)	(96,000)	(64,000)
STEAM-HT PP	1,100	3,500	3,100	8,500	15,500	18,700
HE,P/PL & DPL	16	16	16	16	16	16
2PARTY TRANS	204,000	201,000	188,000	209,000	217,000	197,000
INCH & PUR	280,116	289,316	270,116	224,516	489,516	535,716

TOTAL OUTPUT	2,861,649	2,802,512	2,463,290	2,350,873	2,386,663	2,621,119
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OIL-PE STM	10,268,000	11,228,000	11,325,000	15,781,000	15,239,000	8,095,000
COAL-PE STM	6,228,000	6,774,000	3,745,000	4,180,000	3,754,000	4,810,000
MINERTH	5,012,000	5,006,000	4,317,000	4,622,000	4,700,000	4,898,000
INT.COMB	726,900	811,800	339,100	769,700	780,200	373,200
TOTAL FOSSIL	22,234,900	23,819,800	19,726,100	25,352,700	24,473,200	18,166,200

(NUCLEAR EXCLUDING INTEREST, BUT INCLUDING OIL)	12,075,248	11,402,047	10,511,667	8,924,026	7,379,309	8,992,297
NUCLEAR	2,333,000	0	0	0	0	0
OTHER	9,742,248	11,402,047	10,511,667	8,924,026	7,379,309	8,992,297

RECEIVED PUM	6,699,000	8,089,000	7,548,000	7,021,000	12,394,000	12,440,000
DELIV'D PUM	(7,499,000)	(6,716,000)	(6,713,000)	(9,662,000)	(5,080,000)	(2,960,000)
STEAM-HT PP	36,000	113,000	109,000	341,000	620,000	647,000
HE,P/PL & DPL	1,196	1,196	1,196	1,196	1,196	1,196
2PARTY TRANS	6,122,000	6,012,000	5,633,000	6,388,000	6,615,000	6,008,000
INCH & PUR	5,359,196	7,499,196	6,570,196	4,089,196	14,558,196	16,136,196

INFORMATION FOR RATE DIVISION (FUEL EXCLUDE FUEL HANDLING)	42,002,344	42,721,043	36,815,963	38,365,922	46,410,705	43,894,693
3-FIN.CHGS	1,808,091	1,755,094	1,701,248	1,649,097	1,614,070	1,798,141
43-FIN.CHGS	43,810,453	44,476,137	38,517,208	40,015,019	48,102,475	45,092,634
(GAS \$ INCLUDED IN COAL-PE STM)	726,000	781,000	377,000	366,000	121,000	0
TOTAL GAS	726,000	781,000	377,000	366,000	121,000	0

INFORMATION FOR GEN. ACC. BUDGET GRP. (TOTAL FUEL HAND. \$)	839,735	831,978	812,520	816,886	810,367	810,703
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STAFF-RED-1  
ATTACHMENT  
PAGE 1 OF 64



ELECTRIC GENERATION AND FUEL COST ESTIMATES

JULY 1987 AUGUST 1987 SEPTEMBER 1987 OCTOBER 1987 NOVEMBER 1987 DECEMBER 1987

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PAGE 45 OF 69

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
OIL-PE STM.	171,000	195,000	141,000	103,000	136,000	175,000
COAL-PE STM.	261,000	242,000	188,000	156,000	168,000	229,000
COAL-MINENTH	305,000	316,000	331,000	303,000	349,000	366,000
INT. COMB.	5,880	5,920	8,720	5,120	2,910	6,220
TOTAL FOSSIL	762,880	756,920	668,720	567,120	655,910	773,220

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
NET NUCLEAR	1,536,690	1,402,728	1,172,583	1,067,858	911,743	1,260,083
NET HYDRO	23,000	(111,000)	10,000	38,000	76,000	139,000
OTHER	0	0	0	0	0	0
RECEIVED PJM	391,000	489,000	423,000	525,000	465,000	319,000
DELIV'D PJM	(65,000)	(68,000)	(23,000)	(19,000)	(27,000)	(135,000)
STEAM-HT PP	1,900	3,000	3,300	5,700	12,400	17,200
ME PPL & DPL	16	16	16	16	16	16
2PARTY TRANS	202,000	194,000	180,000	197,000	208,000	212,000
INTCH & PUR	529,916	618,016	583,316	706,716	650,416	413,216

TOTAL OUTPUT 2,852,486 2,766,664 2,434,619 2,381,694 2,302,069 2,585,519

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
OIL-PE STM	9,728,000	10,775,000	7,999,000	6,294,000	7,995,000	10,017,000
COAL-PE STM	6,296,000	5,458,000	4,171,000	3,569,000	3,848,000	5,177,000
MINENTH	4,410,000	4,513,000	4,798,000	4,492,000	5,113,000	5,364,000
INT. COMB	432,100	430,300	621,400	352,000	216,000	452,300
TOTAL FOSSIL	20,866,100	21,176,300	17,589,400	14,707,000	17,172,000	21,010,300

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
NUCLEAR EXCLUDING INTEREST, BUT INCLUDING OIL)	10,045,236	9,200,725	7,426,442	6,888,501	5,644,838	8,412,493
OTHER	0	0	0	0	0	0

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
RECEIVED PJM	12,774,000	17,108,000	14,896,000	19,005,000	16,344,000	11,752,000
DELIV'D PJM	(3,272,000)	(2,955,000)	(1,102,000)	(999,000)	(1,526,000)	(6,850,000)
STEAM-HT PP	64,000	103,000	116,000	205,000	466,000	682,000
ME PPL & DPL	1,280	1,280	1,280	1,280	1,280	1,280
2PARTY TRANS	6,490,000	6,211,000	5,794,000	6,425,000	6,810,000	6,932,000
INTCH & PUR	16,057,280	20,468,200	19,705,280	24,637,280	22,095,280	12,517,280

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
INFORMATION FOR RATE DIVISION (4'S EXCLUDE FUEL HANDLING)						
5-FIN,CHGS	46,966,616	50,845,305	44,721,122	46,232,781	45,112,118	41,940,073
FIN,CHGS	1,760,638	1,717,037	1,673,434	2,128,393	2,062,151	1,995,907
48FIN,CHGS	48,727,256	52,562,342	46,359,456	48,361,174	47,174,269	43,935,980
(GAS & INCLUDED IN COAL-PE STM)						
TOTAL GAS	698,000	609,000	422,000	111,000	0	0

INFORMATION FOR GEN. ACC. BUDGET GRP. ( TOTAL FUEL HAND. \$ ) 0 0 0 0 0 10,505,211

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U.S. DEPARTMENT OF JUSTICE

ELECTRIC GENERATION AND FUEL COST ESTIMATES

	JANUARY 1988	FEBRUARY 1988	MARCH 1988	APRIL 1988	MAY 1988	JUNE 1988	TOTAL
PHH							
OIL-PE STM,	310,000	117,000	219,000	137,000	65,000	156,000	1,899,000
COAL-PE STM,	346,000	257,000	257,000	202,000	271,000	278,000	2,904,000
COAL-MINENTH	269,000	311,000	371,000	286,000	287,000	346,000	3,838,000
INT. CORR,	30,910	1,340	5,830	10	240	2,800	75,900
TOTAL FOSSIL	955,910	716,340	852,830	623,010	621,240	762,800	8,716,900
PHH NUCLEAR	1,692,238	1,587,044	1,368,050	1,255,421	1,200,972	1,196,851	15,650,261
NET HYDRO	86,000	139,000	216,000	205,000	149,000	58,000	1,128,000
OTHER	0	0	0	0	0	0	0

RECEIVED PJM	101,000	106,000	157,000	161,000	288,000	323,000	3,748,000
DELIV'D PJM	(253,000)	(1288,000)	(286,000)	(168,000)	(106,000)	(81,000)	(1,517,000)
STEAM-HT PP	23,500	18,300	18,300	5,700	1,400	2,400	113,100
HE,PPL & DPL	16	16	16	16	16	16	192
2PARTY TRANS	220,000	203,000	208,000	199,000	210,000	201,000	2,434,000
INCH & PUR	91,516	39,316	99,316	197,716	393,416	445,416	4,778,292
TOTAL OUTPUT	2,625,664	2,481,700	2,536,196	2,279,147	2,364,628	2,463,067	30,275,453

OIL-PE STM	18,079,000	7,681,000	12,833,000	8,233,000	4,331,000	8,378,000	112,343,000
COAL-PE STM	8,088,000	6,707,000	6,023,000	4,818,000	6,419,000	6,582,000	67,156,000
HINEMOUTH	4,009,000	4,688,000	5,603,000	4,395,000	4,433,000	5,273,000	57,091,000
INT. CORR	2,330,200	94,000	428,000	400	17,000	221,400	5,595,100
TOTAL FOSSIL	32,506,200	19,170,000	24,887,000	17,446,400	15,200,000	20,454,400	242,185,100

(NUCLEAR EXCLUDING INTEREST, BUT INCLUDING OIL)							
NUCLEAR,	11,273,959	10,779,067	9,543,846	8,179,332	7,853,078	7,779,424	103,224,941
OTHER	0	0	0	0	0	0	0
RECEIVED PJM	4,415,000	4,348,000	6,141,000	5,675,000	9,296,000	11,167,000	132,921,000
DELIV'D PJM	(15,777,000)	(13,529,000)	(11,918,000)	(6,905,000)	(4,510,000)	(3,720,000)	(173,063,000)
STEAM-HT PP	1,135,000	744,000	744,000	211,000	50,000	90,000	4,614,000
HE,PPL & DPL	1,369	1,369	1,369	1,369	1,369	1,369	15,894
2PARTY TRANS	7,380,000	6,818,000	6,987,000	6,743,000	7,097,000	6,838,000	80,525,000
INCH & PUR	(2,845,631)	(1,613,631)	1,955,369	5,725,369	11,934,369	14,376,369	145,012,094

INFORMATION FOR RATE DIVISION (\$S EXCLUDE FUEL HANDLING)							
\$-FIN. CHGS	40,934,528	28,335,436	36,386,215	31,351,101	34,987,447	42,610,193	490,422,935
\$-FIN. CHGS	2,293,353	2,204,851	2,136,455	2,068,061	2,023,160	1,978,260	24,041,700
\$-FIN. CHGS	43,227,881	30,540,287	38,522,670	33,419,162	37,010,607	44,588,453	514,464,635
(GAS \$ INCLUDED IN COAL-PE STM)	0	0	0	0	556,000	717,000	3,112,000
TOTAL GAS	0	0	0	0	556,000	717,000	3,112,000

INFORMATION FOR GEN. ACC. BUDGET GRP. (TOTAL FUEL HAND. \$)	0	0	0	0	0	0	10,585,211
FUEL HAND'G	0	0	0	0	0	0	10,585,211

ATTACHMENT  
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- Q. IR-GEC-4-1. For each of the projected fuel and interchange expense values reported on page 11 of PECO Statement 18B (except for the \$475.5 million base case value), provide the supporting workpapers in a manner identical to those supplied in Exhibit JJC-1, Data Request (1), Data Request (1)(i).
  
- A. IR-GEC-4-1. Attachment IR-GEC-4-1 provides the requested data.

**RECEIVED**  
**JAN 29 1986**  
**SECRETARY'S OFFICE**  
**Public Utility Commission**

Responsible Witness: J. J. Carroll, Staff Engineer, Services Div.

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Base

Case

ELECTRIC GENERATION AND FUEL COST ESTIMATES

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	JULY 1985	AUGUST 1986	SEPTEMBER 1986	OCTOBER 1986	NOVEMBER 1986	DECEMBER 1986
MMH	1985	1986	1986	1986	1986	1986
OIL-PE STM.	155,000	146,000	146,000	114,000	146,000	186,000
COAL-PE STM.	269,000	316,000	204,000	200,000	185,000	220,000
COAL-MINIMUM	372,000	374,000	365,000	303,000	336,000	359,000
INT. COMB.	17,220	32,910	14,980	7,590	7,810	4,240
TOTAL FOSSIL	811,220	868,910	729,960	704,590	674,610	749,240
MMH NUCLEAR	1,749,676	1,719,997	1,348,652	1,294,362	1,243,061	1,307,604
NET HYDRO	24,000	(7,000)	1,000	49,000	76,000	144,000
OTHER	0	0	0	0	0	0
RECEIVED P/M	234,000	213,000	301,000	182,000	295,000	294,000
DELIV'D P/M	(128,000)	(174,000)	(95,000)	(80,000)	(104,000)	(98,000)
STEAM-HT PP	500	2,500	2,700	3,900	9,500	16,500
ME, PPL & DPL	16	16	16	16	16	16
2PARTY TRANS	173,000	175,000	174,000	191,000	192,000	208,000
INTCH & PUR	279,516	216,516	382,716	296,916	321,516	420,516
TOTAL OUTPUT	2,864,414	2,798,423	2,462,168	2,344,668	2,385,407	2,621,360
*****						
OIL-PE STM	8,291,000	7,906,000	9,068,000	6,730,000	8,006,000	10,020,000
COAL-PE STM	5,537,000	6,504,000	4,206,000	4,175,000	3,884,000	4,661,000
MINIMUM	5,202,000	5,272,000	5,169,000	5,169,000	4,804,000	4,897,000
INT. COMB.	1,126,000	2,169,600	966,400	475,500	495,500	262,500
TOTAL FOSSIL	20,158,000	21,850,600	19,408,400	16,840,500	17,187,500	19,840,500
-----						
(NUCLEAR EXCLUDING INTEREST, BUT INCLUDING OIL)	12,899,724	12,713,952	10,067,749	9,915,663	9,442,991	9,990,157
NUCLEAR.	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
RECEIVED P/M	7,016,000	7,470,000	9,825,000	7,172,000	9,080,000	10,142,000
DELIV'D P/M	(5,636,000)	(7,447,000)	(4,169,000)	(3,135,000)	(5,235,000)	(4,695,000)
STEAM-HT PP	17,000	87,000	96,000	142,000	307,000	646,000
ME, PPL & DPL	1,196	1,196	1,196	1,196	1,196	1,196
2PARTY TRANS	5,225,000	5,295,000	5,261,000	5,891,000	5,921,000	6,394,000
INTCH & PUR	6,621,196	5,406,196	11,034,196	10,071,196	10,074,196	12,408,196
-----						
INFORMATION FOR RATE DIVISION (\$'S EXCLUDE FUEL HANDLING)	39,678,920	39,970,948	39,510,345	36,827,359	36,706,687	42,318,853
0-FIN CHGS	1,552,217	1,499,325	1,446,433	1,404,175	1,361,916	1,592,040
44FIN CHGS	41,231,137	41,470,273	40,956,778	38,231,534	38,066,605	43,910,893
(GAS & INCLUDED IN COAL-PE STM)	537,000	632,000	357,000	317,000	106,000	0
-----						
INFORMATION FOR GEN. ACC. BUDGET GRP. (TOTAL FUEL HAND. \$)	639,735	831,978	812,520	816,886	810,367	810,703



ELECTRIC GENERATION AND FUEL COST ESTIMATES

JULY 1987 AUGUST 1987 SEPTEMBER 1987 OCTOBER 1987 NOVEMBER 1987 DECEMBER 1987

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
L-PE STM.	247,000	264,000	204,000	109,000	66,000	225,000
AL-PE STM.	309,000	312,000	219,000	105,000	189,000	304,000
AL-MINENTH	350,000	336,000	243,000	337,000	366,000	350,000
T.COMB.	19,080	20,020	10,120	2,420	3,570	14,340
TOTAL FOSSIL	925,080	934,020	694,120	633,420	646,570	893,340

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
1 NUCLEAR	806,591	1,316,270	1,252,404	1,166,144	1,111,361	1,247,950
T HYDRO	21,000	2,000	7,000	34,000	60,000	142,000
REVERSED P.M	945,000	436,000	388,000	369,000	399,000	250,000
IV-D P.M	(6,000)	(69,000)	(46,000)	(32,000)	(32,000)	(138,000)
IV-H-T PP	2,000	3,100	2,600	5,000	8,800	20,700
PL & DPL	16	16	16	16	16	16
RTY TRAMS	166,000	169,000	151,000	160,000	156,000	180,000
CH & PUR	1,107,016	539,116	495,616	502,016	531,616	312,716

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
AL OUTPUT	2,859,667	2,791,406	2,439,220	2,355,600	2,369,747	2,596,006

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
PE STM	13,519,000	14,456,000	11,356,000	6,770,000	5,574,000	12,025,000
L-PE STM	6,757,000	6,799,000	4,795,000	4,172,000	4,305,000	6,882,000
ENDUTH	5,893,000	5,021,000	5,675,000	5,240,000	5,617,000	5,364,000
COMB	1,344,700	1,393,100	1,247,300	156,600	231,400	995,600
AL FOSSIL	26,913,700	27,669,100	21,073,300	16,338,600	15,727,400	26,046,600

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
LEAR EXCLUDING INTEREST, BUT INCLUDING OIL)	5,940,136	8,661,545	7,928,800	7,386,795	6,979,528	7,760,724
EAR.	0	0	0	0	0	0

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
LIVED P.M	35,706,000	15,059,000	13,913,000	12,500,000	13,549,000	8,714,000
IV-D P.M	(406,000)	(4,003,000)	(2,637,000)	(1,589,000)	(1,652,000)	(8,161,000)
IV-H-T PP	76,000	128,000	101,000	177,000	313,000	903,000
PL & DPL	1,280	1,280	1,280	1,280	1,280	1,280
RTY TRAMS	5,363,000	5,457,000	4,900,000	5,261,000	5,145,000	5,942,000
CH & PUR	38,738,280	17,441,280	16,178,280	16,350,280	17,356,280	7,399,280

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
EXPLANATION FOR RATE DIVISION (9'S EXCLUDE FUEL HANDLING)	71,592,116	53,751,925	45,180,580	40,075,665	40,063,208	41,226,604
N.N.CHGS	1,574,750	1,525,203	1,475,647	1,441,694	1,407,341	1,373,189
N.CHGS	73,166,876	55,277,128	46,656,027	41,517,159	41,470,549	42,599,793
L GAS	615,000	604,000	391,000	129,000	0	0

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
EXPLANATION FOR GEN. ACC. BUDGET CAP. ( TOTAL FUEL HAND. )	0	0	0	0	0	10,665,211



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MMN	JULY 1986	AUGUST 1986	SEPTEMBER 1986	OCTOBER 1986	NOVEMBER 1986	DECEMBER 1986
OIL-PE STM,	299,000	256,000	283,000	273,000	369,000	443,000
COAL-PE STM,	314,000	363,000	238,000	228,000	224,000	243,000
COAL-MINENTH	376,000	376,000	367,000	363,000	336,000	339,000
INT. COIB.	60,660	62,750	60,950	55,340	56,910	76,840
TOTAL FOSSIL	1,049,660	1,077,750	948,950	939,340	1,005,910	1,101,840

HMN NUCLEAR	1,487,192	1,432,105	1,126,314	1,102,877	1,136,264	1,213,527
NET HYDRO	25,000	0	11,000	52,000	79,000	156,000
OTHER	0	0	0	0	0	0
RECEIVED PJM	346,000	321,000	305,000	193,000	243,000	226,000
DELIV'D PJM	(133,000)	(115,000)	(79,000)	(109,000)	(166,000)	(181,000)
STEAM-NT PP	1,400	4,000	4,400	9,500	19,700	31,500
HE, PPL & DPL	16	16	16	16	16	16
2PARTY TRANS	82,000	80,000	67,000	81,000	74,000	74,000
INTCH & PUR	296,416	290,016	377,416	174,516	160,716	150,516

TOTAL OUTPUT	2,858,266	2,779,671	2,463,680	2,348,733	2,389,690	2,621,683
OIL-PE STM	15,925,000	13,786,000	15,300,000	15,686,000	21,260,000	24,094,000
COAL-PE STM	6,476,000	7,456,000	4,915,000	4,820,000	4,760,000	5,237,000
HINCHOURN	5,280,000	5,333,000	5,244,000	5,557,000	4,888,000	4,988,000
INT COIB	4,337,400	6,080,100	4,268,200	4,049,400	4,196,800	5,730,500
TOTAL FOSSIL	32,018,400	32,655,100	29,747,200	30,112,400	35,104,800	40,069,500

(NUCLEAR EXCLUDING INTEREST, BUT INCLUDING OIL)						
NUCLEAR,	11,002,656	10,544,287	8,497,890	9,101,610	8,665,590	9,299,820
OTHER	0	0	0	0	0	0
RECEIVED PJM	11,906,000	13,249,000	14,906,000	8,522,000	8,664,000	9,801,000
DELIV'D PJM	(8,075,000)	(6,556,000)	(4,913,000)	(6,693,000)	(11,377,000)	(11,996,000)
STEAM-NT PP	61,000	170,000	201,000	472,000	997,000	1,724,000
HE, PPL & DPL	1,196	1,196	1,196	1,196	1,196	1,196
2PARTY TRANS	2,494,000	2,439,000	2,046,000	2,528,000	2,319,000	2,320,000
INTCH & PUR	6,367,196	9,310,196	12,321,196	4,830,196	806,196	1,857,196

INFORMATION FOR RATE DIVISION (0'S EXCLUDE FUEL HANDLING)	EXCLUDE FUEL HANDLING	
4-FIN.CHGS	49,488,452	52,509,583
FIN.CHGS	1,552,217	1,449,325
4AFIN.CHGS	57,257,669	59,008,908
(GAS \$ INCLUDED IN COAL-PE STM)	601,000	696,000
TOTAL GAS	601,000	696,000
INFORMATION FOR GEN. ACC. BUDGET GRP. (TOTAL FUEL HAND. \$ 1)		
FUEL HANDL'G	839,735	831,976
	612,520	616,886
	810,367	810,703

EGM FILLING - FUEL ESCALATION INCREASE - 2 PART AT 100PM & 2 P.M.  
 POOL COAL C.F.F. = 62.82 - 6 MONTH EDDY 122 OUTAGES - LOW HYDRO  
 ELECTRIC GENERATION AND FUEL COST ESTIMATES

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JANUARY 1987      FEBRUARY 1987      MARCH 1987      APRIL 1987      MAY 1987      JUNE 1987      TOTAL

MMH							
OIL-PE SYN.	423,000	260,000	222,000	229,000	203,000	254,000	3,308,000
COAL-PE SYN.	203,000	170,000	203,000	160,000	154,000	164,000	2,216,000
COAL-HINERTH	338,000	308,000	297,000	275,000	382,000	346,000	4,029,000
INT.COMB.	62,600	66,390	25,830	35,210	22,100	24,470	520,910
TOTAL FOSSIL	1,026,600	802,300	767,830	699,210	761,100	768,470	10,073,910

MMH NUCLEAR	1,615,338	1,194,971	1,282,790	802,797	915,150	864,980	15,340,200
NET HYDRO	59,000	67,000	145,000	155,000	99,000	48,000	730,000
OTHER	0	0	0	0	0	0	0

RECEIVED PJM	190,000	339,000	328,000	526,000	492,000	782,000	4,281,000
DELIV'D PJM	(1279,000)	(91,000)	(111,000)	(12,000)	(18,000)	(6,000)	(1,229,000)
STEAM-HT PP	30,700	26,900	22,900	10,200	4,300	3,900	161,800
HE,PPL & DPL	16	16	16	16	16	16	192
2PARTY TRANS	85,000	79,000	69,000	76,000	67,000	73,000	914,000
INTCH & PUR	26,216	353,916	328,916	600,216	545,316	852,916	4,127,992

TOTAL OUTPUT 2,727,454      2,439,187      2,504,596      2,257,223      2,320,566      2,554,366      30,280,102

OIL-PE SYN	24,756,000	15,482,000	13,169,000	19,592,000	13,294,000	16,258,000	192,082,000
COAL-PE SYN	4,543,000	3,605,000	4,586,000	3,594,000	3,445,000	3,703,000	48,071,000
MINERWOUTH	5,104,000	4,570,000	4,337,000	4,332,000	5,918,000	5,501,000	59,564,000
INT.COMB	4,906,100	5,170,100	2,010,300	2,974,000	2,049,600	2,049,600	39,518,100
TOTAL FOSSIL	39,307,100	29,027,100	24,102,300	25,442,000	24,467,500	27,511,800	339,225,100

NUCLEAR EXCLUDING INTEREST, BUT INCLUDING OIL							
NUCLEAR	12,162,195	9,152,226	9,870,215	6,010,398	6,809,085	6,374,437	115,452,657
OTHER	0	0	0	0	0	0	0

RECEIVED PJM	6,689,000	16,403,000	12,631,000	20,698,000	19,848,000	32,793,000	173,328,800
DELIV'D PJM	(19,423,000)	(6,717,000)	(7,455,000)	(975,000)	(1,215,000)	(433,000)	(79,703,000)
STEAM-HT PP	1,723,000	1,438,000	1,050,000	469,000	194,000	174,000	8,135,000
HE,PPL & DPL	1,280	1,280	1,280	1,280	1,280	1,280	14,856
2PARTY TRANS	2,741,000	2,550,000	2,883,000	2,496,000	2,295,000	2,411,000	28,978,000
INTCH & PUR	(6,268,720)	13,675,280	9,310,280	22,909,280	21,033,280	34,946,280	130,752,956

INFORMATION FOR RATE DIVISION (\$'S EXCLUDE FUEL HANDLING)							
4-FIN.CHGS	45,200,575	51,854,606	43,282,795	54,361,678	52,369,665	68,632,517	585,440,613
FIN.CHGS	1,596,272	1,500,504	1,786,919	1,723,429	1,673,874	1,669,317	18,711,423
4GAS INCLD IN COAL-PE SYN	46,746,847	53,355,110	45,069,714	56,085,107	54,003,739	70,266,834	610,369,036
TOTAL GAS	0	0	22,000	296,000	301,000	252,000	2,159,000

INFORMATION FOR GEN. ACC. BUDGET GRP. (TOTAL FUEL HAND.) 0      0      0      0      0      0      4,922,189

	JULY 1987	AUGUST 1987	SEPTEMBER 1987	OCTOBER 1987	NOVEMBER 1987	DECEMBER 1987
MAH						
OIL-PE STM.	431,000	386,000	327,000	294,000	328,000	499,000
COAL-PE STM.	341,000	337,000	242,000	211,000	217,000	322,000
COAL-MINEMITH	350,000	338,000	243,000	337,000	367,000	350,000
INT COHB.	66,060	77,370	71,680	25,500	17,020	69,230
TOTAL FOSSIL	1,188,060	1,136,370	883,680	867,500	929,020	1,240,230

MAH NUCLEAR	670,178	1,182,148	1,158,827	1,072,255	1,073,926	1,197,224
NET HYDRO	24,000	0	9,000	39,000	63,000	150,000
OTHER	0	0	0	0	0	0
RECEIVED PJM	889,000	455,000	374,000	386,000	297,000	182,000
DELIV'D PJM	(6,000)	(71,000)	(64,000)	(88,000)	(195,000)	(291,000)
STEAM-HT PP	2,800	4,700	4,100	8,200	16,200	32,100
ME, PPL & OPL	16	16	16	16	16	16
2PARTY TRANS	91,000	73,000	74,000	74,000	75,000	87,000
INTCH & PUR	976,016	461,716	388,116	378,216	285,216	10,116

TOTAL OUTPUT	2,859,054	2,780,234	2,439,623	2,356,971	2,371,162	2,597,570
*****						
OIL-PE STM	27,162,000	24,474,000	20,947,000	19,207,000	21,331,000	31,510,000
COAL-PE STM	7,739,000	7,661,000	5,508,000	4,988,000	5,191,000	7,740,000
MINEMOUTH	5,534,000	5,234,000	3,631,000	5,445,000	5,835,000	5,586,000
INT COHB	5,841,400	6,844,900	6,158,900	2,163,600	1,458,800	6,122,800
TOTAL FOSSIL	46,276,400	44,213,900	36,444,900	31,603,600	33,811,600	50,956,600

(NUCLEAR EXCLUDING INTEREST, BUT INCLUDING OIL)						
NUCLEAR	4,972,117	7,688,041	7,265,118	6,595,067	6,730,696	7,414,992
OTHER	0	0	0	0	0	0
RECEIVED PJM	41,605,000	21,249,000	16,582,000	15,698,000	12,089,000	8,275,000
DELIV'D PJM	(496,000)	(5,777,000)	(5,887,000)	(6,629,000)	(7,913,000)	(23,177,000)
STEAM-HT PP	143,000	260,000	219,000	411,000	935,000	2,048,000
ME, PPL & OPL	1,280	1,280	1,280	1,280	1,280	1,280
2PARTY TRANS	3,063,000	2,439,000	2,501,000	2,518,000	2,553,000	2,981,000
INTCH & PUR	44,318,280	18,172,280	14,216,280	11,999,280	7,665,280	(9,871,720)

INFORMATION FOR RATE DIVISION (\$'S EXCLUDE FUEL HANDLING)						
\$-FIN CHGS	95,564,797	70,074,221	57,926,298	50,398,147	48,207,776	40,582,072
FIN CHGS	1,574,760	1,525,203	1,475,647	1,441,494	1,407,341	1,373,189
44FIN CHGS	97,139,557	71,599,424	59,401,945	51,839,641	49,615,117	49,875,261
(GAS & INCLUDED IN COAL-PE STM)						
TOTAL GAS	659,000	641,000	422,000	138,000	0	0
INFORMATION FOR GEN. ACC. BUDGET GRP. (TOTAL FUEL HAND. \$)	0	0	0	0	0	10,585,211
FUEL HANDL'G						

MMH	640,000	291,000	419,000	297,000	303,000	255,000	4,668,000
OIL-PE STM.	379,000	329,000	198,000	221,000	206,000	306,000	3,309,000
COAL-PE STM.	370,000	373,000	147,000	270,000	283,000	373,000	4,001,000
COAL-MINERITH	212,000	61,100	61,580	29,520	59,200	20,260	779,320
INT.COMB.	1,601,600	1,054,100	1,025,580	817,520	851,200	962,260	12,557,320
TOTAL FOSSIL							
NET NUCLEAR	1,007,499	1,268,674	1,134,539	1,090,658	1,206,949	1,313,368	13,336,395
NET HYDRO	91,000	146,000	229,000	208,000	153,000	80,000	1,202,000
OTHER	0	0	0	0	0	0	0

RECEIVED PUM	233,000	105,000	250,000	252,000	276,000	233,000	3,990,000
DELIV'D PUM	(1174,000)	(1269,000)	(192,000)	(190,000)	(199,000)	(163,000)	(11,840,000)
STEAM-NT PP	32,900	26,400	20,200	11,600	4,100	3,500	176,000
ME,PPL & DPL	16	16	16	16	16	16	192
2PARTY TRANS	80,000	82,000	76,000	77,000	86,000	67,000	950,000
INCH & PUR	179,916	4,416	162,216	142,616	167,116	120,516	3,276,992
TOTAL OUTPUT	2,870,215	2,493,190	2,551,325	2,258,994	2,378,265	2,476,104	30,432,707

OIL-PE STM	41,125,000	19,870,000	27,620,000	20,294,000	20,777,000	17,753,000	292,070,000
COAL-PE STM	9,221,000	0,041,000	4,059,000	5,460,000	4,990,000	7,330,000	78,728,000
MINEROUTH	6,075,000	6,037,000	5,604,000	4,329,000	4,070,000	6,170,000	64,550,000
INT.COMB	19,826,100	5,469,700	5,578,400	2,672,900	5,411,400	2,676,700	70,521,000
TOTAL FOSSIL	76,247,100	39,417,700	43,661,400	32,755,900	36,068,400	33,929,700	505,569,000

(NUCLEAR EXCLUDING INTEREST, BUT INCLUDING OIL)							
NUCLEAR	6,312,761	6,309,171	7,399,808	6,886,317	7,677,939	8,458,339	85,720,366
OTHER	0	0	0	0	0	0	0
RECEIVED PUM	13,989,000	7,435,000	11,503,000	10,397,000	11,645,000	10,292,000	180,839,000
DELIV'D PUM	(16,336,000)	(19,744,000)	(14,414,000)	(13,523,000)	(15,167,000)	(11,236,000)	(141,499,000)
STEAM-NT PP	2,438,000	1,539,000	1,695,000	658,000	233,000	168,000	10,747,000
ME,PPL & DPL	1,369	1,369	1,369	1,369	1,369	1,369	15,894
2PARTY TRANS	3,074,000	2,862,000	2,670,000	2,733,000	3,057,000	2,376,000	32,827,000
INCH & PUR	3,166,369	(7,906,631)	1,535,369	(1,733,631)	(230,631)	1,601,369	82,929,894

INFORMATION FOR RATE DIVISION (\$'S EXCLUDE FUEL HANDLING)							
\$-FIN.CHGS	85,726,230	39,820,240	52,596,577	37,918,586	43,495,708	43,989,408	674,220,060
FIN.CHGS	1,587,510	1,915,550	1,849,862	1,784,173	1,729,719	1,954,464	19,618,912
\$4FIN.CHGS	87,313,740	41,735,790	54,446,439	39,702,759	45,225,427	45,943,872	693,838,972
(GAS & INCLUDED IN COAL-PE STM)	0	0	0	0	0	0	2,722,000
TOTAL GAS	0	0	0	0	0	0	10,585,211

INFORMATION FOR GEN. ACC. BUDGET GRP. ( TOTAL FUEL HAND. \$ )  
 FUEL HANDL' 0 0 0 0 0 0 0 10,585,211