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ATOMIC POWER--
PLANTS--LONG
ISLAND, NY

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**Master Planning Study of the Conversion
of the
Shoreham Nuclear Power Plant
to Coal**

Prepared by:

LONG ISLAND LIGHTING COMPANY

August 1979

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Introduction and Summary of Conclusions

By resolution passed May 22, 1979, the Suffolk County Legislature requested that the Long Island Company "conduct and complete a study of the feasibility and cost of converting the Shoreham electric power generating station from nuclear to conventional or alternate fuel sources." This study has been prepared in compliance with the request of the Legislature. In order to make the study more meaningful, we have also reviewed a somewhat more practical alternative - the installation of a new 820 megawatt coal-fired plant.

As set forth in the study, a variety of assumptions were made which were intended to give the benefit of the doubt to the converted Shoreham unit and the new coal-fired unit. The study provides an estimate of the additional revenues which would be required from our customers should the Shoreham nuclear plant be stopped in favor of either alternative. The study does not include detailed engineering of either alternative, since the planning figures indicate very clearly that neither alternative is feasible. The penalty to LILCO customers of not completing the Shoreham nuclear unit is so massive that detailed engineering of the alternatives cannot be justified.

The estimate used for the capital cost to convert Shoreham to a coal unit was developed by including all the components known to be required, such as steam generator, scrubber, precipitator, coal handling equipment, etc., from available generic sources. Because the existing Shoreham turbine-generator is designed and installed to accept the steam conditions produced by the nuclear reactor, it would be necessary to install a topping turbine to the converted unit. This is prudent because a grossly inefficient coal unit would otherwise result. Even the addition of a topping turbine would result in a unit having an efficiency not approaching that of modern coal units. The value of salvageable material (basically the turbine-generator and associated equipment and structures) at Shoreham that could be used with the converted coal plant was similarly estimated.

The estimate developed for a new coal unit in the Jamesport licensing proceedings was used as the basis for a new coal unit at Shoreham.

These analyses account for all costs to our customers, including the following:

- the cost to amortize the capital plus depreciation of both the sunk costs and new investment.
- property taxes plus federal income taxes, including investment tax credits and tax loss write-offs.

- all elements of fuel cost, including waste disposal costs for both nuclear and coal.
- annual operations and maintenance costs.
- the maximum estimated cost to decommission the Shoreham Nuclear Plant.
- the health impacts of converting coal.

The conclusions of the study can be summarized as follows:

- 1 Should the Shoreham Nuclear Power Plant be prevented from going into service on approximately its present schedule, there will be a massive economic and reliability penalty to LILCO's customers.**
- 2 It is not feasible to convert the Shoreham Nuclear Plant into a coal-fired power plant, since such a conversion would actually cost more than the building of a totally new plant.**
- 3 If the Shoreham Nuclear Plant were to be stopped and converted to a coal-fired power plant, LILCO's customers would have to pay an additional \$9.9 billion over the life of the plant.**
- 4 If the Shoreham Nuclear Plant were to be stopped and a new coal-fired plant installed instead, LILCO's customers would have to pay an additional \$9.6 billion over the life of the plant.**
- 5 Based on the best available knowledge of environmental health, construction and operation of a coal-fired plant would, over the life of the facility, result in from 50 to as many as 7,700 *additional* human deaths mostly in the public sector. Additionally, 550 to as many as 3,500 cases of injury and disease can be ascribed to coal operations over that of nuclear fuel.**
- 6 Because the earliest likely service date for either alternative to the Shoreham Plant would be 1988, the lack of electric generation on Long Island and the limited electric transmission capacity in the Southeast part of New York State would result in a deterioration of the reliability of supply to LILCO's customers, causing frequent brownouts and an unacceptable probability of rotating blackouts.**
- 7 Because the adoption of either alternative would require six more years of 100 percent dependence on foreign oil, electric service reliability would also be jeopardized by the possibility of additional foreign oil supply curtailments as occurred in 1973 and 1979.**
- 8 Assuming there is no additional curtailment in foreign oil supply, the adoption of either alternative to the Shoreham Nuclear Plant would cause Long Island to experience an unnecessary increase of over 2 billion gallons of foreign oil consumption, with its attendant negative impact on the nation's balance of payments.**

Discussion

In this analysis the "completed as planned" Shoreham Nuclear Power Plant costs \$1.6 billion and will be in service by January 1, 1982.

The amount of the plant that can be salvaged for a converted coal plan is estimated to be \$450 million - basically the cost of the turbine-generator, associated structures and buildings. Details of this estimate are in Appendix A.

The capital cost in 1988 for a new 820 MW coal unit is \$1.3 billion. Details of this estimate are in Appendix B.

The final 1988 capital cost for the converted coal unit is \$2.1 billion. Part of this cost is associated with a new topping turbine, required to improve the unit's efficiency and to increase its rating to 990 MW. The efficiencies with and without the topping turbine are shown in Appendix C. The \$450 million salvage credit is also included in the 1988 cost. However, because of interest during construction from now until 1988, this \$450 million becomes \$600 million in the final \$2.1 billion cost in 1988. Details of this estimate are in Appendix C.

Since this is a lifetime analysis, it is necessary to judge what will happen in the future with respect to generation expansion. Therefore, 400 MW portions of future coal units were assumed owned by LILCO and installed when required by load in all plans.

Several other assumptions were used that actually minimize the economic penalty of not having the Shoreham Nuclear Plant in service:

- permission is received to burn high sulphur oil in LILCO's Nassau steam stations.
- the Nine Mile Point No. 2 nuclear plant operates on schedule.
- LILCO's 175 MW oil-fired units at Port Jefferson are converted to coal.
- 100 MW of additional refuse fired generation is installed on Long Island.
- no existing generators are retired, regardless of age.

In addition, since LILCO's load forecast has been challenged by some parties, the study was done with:

- LILCO's present load forecast, and
- an 8.6% reduced load forecast, which translates into a three to four year loss of load growth.

Furthermore, the reliability of nuclear power plants has also been questioned by some parties; therefore, the study was done with:

- LILCO's present estimate of the unit operating 64% of the time during its first three years and 72% of the time thereafter, and
- a reduced availability of 54% during the first three years and 62% thereafter.

Because of the imprecise nature of the capital cost estimate to convert the Shoreham Nuclear Plant to a coal-fired unit, the study was also run with a $\pm 25\%$ conversion cost. The point at which construction of the Shoreham Nuclear Plant was terminated was also varied:

- since LILCO's base plan is to put Shoreham in service as a nuclear power plant, the base number used was \$1.6 billion.
- if Shoreham were terminated immediately (which of course is not LILCO's plan) then it might be possible to terminate the unit at \$1.2 billion.

Over the long-term coal fuel was estimated to inflate in cost at 5.5%/year, nuclear fuel at 6%/year, and oil fuel at 7%/year. All sunk costs were amortized over 30 years, with a tax loss taken for seven years. In coal plans where the unit was terminated removal costs were assumed to equal salvage costs. A list of other premises and assumptions can be found in Appendix D.

Reliability

The absence of the Shoreham capability between 1981 and 1988 would produce reserve deficiencies in 1982 through 1987 with LILCO's present peak load forecast. These deficiencies, ranging from about 136 MW to 569 MW, could only be partially eliminated through short-term purchases.

However, LILCO's normal transmission import limits are only 300 MW during this period because of wheeling for Con Edison (part of the interconnection agreement), and the weak transmission system in Southwest Connecticut. This could be remedied by negotiating with Con Edison to purchase their wheeling rights (if the Queens transmission system would allow it), and possibly by purchasing expensive capacity from the NUSCO Norwalk Harbor units (but NUSCO may require these units for themselves to support Southwest Connecticut in the mid-1980's). In addition, it would probably be necessary to terminate the wheeling of firm power from PASNY to the Long Island Municipals (which could approach 100 MW by 1987).

Even with the short-term purchases of capacity, there would be a deterioration of reliability of electric supply to LILCO's customers. Without the Shoreham capacity on Long Island, the frequency of appeals to the customers to curtail electric usage and the frequency of voltage reduction (brown-outs) will increase. It is estimated that during 1987, without Shoreham, there is a probability of requiring a minimum of 20 voltage reductions (brown-outs), a minimum of 15 appeals to the customers to curtail usage and a probability of at least one in three of having rotating blackouts.

Of greater importance, and independent of the peak load forecast, reliability would also be decreased because of six more years of 100% dependence on foreign oil for LILCO; any oil curtailment during these six years would be disastrous for Long Island. This delay would result in an increased requirement of over 2 billion gallons of imported foreign oil, with its negative impact on the nation's balance of payments problems. The operation of Shoreham is the only thing that can be done on Long Island in the short range to mitigate these serious oil problems to such a degree.

Health Effects Of Coal and Nuclear Fuel Cycles

The American Medical Association's (AMA) House of Delegates at its December 1976 Clinical Convention, requested that an evaluation be made of the health hazards of nuclear, fossil and alternating energy-generating sources for employees of energy-producing facilities as well as for the general population. A report was prepared and adopted by the AMA House of Delegates on June 21, 1978. This report was subsequently published in the Journal of American Medical Association, November 10, 1978; Vol. 240, No. 20.

The data in Table 1 of this report (reproduced below) reflects, among others, deaths and injuries in coal mining, including coal workers black lung disease, accidents involving trains transporting coal, and the difficult-to-estimate mortality and morbidity of air pollution from coal-fired generating plants. Similarly, Table 1 also includes estimates of deaths and injuries in uranium mining as well as fractional death and morbidity estimates for the other components of the nuclear fuel cycle.

The AMA report concludes:

"In summary, this report provides a range of estimates of the occupational and nonoccupational health effects of several preponderant modes of electric power production. It appears that coal and nuclear power will be the principal fuels for electric power production in the next 25 years. At the present time, coal has a greater adverse impact on health than does nuclear power production, but efforts need to be directed toward reducing both the adverse health and the adverse environmental impacts of all forms of energy production."

Table 1.—Estimates of Health Effects of Coal and Nuclear Fuel Cycles			
Procedure	Occupational Deaths*	Occupational Injuries and Disease*	Nonoccupational Deaths
Coal fuel			
Extraction			
Accidents	0.45-1.24	22.0-80.0	...
Disease	0.00-4.8	0.6-48.0	...
Transport			
Accidents	0.055-1.9	0.33-23.0	0.55-1.3
Processing			
Accidents	0.02-0.05	2.6-3.1	1.0-10.0
Power generation			
Accidents	0.01-0.03	0.9-1.5	...
Air pollution	0.037-295.0
Total	0.54-8.0	26.0-156.0	1.62-305.0
Nuclear fuel			
Extraction			
Accidents	0.005-0.2	1.8-10.0	...
Disease	0.002-0.1
Transport			
Accidents	0.002-0.005	0.45-0.14	...
Processing			
Accidents	0.003-0.2	0.6-1.5	...
Disease	0.13-0.33
Power generation			
Accidents	0.01	1.3	0.01-0.18
Disease	0.00-0.1
Total†	0.035-0.945	3.7-13.0	0.01-0.16

*Per 1,000 megawatt electric units per year.

†Some totals do not add up because of rounding.

Based on the foregoing AMA estimates, computations of additional health effects resulting from a coal fueled plant of equivalent electrical capacity yields the following results for the 30 year life of the station.

**TABLE 2
ADDITIONAL COAL DEATHS AND INJURIES COMPARED TO NUCLEAR**

	Occupational Deaths	Occupational Injuries and Diseases	Public Deaths
COAL			
Per 1,000 MWe per yr.	.54 - 8.0	26.0 - 156.0	1.62 - 306.0
For 820 MWe for 30 yrs.	13 - 197	640 - 3838	40 - 7528
NUCLEAR			
Per 1,000 MWe per yr.	0.035 - 0.945	3.7 - 13.0	0.01 - 0.16
For 820 MWe for 30 yrs.	1 - 23	91 - 320	0.2 - 4
Additional Coal Deaths-Injuries	12 - 174	549 - 3518	40 - 7524

Based on the foregoing it is concluded that the conversion of the Shoreham Nuclear Power Station to coal would have a very serious and detrimental impact on human health, with the public sector bearing the greatest burden of risk. In fact, over the life of the facilities from 50 to as many as 7700 additional human deaths would result, mostly in the public sector. Additionally, 550 to as many as 3500 cases of injury and disease can be ascribed to coal operations over that of nuclear.

Results

The results are expressed two ways:

- first, the total arithmetic sum of the additional revenues required from our customers for all the alternatives. This is the actual amount LILCO customers will pay in their bills.
- second, since money has a time value, the results are presented on a present-worth basis, which discounts future expenditures by the cost of money used in this study - 10.3%.

The following table presents the results using LILCO's present estimate of the base conditions:

- normal Load Forecast
- normal Capacity Factors
- preliminary Capital Cost Estimates
- termination at \$1.6 billion

INCREASED COSTS FROM TERMINATING SHOREHAM (\$ x Billion)

PLAN	SHOREHAM NUCLEAR	SHOREHAM CONVERTED TO COAL	NEW COAL UNIT
Arithmetic Sum	BASE	plus 9.9	plus 9.6
Present Worth	BASE	plus 2.3	plus 2.1

If the reduced forecast should materialize, the results would be as follows:

INCREASED COSTS FROM TERMINATING SHOREHAM (\$ x Billion)

PLAN	SHOREHAM NUCLEAR	SHOREHAM CONVERTED TO COAL	NEW COAL UNIT
Arithmetic Sum	BASE	plus 9.5	plus 9.2
Present Worth	BASE	plus 2.1	plus 1.9

Should the reliability of the nuclear power plant be significantly lower than LILCO estimates, the results would be as follows:

INCREASED COSTS FROM TERMINATING SHOREHAM

(\$ x Billion)

PLAN	SHOREHAM NUCLEAR	SHOREHAM CONVERTED TO COAL	NEW COAL UNIT
Arithmetic Sum	BASE	plus 7.5	plus 7.2
Present Worth	BASE	plus 1.8	plus 1.7

The impact of a plus/minus 25% change in the cost to convert Shoreham to coal would be as follows:

INCREASED COSTS FROM TERMINATING SHOREHAM

(\$ x Billion)

PLAN	SHOREHAM NUCLEAR	SHOREHAM CONVERTED TO COAL	NEW COAL UNIT
Arithmetic Sum	BASE	plus 10.9/8.9	plus 9.6
Present Worth	BASE	plus 2.5/2.1	plus 2.1

The impact of terminating Shoreham at the lower cost gives the following results:

INCREASED COSTS FROM TERMINATING SHOREHAM

(\$ x Billion)

PLAN	SHOREHAM NUCLEAR	SHOREHAM CONVERTED TO COAL	NEW COAL UNIT
Arithmetic Sum	BASE	plus 8.4	plus 8.1
Present Worth	BASE	plus 2.0	plus 1.9

Exhibit 1, attached, presents the results using the base conditions on a year-by-year basis.

Appendix E presents the year-by-year Production Cost and O&M Summaries for each of the plans studied.

Appendix F presents the year-by-year comparisons between plans for each of the cases studied.

Appendix G presents the year-by-year revenue requirements corresponding to the capital cost assumptions used in this study.

ESTIMATED COST OF
SHOREHAM NUCLEAR POWER STATION FACILITIES
USEABLE IN POSSIBLE COAL CONVERSION*

CONSTRUCTION COST

DIRECT COST

Production Plant	(\$x10 ⁶)
Yard Work	7.0
Turbine Building - Bay	28.7
Screen Well Structure	5.0
Warehouse	0.6
Gas Storage - Negligible	0
Fire Pump House	0.6
Gate House - Negligible	0
Service Building	4.0
Auxiliary Boiler House	1.7
Main Control Room Building	2.8
Reactor Equipment (F.W. Heater, Feed Pump)	29.3
Turbine Generator Units	59.0
Accessory Electric Equipment	21.3
Miscellaneous Power Plant Equipment	8.3

	168.3
Transmission Plant	
Substation and Switching Station - 138 kv	0.6
Substation and Switching Station Equipment - Negligible 69kV	0
Substation and Switching Station Equipment - 138kV	0.4
Main Transformer Only	1.4

Total - Transmission Plant	2.4
TOTAL - DIRECT COST	170.7

* Estimate based on Stone & Webster Revised Estimate No. 3, dated October 1, 1978.

DISTRIBUTABLE AND INDIRECT COST	(\$x10 ⁶)
Office at Works - S&W	14.0
Office at Works - Subcontractors	22.2
Overhead Allowance - Office at Works	0.4
Federal and State Taxes - Field Pay Roll	1.5
Headquarters Office	28.4
Overhead Allowance	20.1
Federal and State Taxes - Headquarters Office Payroll	1.1
Fee - S&W	2.4
Fee - Subcontractor	6.3
Other Construction Items	63.1
State Sales and Use Tax - Negligible	0
TOTAL - DISTRIBUTABLE AND INDIRECT COST	159.5
Escalation - Memo Account	3.3
TOTAL - PROJECT EXCLUDING LILCO COSTS	333.5
LILCO Expenditures Not In S&W Scope	
Land	3.8
Property Taxes	15.2
Engineering	3.8
Sales Tax - Negligible	0
Interest During Construction	73.4
Other	22.8
TOTAL - LILCO Expenditures	119.0
GRAND TOTAL	452.5

**ESTIMATED COST OF
NEW 820 MW SHOREHAM COAL UNIT**

The Jamesport Plant Order of Magnitude Estimates dated January 1977 and reflecting November 1984 commercial operation date for Unit 1, has been revised in June 1979, to incorporate the following changes:

- 1 Approximately a 3 year delay (commercial operation date January 1988).
- 2 Revision of the AFUDC rate from 9.5% to 10.3%.
- 3 Revisions in the estimated annual escalation of 5% used in the January 1977 estimate to incorporate the experienced escalation of 6.5% and 7.5% for the years 1977 and 1978 respectively, use of 8.5% estimated annual rate for 1979, 7.5% for 1980, 7.0% for the years 1981 through 1983, and 6% thereafter.

The table below indicates the total plant cost increase from the January 1977 estimate to the June 1979 estimate is \$371 million. It can be noted that 67% of this increase, or \$249 million, is due to the increase in escalation.

(\$ x 10⁶)

	Capital	Escalation	AFUDC	Total
January 1977 Estimate*	567	216	157	940
June 1979 Estimate	607	465	239	1,311
INCREASE	40	249	82	371

* Article VIII Hearing Record, Exhibit 191

**PRELIMINARY
SHOREHAM COAL CONVERSION STUDY
COST ESTIMATE**

Some of the existing Shoreham Nuclear Power Station equipment could be utilized in a conversion to coal firing. To improve the station heat rate, a high pressure superheater topping steam turbine cycle was chosen.

The estimated installed cost for this conversion is as follows:

DIRECT COST	(\$ x 10 ⁶)
Yard Work	4.7
Power House including Silos	50.0
Steam Generators and Accessories	124.0
Balance of Boiler Plant	72.6
Stacks	4.3
Fuel Handling & Unloading	23.4
Precipitators	32.6
SO2 Scrubbers	115.7
Ash Handling System	11.7
Topping TG & Accessories	17.0
Balance of TG Plant Structure & Equipment	2.8
Water Treatment System	3.2
WWTS	5.5
Access Elev.	41.8
Miscellaneous Plant Equipment	2.0
Substation	0.8
TOTAL	512.1
CONTINGENCY (10%)	51.2
TOTAL DIRECT COST	563.3
DISTRIBUTABLES AND INDIRECT COST	169.0
TOTAL DIRECT AND INDIRECT AND DISTRIBUTABLES	732.3
LILCO COST	33.8
TOTAL	766.1

**PRELIMINARY
SHOREHAM COAL CONVERSION STUDY
COAL ESTIMATE**

	(\$ x 10 ⁶)			
	Capital	AFUDC	Escalation	Total
January 1, 1980	378	75	-0-	453
	-0-	179**	-0-	179
1980 - 1987 Expenditures	892*	225	378	1,495
TOTAL	1,270	479	378	2,127

NOTE: AFUDC is calculated NET of FIT.

* Includes capitalized overheads during construction.

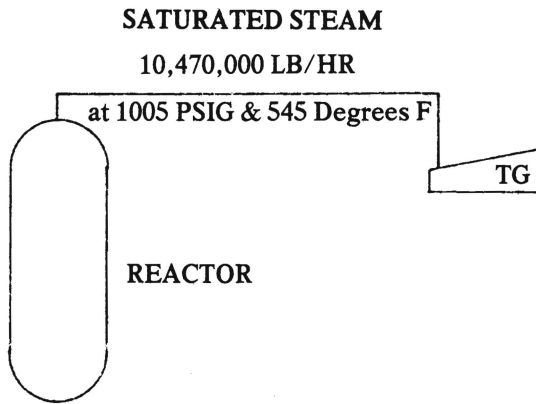
**AFUDC on 453 million LESS the 255 million CWIP included in Rate Base.

Efficiencies of Various Type Units

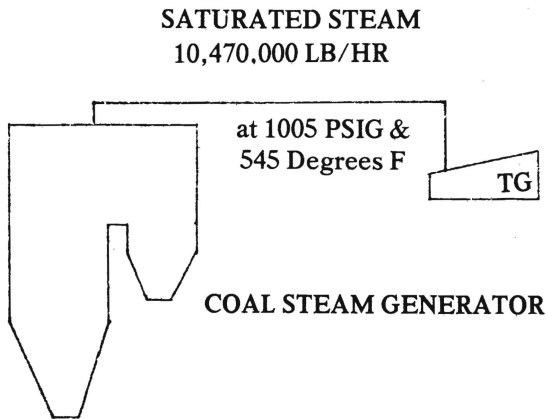
SHOREHAM

BTU/KWH net
820 MW - NUCLEAR
HR=10, 203

EFFICIENCY

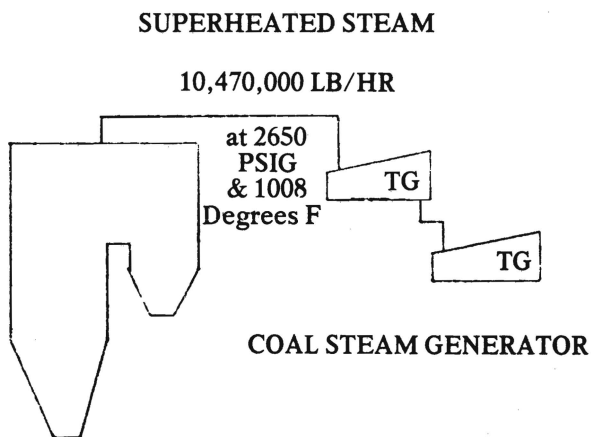


(33.4%)



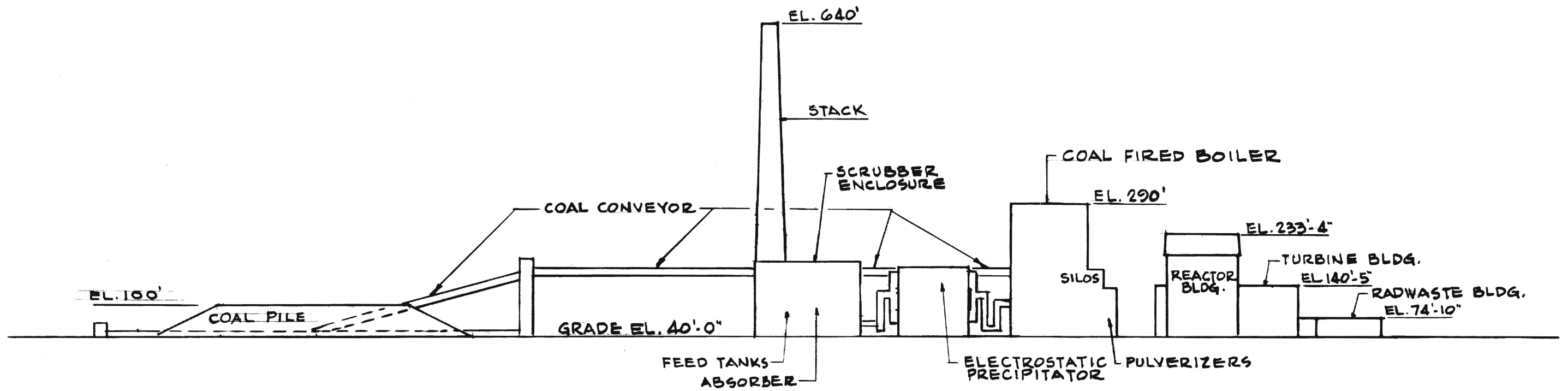
792 MW - COAL
HR=11, 945

(28.5%)



989 MW - COAL
HR=10,957

(31.1%)



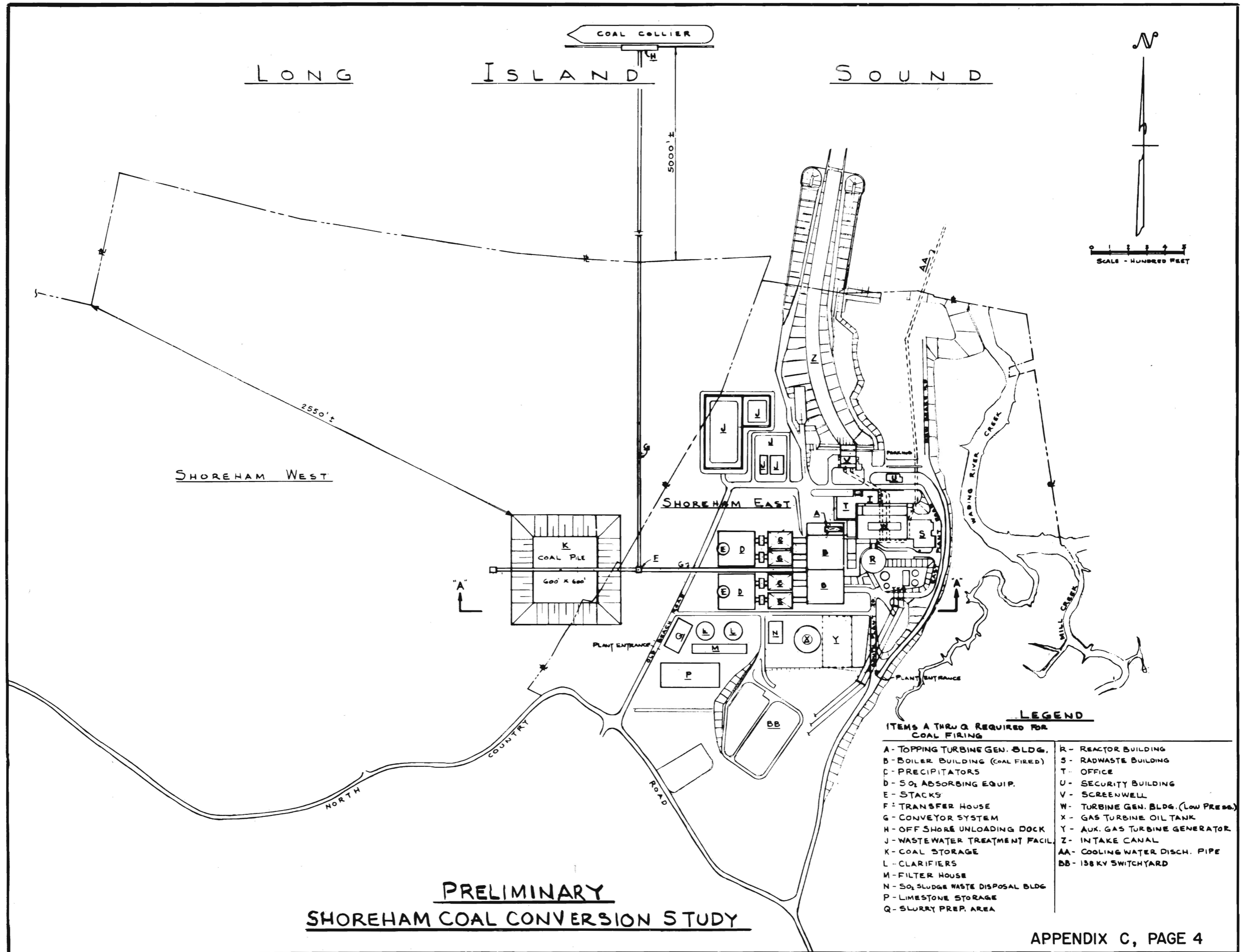
SECTION "A-A"

PRELIMINARY

SHOREHAM COAL CONVERSION STUDY



SCALE: HUNDRED FEET



PRELIMINARY
SHOREHAM COAL CONVERSION STUDY

LEGEND

ITEMS A THRU Q REQUIRED FOR COAL FIRING

A - TOPPING TURBINE GEN. BLDG.	R - REACTOR BUILDING
B - BOILER BUILDING (COAL FIRED)	S - RADWASTE BUILDING
C - PRECIPITATORS	T - OFFICE
D - SO ₂ ABSORBING EQUIP.	U - SECURITY BUILDING
E - STACKS	V - SCREENWELL
F - TRANSFER HOUSE	W - TURBINE GEN. BLDG. (LOW PRESS.)
G - CONVEYOR SYSTEM	X - GAS TURBINE OIL TANK
H - OFF SHORE UNLOADING DOCK	Y - AUX. GAS TURBINE GENERATOR
J - WASTEWATER TREATMENT FACIL.	Z - INTAKE CANAL
K - COAL STORAGE	AA - COOLING WATER DISCH. PIPE
L - CLARIFIERS	BB - 138 KV SWITCHYARD
M - FILTER HOUSE	
N - SO ₂ SLUDGE WASTE DISPOSAL BLDG	
P - LIMESTONE STORAGE	
Q - SLURRY PREP. AREA	

STUDY ASSUMPTIONS
(1982 - 2011 Period)

1. Escalation Rates

Fuel: Coal	5.5%
Oil	7.0%
Nuclear	6.0%
Operations & Maintenance	5.0%

2. Cost of Money - 10.3%

3. Fuel Costs (\$ 1982) \$/MBTU

Northport	2.8% S	3.15
Northport	0.7% S	4.05
Nassau	2.2% S	3.41
Port Jefferson	1.0% S	3.87
Nassau L.S.	0.3% S	4.24
No. 2 (Gas Turbine)		5.07
Coal	1.9% S	2.00
Nuclear		0.622

4. Capital Cost

Nuclear	820 MW (1982) \$1.60 Billion
Converted Coal	989 MW (1988) \$2.13 Billion
New Coal	820 MW (1988) \$1.31 Billion
Gas Turbine	169 MW (1992) \$62.5 Million

5. Amortized Cost for a 1982/1980 termination date for the Shoreham Nuclear Plant.

- a) Coal Conversion Plan- \$1.15B/\$0.75B
- b) New Coal Plan- \$1.6/\$1.2B

6. Investment at Shoreham useable for Coal Conversion Plan - \$453 Million.

7. Insurance

- a) Nuclear 0.1% of Capital Cost and \$1.5M/Year
- b) Coal 0.1% of Capital Cost

8. Operating and Maintenance (\$ 1982)

- a) Nuclear \$14.5M
- b) Coal \$ 4.2/MWH

9. Decommissioning - based on depreciation accrual method of \$66 Million in 1979 \$.

10. Capacity Factors (immature/mature)

- a) Nuclear 64/72
- b) Coal 63/72

11. Future Coal Units - 400 MW Share

Full Forecast	Reduced Forecast
1996	2001
2000	2006
2004	2010
2008	

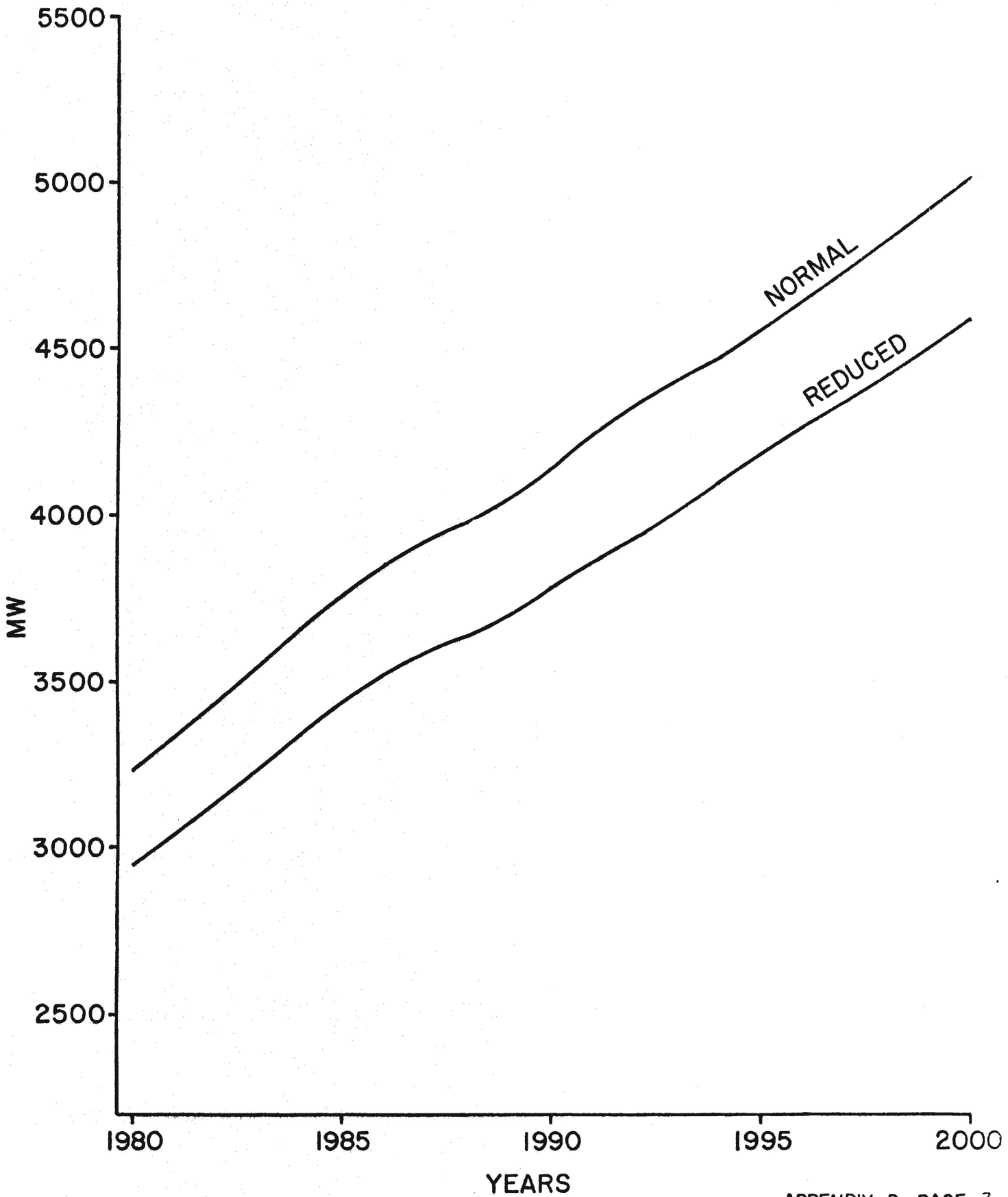
12. Port Jefferson Units 3-4 on Coal

13. Nassau County steam stations are permitted to burn high sulphur oil.

14. 100 MW of additional capacity available from future municipal refuse burning plants.

15. No retirement of existing generating stations.

Current Load Forecast



APPENDIX E

PRODUCTION COST & O&M SUMMARIES

PLAN	DESCRIPTION
1	820 MW Nuclear/1982 Operation/Normal Forecast
2	989 MW Converted Coal/1988 Operation/Normal Forecast
3	820 MW New Coal/1988 Operation/Normal Forecast
4	820 MW Nuclear/1982 Operation/Reduced Forecast
5	820 MW Nuclear/1982 Operation/Reduced Nuclear Capacity Factor
6	820 MW New Coal/1988 Operation/Reduced Forecast
7	989 MW Converted Coal/1988 Operation/Reduced Forecast

PRODUCTION COST AND O&M SUMMARY
 PRESENT WORTH AT START OF YEAR 1982
 FUEL COST FOR YEAR 1982 RATE OF RETURN=0.103 O&M COST FILE OMSPLMT4

PLAN 0001 820NUC-82
 \$X1,000,000

YR	NO ESCALATION			ESCL. SCHED. 1			ESCL. SCHED. 2			ESCL. SCHED. 3			ESCL. SCHED. 4		
	FC	O&M	PW FC+O&M	7.0% FC	5.0% O&M	PW FC+O&M	5.0% FC	5.0% O&M	PW FC+O&M	6.0% FC	5.0% O&M	PW FC+O&M	8.0% FC	5.0% O&M	PW FC+O&M
1982	323.67	8.35	301.01	323.67	11.18	303.59	323.67	11.18	303.59	323.67	11.18	303.59	323.67	11.18	303.59
1983	365.67	9.60	308.46	390.22	13.50	331.85	384.50	13.50	327.14	387.36	13.50	329.49	393.08	13.50	334.20
1984	384.44	10.39	294.22	437.82	15.34	337.70	425.02	15.34	328.16	431.39	15.34	332.91	444.32	15.34	342.54
1985	366.12	9.67	253.89	444.81	15.00	310.65	425.78	15.00	297.80	435.20	15.00	304.16	454.59	15.00	317.26
1986	352.65	8.96	221.50	456.77	14.60	288.72	431.70	14.60	273.36	444.06	14.60	280.94	469.85	14.60	296.73
1987	375.64	9.63	213.95	519.67	16.47	297.73	483.35	16.47	277.56	501.17	16.47	287.46	538.88	16.47	308.40
1988	390.30	10.15	201.62	576.49	18.23	299.42	528.04	18.23	275.03	551.70	18.23	286.94	602.47	18.23	312.50
1989	402.87	10.74	188.79	635.03	20.25	299.11	573.22	20.25	270.89	603.25	20.25	284.60	668.65	20.25	314.45
1990	422.40	11.52	179.57	711.23	22.80	303.76	631.74	22.80	270.87	670.17	22.80	286.77	755.07	22.80	321.90
1991	448.50	12.54	172.98	807.00	26.07	312.55	704.91	26.07	274.25	754.03	26.07	292.68	864.08	26.07	333.97
1992	472.16	13.11	165.07	908.58	28.62	318.79	779.65	28.62	274.93	841.38	28.62	295.93	981.68	28.62	343.65
1993	491.41	13.95	155.84	1010.70	31.97	321.54	852.68	31.97	272.82	927.97	31.97	296.03	1101.53	31.97	349.56
1994	515.28	15.33	148.35	1132.42	36.90	326.93	939.61	36.90	273.02	1031.02	36.90	298.58	1244.81	36.90	359.35
1995	537.65	16.41	140.44	1263.29	41.47	330.73	1030.06	41.47	271.61	1140.08	41.47	299.50	1401.12	41.47	365.67
1996	508.46	23.43	122.23	1256.13	62.16	302.96	1030.39	62.16	251.08	1136.35	62.16	275.43	1391.40	62.16	334.04
1997	530.66	24.45	115.66	1402.45	68.12	306.39	1129.62	68.12	249.55	1257.04	68.12	276.10	1568.18	68.12	340.92
1998	561.22	26.01	110.92	1587.16	76.07	314.17	1254.70	76.07	251.37	1409.18	76.07	280.56	1791.91	76.07	352.85
1999	576.60	28.21	103.58	1737.04	86.64	312.31	1356.34	86.64	247.12	1532.35	86.64	277.26	1974.75	86.64	353.02
2000	550.99	34.21	90.86	1741.98	110.32	287.59	1371.92	110.32	230.14	1542.14	110.32	256.57	1976.23	110.32	323.96
2001	563.91	35.56	84.38	1901.50	120.43	284.62	1476.78	120.43	224.83	1671.16	120.43	252.19	2174.05	120.43	322.98
2002	582.62	36.50	79.01	2101.11	129.78	284.71	1603.09	129.78	221.15	1829.84	129.78	250.09	2425.08	129.78	326.05
2003	594.38	38.41	73.21	2283.41	143.38	280.79	1721.00	143.38	215.71	1975.76	143.38	245.19	2654.29	143.38	323.70
2004	566.49	44.22	64.06	2272.05	173.34	256.52	1739.73	173.34	200.68	1979.61	173.34	225.84	2627.91	173.34	293.85
2005	583.53	44.91	59.77	2501.50	184.86	255.48	1883.46	184.86	196.70	2160.53	184.86	223.05	2920.30	184.86	295.31
2006	597.58	46.11	55.50	2733.21	199.30	252.85	2028.46	199.30	192.08	2342.76	199.30	219.18	3217.29	199.30	294.58
2007	605.82	47.96	51.11	2949.33	217.64	247.56	2165.04	217.64	186.25	2512.98	217.64	213.45	3495.38	217.64	290.25
2008	584.91	53.43	45.24	2969.31	254.58	228.48	2217.81	254.58	175.22	2549.46	254.58	198.72	3499.66	254.58	266.07
2009	598.69	54.35	41.96	3242.43	271.92	225.81	2387.72	271.92	170.89	2762.93	271.92	195.00	3853.80	271.92	265.09
2010	617.30	55.30	39.18	3576.37	290.52	225.26	2586.90	290.52	167.62	3018.97	290.52	192.79	4293.73	290.52	267.04
2011	618.02	57.25	35.66	3791.89	315.77	216.94	2731.92	315.77	160.96	3192.32	315.77	185.27	4570.77	315.77	258.07
TOTAL	15089.90	810.64	4118.03	47664.54	3017.22	8665.48	37198.76	3017.22	7332.36	41915.78	3017.22	7946.23	54678.47	3017.22	9510.54

PRODUCTION COST AND O&M SUMMARY

PRESENT WORTH AT START OF YEAR 1982

FUEL COST FOR YEAR 1982

RATE OF RETURN=0.103

O&M COST FILE OMSPLMT4

PLAN 0002 989-COAL88
\$X1,000,000

YR	NO ESCALATION			ESCL. SCHED. 1			ESCL. SCHED. 2			ESCL. SCHED. 3			ESCL. SCHED. 4		
	FC	O&M	PW FC+O&M	7.0% FC	5.0% O&M	PW FC+O&M	5.0% FC	5.0% O&M	PW FC+O&M	6.0% FC	5.0% O&M	PW FC+O&M	8.0% FC	5.0% O&M	PW FC+O&M
1982	496.93	15.62	464.70	496.93	20.94	469.51	496.93	20.94	469.51	496.93	20.94	469.51	496.93	20.94	469.51
1983	522.90	16.91	443.70	558.71	23.80	478.80	549.31	23.80	471.07	554.01	23.80	474.93	563.41	23.80	482.66
1984	550.39	18.64	424.04	628.39	27.53	488.79	607.38	27.53	473.14	617.84	27.53	480.93	639.04	27.53	496.73
1985	548.06	18.61	382.86	668.61	28.88	471.23	635.36	28.88	448.77	651.83	28.88	459.89	685.70	28.88	482.78
1986	524.16	17.01	331.48	682.74	27.70	435.16	638.77	27.70	408.23	660.44	27.70	421.51	705.67	27.70	449.21
1987	560.43	18.93	321.74	780.57	32.38	451.45	717.29	32.38	416.31	748.33	32.38	433.55	814.03	32.38	470.04
1988	465.85	26.44	247.85	678.15	47.48	365.33	631.29	47.48	341.74	654.17	47.48	353.26	703.28	47.48	377.99
1989	478.71	27.01	230.84	742.32	50.92	362.08	682.38	50.92	334.72	711.50	50.92	348.01	774.91	50.92	376.90
1990	497.68	27.77	217.45	822.94	54.98	363.31	745.90	54.98	331.43	783.15	54.98	346.84	865.42	54.98	380.89
1991	509.96	30.07	202.61	895.22	62.51	359.33	804.85	62.51	325.42	848.33	62.51	341.73	945.75	62.51	378.29
1992	540.67	30.11	194.15	1016.70	65.72	368.19	895.83	65.72	327.07	953.70	65.72	346.76	1085.23	65.72	391.50
1993	551.29	31.85	179.84	1102.36	73.01	362.47	961.41	73.01	319.00	1028.56	73.01	339.71	1183.38	73.01	387.45
1994	572.12	33.02	169.19	1220.54	79.46	363.47	1048.91	79.46	315.48	1130.27	79.46	338.23	1320.58	79.46	391.44
1995	594.78	34.06	159.40	1355.27	86.08	365.35	1145.95	86.08	312.30	1244.69	86.08	337.33	1478.97	86.08	390.71
1996	569.86	40.94	140.37	1364.08	108.62	338.44	1160.67	108.62	291.70	1256.15	108.62	313.64	1485.96	108.62	366.45
1997	598.69	41.43	133.37	1537.14	115.41	344.31	1279.63	115.41	290.66	1399.89	115.41	315.71	1693.57	115.41	376.90
1998	619.14	43.34	125.14	1692.69	126.77	343.69	1392.26	126.77	286.94	1531.87	126.77	313.31	1877.72	126.77	378.04
1999	634.77	45.81	116.55	1846.89	140.71	340.39	1502.12	140.71	281.34	1661.52	140.71	308.64	2062.17	140.71	377.26
2000	612.21	51.81	103.10	1867.62	167.09	315.92	1532.62	167.09	263.90	1686.72	167.09	287.83	2079.07	167.09	348.84
2001	624.67	52.86	95.37	2031.13	179.01	311.11	1644.87	179.01	256.74	1821.64	179.01	281.62	2279.00	179.01	346.00
2002	650.48	53.54	89.85	2269.17	190.38	313.89	1797.47	190.38	253.69	2012.24	190.38	281.10	2570.02	190.38	353.05
2003	652.89	55.60	81.97	2412.43	207.57	303.14	1901.91	207.57	244.07	2133.16	207.57	270.83	2749.09	207.57	342.09
2004	628.68	61.51	72.40	2423.34	241.12	279.50	1940.90	241.12	228.89	2158.30	241.12	251.69	2745.84	241.12	313.33
2005	646.17	62.25	67.37	2601.44	256.20	277.48	2096.70	256.20	223.77	2349.87	256.20	247.84	3044.12	256.20	313.87
2006	653.89	63.52	61.86	2863.64	274.51	270.58	2233.88	274.51	216.28	2514.74	274.51	240.49	3290.21	274.51	307.87
2007	672.91	64.93	57.68	3155.01	294.64	269.66	2414.64	294.64	211.78	2743.10	294.64	237.46	3670.48	294.64	309.95
2008	646.31	71.09	50.84	3139.81	338.75	246.53	2463.58	338.75	198.60	2762.01	338.75	219.75	3617.03	338.75	260.35
2009	661.30	72.04	47.12	3420.54	360.43	243.32	2651.26	360.43	193.51	2991.60	360.43	215.33	3981.09	360.43	278.95
2010	677.19	72.94	43.70	3745.92	383.19	240.53	2854.76	383.19	188.62	3243.90	383.19	211.29	4392.00	383.19	278.17
2011	678.47	74.83	39.78	3973.60	412.75	231.66	3015.92	412.75	181.08	3431.89	412.75	203.05	4677.31	412.75	268.82
TOTAL	17641.56	1274.50	5296.27	52059.86	4478.54	10374.56	42444.72	4478.54	9105.72	46782.33	4478.54	9691.79	58489.57	4478.54	11172.65

PRODUCTION COST AND O&M SUMMARY
 PRESENT WORTH AT START OF YEAR 1982
 FUEL COST FOR YEAR 1982 RATE OF RETURN=0.103 O&M COST FILE OMSPLMT4

PLAN 0003 820-COAL88
 \$X1,000,000

YR	NO ESCALATION			ESCL. SCHED. 1			ESCL. SCHED. 2			ESCL. SCHED. 3			ESCL. SCHED. 4		
	FC	O&M	PW FC+O&M	7.0% FC	5.0% O&M	PW FC+O&M	5.0% FC	5.0% O&M	PW FC+O&M	6.0% FC	5.0% O&M	PW FC+O&M	8.0% FC	5.0% O&M	PW FC+O&M
1982	496.93	15.62	464.70	496.93	20.94	469.51	496.93	20.94	469.51	496.93	20.94	469.51	496.93	20.94	469.51
1983	522.90	16.91	443.70	558.71	23.80	478.80	549.31	23.80	471.07	554.01	23.80	474.93	563.41	23.80	482.66
1984	550.39	18.64	424.04	628.39	27.53	488.79	607.38	27.53	473.14	617.84	27.53	480.93	639.04	27.53	496.73
1985	548.06	18.61	382.86	668.61	28.88	471.23	635.36	28.88	448.77	651.83	28.88	459.89	685.70	28.88	482.78
1986	524.16	17.01	331.48	682.74	27.70	435.16	638.77	27.70	408.23	660.44	27.70	421.51	705.67	27.70	449.21
1987	560.43	18.93	321.74	780.57	32.38	451.45	717.29	32.38	416.31	748.33	32.38	433.55	814.03	32.38	470.04
1988	465.89	25.05	247.17	681.96	44.98	365.99	630.15	44.98	339.91	655.45	44.98	352.64	709.75	44.98	379.98
1989	479.04	25.72	230.40	747.47	48.49	363.32	681.38	48.49	333.15	713.49	48.49	347.81	783.41	48.49	379.73
1990	499.66	26.55	217.76	832.04	52.57	366.07	747.05	52.57	330.91	788.14	52.57	347.91	878.90	52.57	385.47
1991	511.91	28.60	202.79	906.63	59.45	362.46	805.48	59.45	324.51	854.15	59.45	342.77	963.19	59.45	383.68
1992	544.98	28.54	195.08	1033.88	62.31	372.87	900.19	62.31	327.39	964.20	62.31	349.16	1109.67	62.31	398.65
1993	554.90	30.08	180.40	1120.96	68.94	366.95	964.23	68.94	318.62	1038.90	68.94	341.64	1211.06	68.94	394.73
1994	576.44	31.30	169.92	1243.01	75.32	368.59	1052.84	75.32	315.42	1143.00	75.32	340.63	1353.84	75.32	399.54
1995	600.86	32.47	160.54	1384.50	82.05	371.74	1153.08	82.05	313.08	1262.24	82.05	340.75	1521.26	82.05	406.41
1996	571.77	39.35	140.44	1384.59	104.39	342.18	1159.85	104.39	290.54	1265.34	104.39	314.78	1519.24	104.39	373.13
1997	603.22	39.87	133.99	1566.72	111.07	349.57	1284.06	111.07	290.68	1416.07	111.07	318.18	1738.43	111.07	385.35
1998	623.21	41.75	125.61	1725.23	122.14	348.96	1395.24	122.14	286.62	1548.58	122.14	315.59	1928.47	122.14	387.35
1999	639.32	44.15	117.05	1884.36	135.61	345.93	1505.95	135.61	281.12	1680.90	135.61	311.09	2120.63	135.61	386.39
2000	614.11	50.21	103.14	1898.77	161.92	319.95	1530.18	161.92	262.72	1699.73	161.92	289.05	2132.09	161.92	356.18
2001	627.32	51.21	95.51	2068.65	173.40	315.60	1643.76	173.40	255.79	1838.21	173.40	283.16	2341.30	173.40	353.98
2002	654.54	51.91	90.16	2315.02	184.57	319.00	1799.87	184.57	253.25	2034.42	184.57	283.19	2650.14	184.57	361.76
2003	656.40	53.89	82.18	2461.95	201.19	308.13	1902.07	201.19	243.35	2155.68	201.19	272.70	2831.16	201.19	350.85
2004	629.49	59.77	72.30	2464.76	234.29	283.13	1933.00	234.29	227.34	2172.63	234.29	252.48	2820.24	234.29	320.41
2005	647.89	60.52	67.37	2711.56	249.09	281.57	2090.67	249.09	222.52	2369.02	249.09	248.99	3132.30	249.09	321.58
2006	655.92	61.79	61.88	2920.41	267.06	274.83	2228.04	267.06	215.13	2536.82	267.06	241.76	3395.99	267.06	315.83
2007	676.99	63.38	57.87	3226.30	287.60	274.68	2415.44	287.60	211.30	2775.17	287.60	239.42	3790.85	287.60	318.81
2008	647.05	69.28	50.77	3198.78	330.10	250.09	2451.85	330.10	197.16	2781.48	330.10	220.52	3725.89	330.10	287.45
2009	662.65	70.22	47.09	3496.02	351.29	247.20	2640.45	351.29	192.23	3016.04	351.29	216.36	4108.01	351.29	286.52
2010	678.38	71.19	43.66	3821.18	373.96	244.38	2842.10	373.96	187.34	3269.63	373.96	212.25	4531.00	373.96	285.73
2011	679.78	73.04	39.76	4056.13	402.88	235.49	3002.70	402.88	179.86	3460.26	402.88	204.02	4830.21	402.88	276.37
TOTAL	17704.58	1235.54	5301.34	52966.79	4345.88	10473.60	42404.64	4345.88	9086.95	47168.90	4345.88	9727.14	60031.80	4345.88	11346.82

PRODUCTION COST AND O&M SUMMARY

PRESENT WORTH AT START OF YEAR 1982

FUEL COST FOR YEAR 1982

RATE OF RETURN=0.103

O&M COST FILE OMSPLMT4

PLAN 0004 RED FORECAST
\$X1,000,000

YR	NO ESCALATION			ESCL. SCHED. 1			ESCL. SCHED. 2			ESCL. SCHED. 3			ESCL. SCHED. 4		
	FC	O&M	PW FC+O&M	7.0% FC	5.0% O&M	PW FC+O&M	5.0% FC	5.0% O&M	PW FC+O&M	6.0% FC	5.0% O&M	PW FC+O&M	8.0% FC	5.0% O&M	PW FC+O&M
1982	240.30	6.32	223.59	240.30	8.46	225.53	240.30	8.46	225.53	240.30	8.46	225.53	240.30	8.46	225.53
1983	276.11	7.19	232.86	294.45	10.12	250.34	290.43	10.12	247.04	292.44	10.12	248.69	296.45	10.12	251.99
1984	289.89	7.61	221.69	329.71	11.24	254.07	320.73	11.24	247.38	325.20	11.24	250.71	334.26	11.24	257.46
1985	271.95	7.07	188.51	329.67	10.98	230.14	316.67	10.98	221.36	323.11	10.98	225.71	336.35	10.98	234.66
1986	265.42	6.74	166.71	342.73	10.99	216.66	325.53	10.99	206.12	334.01	10.99	211.32	351.70	10.99	222.15
1987	287.13	7.14	163.41	395.91	12.21	226.64	370.23	12.21	212.38	382.83	12.21	219.37	409.48	12.21	234.17
1988	307.56	7.62	158.68	452.70	13.68	234.81	417.00	13.68	216.83	434.43	13.68	225.61	471.85	13.68	244.45
1989	315.70	7.92	147.72	495.55	14.93	233.01	450.36	14.93	212.38	472.31	14.93	222.41	520.13	14.93	244.23
1990	330.31	8.31	140.13	553.54	16.45	235.88	495.47	16.45	211.85	523.55	16.45	223.47	585.57	16.45	249.13
1991	345.36	8.70	132.84	618.03	18.09	238.66	544.67	18.09	211.14	579.97	18.09	224.38	659.06	18.09	254.06
1992	362.72	9.12	126.48	693.79	19.91	242.76	601.18	19.91	211.26	645.52	19.91	226.34	746.30	19.91	260.62
1993	375.26	9.55	118.67	766.74	21.89	243.20	653.82	21.89	208.38	707.62	21.89	224.97	831.65	21.89	263.22
1994	389.54	10.29	111.79	849.83	24.77	244.53	713.56	24.77	206.43	778.16	24.77	224.49	929.27	24.77	266.74
1995	403.89	10.81	105.12	941.53	27.32	245.59	777.60	27.32	204.03	854.93	27.32	223.63	1038.41	27.32	270.14
1996	422.06	11.30	99.59	1051.70	29.97	248.58	853.88	29.97	203.12	946.73	29.97	224.46	1170.22	29.97	275.82
1997	441.33	12.04	94.46	1177.09	33.54	252.24	937.75	33.54	202.37	1049.53	33.54	225.66	1322.48	33.54	282.53
1998	465.27	13.06	90.35	1327.46	38.20	257.97	1038.41	38.20	203.37	1172.73	38.20	228.74	1505.48	38.20	291.59
1999	486.84	14.28	85.82	1484.52	43.86	261.74	1141.72	43.86	203.04	1300.21	43.86	230.18	1698.56	43.86	298.40
2000	507.73	15.23	81.20	1656.05	49.10	264.75	1250.79	49.10	201.83	1437.20	49.10	230.77	1912.57	49.10	304.58
2001	475.46	22.14	70.04	1619.75	74.97	238.56	1242.53	74.97	185.46	1415.17	74.97	209.76	1861.83	74.97	272.63
2002	492.91	22.74	65.81	1797.33	80.84	239.69	1352.95	80.84	182.98	1555.28	80.84	208.80	2086.40	80.84	276.58
2003	512.86	23.72	62.08	2000.55	88.56	241.72	1478.77	88.56	181.34	1715.12	88.56	208.69	2344.65	88.56	281.53
2004	519.72	25.37	57.18	2156.29	99.45	236.62	1578.06	99.45	175.97	1838.63	99.45	203.30	2542.83	99.45	277.17
2005	538.02	25.63	53.60	2390.71	105.49	237.40	1715.52	105.49	173.18	2018.21	105.49	201.97	2848.23	105.49	280.91
2006	502.88	32.64	46.17	2317.23	141.08	211.96	1705.82	141.08	159.24	1978.49	141.08	182.75	2737.20	141.08	248.17
2007	517.74	33.60	43.10	2550.37	152.49	211.28	1845.72	152.49	156.20	2158.33	152.49	180.64	3040.97	152.49	249.63
2008	536.59	34.10	40.45	2831.49	162.50	212.19	2008.62	162.50	153.87	2371.76	162.50	179.60	3412.20	162.50	253.34
2009	543.38	36.15	37.24	3045.26	180.88	207.29	2143.29	180.88	149.33	2539.25	180.88	174.78	3690.43	180.88	248.74
2010	522.99	41.18	32.86	3052.06	216.35	190.39	2190.52	216.35	140.21	2566.73	216.35	162.12	3676.67	216.35	226.78
2011	530.12	42.87	30.26	3287.68	236.47	186.12	2339.13	236.47	136.03	2751.14	236.47	157.78	3984.70	236.47	222.93
TOTAL	12477.02	520.45	3228.42	41049.98	1954.79	7020.29	31340.97	1954.79	5849.62	35708.84	1954.79	6386.61	47586.16	1954.79	7769.87

PRODUCTION COST AND O&M SUMMARY
 PRESENT WORTH AT START OF YEAR 1982
 FUEL COST FOR YEAR 1982 RATE OF RETURN=0.103 O&M COST FILE OMSPLMT4

PLAN 0005 RED C.F.
 \$X1,000,000

YR	NO ESCALATION			ESCL. SCHED. 1			ESCL. SCHED. 2			ESCL. SCHED. 3			ESCL. SCHED. 4		
	FC	O&M	PW FC+O&M	7.0% FC	5.0% O&M	PW FC+O&M	5.0% FC	5.0% O&M	PW FC+O&M	6.0% FC	5.0% O&M	PW FC+O&M	8.0% FC	5.0% O&M	PW FC+O&M
1982	345.16	9.13	321.20	345.16	12.23	324.01	345.16	12.23	324.01	345.16	12.23	324.01	345.16	12.23	324.01
1983	384.97	10.36	324.94	410.89	14.58	349.71	404.72	14.58	344.64	407.80	14.58	347.18	413.97	14.58	352.25
1984	404.73	11.22	309.97	461.11	16.58	355.97	447.31	16.58	345.69	454.18	16.58	350.81	468.11	16.58	361.19
1985	386.48	10.57	268.25	469.81	16.40	328.49	449.22	16.40	314.58	459.42	16.40	321.47	480.39	16.40	335.64
1986	371.11	9.74	233.28	481.02	15.86	304.35	453.97	15.86	287.78	467.30	15.86	295.95	495.13	15.86	312.99
1987	396.07	10.53	225.79	548.46	18.01	314.57	509.20	18.01	292.77	528.46	18.01	303.47	569.22	18.01	326.10
1988	411.56	11.12	212.80	608.58	19.97	316.46	556.23	19.97	290.10	581.79	19.97	302.97	636.66	19.97	330.59
1989	424.66	11.77	199.21	670.29	22.20	316.09	603.52	22.20	285.61	635.96	22.20	300.42	706.60	22.20	332.66
1990	444.57	12.58	189.18	749.67	24.90	320.54	664.04	24.90	285.11	705.44	24.90	302.24	796.88	24.90	340.08
1991	472.42	13.68	182.38	851.43	28.45	330.12	741.47	28.45	288.86	794.37	28.45	308.71	912.91	28.45	353.18
1992	497.43	14.28	174.06	958.88	31.18	336.77	820.15	31.18	289.58	886.57	31.18	312.17	1037.53	31.18	363.52
1993	517.91	15.29	164.43	1067.18	35.05	339.91	897.25	35.05	287.51	978.21	35.05	312.48	1164.86	35.05	370.03
1994	541.63	16.70	156.10	1192.48	40.18	344.64	986.08	40.18	286.93	1083.93	40.18	314.29	1312.77	40.18	378.27
1995	565.77	17.96	147.96	1331.95	45.37	349.12	1082.11	45.37	285.80	1199.97	45.37	315.67	1479.60	45.37	386.55
1996	533.15	24.74	128.21	1320.67	65.63	318.59	1078.22	65.63	262.87	1192.02	65.63	289.02	1465.95	65.63	351.97
1997	557.72	25.90	121.60	1478.36	72.14	323.05	1184.61	72.14	261.85	1321.80	72.14	290.43	1656.81	72.14	360.23
1998	586.85	27.46	116.04	1663.92	80.33	329.48	1309.29	80.33	262.49	1474.08	80.33	293.62	1882.33	80.33	370.73
1999	602.84	29.71	108.33	1821.22	91.27	327.52	1414.98	91.27	257.95	1602.80	91.27	290.12	2074.86	91.27	370.96
2000	577.14	35.76	95.16	1831.73	115.33	302.31	1433.22	115.33	240.43	1616.53	115.33	268.89	2083.99	115.33	341.47
2001	588.52	37.10	88.07	1991.60	125.63	298.03	1537.27	125.63	234.08	1745.19	125.63	263.35	2283.16	125.63	339.07
2002	608.51	38.07	82.52	2202.97	135.35	298.42	1669.80	135.35	230.37	1912.56	135.35	261.35	2549.81	135.35	342.68
2003	619.85	39.95	76.34	2390.49	149.15	293.84	1789.80	149.15	224.34	2061.90	149.15	255.82	2786.61	149.15	339.67
2004	590.65	45.76	66.76	2380.29	179.38	268.50	1808.19	179.38	208.49	2066.00	179.38	235.54	2762.73	179.38	308.62
2005	606.54	46.46	62.10	2611.56	191.21	266.55	1951.79	191.21	203.80	2247.57	191.21	231.93	3058.65	191.21	309.07
2006	619.18	47.51	57.48	2843.73	205.31	262.89	2095.60	205.31	198.39	2429.25	205.31	227.16	3357.61	205.31	307.20
2007	630.20	49.55	53.14	3083.45	224.85	258.61	2244.61	224.85	193.04	2616.75	224.85	222.13	3667.47	224.85	304.26
2008	607.78	54.98	46.97	3103.18	261.97	238.49	2296.11	261.97	181.29	2652.28	261.97	206.53	3672.74	261.97	278.85
2009	623.28	55.94	43.64	3397.45	279.88	236.28	2475.96	279.88	177.07	2880.49	279.88	203.06	4056.59	279.88	278.63
2010	641.36	56.88	40.67	3738.20	298.82	235.17	2677.39	298.82	173.37	3140.62	298.82	200.36	4507.29	298.82	279.97
2011	640.06	59.03	36.92	3947.93	325.62	225.70	2819.25	325.62	166.09	3309.49	325.62	191.98	4777.30	325.62	269.50
TOTAL	15798.04	849.72	4333.49	49953.61	3142.81	9114.15	38746.48	3142.81	7684.86	43797.84	3142.81	8343.09	57463.63	3142.81	110019.96

PRODUCTION COST AND O&M SUMMARY
 PRESENT WORTH AT START OF YEAR 1982
 FUEL COST FOR YEAR 1982 RATE OF RETURN=0.103 O&M COST FILE OMSPLMT4

PLAN 0006 B20C RED
 \$X1,000,000

YR	NO ESCALATION			ESCL. SCHED. 1			ESCL. SCHED. 2			ESCL. SCHED. 3			ESCL. SCHED. 4		
	FC	O&M	PW FC+O&M	7.0% FC	5.0% O&M	PW FC+O&M	5.0% FC	5.0% O&M	PW FC+O&M	5.0% FC	5.0% O&M	PW FC+O&M	8.0% FC	5.0% O&M	PW FC+O&M
1982	383.32	10.79	357.31	383.32	14.46	360.63	383.32	14.46	360.63	383.32	14.46	360.63	383.32	14.46	360.63
1983	400.93	11.37	338.89	428.20	16.00	365.11	421.24	16.00	359.39	424.72	16.00	362.25	431.67	16.00	367.97
1984	418.42	12.21	320.91	477.28	18.05	369.12	461.89	18.05	357.65	469.55	18.05	363.36	485.08	18.05	374.93
1985	413.37	12.11	287.46	503.57	18.79	352.92	479.44	18.79	336.62	491.39	18.79	344.69	515.98	18.79	361.50
1986	400.10	11.39	252.05	520.08	18.55	329.92	487.98	18.55	310.26	503.80	18.55	319.95	536.82	18.55	340.18
1987	431.25	12.50	246.43	599.33	21.39	344.70	552.43	21.39	318.66	575.44	21.39	331.43	624.14	21.39	358.48
1988	379.04	22.06	201.94	552.06	39.61	297.89	513.63	39.61	278.54	532.39	39.61	287.99	572.68	39.61	308.27
1989	387.19	22.36	186.94	600.56	42.15	293.37	551.95	42.15	271.18	575.57	42.15	281.96	626.99	42.15	305.43
1990	402.13	22.80	175.85	665.07	45.14	293.91	602.77	45.14	268.12	632.89	45.14	280.59	699.42	45.14	308.12
1991	408.08	24.61	162.34	716.62	51.17	288.07	644.13	51.17	260.87	679.01	51.17	273.95	757.16	51.17	303.27
1992	431.76	24.13	155.07	811.78	52.68	294.05	715.57	52.68	261.32	761.63	52.68	276.99	866.33	52.68	312.60
1993	437.73	25.48	142.85	875.24	58.41	287.92	763.56	58.41	253.49	816.77	58.41	269.89	939.43	58.41	307.72
1994	451.32	26.09	133.48	962.27	62.80	286.60	827.83	62.80	249.01	891.56	62.80	266.83	1040.63	62.80	308.51
1995	467.24	26.65	125.19	1063.78	67.34	286.72	900.75	67.34	245.39	977.65	67.34	264.89	1160.13	67.34	311.14
1996	484.71	27.15	117.63	1178.33	72.04	287.35	982.12	72.04	242.26	1074.22	72.04	263.42	1295.39	72.04	314.56
1997	511.39	27.06	112.19	1334.59	75.40	293.77	1086.95	75.40	242.18	1202.60	75.40	266.27	1485.02	75.40	325.11
1998	527.39	28.90	105.08	1465.89	84.55	292.87	1179.28	84.55	238.73	1312.46	84.55	263.89	1642.41	84.55	326.21
1999	548.76	30.03	99.12	1629.50	92.23	294.85	1289.45	92.23	236.62	1446.67	92.23	263.54	1841.82	92.23	331.22
2000	568.07	30.86	92.99	1802.69	99.53	295.34	1402.56	99.53	233.22	1586.61	99.53	261.80	2055.97	99.53	334.67
2001	536.57	37.76	80.85	1777.81	127.85	268.25	1403.95	127.85	215.62	1575.05	127.85	239.71	2017.72	127.85	302.02
2002	563.68	37.93	76.78	2007.26	134.87	273.38	1546.64	134.87	214.59	1756.36	134.87	241.36	2306.90	134.87	311.62
2003	575.22	39.44	71.12	2180.31	147.23	269.30	1660.95	147.23	209.21	1896.20	147.23	236.43	2522.80	147.23	308.93
2004	581.64	41.26	65.34	2342.16	161.73	262.65	1768.72	161.73	202.50	2027.13	161.73	229.61	2725.50	161.73	302.87
2005	601.74	41.42	61.17	2595.97	170.50	263.10	1921.12	170.50	198.92	2223.66	170.50	227.69	3053.26	170.50	306.59
2006	565.37	48.35	52.92	2528.04	208.95	235.99	1918.08	208.95	183.40	2190.11	208.95	206.85	2947.00	208.95	272.11
2007	587.93	48.78	49.77	2822.87	221.35	237.97	2092.69	221.35	180.89	2416.63	221.35	206.21	3331.24	221.35	277.71
2008	596.74	49.79	45.82	3049.12	237.24	232.91	2235.71	237.24	175.26	2594.68	237.24	200.70	3623.15	237.24	273.59
2009	603.58	51.49	42.09	3274.77	257.62	226.97	2382.14	257.62	169.61	2774.00	257.62	194.79	3913.28	257.62	267.99
2010	583.16	57.01	37.29	3290.87	299.49	209.15	2442.45	299.49	159.73	2812.93	299.49	181.31	3905.97	299.49	244.98
2011	591.01	58.58	34.31	3547.24	323.12	204.41	2606.16	323.12	154.70	3014.92	323.12	176.29	4238.75	323.12	240.93
TOTAL	14838.81	920.38	4231.16	45986.53	3240.23	3599.13	36225.44	3240.23	7388.54	40619.88	3240.23	7945.24	52546.42	3240.23	9369.42

PRODUCTION COST AND O&M SUMMARY
 PRESENT WORTH AT START OF YEAR 1982
 FUEL COST FOR YEAR 1982 RATE OF RETURN=0.103 O&M COST FILE OMSPLMT4

PLAN 0007 989C 88
 \$X1,000,000

YR	NO ESCALATION			ESCL. SCHED. 1			ESCL. SCHED. 2			ESCL. SCHED. 3			ESCL. SCHED. 4		
	FC	O&M	PW FC+O&M	7.0(FC	5.0(O&M	PW FC+O&M	5.0(FC	5.0(O&M	PW FC+O&M	6.0(FC	5.0(O&M	PW FC+O&M	8.0(FC	5.0(O&M	PW FC+O&M
1982	383.32	10.79	357.31	383.32	14.46	360.63	383.32	14.46	360.63	383.32	14.46	360.63	383.32	14.46	360.63
1983	400.93	11.37	338.89	428.20	16.00	365.11	421.24	16.00	359.39	424.72	16.00	362.25	431.67	16.00	367.97
1984	418.42	12.21	320.91	477.28	18.05	369.12	461.89	18.05	357.65	469.55	18.05	363.36	485.08	18.05	374.93
1985	413.37	12.11	287.46	503.57	18.79	352.92	479.44	18.79	336.62	491.39	18.79	344.69	515.98	18.79	361.30
1986	400.10	11.39	252.05	520.08	18.55	329.92	487.98	18.55	310.26	503.80	18.55	319.95	536.82	18.55	340.18
1987	431.25	12.50	246.43	599.33	21.39	344.70	552.43	21.39	318.66	575.44	21.39	331.43	624.14	21.39	358.48
1988	383.23	23.36	204.71	554.90	41.95	300.50	520.34	41.95	283.10	537.21	41.95	291.59	573.44	41.95	309.83
1989	391.04	23.62	189.27	602.46	44.54	295.33	558.72	44.54	275.36	579.97	44.54	285.06	626.25	44.54	306.19
1990	405.75	24.08	177.88	666.04	47.68	295.36	609.75	47.68	272.07	636.96	47.68	283.33	697.07	47.68	308.20
1991	412.26	26.21	164.51	717.16	54.49	289.51	652.81	54.49	265.37	683.77	54.49	276.99	753.14	54.49	303.01
1992	433.33	25.68	156.13	806.74	56.06	293.48	720.62	56.06	264.19	761.86	56.06	278.21	855.57	56.06	310.09
1993	440.54	27.09	144.21	871.01	62.09	287.76	771.45	62.09	257.05	818.89	62.09	271.68	928.25	62.09	305.41
1994	453.54	27.65	134.54	955.49	66.54	285.75	835.36	66.54	252.16	892.31	66.54	268.08	1025.50	66.54	305.32
1995	467.81	28.08	125.70	1051.49	70.95	284.51	905.89	70.95	247.61	974.57	70.95	265.02	1137.53	70.95	306.32
1996	485.27	28.85	118.15	1163.94	76.54	285.07	987.90	76.54	244.62	1070.53	76.54	263.61	1269.41	76.54	309.31
1997	509.83	28.72	112.21	1313.25	80.01	290.29	1088.67	80.01	243.50	1193.56	80.01	265.35	1449.67	80.01	318.71
1998	525.66	30.55	105.07	1439.98	89.36	288.88	1181.51	89.36	240.06	1301.62	89.36	262.75	1599.16	89.36	318.95
1999	547.11	31.66	99.12	1600.96	97.24	290.82	1292.35	97.24	237.97	1435.03	97.24	262.41	1793.65	97.24	323.82
2000	564.73	32.47	92.72	1765.05	104.71	290.30	1401.98	104.71	233.93	1568.99	104.71	259.86	1994.86	104.71	325.99
2001	536.07	39.39	81.00	1747.66	133.39	264.78	1410.63	133.39	217.34	1564.87	133.39	239.05	1963.93	133.39	295.23
2002	560.22	39.60	76.55	1962.87	140.82	268.47	1546.06	140.82	215.28	1735.83	140.82	239.50	2234.01	140.82	303.07
2003	572.72	41.05	71.01	2134.00	153.25	264.64	1663.85	153.25	210.24	1876.81	153.25	234.88	2444.04	153.25	300.51
2004	579.36	42.92	65.28	2292.19	168.26	258.10	1772.86	168.26	203.62	2006.89	168.26	228.17	2639.36	168.26	294.51
2005	599.10	43.06	61.07	2538.50	177.23	258.27	1925.14	177.23	199.94	2200.11	177.23	226.09	2954.13	177.23	297.80
2006	565.15	49.97	53.04	2480.46	215.98	232.49	1929.79	215.98	185.01	2175.37	215.98	206.19	2856.70	215.98	265.10
2007	584.94	50.27	49.65	2756.87	228.12	233.34	2095.71	228.12	181.65	2389.03	228.12	204.58	3217.20	228.12	269.32
2008	595.20	51.42	45.83	2982.03	245.02	228.70	2245.43	245.02	176.50	2570.50	245.02	199.54	3501.86	245.02	265.54
2009	600.49	53.22	42.00	3190.33	266.24	222.09	2387.50	266.24	170.51	2739.93	266.24	193.15	3764.60	266.24	258.99
2010	582.01	58.67	37.32	3213.50	308.19	205.15	2455.83	308.19	161.01	2786.68	308.19	180.28	3762.82	308.19	237.15
2011	590.20	60.23	34.35	3467.33	332.22	200.67	2621.69	332.22	156.00	2989.00	332.22	175.40	4088.71	332.22	233.48
TOTAL	14832.95	958.20	4244.36	45185.96	3368.10	8536.65	36368.12	3368.10	7437.29	40338.49	3368.10	7943.08	51109.86	3368.10	9235.34

APPENDIX F

YEAR-BY-YEAR COMPARISONS

CASE	DESCRIPTION
	NUCLEAR VS. CONVERTED COAL
1A	Normal Forecast - Base Case
2A	Reduced Forecast
3A	Reduced Nuclear Capacity Factor
4A-A	25% Increase in Conversion Cost
4B-A	25% Decrease in Conversion Cost
5A	Terminate Shoreham Nuclear Immediately
	NUCLEAR VS. NEW COAL
1B	Normal Forecast - Base Case
2B	Reduced Forecast
3B	Reduced Nuclear Capacity Factor
5B	Terminate Shoreham Nuclear Immediately

DATE: 06/25/79

GENERATION PLANNING
\$ X MILLION

TITLE CASE 1A 6/25/79

PRESENT WORTH TO THE START OF YEAR 1982
DISCOUNT RATE 10.30 %

YEAR	A	B	DIFF H-A	DIFF TOTAL	PW MULT	DELTA PW	PW TOTAL
1980	14.3	33.2	18.9	18.9	1.10300	20.8	20.8
1981	12.7	32.4	19.7	38.6	1.00000	19.7	40.5
1982	381.9	408.4	26.5	65.1	0.90662	24.0	64.6
1983	340.2	397.7	57.5	122.6	0.82196	47.3	111.8
1984	341.6	420.5	78.9	201.5	0.74520	58.8	170.6
1985	350.8	440.0	89.2	290.7	0.67561	60.3	230.9
1986	355.5	428.3	72.8	363.5	0.61252	44.6	275.5
1987	359.0	464.4	105.4	468.9	0.55533	58.5	334.0
1988	361.8	747.1	385.3	854.2	0.50347	194.0	528.0
1989	363.7	780.8	417.1	1271.3	0.45645	190.4	718.4
1990	364.9	783.0	418.1	1689.4	0.41383	173.0	891.4
1991	363.5	758.6	395.1	2084.5	0.37519	148.2	1039.7
1992	372.0	775.3	403.3	2487.8	0.34015	137.2	1176.8
1993	368.4	757.5	389.1	2876.9	0.30839	120.0	1296.8
1994	365.1	749.0	383.9	3260.8	0.27959	107.3	1404.2
1995	362.2	748.3	386.1	3646.9	0.25348	97.9	1502.0
1996	359.3	759.8	400.5	4047.4	0.22981	92.0	1594.1
1997	357.2	781.0	423.8	4471.2	0.20835	88.3	1682.4
1998	347.2	749.0	401.8	4873.0	0.18889	75.9	1758.3
1999	339.7	750.5	410.8	5283.8	0.17126	70.4	1828.6
2000	342.9	759.6	416.7	5700.5	0.15526	64.7	1893.3
2001	348.2	755.7	407.5	6108.0	0.14076	57.4	1950.7
2002	353.4	788.1	434.7	6542.7	0.12762	55.5	2006.2
2003	359.7	744.1	384.4	6927.1	0.11570	44.5	2050.6
2004	365.4	759.8	394.4	7321.5	0.10490	41.4	2092.0
2005	373.0	764.3	391.3	7712.8	0.09510	37.2	2129.2
2006	380.8	730.3	349.5	8062.3	0.08622	30.1	2159.3
2007	390.5	802.5	412.1	8474.4	0.07817	32.2	2191.6
2008	398.7	767.2	368.5	8842.9	0.07087	26.1	2217.7
2009	409.5	779.2	369.7	9212.6	0.06425	23.8	2241.4
2010	421.1	764.6	343.5	9556.1	0.05825	20.0	2261.4
2011	433.4	760.2	326.8	9882.9	0.05281	17.3	2278.7

TOTAL = 9882.9
1982 PW TOTAL = 2278.7

MATH SUM PLAN A = 11057.6
MATH SUM PLAN B = 20940.5
PRESENT WORTH A = 3341.5
PRESENT WORTH B = 5620.2

DATE: 06/26/79

GENERATION PLANNING
\$ X MILLION

TITLE CASE 2A 6/26/79

PRESENT WORTH TO THE START OF YEAR 1982
DISCOUNT RATE 10.30 %

YEAR	A	B	DIFF B-A	DIFF TOTAL	PW MULT	DELTA PW	PW TOTAL
1980	14.3	33.2	18.9	18.9	1.10300	20.8	20.8
1981	12.7	32.4	19.7	38.6	1.00000	19.7	40.5
1982	381.4	371.5	-9.9	28.7	0.90662	-9.0	31.6
1983	339.8	353.1	13.3	42.0	0.82196	10.9	42.5
1984	341.4	364.5	23.1	65.1	0.74520	17.2	59.7
1985	350.5	377.2	26.7	91.8	0.67561	18.0	77.8
1986	354.0	365.2	11.2	103.0	0.61252	6.9	84.6
1987	357.9	390.3	32.4	135.4	0.55533	18.0	102.6
1988	360.8	745.6	384.8	520.2	0.50347	193.7	296.3
1989	362.9	778.5	415.6	935.8	0.45645	189.7	486.0
1990	364.2	782.1	417.9	1353.7	0.41383	172.9	659.0
1991	362.9	768.9	406.0	1759.7	0.37519	152.3	811.3
1992	359.2	778.5	419.3	2179.0	0.34015	142.6	953.9
1993	355.2	768.5	413.3	2592.3	0.30839	127.5	1081.4
1994	351.9	764.8	412.9	3005.2	0.27959	115.4	1196.8
1995	349.0	765.1	416.1	3421.3	0.25348	105.5	1302.3
1996	361.7	764.0	402.3	3823.6	0.22981	92.5	1394.8
1997	359.6	781.5	421.9	4245.5	0.20835	87.9	1482.7
1998	349.6	756.2	406.6	4652.1	0.18889	76.8	1559.5
1999	342.1	756.0	413.9	5066.0	0.17126	70.9	1630.4
2000	346.1	742.4	396.3	5462.3	0.15526	61.5	1691.9
2001	350.6	753.5	402.9	5865.2	0.14076	56.7	1748.6
2002	355.3	784.4	429.1	6294.3	0.12762	54.8	1803.4
2003	361.8	748.4	386.6	6680.9	0.11570	44.7	1848.1
2004	368.6	745.9	377.3	7058.2	0.10490	39.6	1887.7
2005	376.7	753.6	376.9	7435.1	0.09510	35.8	1923.5
2006	383.1	762.5	379.4	7814.5	0.08622	32.7	1956.2
2007	392.4	801.2	408.8	8223.3	0.07817	32.0	1988.2
2008	401.8	746.0	344.2	8567.5	0.07087	24.4	2012.6
2009	412.9	737.6	324.7	8892.2	0.06425	20.9	2033.4
2010	422.8	754.6	331.8	9224.0	0.05825	19.3	2052.8
2011	435.2	756.0	320.8	9544.8	0.05281	16.9	2069.7

1982 PW TOTAL = 9544.8
1982 PW TOTAL = 2069.7

MATH SUM PLAN A = 11038.4
MATH SUM PLAN B = 20583.2
PRESENT WORTH A = 3326.9
PRESENT WORTH B = 5390.6

DATE: 06/25/79

GENERATION PLANNING
\$ X MILLION

TITLE CASE 3A 6/25/79

PRESENT WORTH TO THE START OF YEAR 1982
DISCOUNT RATE 10.30 %

YEAR	A	B	DIFF B-A	DIFF TOTAL	PW MULT	DELTA PW	PW TOTAL
1980	14.3	33.2	18.9	18.9	1.10300	20.8	20.8
1981	12.7	32.4	19.7	38.6	1.00000	19.7	40.5
1982	376.8	380.8	4.0	42.6	0.90662	3.6	44.2
1983	335.6	371.3	35.7	78.3	0.82196	29.3	73.5
1984	336.7	390.5	53.8	132.1	0.74520	40.1	113.6
1985	346.2	408.9	62.7	194.8	0.67561	42.4	156.0
1986	350.1	397.4	47.3	242.1	0.61252	29.0	184.9
1987	353.2	428.3	75.1	317.2	0.55533	41.7	226.6
1988	355.5	706.9	351.4	668.6	0.50347	176.9	403.6
1989	357.0	736.8	379.8	1048.4	0.45645	173.4	576.9
1990	357.7	735.2	377.5	1425.9	0.41383	156.2	733.1
1991	355.9	704.1	348.2	1774.1	0.37519	130.6	863.8
1992	353.9	714.3	350.4	2124.5	0.34015	119.2	983.0
1993	354.8	669.3	329.5	2454.0	0.30839	101.6	1084.6
1994	356.1	676.5	320.4	2774.4	0.27959	89.6	1174.2
1995	352.7	656.6	313.9	3088.3	0.25348	79.6	1253.7
1996	349.4	681.9	332.5	3420.8	0.22981	76.4	1330.1
1997	346.8	690.7	343.9	3764.7	0.20835	71.7	1401.8
1998	336.1	657.0	320.9	4085.6	0.18889	60.6	1462.4
1999	327.9	649.8	321.9	4407.5	0.17126	55.1	1517.5
2000	330.6	652.6	322.0	4729.5	0.15526	50.0	1567.5
2001	335.1	647.3	312.2	5041.7	0.14076	43.9	1611.5
2002	339.4	666.8	327.4	5369.1	0.12762	41.8	1653.3
2003	334.9	616.4	281.5	5650.6	0.11570	32.6	1685.8
2004	350.0	630.0	280.0	5930.6	0.10490	29.4	1715.2
2005	356.6	631.5	274.9	6205.5	0.09510	26.1	1741.4
2006	363.4	596.4	233.0	6438.5	0.08622	20.1	1761.4
2007	371.9	642.5	270.6	6709.1	0.07817	21.2	1782.6
2008	349.4	606.6	257.2	6966.3	0.07087	18.2	1800.8
2009	389.0	596.6	207.6	7173.9	0.06425	13.3	1814.2
2010	399.2	572.6	173.4	7347.3	0.05825	10.1	1824.3
2011	410.3	571.3	161.0	7508.3	0.05281	8.5	1832.8
TOTAL=			7508.3				
1982 PW TOTAL=			1832.8				

MATH SUM PLAN A = 10674.2
MATH SUM PLAN B = 18182.5
PRESENT WORTH A = 3267.0
PRESENT WORTH B = 5099.7

DATE: 06/25/79

GENERATION PLANNING
\$ X MILLION

TITLE CASE 4A- A 6/25/79

PRESENT WORTH TO THE START OF YEAR 1982
DISCOUNT RATE 10.30 %

YEAR	A	B	DIFF B-A	DIFF TOTAL	PW MULT	DELTA PW	PW TOTAL
1980	14.3	33.0	18.7	18.7	1.10300	20.6	20.6
1981	12.7	32.0	19.3	38.0	1.00000	19.3	39.9
1982	381.9	408.9	27.0	65.0	0.90662	24.5	64.4
1983	340.2	396.8	56.6	121.6	0.82196	46.5	110.9
1984	341.6	418.0	76.4	198.0	0.74520	56.9	167.9
1985	350.8	434.9	84.1	282.1	0.67561	56.8	224.7
1986	355.5	421.0	65.5	347.6	0.61252	40.1	264.8
1987	359.0	457.0	98.0	445.6	0.55533	54.4	319.2
1988	361.8	810.0	448.2	893.8	0.50347	225.7	544.9
1989	363.7	833.5	469.8	1363.6	0.45645	214.4	759.3
1990	364.9	835.5	470.6	1834.2	0.41383	194.7	954.1
1991	363.5	810.8	447.3	2281.5	0.37519	167.8	1121.9
1992	372.0	827.1	455.1	2736.6	0.34015	154.8	1276.7
1993	368.4	808.8	440.4	3177.0	0.30839	135.8	1412.5
1994	365.1	799.6	434.5	3611.5	0.27959	121.5	1534.0
1995	362.2	798.1	435.9	4047.4	0.25348	110.5	1644.5
1996	359.3	808.8	449.5	4496.9	0.22981	103.3	1747.8
1997	357.2	829.0	471.8	4968.7	0.20835	98.3	1846.1
1998	347.2	795.0	447.8	5416.5	0.18889	84.6	1930.7
1999	339.7	796.2	456.5	5873.0	0.17126	78.2	2008.8
2000	342.9	803.9	461.0	6334.0	0.15526	71.6	2080.4
2001	348.2	798.1	449.9	6783.9	0.14076	63.3	2143.7
2002	353.4	828.6	475.2	7259.1	0.12762	60.6	2204.4
2003	359.7	782.6	422.9	7682.0	0.11570	48.9	2253.3
2004	365.4	796.4	431.0	8113.0	0.10490	45.2	2298.5
2005	373.0	798.9	425.9	8538.9	0.09510	40.5	2339.0
2006	380.8	763.0	382.2	8921.1	0.08622	33.0	2372.0
2007	390.5	833.4	442.9	9364.0	0.07817	34.6	2406.6
2008	398.7	796.1	397.4	9761.4	0.07087	28.2	2434.8
2009	409.5	806.1	396.6	10158.0	0.06425	25.5	2460.3
2010	421.1	789.6	368.5	10526.5	0.05825	21.5	2481.7
2011	433.4	780.0	346.6	10873.1	0.05281	18.3	2500.0

1982 PW TOTAL = 2500.0
TOTAL = 10873.1

MATH SUM PLAN A = 11057.6
MATH SUM PLAN B = 21930.7
PRESENT WORTH A = 3341.5
PRESENT WORTH B = 5841.5

DATE: 06/25/79

GENERATION PLANNING
\$ X MILLION

TITLE CASE 4B- A 6/25/79

PRESENT WORTH TO THE START OF YEAR 1982
DISCOUNT RATE 10.30 %

YEAR	A	B	DIFF B-A	DIFF TOTAL	PW MULT	DELTA PW	PW TOTAL
1980	14.3	33.0	18.7	18.7	1.10300	20.6	20.6
1981	12.7	32.0	19.3	38.0	1.00000	19.3	39.9
1982	381.9	408.9	27.0	65.0	0.90662	24.5	64.4
1983	340.2	397.8	57.6	122.6	0.82196	47.3	111.7
1984	341.6	421.0	79.4	202.0	0.74520	59.2	170.9
1985	350.8	444.9	94.1	296.1	0.67561	63.6	234.5
1986	355.5	435.0	79.5	375.6	0.61252	48.7	283.2
1987	359.0	471.0	112.0	487.6	0.55533	62.2	345.4
1988	361.8	684.5	322.7	810.3	0.50347	162.5	507.9
1989	363.7	728.6	364.9	1175.2	0.45645	166.6	674.4
1990	364.9	730.9	366.0	1541.2	0.41383	151.5	825.9
1991	363.5	706.7	343.2	1884.4	0.37519	128.8	954.6
1992	372.0	723.8	351.8	2236.2	0.34015	119.7	1074.3
1993	368.4	706.6	338.2	2574.4	0.30839	104.3	1178.6
1994	365.1	698.7	333.6	2908.0	0.27959	93.3	1271.9
1995	362.2	698.8	336.6	3244.6	0.25348	85.3	1357.2
1996	359.3	711.2	351.9	3596.5	0.22981	80.9	1438.1
1997	357.2	733.4	376.2	3972.7	0.20835	78.4	1516.4
1998	347.2	702.4	355.2	4327.9	0.18889	67.1	1583.5
1999	339.7	705.0	365.3	4693.2	0.17126	62.6	1646.1
2000	342.9	715.5	372.6	5065.8	0.15526	57.9	1704.0
2001	348.2	713.6	365.4	5431.2	0.14076	51.4	1755.4
2002	353.4	747.9	394.5	5825.7	0.12762	50.3	1805.7
2003	359.7	705.8	346.1	6171.8	0.11570	40.0	1845.8
2004	365.4	723.4	358.0	6529.8	0.10490	37.6	1883.3
2005	373.0	729.9	356.9	6886.7	0.09510	33.9	1917.3
2006	380.8	697.8	317.0	7203.7	0.08622	27.3	1944.6
2007	390.5	772.1	381.6	7585.3	0.07817	29.8	1974.4
2008	398.7	738.6	339.9	7925.2	0.07087	24.1	1998.5
2009	409.5	752.6	343.1	8268.3	0.06425	22.0	2020.6
2010	421.1	739.9	318.8	8587.1	0.05825	18.6	2039.1
2011	433.4	740.6	307.2	8894.3	0.05281	16.2	2055.4
TOTAL=			8894.3				
1982 PW TOTAL=			2055.4				

MATH SUM PLAN A = 11057.6
MATH SUM PLAN B = 19951.9
PRESENT WORTH A = 3341.5
PRESENT WORTH B = 5396.8

DATE: 06/25/79

GENERATION PLANNING
\$ X MILLION

TITLE CASE 5A 6/25/79

PRESENT WORTH TO THE START OF YEAR 1982
DISCOUNT RATE 10.30 %

YEAR	A	B	DIFF B-A	DIFF TOTAL	PW MULT	DELTA PW	PW TOTAL
1980	14.3	135.2	120.9	120.9	1.10300	133.4	133.4
1981	12.7	132.4	119.7	240.6	1.00000	119.7	253.1
1982	381.9	349.4	-32.5	208.1	0.90662	-29.5	223.6
1983	340.2	339.7	-0.5	207.6	0.82196	-0.4	223.2
1984	341.6	362.5	20.9	228.5	0.74570	15.6	238.8
1985	350.8	385.0	34.2	262.7	0.67561	23.1	261.9
1986	355.5	374.3	18.8	281.5	0.61252	11.5	273.4
1987	359.0	466.4	107.4	388.9	0.55533	59.6	333.0
1988	361.8	748.0	386.2	775.1	0.50347	194.4	527.5
1989	363.7	698.8	335.1	1110.2	0.45645	153.0	680.4
1990	364.9	704.0	339.1	1449.3	0.41383	140.3	820.7
1991	363.5	682.6	319.1	1768.4	0.37519	119.7	940.5
1992	372.0	699.3	327.3	2095.7	0.34015	111.3	1051.8
1993	368.4	683.5	315.1	2410.8	0.30839	97.2	1149.0
1994	365.1	679.0	313.9	2724.7	0.27959	87.8	1236.7
1995	362.2	679.3	317.1	3041.8	0.25348	80.4	1317.1
1996	359.3	692.8	333.5	3375.3	0.22981	76.6	1393.8
1997	357.2	716.0	358.8	3734.1	0.20835	74.8	1468.5
1998	347.2	687.0	339.8	4073.9	0.18889	64.2	1532.7
1999	339.7	689.5	349.8	4423.7	0.17126	59.9	1592.6
2000	342.9	701.6	358.7	4782.4	0.15526	55.7	1648.3
2001	348.2	700.7	352.5	5134.9	0.14076	49.6	1697.9
2002	353.4	734.1	380.7	5515.6	0.12762	48.6	1746.5
2003	359.7	691.1	331.4	5847.0	0.11570	38.3	1784.8
2004	365.4	709.8	344.4	6191.4	0.10490	36.1	1821.0
2005	373.0	717.3	344.3	6535.7	0.09510	32.7	1853.7
2006	380.8	685.3	304.5	6840.2	0.08622	26.3	1880.0
2007	390.5	759.6	369.1	7209.3	0.07817	28.9	1908.8
2008	398.7	725.2	326.5	7535.8	0.07087	23.1	1932.0
2009	409.5	741.2	331.7	7867.5	0.06425	21.3	1953.3
2010	421.1	681.6	260.5	8128.0	0.05825	15.2	1968.4
2011	433.4	683.5	250.1	8378.1	0.05281	13.2	1981.7
			TOTAL=	8378.1			
1982 PW			TOTAL=	1981.7			

MATH SUM PLAN A = 11057.6
MATH SUM PLAN B = 19435.7
PRESENT WORTH A = 3341.5
PRESENT WORTH B = 5323.1

DATE: 06/26/79

GENERATION PLANNING
\$ X MILLION

TITLE CASE 1B

PRESENT WORTH TO THE START OF YEAR 1982
DISCOUNT RATE 10.30 %

YEAR	A	B	DIFF B-A	DIFF TOTAL	PW MULT	DELTA PW	PW TOTAL
1980	14.3	-1.0	-15.3	-15.3	1.10300	-16.9	-16.9
1981	12.7	-1.1	-13.8	-29.1	1.00000	-13.8	-30.7
1982	381.9	436.2	54.3	25.2	0.90662	49.2	18.6
1983	340.2	425.7	85.5	110.7	0.82196	70.3	88.8
1984	341.6	443.5	101.9	212.6	0.74520	75.9	164.8
1985	350.8	460.9	110.1	322.7	0.67561	74.4	239.2
1986	355.5	440.0	84.5	407.2	0.61252	51.8	290.9
1987	359.0	459.9	100.9	508.1	0.55533	56.0	346.9
1988	361.8	640.0	278.2	786.3	0.50347	140.1	487.0
1989	363.7	724.8	361.1	1147.4	0.45645	164.8	651.8
1990	364.9	728.4	363.5	1510.9	0.41383	150.4	802.3
1991	363.5	703.9	340.4	1851.3	0.37519	127.7	930.0
1992	372.0	740.1	368.1	2219.4	0.34015	125.2	1055.2
1993	368.4	723.3	354.9	2574.3	0.30839	109.4	1164.6
1994	365.1	718.0	352.9	2927.2	0.27959	98.7	1263.3
1995	362.2	724.9	362.7	3289.9	0.25348	91.9	1355.2
1996	359.3	728.5	369.2	3659.1	0.22981	84.8	1440.1
1997	357.2	757.5	400.3	4059.4	0.20835	83.4	1523.5
1998	347.2	729.2	382.0	4441.4	0.18889	72.2	1595.6
1999	339.7	736.5	396.8	4838.2	0.17126	68.0	1663.6
2000	342.9	741.7	398.8	5237.0	0.15526	61.9	1725.5
2001	348.2	744.6	396.4	5633.4	0.14076	55.8	1781.3
2002	353.4	786.6	433.2	6066.6	0.12762	55.3	1836.6
2003	359.7	748.3	388.6	6455.2	0.11570	45.0	1881.6
2004	365.4	759.2	393.8	6849.0	0.10490	41.3	1922.9
2005	373.0	772.6	399.6	7248.6	0.09510	38.0	1960.9
2006	380.8	748.4	367.6	7616.2	0.08622	31.7	1992.6
2007	390.5	837.4	446.9	8063.1	0.07817	34.9	2027.5
2008	398.7	790.7	392.0	8455.1	0.07087	27.8	2055.3
2009	409.5	814.3	404.8	8859.9	0.06425	26.0	2081.3
2010	421.1	807.9	386.8	9246.7	0.05825	22.5	2103.8
2011	433.4	818.1	384.7	9631.4	0.05281	20.3	2124.1

TOTAL= 9631.4
1982 PW TOTAL= 2124.1

MATH SUM PLAN A = 11057.6
MATH SUM PLAN B = 20699.0
PRESENT WORTH A = 3341.5
PRESENT WORTH B = 5465.6

DATE: 06/26/79

GENERATION PLANNING
\$ X MILLION

TITLE CASE 2B 6/26/79

PRESENT WORTH TO THE START OF YEAR 1982
DISCOUNT RATE 10.30 %

YEAR	A	B	DIFF B-A	DIFF TOTAL	PW MULT	DELTA PW	PW TOTAL
1980	14.3	-1.0	-15.3	-15.3	1.10300	-16.9	-16.9
1981	12.7	-1.1	-13.8	-29.1	1.00000	-13.8	-30.7
1982	381.4	399.3	17.9	-11.2	0.90662	16.2	-14.4
1983	339.8	381.1	41.3	30.1	0.82196	33.9	19.5
1984	341.4	387.5	46.1	76.2	0.74520	34.4	53.9
1985	350.5	398.1	47.6	123.8	0.67561	32.2	86.0
1986	354.0	376.9	22.9	146.7	0.61252	14.0	100.0
1987	357.9	385.8	27.9	174.6	0.55533	15.5	115.5
1988	360.8	632.6	271.8	446.4	0.50347	136.8	252.4
1989	362.9	715.5	352.6	799.0	0.45645	160.9	413.3
1990	364.2	717.3	353.1	1152.1	0.41383	146.1	559.4
1991	362.9	704.5	341.6	1493.7	0.37519	128.2	687.6
1992	359.2	715.3	356.1	1849.8	0.34015	121.1	808.7
1993	355.2	707.9	352.7	2202.5	0.30839	108.8	917.5
1994	351.9	709.7	357.8	2560.3	0.27959	100.0	1017.5
1995	349.0	718.7	369.7	2930.0	0.25348	93.7	1111.3
1996	361.7	729.0	367.3	3297.3	0.22981	84.4	1195.7
1997	359.6	752.2	392.6	3689.9	0.20835	81.8	1277.5
1998	349.6	732.7	383.1	4073.0	0.18889	72.4	1349.8
1999	342.1	736.2	394.1	4467.1	0.17126	67.5	1417.3
2000	346.1	734.2	388.1	4855.2	0.15526	60.3	1477.6
2001	350.6	738.1	387.5	5242.7	0.14076	54.5	1532.1
2002	355.3	784.5	429.2	5671.9	0.12762	54.8	1586.9
2003	361.8	742.8	381.0	6052.9	0.11570	44.1	1631.0
2004	368.6	756.8	388.2	6441.1	0.10490	40.7	1671.7
2005	376.7	772.7	396.0	6837.1	0.09510	37.7	1709.4
2006	383.1	774.9	391.8	7228.9	0.08622	33.8	1743.1
2007	392.4	834.1	441.7	7670.6	0.07817	34.5	1777.7
2008	401.8	781.5	379.7	8050.3	0.07087	26.9	1804.6
2009	412.9	791.3	378.4	8428.7	0.06425	24.3	1828.9
2010	422.8	803.7	380.9	8809.6	0.05825	22.2	1851.1
2011	435.2	815.1	379.9	9189.5	0.05281	20.1	1871.1
1982 Pw TOTAL=			9189.5				
TOTAL=			1871.1				

MATH SUM PLAN A = 11038.4
MATH SUM PLAN B = 20227.9
PRESENT WORTH A = 3326.9
PRESENT WORTH B = 5198.0

DATE: 06/26/79

GENERATION PLANNING
\$ X MILLION

TITLE CASE 3B 6/26/79

PRESENT WORTH TO THE START OF YEAR 1982
DISCOUNT RATE 10.30 %

YEAR	A	B	DIFF B-A	DIFF TOTAL	PW MULT	DELTA PW	PW TOTAL
1980	14.3	-1.0	-15.3	-15.3	1.10300	-16.9	-16.9
1981	12.7	-1.1	-13.8	-29.1	1.00000	-13.8	-30.7
1982	376.8	408.6	31.8	2.7	0.90662	28.8	-1.8
1983	335.6	399.3	63.7	66.4	0.82196	52.4	50.5
1984	336.7	414.0	77.3	143.7	0.74520	57.6	108.1
1985	346.2	429.8	83.6	227.3	0.67561	56.5	164.6
1986	350.1	409.1	59.0	286.3	0.61252	36.1	200.7
1987	353.2	423.8	70.6	356.9	0.55533	39.2	239.9
1988	355.5	599.8	244.3	601.2	0.50347	123.0	362.9
1989	357.0	680.8	323.8	925.0	0.45645	147.8	510.7
1990	357.7	680.6	322.9	1247.9	0.41383	133.6	644.4
1991	355.9	652.3	296.4	1544.3	0.37519	111.2	755.6
1992	363.9	679.0	315.1	1859.4	0.34015	107.2	862.8
1993	359.8	654.9	295.1	2154.5	0.30839	91.0	953.8
1994	356.1	645.5	289.4	2443.9	0.27959	80.9	1034.7
1995	352.7	643.2	290.5	2734.4	0.25348	73.6	1108.3
1996	349.4	650.6	301.2	3035.6	0.22981	69.2	1177.5
1997	346.8	667.2	320.4	3356.0	0.20835	66.8	1244.3
1998	336.1	637.2	301.1	3657.1	0.18889	56.9	1301.2
1999	327.9	635.8	307.9	3965.0	0.17126	52.7	1353.9
2000	330.6	634.9	304.3	4269.3	0.15526	47.2	1401.1
2001	335.1	636.2	301.1	4570.4	0.14076	42.4	1443.5
2002	339.4	665.3	325.9	4896.3	0.12762	41.6	1485.1
2003	334.9	623.6	288.7	5185.0	0.11570	33.4	1518.5
2004	350.0	638.4	288.4	5473.4	0.10490	30.3	1548.8
2005	356.6	639.8	283.2	5756.6	0.09510	26.9	1575.7
2006	363.4	614.5	251.1	6007.7	0.08622	21.7	1597.3
2007	371.9	677.3	305.4	6313.1	0.07817	23.9	1621.2
2008	379.4	630.1	250.7	6563.8	0.07087	17.8	1639.0
2009	389.0	630.7	241.7	6805.5	0.06425	15.5	1654.5
2010	399.0	615.9	216.9	7022.4	0.05825	12.6	1667.2
2011	410.3	629.2	218.9	7241.3	0.05281	11.6	1678.7

TOTAL = 7241.3
1982 PW TOTAL = 1678.7

MATH SUM PLAN A = 10704.0
MATH SUM PLAN B = 17945.3
PRESENT WORTH A = 3269.1
PRESENT WORTH B = 4947.8

DATE: 06/26/79

GENERATION PLANNING
\$ X MILLION

TITLE CASE 5B 6/26/79

PRESENT WORTH TO THE START OF YEAR 1982
DISCOUNT RATE 10.30 %

YEAR	A	B	DIFF B-A	DIFF TOTAL	PW MULT	DELTA PW	PW TOTAL
1980	14.3	163.0	148.7	148.7	1.10300	164.0	164.0
1981	12.7	158.9	146.2	294.9	1.00000	146.2	310.2
1982	381.9	374.2	-7.7	287.2	0.90662	-7.0	303.2
1983	340.2	362.7	22.5	309.7	0.82196	18.5	321.7
1984	341.6	382.5	40.9	350.6	0.74520	30.5	352.2
1985	350.8	401.9	51.1	401.7	0.67561	34.5	386.7
1986	355.5	383.0	27.5	429.2	0.61252	16.8	403.6
1987	359.0	488.9	129.9	559.1	0.55533	72.1	475.7
1988	361.8	669.0	307.2	866.3	0.50347	154.7	630.4
1989	363.7	636.8	273.1	1139.4	0.45645	124.7	755.0
1990	364.9	644.4	279.5	1418.9	0.41383	115.7	870.7
1991	363.5	621.9	258.4	1677.3	0.37519	96.9	967.6
1992	372.0	659.1	287.1	1964.4	0.34015	97.7	1065.3
1993	368.4	644.3	275.9	2240.3	0.30839	85.1	1150.4
1994	365.1	642.0	276.9	2517.2	0.27959	77.4	1227.8
1995	362.0	650.9	288.9	2806.1	0.25348	73.2	1301.0
1996	359.3	656.5	297.2	3103.3	0.22981	68.3	1369.3
1997	357.2	688.5	331.3	3434.6	0.20835	69.0	1438.4
1998	347.2	662.2	315.0	3749.6	0.18889	59.5	1497.9
1999	339.7	670.5	330.8	4080.4	0.17126	56.7	1554.5
2000	342.9	677.9	335.0	4415.4	0.15526	52.0	1606.5
2001	348.2	684.6	336.4	4751.8	0.14076	47.4	1653.9
2002	353.4	727.6	374.2	5126.0	0.12762	47.8	1701.6
2003	359.7	691.3	331.6	5457.6	0.11570	38.4	1740.0
2004	365.4	703.2	337.8	5795.4	0.10490	35.4	1775.4
2005	373.0	720.6	347.6	6143.0	0.09510	33.1	1808.5
2006	380.8	698.4	317.6	6460.6	0.08622	27.4	1835.9
2007	390.5	788.4	397.9	6858.5	0.07817	31.1	1867.0
2008	398.7	743.7	345.0	7203.5	0.07087	24.5	1891.4
2009	409.5	770.3	360.8	7564.3	0.06425	23.2	1914.6
2010	421.1	691.9	270.8	7835.1	0.05825	15.8	1930.4
2011	433.4	710.1	276.7	8111.8	0.05281	14.6	1945.0

TOTAL = 8111.8
1982 PW TOTAL = 1945.0

MATH SUM PLAN A = 11057.4
MATH SUM PLAN B = 19169.2
PRESENT WORTH A = 3341.4
PRESENT WORTH B = 5286.4

APPENDIX G
REVENUE REQUIREMENTS

NO.	DESCRIPTION
1	820 MW Nuclear
2	820 MW New Coal
3	989 MW Converted Coal - Base Cost
4	989 MW Converted Coal - Base Cost plus 25%
5	989 MW Converted Coal - Base Cost less 25%

LONG ISLAND LIGHTING CO
 YEAR BY YEAR REVENUE REQUIREMENTS FOR NEW CAPITAL INVESTMENT
 PRE-OPERATIONAL PERIOD

CASE- SHOREHAM IN SERVICE JAN 1982..255 CWIP IN RATE BASE *****

YEAR	CONSTRUCTION EXPENDITURES EXCLUD. AFUDC YRLY CUML	CWIP IN RATE BASE	CWIP EARN AFUDC	AFUDC RATE	RATE BASE RETN	EXPS LOAD	YEAR TOTAL AFUDC	INT PART OF AFUDC	YEAR IIC BASE	INVESTMENT YRLY TOTAL	TAX AMT DEFD	CREDIT BELOW LINE	FLOW THRU	TOTAL DEFD ITC RESRV	RATE BASE MEAN INVT	RETURN ON MEAN INVESTMENT TOTAL	NET INVESTMENT INT	INCOME AFTER TAXES	FIT AFTER ITC	YEARLY TOTAL REVENUE REQD	
1967	1.0	1.0	0.0	1.0	0.060	0.063	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
1968	3.0	4.0	0.0	4.0	0.063	0.066	0.0	0.1	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0
1969	6.0	10.0	0.0	10.1	0.072	0.074	0.0	0.4	0.2	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.1	-0.1
1970	17.0	27.0	0.0	27.5	0.085	0.076	0.1	1.5	0.6	16.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.6	-0.6
1971	27.0	54.0	0.0	56.0	0.081	0.076	0.4	3.0	1.2	26.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6	-1.5	-1.5
1972	14.0	68.0	0.0	73.0	0.080	0.081	1.0	5.0	2.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.0	-2.8	-2.8
1973	40.0	108.0	0.0	118.0	0.081	0.074	1.3	6.0	2.4	38.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.7	-3.4	-3.4
1974	110.0	218.0	0.0	234.0	0.088	0.077	2.1	12.0	4.8	107.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.9	-6.4	-6.4
1975	113.0	331.0	0.0	359.0	0.089	0.090	4.3	23.0	9.2	108.7	2.1	1.3	0.4	0.4	1.3	0.0	0.0	0.0	-13.9	-13.2	-13.2
1976	137.0	468.0	0.0	519.0	0.073	0.095	6.5	37.0	7.4	130.5	7.2	4.3	1.4	1.4	5.6	-1.3	-0.1	-0.0	-15.4	-15.7	-15.8
1977	149.0	617.0	43.3	661.7	0.075	0.095	9.3	44.0	17.6	139.7	12.9	7.7	2.6	2.6	13.3	37.7	3.6	1.4	-9.8	-11.6	-8.0
1978	182.0	799.0	245.0	686.0	0.079	0.098	15.0	47.0	21.4	167.0	13.4	6.7	3.4	3.4	20.0	231.7	22.8	8.3	-3.9	-7.0	15.8
1979	190.0	989.0	255.0	913.0	0.084	0.102	18.0	68.7	29.4	172.0	10.0	5.0	2.4	2.4	25.0	235.0	23.9	8.5	-5.2	-6.8	17.1
1980	115.0	1104.0	255.0	1096.7	0.084	0.103	21.0	87.3	37.4	94.0	10.0	5.0	2.4	2.4	30.0	230.0	23.7	8.3	-8.2	-9.4	14.3
1981	60.0	1164.0	255.0	1244.0	0.084	0.103	22.0	102.0	43.7	38.0	10.0	5.0	2.4	2.4	35.0	225.0	23.2	8.1	-9.6	-10.5	12.7

TOTAL CWIP	1164.000
TOTAL EXP LOAD	101.000
TOTAL AFUDC	436.988
EXP LOAD RATE	0.087
BOOK COST	1600.988
TAX BASE	1063.000
SUM OF RR	7.955
FWRR TO CO	-24.323

LONG ISLAND LIGHTING CO
YEAR BY YEAR REVENUE REQUIREMENTS FOR NEW CAPITAL INVESTMENT

PRE-OPERATIONAL PERIOD

CASE- 820 COAL UNIT ...CONSISTENT WITH OTHER NUMBERS ..JAN 1988 **

YEAR	CONSTRUCTION EXPENDITURES EXCLUD. AFUDC YRLY	CWIP IN RATE AFUDC CUMUL	CWIP EARN AFUDC RATE	RATE BASE RETN	EXPS LOAD	YEAR TOTAL AFUDC	INT PART OF AFUDC	YEAR ITC BASE	INVESTMENT YRLY TOTAL	TAX CREDIT BELOW LINE	CREDIT FLOW THRU	TOTAL DEF'D ITC RESRV	RATE BASE MEAN INVST	RETURN ON INVESTMENT TOTAL	NET INT	INCOME AFTR TAXES	FIT AFTR ITC	YEARLY TOTAL REVENUE REQ'D				
1978	0.7	13.4	0.0	16.3	0.103	0.103	0.3	1.6	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.8	-0.8	-0.1	-0.0	-0.9	-0.8	-0.9
1979	0.7	14.1	0.0	18.6	0.103	0.103	0.3	1.9	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.9	-0.8	-0.1	-0.0	-1.0	-0.9	-0.9
1980	0.3	14.4	0.0	20.8	0.103	0.103	0.3	2.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.9	-0.9	-0.1	-0.0	-1.1	-0.9	-1.0
1981	0.4	14.8	0.0	23.4	0.103	0.103	0.3	2.4	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.9	-0.9	-0.1	-0.0	-1.2	-1.0	-1.1
1982	9.8	24.6	0.0	35.5	0.103	0.103	0.3	3.2	1.1	9.5	1.0	0.6	0.2	0.2	1.4	-0.9	-0.1	-0.0	-1.6	-1.6	-1.7	
1983	24.2	48.8	0.0	62.9	0.103	0.103	0.5	5.2	1.8	23.7	2.4	1.4	0.5	0.5	2.9	-1.4	-0.1	-0.1	-2.9	-2.9	-3.1	
1984	98.1	146.9	0.0	166.2	0.103	0.103	1.0	12.1	4.2	97.1	9.7	5.8	1.9	1.9	8.7	-2.9	-0.3	-0.1	-7.3	-8.2	-8.5	
1985	262.7	409.6	0.0	441.0	0.103	0.103	2.9	31.9	11.1	259.8	26.0	15.6	5.2	5.2	24.3	-8.7	-0.9	-0.3	-19.9	-22.1	-23.0	
1986	362.5	772.1	0.0	835.4	0.103	0.103	8.2	67.4	23.5	354.3	35.4	21.3	7.1	7.1	45.5	-24.3	-2.5	-0.9	-40.5	-41.5	-44.0	
1987	299.5	1071.6	0.0	1202.3	0.103	0.103	15.4	108.4	37.9	284.1	28.4	17.0	5.7	5.7	62.6	-45.5	-4.7	-1.6	-62.1	-58.6	-63.2	

TOTAL CWIP 1071.600
TOTAL EXP LOAD 29.728
TOTAL AFUDC 239.080
EXP LOAD RATE 0.028
BOOK COST 1310.680
TAX BASE 1041.872

SUM OF RR -147.498
FWRR TO CU -166.748

LONG ISLAND LIGHTING CO
YEAR BY YEAR REVENUE REQUIREMENTS FOR NEW CAPITAL INVESTMENT

RETURN 0.1030 BOND RATIO 0.480 BOND INTEREST 0.080 TAX RATE 0.46 TAX TREATMENT 0 AVG LIFE 30.00 IOWA CURVE 12.
TAX LIFE 22.50 SALVAGE RATIO 1.00 PERIOD OF AMORTIZATION OF COST OF REMOVAL 0.0 ACCOUNT 0

CASE- 820 COAL UNIT ...CONSISTENT WITH OTHER NUMBERS ..JAN 1988 **

YEAR	MEAN ANNUAL SURV	BOOK DEPR	RETR- MENTS	SALV OR C/R	BOOK DEPR RSVE	DEF'D FIT	DEF'D FIT RSVE	DEF'D ITC RSVE	NORM COST RMVL	DEF'D COST RMVL	DEF'D RMVL RSVE	MEAN NET INVEST	BOOK RETRN	INT. EXP.	TAX DEPR	TAXBL INC	FLOW THRU ITC	FEDL INC TAX	TOTAL REVENUE REQUIR
0	1310.7	0.0	0.0	0.0	0.0														
1988	1310.7	43.7	0.0	0.0	0.0	2.7	0.0	62.6	0.0	0.0	0.0	1248.1	128.6	47.9	46.3	80.7	0.0	68.7	243.6
1989	1310.7	43.7	0.0	0.0	43.7	5.3	2.7	60.5	0.0	0.0	0.0	1203.8	124.0	46.2	88.5	38.3	0.0	32.6	205.6
1990	1310.7	43.7	0.0	0.0	87.4	5.3	8.0	58.4	0.0	0.0	0.0	1156.9	119.2	44.4	80.6	43.1	0.0	36.7	204.9
1991	1310.7	43.7	0.0	0.0	131.1	5.3	13.3	56.3	0.0	0.0	0.0	1110.0	114.3	42.6	73.5	47.3	0.0	40.3	203.5
1992	1310.7	43.7	0.0	0.0	174.8	5.3	18.6	54.2	0.0	0.0	0.0	1063.1	109.5	40.8	66.9	50.8	0.0	43.2	201.7
1993	1310.7	43.7	0.0	0.0	218.4	5.3	24.0	52.1	0.0	0.0	0.0	1016.1	104.7	39.0	61.0	53.7	0.0	45.7	199.4
1994	1310.7	43.7	0.0	0.0	262.1	5.3	29.3	50.1	0.0	0.0	0.0	969.2	99.8	37.2	55.6	56.1	0.0	47.8	196.6
1995	1310.7	43.7	0.0	0.0	305.8	5.3	34.6	48.0	0.0	0.0	0.0	922.3	95.0	35.4	50.6	58.0	0.0	49.4	193.4
1996	1310.7	43.7	0.0	0.0	349.5	5.3	39.9	45.9	0.0	0.0	0.0	875.3	90.2	33.6	46.1	59.4	0.0	50.6	189.8
1997	1310.7	43.7	0.0	0.0	393.2	5.3	45.3	43.8	0.0	0.0	0.0	828.4	85.3	31.8	42.0	60.5	0.0	51.5	185.9
1998	1310.7	43.7	0.0	0.0	436.9	5.3	50.6	41.7	0.0	0.0	0.0	781.5	80.5	30.0	38.3	61.2	0.0	52.1	181.6
1999	1310.7	43.7	0.0	0.0	480.6	5.3	55.9	39.6	0.0	0.0	0.0	734.6	75.7	28.2	34.9	61.6	0.0	52.5	177.1
2000	1310.7	43.7	0.0	0.0	524.3	5.3	61.2	37.5	0.0	0.0	0.0	687.6	70.8	26.4	32.5	60.9	0.0	51.9	171.7
2001	1310.7	43.7	0.0	0.0	568.0	5.3	66.6	35.5	0.0	0.0	0.0	640.7	66.0	24.6	32.5	57.9	0.0	49.3	164.3
2002	1310.7	43.7	0.0	0.0	611.6	5.3	71.9	33.4	0.0	0.0	0.0	593.8	61.2	22.8	32.5	54.9	0.0	46.7	156.9
2003	1310.7	43.7	0.0	0.0	655.3	5.3	77.2	31.3	0.0	0.0	0.0	546.8	56.3	21.0	32.5	51.8	0.0	44.2	149.5
2004	1310.7	43.7	0.0	0.0	699.0	5.3	82.5	29.2	0.0	0.0	0.0	499.9	51.5	19.2	32.5	48.8	0.0	41.6	142.1
2005	1310.7	43.7	0.0	0.0	742.7	5.3	87.9	27.1	0.0	0.0	0.0	453.0	46.7	17.4	32.5	45.8	0.0	39.0	134.7
2006	1310.7	43.7	0.0	0.0	786.4	5.3	93.2	25.0	0.0	0.0	0.0	406.1	41.8	15.6	32.5	42.7	0.0	36.4	127.2
2007	1310.7	43.7	0.0	0.0	830.1	5.3	98.5	22.9	0.0	0.0	0.0	359.1	37.0	13.8	32.5	39.7	0.0	33.8	119.8
2008	1310.7	43.7	0.0	0.0	873.8	5.3	103.8	20.9	0.0	0.0	0.0	312.2	32.2	12.0	32.5	36.7	0.0	31.2	112.4
2009	1310.7	43.7	0.0	0.0	917.5	5.3	109.2	18.8	0.0	0.0	0.0	265.3	27.3	10.2	32.5	33.6	0.0	28.7	105.0
2010	1310.7	43.7	0.0	0.0	961.2	5.3	114.5	16.7	0.0	0.0	0.0	218.3	22.5	8.4	32.5	30.6	0.0	26.1	97.6
2011	1310.7	43.7	0.0	0.0	1004.9	-16.0	119.8	14.6	0.0	0.0	0.0	171.4	17.7	6.6	0.0	28.8	0.0	33.0	78.4
2012	1310.7	43.7	0.0	0.0	1048.5	-16.0	103.8	12.5	0.0	0.0	0.0	145.8	15.0	5.6	0.0	27.1	0.0	31.6	74.4
2013	1310.7	43.7	0.0	0.0	1092.2	-16.0	87.9	10.4	0.0	0.0	0.0	120.2	12.4	4.6	0.0	25.5	0.0	30.2	70.3
2014	1310.7	43.7	0.0	0.0	1135.9	-16.0	71.9	8.3	0.0	0.0	0.0	94.5	9.7	3.6	0.0	23.8	0.0	28.8	66.3
2015	1310.7	43.7	0.0	0.0	1179.6	-16.0	55.9	6.3	0.0	0.0	0.0	68.9	7.1	2.6	0.0	22.2	0.0	27.4	62.2
2016	1310.7	43.7	0.0	0.0	1223.3	-16.0	39.9	4.2	0.0	0.0	0.0	43.3	4.5	1.7	0.0	20.5	0.0	26.0	58.2
2017	1310.7	43.7	1310.7	0.0	1267.0	-16.0	24.0	2.1	0.0	0.0	0.0	17.6	1.8	0.7	0.0	18.9	0.0	24.6	54.1

LONG ISLAND LIGHTING CO
YEAR BY YEAR REVENUE REQUIREMENTS FOR NEW CAPITAL INVESTMENT

PRE-OPERATIONAL PERIOD

CASE- ** CONVERT SHOR TO COAL..SECOND REVISION..6/22/79 *****

YEAR	CONSTRUCTION EXCLUD. YRLY	AFUDC CUMUL	CWIP IN RATE BASE	CWIP EARN AFUDC	AFUDC RATE	RATE BASE RETN	EXPS LOAD	YEAR TOTAL AFUDC	INT PART OF AFUDC	YEAR ITC BASE	INVESTMENT YRLY TOTAL	TAX CREDIT AMT DEF'D	BELOW LINE	CREDIT FLOW THRU	TOTAL DEF'D ITC RESRV	RATE BASE MEAN INVST	RETURN ON MEAN NET INVESTMENT	INCOME AFTR TAXES	FIT AFTR ITC	YEARLY TOTAL REVENU REQ'D	
1980	8.0	388.0	255.0	208.0	0.084	0.103	7.0	17.1	7.3	1.0	0.1	0.1	0.0	0.0	10.1	245.0	25.2	8.8	9.4	8.0	33.2
1981	9.0	397.0	255.0	234.1	0.084	0.103	8.0	19.3	8.3	1.0	0.1	0.1	0.0	0.0	10.1	244.9	25.2	8.8	8.4	7.1	32.4
1982	10.0	407.0	255.0	263.4	0.084	0.103	9.0	21.7	9.3	1.0	0.1	0.1	0.0	0.0	10.2	244.9	25.2	8.8	7.4	6.3	31.5
1983	31.0	438.0	255.0	316.1	0.084	0.103	10.0	25.3	10.8	21.0	2.1	1.3	0.4	0.4	11.4	244.8	25.2	8.8	6.0	4.7	29.9
1984	96.0	534.0	255.0	437.4	0.084	0.103	11.0	32.7	14.0	85.0	8.5	5.1	1.7	1.7	16.5	243.6	25.1	8.8	3.6	1.4	26.5
1985	390.0	924.0	255.0	860.1	0.084	0.103	13.0	55.9	23.9	377.0	37.7	22.6	7.5	7.5	39.2	238.5	24.6	8.6	-4.6	-11.4	13.1
1986	468.0	1392.0	255.0	1384.0	0.084	0.103	22.0	96.6	41.4	446.0	44.6	26.8	8.9	8.9	65.9	215.8	22.2	7.8	-16.5	-22.9	-0.7
1987	256.0	1648.0	255.0	1736.6	0.084	0.103	30.0	135.1	57.9	226.0	22.6	13.6	4.5	4.5	79.5	189.1	19.5	6.8	-21.9	-23.1	-3.7
TOTAL CWIP			1648.000																		
TOTAL EXP LOAD			130.000																		
TOTAL AFDC			478.678																		
EXP LOAD RATE			0.079																		
BOOK COST			2126.678																		
TAX BASE			1518.000																		

SUM OF RR 162.198
FWRR TO CO 266.966

LONG ISLAND LIGHTING CO
YEAR BY YEAR REVENUE REQUIREMENTS FOR NEW CAPITAL INVESTMENT

RETURN 0.1030 BOND RATIO 0.480 BOND INTEREST 0.080 TAX RATE 0.46 TAX TREATMENT 0 AVG LIFE 30.00 IOWA CURVE 12.
TAX LIFE 22.50 SALVAGE RATIO 1.00 PERIOD OF AMORTIZATION OF COST OF REMOVAL 0.0 ACCOUNT 0

CASE- ** CONVERT SHOR TO COAL..SECOND REVISION..6/22/79 *****

YEAR	MEAN ANNUAL SURV	BOOK DEPR	RETR-MENTS	SALV OR C/R	BOOK DEPR RSVE	DEF'D FIT	DEF'D FIT RSVE	DEF'D ITC RSVE	NORM COST RMVL	DEF'D COST RMVL	DEF'D RMVL RSVE	MEAN NET INVEST	BOOK RETRN	INT. EXP.	TAX DEPR	TAXBL INC	FLOW THRU ITC	FEDL INC TAX	TOTAL REVENU REQUIR
0	2126.7	0.0	0.0	0.0	0.0														
1988	2126.7	70.9	0.0	0.0	0.0	3.9	0.0	79.5	0.0	0.0	0.0	2047.2	210.9	78.6	67.5	139.6	0.0	118.9	404.5
1989	2126.7	70.9	0.0	0.0	70.9	7.8	3.9	76.8	0.0	0.0	0.0	1975.1	203.4	75.8	128.9	77.3	0.0	65.8	347.9
1990	2126.7	70.9	0.0	0.0	141.8	7.8	11.6	74.2	0.0	0.0	0.0	1899.1	195.6	72.9	117.5	83.9	0.0	71.4	345.7
1991	2126.7	70.9	0.0	0.0	212.7	7.8	19.4	71.5	0.0	0.0	0.0	1823.1	187.8	70.0	107.0	89.4	0.0	76.1	342.6
1992	2126.7	70.9	0.0	0.0	283.6	7.8	27.2	68.9	0.0	0.0	0.0	1747.1	179.9	67.1	97.5	94.0	0.0	80.1	338.7
1993	2126.7	70.9	0.0	0.0	354.4	7.8	34.9	66.2	0.0	0.0	0.0	1671.1	172.1	64.2	88.9	97.7	0.0	83.3	334.0
1994	2126.7	70.9	0.0	0.0	425.3	7.8	42.7	63.6	0.0	0.0	0.0	1595.1	164.3	61.3	81.0	100.7	0.0	85.8	328.8
1995	2126.7	70.9	0.0	0.0	496.2	7.8	50.4	60.9	0.0	0.0	0.0	1519.1	156.5	58.3	73.8	103.0	0.0	87.8	322.9
1996	2126.7	70.9	0.0	0.0	567.1	7.8	58.2	58.3	0.0	0.0	0.0	1443.1	148.6	55.4	67.2	104.7	0.0	89.2	316.4
1997	2126.7	70.9	0.0	0.0	638.0	7.8	65.9	55.6	0.0	0.0	0.0	1367.1	140.8	52.5	61.2	105.7	0.0	90.1	309.5
1998	2126.7	70.9	0.0	0.0	708.9	7.8	73.7	53.0	0.0	0.0	0.0	1291.1	133.0	49.6	55.8	106.3	0.0	90.5	302.2
1999	2126.7	70.9	0.0	0.0	779.8	7.8	81.5	50.3	0.0	0.0	0.0	1215.1	125.2	46.7	50.8	106.3	0.0	90.6	294.4
2000	2126.7	70.9	0.0	0.0	850.7	7.8	89.2	47.7	0.0	0.0	0.0	1139.1	117.3	43.7	47.4	104.9	0.0	89.3	285.3
2001	2126.7	70.9	0.0	0.0	921.6	7.8	97.0	45.0	0.0	0.0	0.0	1063.1	109.5	40.8	47.4	100.0	0.0	85.2	273.3
2002	2126.7	70.9	0.0	0.0	992.4	7.8	104.7	42.4	0.0	0.0	0.0	987.1	101.7	37.9	47.4	95.1	0.0	81.0	261.3
2003	2126.7	70.9	0.0	0.0	1063.3	7.8	112.5	39.7	0.0	0.0	0.0	911.1	93.8	35.0	47.4	90.1	0.0	76.8	249.3
2004	2126.7	70.9	0.0	0.0	1134.2	7.8	120.3	37.1	0.0	0.0	0.0	835.1	86.0	32.1	47.4	85.2	0.0	72.6	237.3
2005	2126.7	70.9	0.0	0.0	1205.1	7.8	128.0	34.4	0.0	0.0	0.0	759.1	78.2	29.1	47.4	80.3	0.0	68.4	225.3
2006	2126.7	70.9	0.0	0.0	1276.0	7.8	135.8	31.8	0.0	0.0	0.0	683.1	70.4	26.2	47.4	75.4	0.0	64.2	213.3
2007	2126.7	70.9	0.0	0.0	1346.9	7.8	143.5	29.1	0.0	0.0	0.0	607.1	62.5	23.3	47.4	70.5	0.0	60.1	201.2
2008	2126.7	70.9	0.0	0.0	1417.8	7.8	151.3	26.5	0.0	0.0	0.0	531.1	54.7	20.4	47.4	65.6	0.0	55.9	189.2
2009	2126.7	70.9	0.0	0.0	1488.7	7.8	159.1	23.8	0.0	0.0	0.0	455.1	46.9	17.5	47.4	60.7	0.0	51.7	177.2
2010	2126.7	70.9	0.0	0.0	1559.6	7.8	166.8	21.2	0.0	0.0	0.0	379.1	39.0	14.6	47.4	55.8	0.0	47.5	165.2
2011	2126.7	70.9	0.0	0.0	1630.5	-23.3	174.6	18.5	0.0	0.0	0.0	303.1	31.2	11.6	0.0	67.2	0.0	57.2	136.1
2012	2126.7	70.9	0.0	0.0	1701.3	-23.3	182.9	15.9	0.0	0.0	0.0	227.1	26.6	9.9	0.0	64.3	0.0	54.8	129.0
2013	2126.7	70.9	0.0	0.0	1772.2	-23.3	191.2	13.2	0.0	0.0	0.0	151.1	22.0	8.2	0.0	61.4	0.0	52.3	121.9
2014	2126.7	70.9	0.0	0.0	1843.1	-23.3	199.5	10.6	0.0	0.0	0.0	75.1	17.3	6.5	0.0	58.5	0.0	49.8	114.8
2015	2126.7	70.9	0.0	0.0	1914.0	-23.3	207.8	7.9	0.0	0.0	0.0	0.0	12.7	4.7	0.0	55.6	0.0	47.3	107.7
2016	2126.7	70.9	0.0	0.0	1984.9	-23.3	216.1	5.3	0.0	0.0	0.0	0.0	0.0	3.0	0.0	52.7	0.0	44.9	100.5
2017	2126.7	70.9	2126.7	0.0	2055.8	-23.3	224.4	2.6	0.0	0.0	0.0	0.0	0.0	1.3	0.0	49.8	0.0	42.4	93.4

LONG ISLAND LIGHTING CO
YEAR BY YEAR REVENUE REQUIREMENTS FOR NEW CAPITAL INVESTMENT
PRE-OPERATIONAL PERIOD

CASE- SHOR CONV. TO COAL.. COX ESTIMATE PLUS 25 % *****

YEAR	CONSTRUCTION EXPENDITURES EXCLUD. AFUDC YRLY	CWIP IN RATE AFUDC CUML	CWIP EARN AFUDC	RATE BASE RETN	EXPS LOAD	YEAR TOTAL AFUDC	INT PART OF AFUDC	YEAR ITC BASE	INVESTMENT YRLY TOTAL	TAX CREDIT AMT DEFD	BELOW LINE	CREDIT FLOW THRU	TOTAL DEFD ITC RESRV	RATE BASE MEAN INVST	RETURN ON INVESTMENT TOTAL	NET INT	INCOME AFTR TAXES	FIT AFTR ITC	YEARLY TOTAL REVENUE REQRED		
1980	8.0	386.0	255.0	208.0	0.084	0.103	7.0	17.1	7.3	1.0	0.1	0.1	0.0	0.0	10.1	245.0	25.2	8.8	9.4	8.0	33.2
1981	9.0	397.0	255.0	234.1	0.084	0.103	8.0	19.3	8.3	1.0	0.1	0.1	0.0	0.0	10.1	244.9	25.2	8.8	8.4	7.1	32.4
1982	10.0	407.0	255.0	263.4	0.084	0.103	9.0	21.7	9.3	1.0	0.1	0.1	0.0	0.0	10.2	244.9	25.2	8.8	7.4	6.3	31.5
1983	36.0	443.0	255.0	321.1	0.084	0.103	11.0	25.5	10.9	25.0	2.5	1.5	0.5	0.5	11.7	244.8	25.2	8.8	4.9	3.7	28.9
1984	117.0	560.0	255.0	463.6	0.084	0.103	13.0	34.0	14.6	104.0	10.4	6.2	2.1	2.1	17.9	243.3	25.1	8.8	1.2	-1.0	24.0
1985	484.0	1044.0	255.0	981.6	0.084	0.103	15.0	62.1	26.6	469.0	46.9	28.1	9.4	9.4	46.1	237.1	24.4	8.5	-8.5	-16.6	7.8
1986	582.0	1626.0	255.0	1625.8	0.084	0.103	24.0	112.1	48.1	558.0	55.8	33.5	11.2	11.2	79.5	208.9	21.5	7.5	-21.2	-29.2	-7.7
1987	316.0	1942.0	255.0	2053.9	0.084	0.103	33.0	159.3	68.3	283.0	28.3	17.0	5.7	5.7	96.5	175.5	18.1	6.3	-26.9	-28.6	-10.5

TOTAL CWIP 1942.000
TOTAL EXP LOAD 140.000
TOTAL AFUDC 526.125
EXP LOAD RATE 0.072
BOOK COST 2468.125
TAX BASE 1802.000

SUM OF RR 139.617
FWRR TO CO 241.197

LONG ISLAND LIGHTING CO
YEAR BY YEAR REVENUE REQUIREMENTS FOR NEW CAPITAL INVESTMENT

RETURN 0.1030 BOND RATIO 0.480 BOND INTEREST 0.080 TAX RATE 0.46 TAX TREATMENT 0 AVG LIFE 30.00 IOWA CURVE 12.
TAX LIFE 22.50 SALVAGE RATIO 1.00 PERIOD OF AMORTIZATION OF COST OF REMOVAL 0.0 ACCOUNT 0

CASE- SHOR CONV. TO COAL.. COX ESTIMATE PLUS 25 % *****

YEAR	MEAN ANNUAL SURV	BOOK DEPR	RETI- MENTS	SALV OR C/R	BOOK DEPR RSVE	DEFD FIT	DEFD FIT RSVE	DEFD ITC RSVE	NORM COST RMVL	DEFD COST RMVL	DEFD RMVL RSVE	MEAN NET INVEST	BOOK RETRN	INT. EXP.	TAX DEPR	TAXBL INC	FLOW THRU ITC	FEDL INC TAX	TOTAL REVENUE REQUIR
0	2468.1	0.0	0.0	0.0	0.0														
1988	2468.1	82.3	0.0	0.0	0.0	4.6	0.0	96.5	0.0	0.0	0.0	2371.6	244.3	91.1	80.1	160.0	0.0	136.3	467.4
1989	2468.1	82.3	0.0	0.0	82.3	9.2	4.6	93.3	0.0	0.0	0.0	2287.9	235.7	87.9	153.1	86.2	0.0	73.4	400.6
1990	2468.1	82.3	0.0	0.0	164.5	9.2	13.8	90.1	0.0	0.0	0.0	2199.7	226.6	84.5	139.5	94.1	0.0	80.2	398.2
1991	2468.1	82.3	0.0	0.0	246.8	9.2	23.0	86.9	0.0	0.0	0.0	2111.4	217.5	81.1	127.1	100.8	0.0	85.9	394.8
1992	2468.1	82.3	0.0	0.0	329.1	9.2	32.2	83.7	0.0	0.0	0.0	2023.2	208.4	77.7	115.8	106.4	0.0	90.6	390.5
1993	2468.1	82.3	0.0	0.0	411.4	9.2	41.4	80.4	0.0	0.0	0.0	1934.9	199.3	74.3	105.5	111.0	0.0	94.6	385.3
1994	2468.1	82.3	0.0	0.0	493.6	9.2	50.7	77.2	0.0	0.0	0.0	1846.6	190.2	70.9	96.1	114.7	0.0	97.7	379.4
1995	2468.1	82.3	0.0	0.0	575.9	9.2	59.9	74.0	0.0	0.0	0.0	1758.4	181.1	67.5	87.6	117.5	0.0	100.1	372.7
1996	2468.1	82.3	0.0	0.0	658.2	9.2	69.1	70.8	0.0	0.0	0.0	1670.1	172.0	64.1	79.8	119.6	0.0	101.9	365.4
1997	2468.1	82.3	0.0	0.0	740.4	9.2	78.3	67.6	0.0	0.0	0.0	1581.8	162.9	60.7	72.7	121.0	0.0	103.1	357.5
1998	2468.1	82.3	0.0	0.0	822.7	9.2	87.5	64.3	0.0	0.0	0.0	1493.6	153.8	57.4	66.2	121.7	0.0	103.7	349.0
1999	2468.1	82.3	0.0	0.0	905.0	9.2	96.7	61.1	0.0	0.0	0.0	1405.3	144.7	54.0	60.3	121.9	0.0	103.9	340.1
2000	2468.1	82.3	0.0	0.0	987.2	9.2	105.9	57.9	0.0	0.0	0.0	1317.0	135.7	50.6	56.2	120.3	0.0	102.5	329.6
2001	2468.1	82.3	0.0	0.0	1069.5	9.2	115.1	54.7	0.0	0.0	0.0	1228.8	126.6	47.2	56.2	114.6	0.0	97.7	315.7
2002	2468.1	82.3	0.0	0.0	1151.8	9.2	124.3	51.5	0.0	0.0	0.0	1140.5	117.5	43.8	56.2	108.9	0.0	92.8	301.8
2003	2468.1	82.3	0.0	0.0	1234.1	9.2	133.5	48.3	0.0	0.0	0.0	1052.3	108.4	40.4	56.2	103.2	0.0	87.9	287.8
2004	2468.1	82.3	0.0	0.0	1316.3	9.2	142.8	45.0	0.0	0.0	0.0	964.0	99.3	37.0	56.2	97.5	0.0	83.1	273.9
2005	2468.1	82.3	0.0	0.0	1398.6	9.2	152.0	41.8	0.0	0.0	0.0	875.7	90.2	33.6	56.2	91.3	0.0	78.2	259.9
2006	2468.1	82.3	0.0	0.0	1480.9	9.2	161.2	38.6	0.0	0.0	0.0	787.5	81.1	30.2	56.2	86.1	0.0	73.4	246.0
2007	2468.1	82.3	0.0	0.0	1563.1	9.2	170.4	35.4	0.0	0.0	0.0	699.2	72.0	26.8	56.2	80.4	0.0	68.5	232.0
2008	2468.1	82.3	0.0	0.0	1645.4	9.2	179.6	32.2	0.0	0.0	0.0	610.9	62.9	23.5	56.2	74.7	0.0	63.7	218.1
2009	2468.1	82.3	0.0	0.0	1727.7	9.2	188.8	29.0	0.0	0.0	0.0	522.7	53.8	20.1	56.2	69.0	0.0	58.8	204.1
2010	2468.1	82.3	0.0	0.0	1810.0	9.2	198.0	25.7	0.0	0.0	0.0	434.4	44.7	16.7	56.2	63.3	0.0	53.9	190.2
2011	2468.1	82.3	0.0	0.0	1892.2	-27.6	207.2	22.5	0.0	0.0	0.0	346.1	35.7	13.3	0.0	77.0	0.0	65.6	155.9
2012	2468.1	82.3	0.0	0.0	1974.5	-27.6	179.6	19.3	0.0	0.0	0.0	244.7	30.4	11.3	0.0	73.7	0.0	62.8	147.8
2013	2468.1	82.3	0.0	0.0	2056.8	-27.6	152.0	16.1	0.0	0.0	0.0	243.3	25.1	9.3	0.0	70.4	0.0	59.9	139.6
2014	2468.1	82.3	0.0	0.0	2139.0	-27.6	124.3	12.9	0.0	0.0	0.0	191.9	19.8	7.4	0.0	67.0	0.0	57.1	131.5
2015	2468.1	82.3	0.0	0.0	2221.3	-27.6	96.7	9.7	0.0	0.0	0.0	140.5	14.5	5.4	0.0	63.7	0.0	54.3	123.4
2016	2468.1	82.3	0.0	0.0	2303.6	-27.6	69.1	6.4	0.0	0.0	0.0	89.0	9.2	3.4	0.0	60.4	0.0	51.4	115.3
2017	2468.1	82.3	2468.1	0.0	2345.9	-27.6	41.4	3.2	0.0	0.0	0.0	37.6	3.9	1.4	0.0	57.1	0.0	48.6	107.1

LONG ISLAND LIGHTING CO
YEAR BY YEAR REVENUE REQUIREMENTS FOR NEW CAPITAL INVESTMENT
PRE-OPERATIONAL PERIOD

CASE- SHOR CONV. TO COAL.. COX ESTIMATE MINUS 25%

YEAR	CONSTRUCTION EXPENDITURES EXCLUD. YRLY	CWIP IN AFUDC CUML	CWIP EARN AFUDC BASE	AFUDC RATE	RATE BASE RETN	EXPS LOAD	YEAR TOTAL AFUDC	INT PART OF AFUDC	YEAR ITC BASE	INVESTMENT YRLY TOTAL	TAX AMT DEFD	CREDIT BELOW LINE	FLOW THRU	TOTAL DEFD ITC RESRV	RATE BASE MEAN INVEST	RETURN ON MEAN NET INVESTMENT	INCOME AFTER TAXES	FIT AFTER ITC	YEARLY TOTAL REVENUE REQUIRED		
1980	8.0	388.0	255.0	208.0	0.084	0.103	7.0	17.1	7.3	1.0	0.1	0.1	0.0	0.0	10.1	245.0	25.2	8.8	9.4	8.0	33.2
1981	9.0	397.0	255.0	234.1	0.084	0.103	8.0	19.3	8.3	1.0	0.1	0.1	0.0	0.0	10.1	244.9	25.2	8.8	8.4	7.1	32.4
1982	10.0	407.0	255.0	263.4	0.084	0.103	9.0	21.7	9.3	1.0	0.1	0.1	0.0	0.0	10.2	244.9	25.2	8.8	7.4	6.3	31.5
1983	26.0	433.0	255.0	311.1	0.084	0.103	10.0	25.0	10.7	16.0	1.6	1.0	0.3	0.3	11.1	244.8	25.2	8.8	6.1	4.9	30.1
1984	75.0	508.0	255.0	411.2	0.084	0.103	11.0	31.4	13.5	64.0	6.4	3.8	1.3	1.3	15.0	243.9	25.1	8.8	4.1	2.2	27.3
1985	296.0	804.0	255.0	738.6	0.084	0.103	12.0	49.6	21.3	284.0	28.4	17.0	5.7	5.7	32.0	240.0	24.7	8.6	-1.6	-7.0	17.7
1986	355.0	1159.0	255.0	1143.2	0.084	0.103	20.0	81.1	34.8	335.0	33.5	20.1	6.7	6.7	52.1	223.0	23.0	8.0	-11.8	-16.7	6.2
1987	196.0	1355.0	255.0	1420.3	0.084	0.103	27.0	111.1	47.6	169.0	16.9	10.1	3.4	3.4	62.3	202.9	20.9	7.3	-16.8	-17.7	3.2
TOTAL CWIP		1355.000																			
TOTAL EXP LOAD		124.000																			
TOTAL AFDC		431.361																			
EXP LOAD RATE		0.092																			
BOOK COST		1786.361																			
TAX BASE		1231.000																			
SUM OF RR		181.589																			
FWRR TO CO		288.429																			

LONG ISLAND LIGHTING CO
YEAR BY YEAR REVENUE REQUIREMENTS FOR NEW CAPITAL INVESTMENT

RETURN 0.1030 BOND RATIO 0.480 BOND INTEREST 0.080 TAX RATE 0.46 TAX TREATMENT 0 AVG LIFE 30.00 IOWA CURVE 12.
TAX LIFE 22.50 SALVAGE RATIO 1.00 PERIOD OF AMORTIZATION OF COST OF REMOVAL 0.0 ACCOUNT 0

CASE- SHOR CONV. TO COAL.. COX ESTIMATE MINUS 25%

YEAR	MEAN ANNUAL SURV	BOOK DEPR	RETIR- MENTS	SALV OR C/R	BOOK DEPR RSVE	DEFD FIT	DEFD FIT RSVE	DEFD ITC RSVE	NORM COST RMVL	DEFD COST RMVL	DEFD RMVL RSVE	MEAN NET INVEST	BOOK RETRN	INT. EXP.	TAX DEPR	TAXBL INC	FLOW THRU ITC	FEDL INC TAX	TOTAL REVENUE REQUIR	
0	1786.4	0.0	0.0	0.0	0.0															
1988	1786.4	59.5	0.0	0.0	0.0	3.1	0.0	62.3	0.0	0.0	0.0	1724.1	177.6	66.2	54.7	119.4	0.0	101.7	341.9	
1989	1786.4	59.5	0.0	0.0	59.5	6.3	3.1	60.2	0.0	0.0	0.0	1663.5	171.3	63.9	104.6	68.7	0.0	58.6	295.7	
1990	1786.4	59.5	0.0	0.0	119.1	6.3	9.4	58.1	0.0	0.0	0.0	1599.7	164.8	61.4	95.3	73.0	0.0	63.0	293.6	
1991	1786.4	59.5	0.0	0.0	178.6	6.3	15.7	56.0	0.0	0.0	0.0	1536.0	158.2	59.0	86.8	78.0	0.0	66.7	290.7	
1992	1786.4	59.5	0.0	0.0	238.2	6.3	22.0	54.0	0.0	0.0	0.0	1472.2	151.6	56.5	79.1	81.9	0.0	69.7	287.2	
1993	1786.4	59.5	0.0	0.0	297.7	6.3	28.3	51.9	0.0	0.0	0.0	1408.4	145.1	54.1	72.1	84.8	0.0	72.2	283.1	
1994	1786.4	59.5	0.0	0.0	357.3	6.3	34.6	49.8	0.0	0.0	0.0	1344.7	138.5	51.6	65.6	87.1	0.0	74.2	278.5	
1995	1786.4	59.5	0.0	0.0	416.8	6.3	40.9	47.7	0.0	0.0	0.0	1280.9	131.9	49.2	59.8	88.8	0.0	75.6	273.4	
1996	1786.4	59.5	0.0	0.0	476.4	6.3	47.2	45.7	0.0	0.0	0.0	1217.2	125.4	46.7	54.5	90.0	0.0	76.6	267.8	
1997	1786.4	59.5	0.0	0.0	535.9	6.3	53.5	43.6	0.0	0.0	0.0	1153.4	118.8	44.3	49.7	90.7	0.0	77.3	261.9	
1998	1786.4	59.5	0.0	0.0	595.5	6.3	59.8	41.5	0.0	0.0	0.0	1089.6	112.2	41.8	45.2	91.0	0.0	77.5	255.6	
1999	1786.4	59.5	0.0	0.0	655.0	6.3	66.1	39.4	0.0	0.0	0.0	1025.9	105.7	39.4	41.2	90.9	0.0	77.4	248.9	
2000	1786.4	59.5	0.0	0.0	714.5	6.3	72.4	37.4	0.0	0.0	0.0	962.1	99.1	36.9	38.4	89.6	0.0	76.3	241.2	
2001	1786.4	59.5	0.0	0.0	774.1	6.3	78.6	35.3	0.0	0.0	0.0	898.3	92.5	34.5	38.4	85.5	0.0	72.8	231.2	
2002	1786.4	59.5	0.0	0.0	833.6	6.3	84.9	33.2	0.0	0.0	0.0	834.6	86.0	32.0	38.4	81.3	0.0	69.3	221.1	
2003	1786.4	59.5	0.0	0.0	893.2	6.3	91.2	31.1	0.0	0.0	0.0	770.8	79.4	29.6	38.4	77.2	0.0	65.8	211.0	
2004	1786.4	59.5	0.0	0.0	952.7	6.3	97.5	29.1	0.0	0.0	0.0	707.1	72.8	27.2	38.4	73.1	0.0	62.3	200.9	
2005	1786.4	59.5	0.0	0.0	1012.3	6.3	103.8	27.0	0.0	0.0	0.0	643.3	66.3	24.7	38.4	69.0	0.0	58.8	190.9	
2006	1786.4	59.5	0.0	0.0	1071.8	6.3	110.1	24.9	0.0	0.0	0.0	579.5	59.7	22.3	38.4	64.9	0.0	55.3	180.8	
2007	1786.4	59.5	0.0	0.0	1131.4	6.3	116.4	22.8	0.0	0.0	0.0	515.8	53.1	19.8	38.4	60.7	0.0	51.7	170.7	
2008	1786.4	59.5	0.0	0.0	1190.9	6.3	122.7	20.8	0.0	0.0	0.0	452.0	46.6	17.4	38.4	56.6	0.0	48.2	160.6	
2009	1786.4	59.5	0.0	0.0	1250.4	6.3	129.0	18.7	0.0	0.0	0.0	388.3	40.0	14.9	38.4	52.5	0.0	44.7	150.6	
2010	1786.4	59.5	0.0	0.0	1310.0	6.3	135.3	16.6	0.0	0.0	0.0	324.5	33.4	12.5	38.4	48.4	0.0	41.2	140.5	
2011	1786.4	59.5	0.0	0.0	1369.5	-18.9	141.6	14.5	0.0	0.0	0.0	260.7	26.9	10.0	0.0	57.5	0.0	49.0	116.5	
2012	1786.4	59.5	0.0	0.0	1429.1	-18.9	122.7	12.5	0.0	0.0	0.0	222.1	22.9	8.5	0.0	55.0	0.0	46.9	110.4	
2013	1786.4	59.5	0.0	0.0	1488.6	-18.9	103.8	10.4	0.0	0.0	0.0	183.5	18.9	7.0	0.0	52.5	0.0	44.7	104.3	
2014	1786.4	59.5	0.0	0.0	1548.2	-18.9	84.9	8.3	0.0	0.0	0.0	144.9	14.9	5.6	0.0	50.0	0.0	42.6	98.2	
2015	1786.4	59.5	0.0	0.0	1607.7	-18.9	66.1	6.2	0.0	0.0	0.0	106.4	11.0	4.1	0.0	47.5	0.0	40.5	92.1	
2016	1786.4	59.5	0.0	0.0	1667.3	-18.9	47.2	4.2	0.0	0.0	0.0	67.8	7.0	2.6	0.0	45.0	0.0	38.4	86.0	
2017	1786.4	59.5	1786.4	0.0	1726.8	-18.9	28.3	2.1	0.0	0.0	0.0	29.2	3.0	1.1	0.0	42.6	0.0	36.2	79.9	

SHOREHAM NUCLEAR VS. COAL CONVERSION
\$ MILLIONS

Year	820 MW NUCLEAR							989 MW COAL						Coal Penalty	
	Insur.	Prop. Tax	Decom.	O&M	Fuel	Capital	Total	Insur.	Prop. Tax	Purch.	Prod. Cost	Capital	Cancel		Total
1980						14.3	14.3					33.2		33.2	18.9
1981						12.7	12.7					32.4		32.4	19.7
1982	3.1	22.4	4.5	14.5	34.5	302.9	381.9			2.5	217.4	31.5	157.0	408.4	26.5
1983	3.1	23.5	4.7	20.7	31.0	257.2	340.2			5.0	209.8	29.9	153.0	397.7	57.5
1984	3.1	24.7	5.0	16.0	32.8	260.0	341.6			7.9	236.1	26.5	150.0	420.5	78.9
1985	3.1	25.9	5.2	16.8	38.7	261.1	350.8			5.4	276.5	13.1	145.0	440.0	89.2
1986	3.1	27.2	5.5	17.6	41.4	260.7	355.5			7.6	280.4	- 0.7	141.0	428.3	72.8
1987	3.1	28.5	5.8	18.5	44.0	259.1	359.0			10.3	320.8	- 3.7	137.0	464.4	105.4
1988	3.1	30.0	6.1	19.4	46.8	256.4	361.8	1.8	30.0	-	177.8	404.5	133.0	747.1	385.3
1989	3.1	31.5	6.4	20.4	49.6	252.7	363.7	1.8	31.5	-	187.6	347.9	212.0	780.8	417.1
1990	3.1	33.0	6.7	21.4	52.6	248.1	364.9	1.8	33.0	-	196.5	345.7	206.0	783.0	418.1
1991	3.1	34.7	7.0	22.5	55.8	240.4	363.5	1.8	34.7	-	180.5	342.6	199.0	758.6	395.1
1992	3.1	36.4	7.4	23.6	59.2	242.3	372.0	1.8	36.4	-	204.4	338.7	194.0	775.3	403.3
1993	3.1	38.3	7.7	24.8	62.7	231.8	368.4	1.8	38.3	-	195.4	334.0	188.0	757.5	389.1
1994	3.1	40.2	8.1	26.0	66.4	221.3	365.1	1.8	40.2	-	197.2	328.8	181.0	749.0	383.9
1995	3.1	42.2	8.5	27.3	70.3	210.8	362.2	1.8	42.2	-	206.4	322.9	175.0	748.3	386.1
1996	3.1	44.3	8.9	28.7	74.0	200.3	359.3	1.8	44.3	-	228.3	316.4	169.0	759.8	400.5
1997	3.1	46.5	9.4	30.1	78.3	189.8	357.2	1.8	46.5	-	260.2	309.5	163.0	781.0	423.8
1998	3.1	48.8	9.9	31.6	83.0	170.8	347.2	1.8	48.8	-	239.2	302.2	157.0	749.0	401.8
1999	3.1	51.3	10.3	33.2	88.0	153.8	339.7	1.8	51.3	-	252.0	294.4	151.0	750.5	410.8
2000	3.1	53.8	10.9	34.9	92.4	147.8	342.9	1.8	53.8	-	274.7	285.3	144.0	759.6	416.7
2001	3.1	56.5	11.4	36.6	97.9	142.2	348.2	1.8	56.5	-	286.1	273.3	138.0	755.7	407.5
2002	3.1	59.3	12.0	38.4	104.0	136.4	353.4	1.8	59.3	-	332.7	261.3	133.0	788.1	434.7
2003	3.1	62.3	12.6	40.4	110.5	130.8	359.7	1.8	62.3	-	303.7	249.3	127.0	744.1	384.4
2004	3.1	65.4	13.2	42.4	116.2	125.1	365.4	1.8	65.4	-	335.3	237.3	120.0	759.8	394.4
2005	3.1	68.7	13.9	44.5	123.3	119.5	373.0	1.8	68.7	-	354.5	225.3	114.0	764.3	391.3
2006	3.1	72.1	14.6	46.7	130.5	113.8	380.8	1.8	72.1	-	336.1	213.3	107.0	730.3	349.5
2007	3.1	75.7	15.3	49.1	139.2	108.1	390.5	1.8	75.7	-	421.9	201.2	102.0	802.6	412.1
2008	3.1	79.5	16.1	51.5	146.1	102.4	398.7	1.8	79.5	-	400.7	189.2	96.0	767.2	368.5
2009	3.1	83.5	16.9	54.1	155.1	96.8	409.5	1.8	83.5	-	427.7	177.2	89.0	779.2	369.7
2011	3.1	87.7	17.7	56.8	164.7	91.9	421.1	1.8	87.7	-	426.9	165.2	83.0	764.6	343.5
2011	3.1	92.0	18.6	59.6	174.7	85.4	433.4	1.8	92.0	-	453.3	136.1	77.0	760.2	326.8

TOTAL 9882.9
1982 PW TOTAL 2278.7

ENVIRONMENTAL INFOR. SERV./LIBRARY