SB

68-71

(FILE 5)

STATE OF ALASKA

THE LEGISLATURE

BUDGET AND AUDIT COMMITTEE

FINANCE DIVISION
POUCH WF-STATE CAPITOL
JUNEAU, ALASKA 99811
PHONE: (907) 465-3795

M E M O R A N D U M

DATE: February 21, 1983

TO: Honorable Vic Fischer
Chairman
Senate State Affairs Committee

FROM: Milt Barker, MB Fiscal Analyst
Legislative Finance Division

SUBJ: Funds Available for Capital Projects

Through the end of the next decade, under current law, total capital projects are almost four times the amount available for capital. Even if Permanent Fund earnings were to be entirely utilized for capital, total projects would still exceed the amount available by almost 50%.

The amount proposed for Susitna alone would consume all funds available under current law. Together with other hydro projects, hydro would require over half of the funds available if Permanent Fund dividends and inflation-proofing are repealed.

Tables I and II (attached) compare the amount of general funds and general obligation bonds available for capital projects with proposed capital projects. The "amount available for capital projects" from the general fund is assumed to be all funds remaining after providing for the operating budget. These amounts were calculated in the attached computer runs using the Department of Revenue's January 1983 revenue estimates at the 30th percentile.

The only difference between Tables I and II is in the amount available for projects. The main source of this difference is that Table I assumes no change in current statutes while Table II shows more funds available as a result of repealing Permanent Fund dividends and inflation-proofing. Table II reflects the entire amount of Permanent Fund earnings in arriving at the amount available figure.

-Q1LH

Two other differences between Table I and II are:

1) Table I assumes operating budgets at the spending limit ($1986.7 million in FY 84) while Table II assumes the Governor's FY 84 budget of $1911.8 million (including longevity bonus and municipal aid); operating budgets are assumed to increase 10% per annum in both cases;

2) because of greater unrestricted revenues in Table II, a greater amount of G.O. bond issues are assumed; the amounts of G.O. bonds in both tables are based on the statements of APA's financial advisers in the January 1983 Susitna financing plan (see footnotes to Tables).

The amount of capital projects shown in the Tables includes traditional capital projects, in the form of the last year's Governor's Six Year Capital Budget, only through FY 88. No amounts have been estimated for legislative capital projects nor has any amount been included for purchase of the Alaska Railroad or cashing out interim financing on Tyee, Swan, and Terror Lakes ($200 million).

attachments

MB:ro

cc: Honorable Al Adams
Honorable John Sackett
Honorable Don Bennett

FUNDS AVAILABLE FOR CAPITAL PROJECTS
WITH REPEAL OF DIVIDENDS & INFLATION-PROOFING
($ Millions)

FISCAL YEAR	(1) FUNDS AVAILABLE FOR CAPITAL PROJECTS: GENERAL FUND	(2) FUNDS AVAILABLE FOR CAPITAL PROJECTS: GO BONDS	(3) FUNDS AVAILABLE FOR CAPITAL PROJECTS: TOTAL	(4) SB 68 STATE FUNDING FOR SUSITNA	(5) OTHER APA CAPITAL PROJECTS	(6) TOTAL HYDRO PROJECTS	(7) LOAN PROGRAM APPROPRIATIONS	(8) GOVERNOR'S SIX YEAR CAPITAL BUDGET	(9) TOTAL CAPITAL PROJECTS
ACTUAL DOLLARS									
85	1196.0	350.0	1546.0	403.7	244.5	648.2	300.0	2035.0	2983.2
86	1281.0	190.0	1471.0	472.7	282.3	755.0	300.0	742.9	1797.9
87	1157.0	95.0	1252.0	479.7	125.8	605.5	300.0	961.2	1866.7
88	1269.0	235.0	1504.0	499.5	--	499.5	300.0	1066.2	1865.7
89	1110.0	50.0	1160.0	938.3	--	938.3	300.0	?	1238.3+
90	580.0	25.0	605.0	738.4	--	738.4	300.0	?	1038.4+
91	--	160.0	160.0	--	--	--	300.0	?	300.0+
92	--	35.0	35.0	--	--	--	300.0	?	300.0+
93	--	170.0	170.0	--	--	--	300.0	?	300.0+
Total	6593.0	1310.0	7903.0	3532.3	652.6	4184.9	2700.0	4805.3	11690.2+
FY 84 DOLLARS									
85	1118.0	327.1	1445.1	364.5	228.5	593.0	280.0	1901.9	2774.9
86	1119.0	166.0	1285.0	398.9	246.6	645.5	262.0	648.9	1556.4
87	944.0	77.5	1021.5	378.3	102.7	481.0	245.0	784.7	1510.7
88	968.0	179.3	1147.3	368.2	--	368.2	229.0	813.4	1410.6
89	790.0	35.6	825.6	646.4	--	646.4	214.0	?	860.4+
90	390.0	16.7	406.7	475.4	--	475.4	200.0	?	675.4+
91	--	99.6	99.6	--	--	--	187.0	?	187.0+
92	--	20.4	20.4	--	--	--	175.0	?	175.0+
93	--	92.5	92.5	--	--	--	163.0	?	163.0+
Total	5329.0	1014.7	5343.7	2631.7	577.8	3209.5	1955.0	4148.9	9313.4+

NOTES:
1. From attached Legislative Finance computer run labelled "Repeal of Dividends and Inflation-Proofing"; see note 1 to Table I;
2. See note 2 to Table II; amount of GOB's based on estimates of revenues at the 50th percentile made prior to the current January 1983 estimates; those revenues are higher than the January 1983 estimates even including monies that would have been used for dividends and inflation-proofing; thus, the estimate of GOB's is somewhat high;

For other items see notes to Table I.

FUNDS AVAILABLE FOR CAPITAL PROJECTS UNDER CURRENT LAW
($ Millions)

FISCAL YEAR	(1) FUNDS AVAILABLE FOR CAPITAL PROJECTS: GENERAL FUND	(2) FUNDS AVAILABLE FOR CAPITAL PROJECTS: GO BONDS	(3) FUNDS AVAILABLE FOR CAPITAL PROJECTS: TOTAL	(4) SB 68 STATE FUNDING FOR SUSITNA	(5) OTHER APA CAPITAL PROJECTS	(6) TOTAL HYDRO PROJECTS	(7) LOAN PROGRAM APPROPRIATIONS	(8) GOVERNOR'S SIX YEAR CAPITAL BUDGET	(9) TOTAL CAPITAL PROJECTS
ACTUAL DOLLARS									
85	593.0	--	593.0	403.7	244.5	648.2	300.0	2035.0	2983.2
86	611.0	300.0	911.0	472.7	282.3	755.0	300.0	742.9	1797.9
87	447.0	90.0	537.0	479.7	125.8	605.5	300.0	961.2	1866.7
88	503.0	125.0	628.0	499.5	--	499.5	300.0	1066.2	1865.7
89	280.0	--	280.0	938.3	--	938.3	300.0	?	1238.3+
90	--	50.0	50.0	738.4	--	738.4	300.0	?	1038.4+
91	--	140.0	140.0	--	--	--	300.0	?	300.0+
92	--	--	--	--	--	--	300.0	?	300.0+
93	--	--	--	--	--	--	300.0	?	300.0+
Total	2434.0	705.0	3139.0	3532.3	652.6	4184.9	2700.0	4805.3	11690.2+
FY 84 DOLLARS									
85	554.0	--	554.0	364.5	228.5	593.0	280.0	1901.9	2774.9
86	534.0	262.0	796.0	398.9	246.6	645.5	262.0	648.9	1556.4
87	365.0	73.0	438.0	378.3	102.7	481.0	245.0	784.7	1510.7
88	384.0	95.0	479.0	368.2	--	368.2	229.0	813.4	1410.6
89	200.0	--	200.0	646.4	--	646.4	214.0	?	860.4+
90	--	33.0	33.0	475.4	--	475.4	200.0	?	675.4+
91	--	87.0	87.0	--	--	--	187.0	?	187.0+
92	--	--	--	--	--	--	175.0	?	175.0+
93	--	--	--	--	--	--	163.0	?	163.0+
Total	2037.0	550.0	2587.0	2631.7	577.8	3209.5	1955.0	4148.9	9313.4+

(Notes to Table I on next page.)

NOTES TO TABLE I

1. From attached Legislative Finance computer run labelled "current law"; beginning GF balance based on 2/9/83 schedule of amount available per Senate Finance of $918.3 million reduced by $230 million for the Rainy Day Fund and $600 million for the Permanent Fund that has been appropriated but was included in the $918.3 million; includes Permanent Fund undistributed income;

2. From Table I, Susitna Hydroelectric Project, Task II: Financing Options, Acres, January 1983; amount of GOB's based on statement of First Boston Corporation, John Nuveen & Co., and First Southwest Co. which assumed higher projected revenues at the 30th percentile than the current January 1983 Department of Revenue estimates; thus the estimate of GOB's must be somewhat high;

4. From Table 18.4.7, Susitna Hydroelectric Project, Task II Reference Report, Acres; this is the $2.3 billion (January 1982 $) state contribution case; SB 68 proposes $2.3 billion in January 1983 dollars; if the Acres funding schedule is intended it would be necessary to adjust SB 68; otherwise the estimated Susitna costs shown here would be 4% to 7% too high as measured by various "Engineering News Record" construction cost indices;

5. From Table I, "Acres", January 1983;

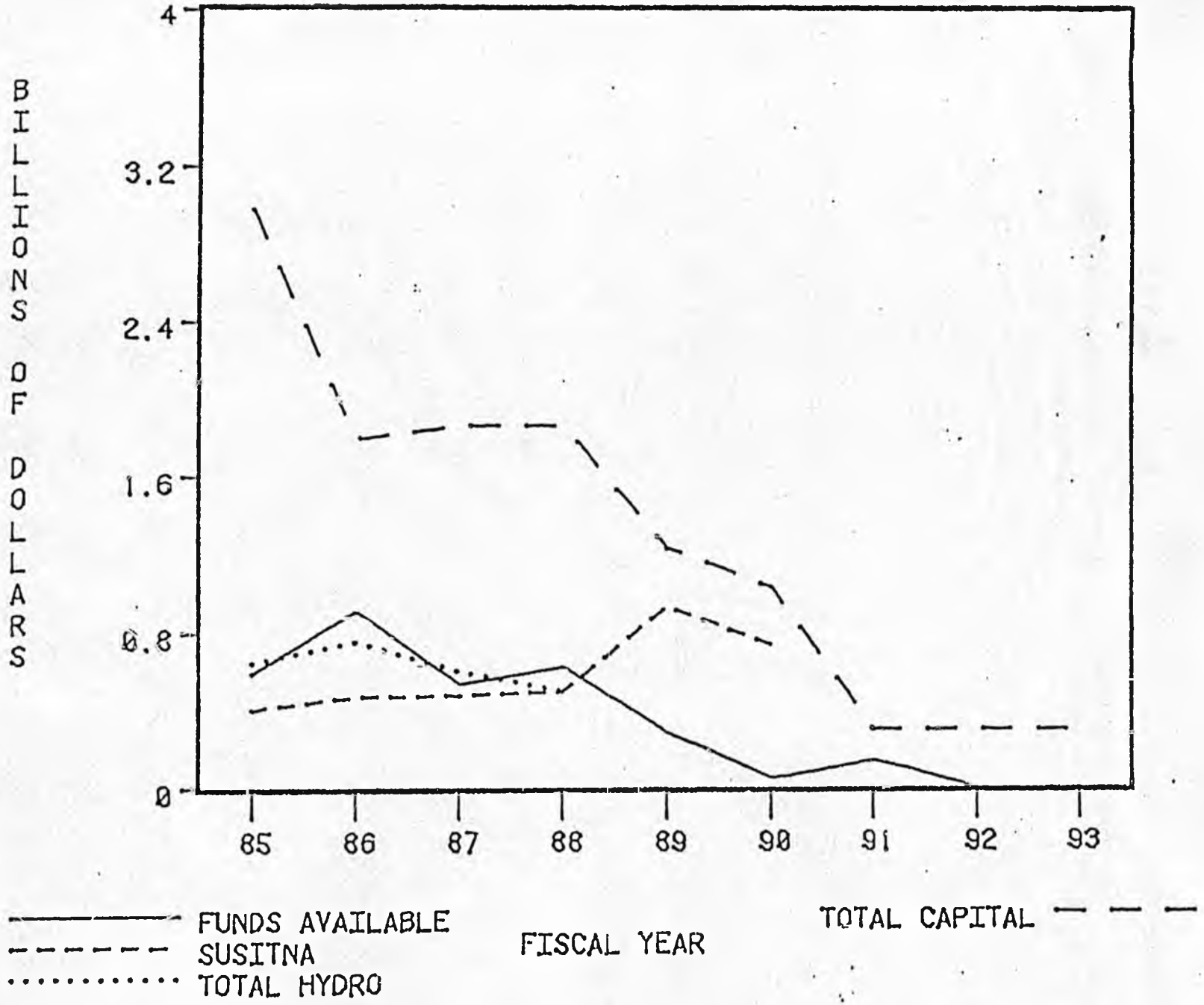
7. Assumes loan program appropriations remain at roughly the Governor's FY 84 budget level, $294.5 million;

8. Total of general fund capital projects (including voter approval) contained in Executive Budget, Book 2, Capital Budget and Six Year Capital Program, FY 83, Jay Hammond, Governor; FY 85 amount is sum of FY 83-85 amounts less amounts appropriated for capital and loans for FY 83 and less the amount of capital projects proposed by Governor Sheffield for FY 84.

FY 84 $ amounts are based on a 7% inflation factor: the Acres Susitna numbers appear to be on a calendar year basis and are thus adjusted for an extra 1/2 year.

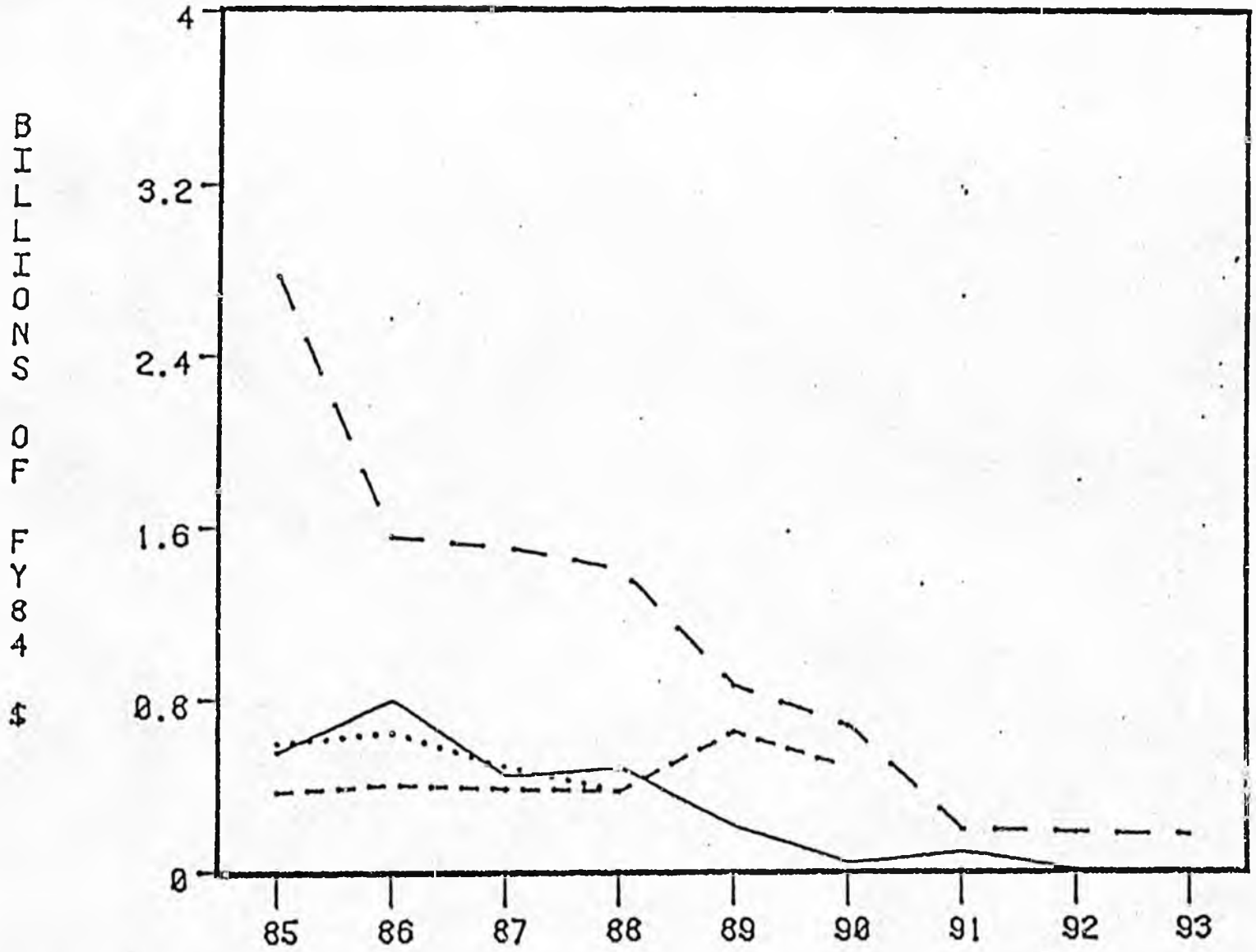
FUNDS AVAILABLE FOR CAPITAL PROJECTS

CURRENT LAW

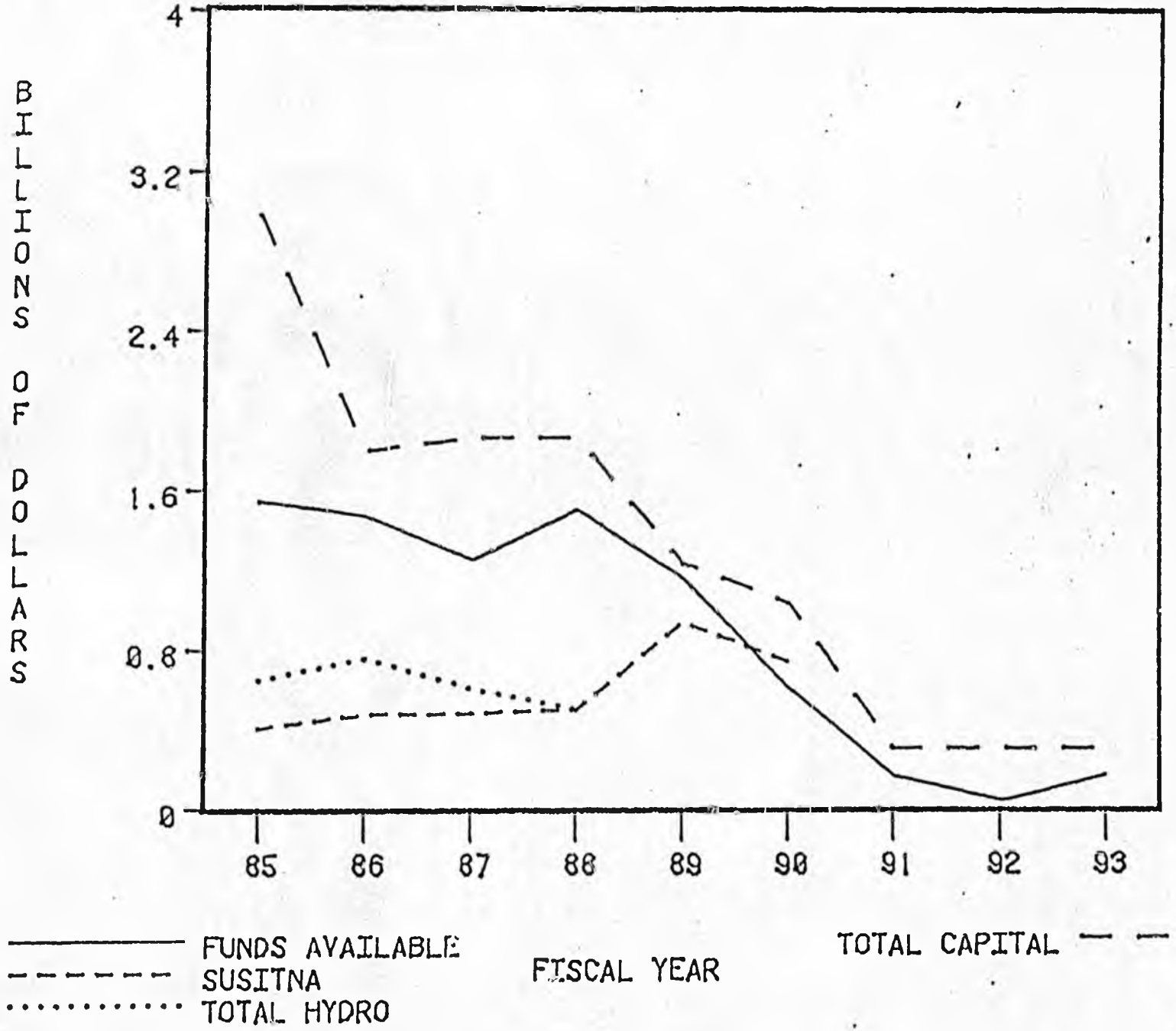


FUNDS AVAILABLE FOR CAPITAL PROJECTS (FY84 $)

CURRENT LAW

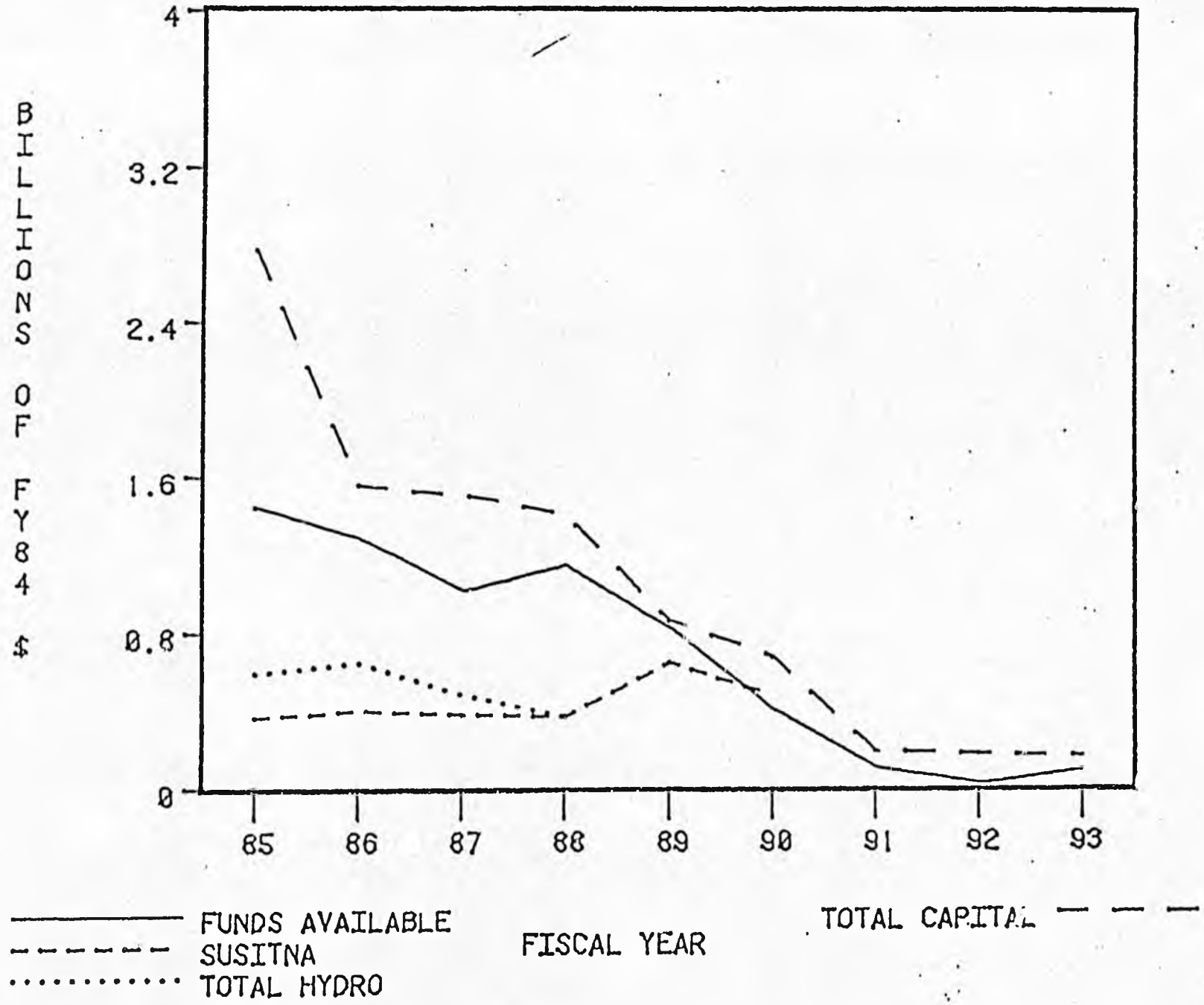


FUNDS AVAILABLE FOR CAPITAL PROJECTS
REPEAL DIVIDENDS & INFLATION-PROOFING



FUNDS AVAILABLE FOR CAPITAL PROJECTS (FY84 $)

REPEAL DIVIDENDS & INFLATION-PROOFING



STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

*** ACTUAL DOLLARS IN MILLIONS ***

JAN 83 DEPT OF REVENUE ESTIMATES
OPERATING BUDGET AT SPENDING LIMIT
SPENDING LIMIT INCREASES 10% PER ANNUM
SURPLUS SPENT ON CAPITAL
INFLATION 7% PER ANNUM
PERMANENT FUND INFLATION-PROOFED
PERMANENT FUND EARNS 12% PER ANNUM
GO BONDS PER ACRES JAN 83 SUSITNA FINANCING PLAN

FISCAL YEAR	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $ 0 MIL
1983										3790	88	
1984	2703	333	3036	1987	837	167	134	3124	-88	4361	0	0
1985	2775	352	3127	2185	593	164	185	3127	-0	4979	0	0
1986	3029	381	3410	2404	611	163	231	3410	0	5676	0	0
1987	3112	410	3522	2644	447	166	265	3522	0	6433	0	0
1988	3456	448	3904	2909	503	179	313	3904	-0	7287	0	0
1989	3540	490	4030	3200	280	190	360	4030	00	8250	00	00
1990	3300	520	3810	3520	00	190	400	4110	-300	9240	00	300
1991	3000	550	3560	3870	00	180	450	4500	-940	10270	00	940
1992	2890	610	3500	4260	00	160	510	4920	-1430	11350	00	1430
1993	2700	670	3360	4680	00	160	570	5410	-2050	12480	00	2050
1994	2610	740	3350	5150	00	130	630	5920	-2570	13680	00	2570
1995	2520	810	3320	5670	00	140	690	6500	-3180	14950	00	3180
1996	2380	890	3270	6240	00	140	760	7140	-3870	16280	00	3870
1997	2440	970	3410	6860	00	90	830	7780	-4380	17710	00	4380
1998	2510	1060	3570	7540	00	80	910	8530	-4960	19240	00	4960
1999	2660	1160	3820	8300	00	50	990	9340	-5530	20900	00	5530
2000	2800	1260	4060	9130	00	50	1080	10250	-6190	22690	00	6190
TOTAL	48410	11640	60060	80550	3270	2390	9320	95530	-35470			35380

FEBRUARY 15,1983

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

*** FY 1984 DOLLARS IN MILLIONS***

JAN 83 DEPT OF REVENUE ESTIMATES
OPERATING BUDGET AT SPENDING LIMIT
SPENDING LIMIT INCREASES 10% PER ANNUM
SURPLUS SPENT ON CAPITAL
INFLATION 7% PER ANNUM
PERMANENT FUND INFLATION-PROOFED
PERMANENT FUND EARNS 12% PER ANNUM
GO BONDS PER ACRES JAN 83 SUSITNA FINANCING PLAN

FISCAL YEAR	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $ 0 MIL
1983										3790	88	
1984	2703	333	3036	1987	837	167	134	3124	-88	4361	0	0
1985	2594	329	2923	2042	554	154	172	2923	-0	4653	0	0
1986	2645	333	2978	2100	534	143	202	2978	0	4957	0	0
1987	2540	335	2875	2159	365	136	216	2875	0	5251	0	0
1988	2636	342	2978	2219	384	137	239	2978	-0	5559	0	0
1989	2520	350	2870	2280	200	140	250	2870	00	5880	00	00
1990	2200	340	2540	2350	00	130	270	2740	-200	6160	00	200
1991	1870	340	2220	2410	00	110	280	2800	-590	6390	00	590
1992	1680	350	2030	2480	00	90	300	2870	-830	6610	00	830
1993	1470	360	1830	2550	00	90	310	2940	-1110	6790	00	1110
1994	1330	370	1700	2620	00	70	320	3010	-1300	6960	00	1300
1995	1190	380	1580	2690	00	60	330	3090	-1510	7100	00	1510
1996	1060	390	1450	2770	00	60	340	3170	-1720	7230	00	1720
1997	1010	400	1410	2850	00	40	350	3230	-1820	7350	00	1820
1998	970	410	1380	2930	00	30	350	3310	-1920	7460	00	1920
1999	960	420	1380	3010	00	20	360	3390	-2000	7570	00	2000
2000	950	430	1380	3090	00	20	370	3470	-2100	7690	00	2100
TOTAL	30330	6240	36570	42520	2870	1580	4790	51760	-15190			15100

STATE OF ALASKA

LEGISLATIVE FINANCE WORKING DOCUMENT

BUDGET FORECASTING MODEL

*** ACTUAL DOLLARS IN MILLIONS ***

JAN 83 DEPT OF REVENUE ESTIMATES
GOVERNOR'S OPERATING BUDGET (INCLUDES LONGEVITY & MUNICIPAL AID)
OPERATING BUDGET INCREASES 10% PER ANNUM
SURPLUS SPENT ON CAPITAL
INFLATION 7% PER ANNUM
NO PERMANENT FUND DIVIDENDS
NO PERMANENT FUND INFLATION-PROOFING
PERMANENT FUND EARNS 12% PER ANNUM
GO BONDS PER ACRES JAN 83 SUSITNA FINANCING PLAN

FISCAL YEAR	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF$ 0 MIL
1983										3790	88	
1984	2703	629	3332	1912	1341	167	0	3420	-88	4085	0	0
1985	2775	688	3463	2103	1196	164	0	3463	0	4388	0	0
1986	3029	741	3770	2313	1281	176	0	3770	0	4724	0	0
1987	3112	784	3896	2545	1157	194	0	3896	0	5072	0	0
1988	3456	833	4288	2799	1269	221	0	4288	-0	5462	0	0
1989	3540	880	4420	3080	1110	230	00	4420	00	5890	00	00
1990	3300	910	4210	3390	580	240	00	4210	00	6300	00	00
1991	3000	910	3910	3730	00	230	00	3960	-50	6660	00	50
1992	2890	910	3800	4100	00	210	00	4310	-510	7020	00	510
1993	2700	950	3650	4510	00	220	00	4730	-1080	7350	00	1080
1994	2610	1000	3610	4960	00	200	00	5150	-1540	7660	00	1540
1995	2520	1050	3560	5450	00	200	00	5660	-2100	7960	00	2100
1996	2380	1090	3470	6000	00	160	00	6160	-2690	8250	00	2690
1997	2440	1140	3580	6600	00	130	00	6730	-3150	8530	00	3150
1998	2510	1190	3700	7260	00	110	00	7370	-3680	8830	00	3680
1999	2660	1240	3900	7990	00	70	00	8060	-4160	9150	00	4160
2000	2800	1290	4100	8780	00	60	00	8840	-4750	9500	00	4750
TOTAL	48410	16240	64650	77510	7940	2990	00	88440	-23790			23700

STATE OF ALASKA
LEGISLATIVE FINANCE WORKING DOCUMENT
BUDGET FORECASTING MODEL

*** FY 1984 DOLLARS IN MILLIONS***

JAN 83 DEPT OF REVENUE ESTIMATES
GOVERNOR'S OPERATING BUDGET (INCLUDES LONGEVITY & MUNICIPAL AID)
OPERATINC BUDGET INCREASES 10% PER ANNUM
SURPLUS SPENT ON CAPITAL
INFLATION 7% PER ANNUM
NO PERMANENT FUND DIVIDENDS
NO PERMANENT FUND INFLATION-PROOFING
PERMANENT FUND EARNS 12% PER ANNUM
GO BONDS PER ACRES JAN 83 SUSITNA FINANCING PLAN

FISCAL YEAR	REVENUE	INTEREST	TOTAL REVENUE	OPERATING BUDGET	CAPITAL BUDGET	DEBT SERVICE	PERMANENT FUND DIVIDENDS	TOTAL BUDGET	SURPLUS OR DEFICIT	PERM-ANENT FUND	GENERAL FUND END OF YEAR	REVENUE REQ FOR GF BAL OF $0 MIL
1983										3790	88	
1984	2703	629	3332	1912	1341	167	0	3420	-88	4085	0	0
1985	2594	643	3237	1965	1118	154	0	3237	0	4101	0	0
1986	2645	648	3293	2021	1119	154	0	3293	0	4126	0	0
1987	2540	640	3180	2077	944	158	0	3180	0	4140	0	0
1988	2636	635	3272	2135	968	168	0	3272	-0	4167	0	0
1989	2520	630	3150	2200	790	170	00	3150	00	4200	00	00
1990	2200	610	2800	2260	390	160	00	2800	00	4200	00	00
1991	1870	560	2440	2320	00	140	00	2460	-30	4150	00	30
1992	1680	530	2210	2390	00	120	00	2510	-300	4090	00	300
1993	1470	520	1980	2450	00	120	00	2570	-590	4000	00	590
1994	1330	510	1840	2520	00	100	00	2620	-780	3890	00	780
1995	1190	500	1690	2590	00	100	00	2690	-1000	3780	00	1000
1996	1060	490	1540	2660	00	70	00	2740	-1190	3660	00	1190
1997	1010	470	1480	2740	00	50	00	2790	-1310	3540	00	1310
1998	970	460	1430	2820	00	40	00	2860	-1430	3420	00	1430
1999	960	450	1410	2890	00	30	00	2920	-1510	3320	00	1510
2000	950	440	1390	2980	00	20	00	3000	-1610	3220	00	1610
TOTAL	30330	9360	39690	40920	6670	1920	00	49510	-9820			9740

LETTER OF INTENT
CCS FOR HB 9

In this and other legislation, the Legislature has authorized and funded the Alaska Power Authority to continue preliminary work on the Susitna hydroelectric project and to submit a F.E.R.C. license application. The Board of Directors of the Authority expects to resolve the issue of license application timing no later than June 30, 1982. It is the intent of the Legislature that the Authority board submit the license application at a time which it determines will result in the most expeditious and favorable treatment of the application.

It is the intent of the Legislature that the Alaska Power Authority proceed to expend funds previously appropriated to it for the construction of the transmission intertie between Anchorage and Fairbanks. If the First Session of the Thirteenth Legislature fails to appropriate sufficient funds to complete this project, the Authority will need to arrange the necessary financing at that time.

The Conference Committee considered the issue of prohibiting contractors who had been responsible for studies and design of an energy project from participating in the construction of that energy project. The committee concluded that the public policy issues regarding contractor prohibitions are of valid concern to the citizens of the state. It is the intent of the Legislature that the Board of Directors of the Alaska Power Authority discuss and evaluate these issues, including changing contracting procedures to avoid structural incentives for project cost underestimation and construction cost overruns, and report to the First Session of the Thirteenth Legislature with recommendations regarding contractor prohibitions.

It is the intent of the Legislature that the Alaska Power Authority proceed with the Bradley Lake hydroelectric project by expending funds received and by securing, if necessary, additional financing.

Regarding Sec. 8, it is the intention of the Legislature that the authorized construction cost be a number expressed in current year dollars.

It has been pointed out to the Conference Committee that there may be some ambiguity regarding the application of Sec. 9 to projects already undertaken by the Alaska Power Authority. It is the intention of the Legislature that this section not apply to the Terror Lake hydroelectric project for which contracts are currently being reviewed and soon to be signed.

The Committee has briefly discussed the relationship of project financing to utility contracts for power purchase. The committee recognizes the complexity of this issue and requests the Board of

Directors of the Alaska Power Authority to conduct a study of the financial and policy issues involved in the interim finanacing of power projects and the advisability of assuring power marketability through contracts with utilities. The Legislature requests the board of the Authority to recommend statute or policy changes regarding these issues to the First Session of the Thirteenth Legislature.

It is the intent of the Legislature that the Department of Administration develop a proposal for energy efficiency in state procurement for submission to the First Session of the Thirteenth Legislature.

Subsection (h) of section 16 provides for the phasing-in of a project's payment of its proportionate share of all power project debt service. The legislature intends, in establishing this "cap" formula, that the weighted average share of debt service be computed by dividing the total annual debt service of all projects in the energy program for Alaska by the total annual electricity sales. An eligible project's share is then annually raised by 4% above the average until it reaches its actual share under the system described in (g), at which point the "cap" for that project terminates. Thus, in FY 1984, no eligible project would pay more than 104% of the average share; in FY 1985, no eligible project would pay more than 108% of the average share; and so forth. The "cap" assures that the allocation of debt service among projects does not place an undue burden on those projects which were begun under the previous hydro financing system. Further, it is the legislature's intent that the difference between an eligible project's share of the total debt service and the amount paid under the "cap" shall be made up by the shares paid by all other projects in the energy program for Alaska for which debt service is not limited under the "cap."

Rep. Brian Rogers,
chairman

Sen. M. E. Dankworth,
chairman

ALASKA POWER AUTHORITY

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(907) 276-0001

August 4, 1982

Arliss Sturgulewski
Senator, District 10-H
1024 W. 6th Ave., Rm. 204-D
Anchorage, Alaska 99501

SUBJECT: CONFERENCE COMMITTEE ON HOUSE BILL 9; "take or pay" and "contractor/multi-phase project work."

Dear Senator Sturgulewski:

With reference to the two issues addressed in your letter of inquiry dated July 12, 1982, the Alaska Power Authority is currently conducting a thorough review of the items, as follows:

The "take or pay" item involves complex legal issues and directly impacts power sales contracts and bond financing provisions. Legal Counsel for the Authority, as well as our underwriters, are presently addressing this issue.

The "contractor/multi-phase project work" item is being addressed by the Engineering, Construction and Finance Staff of the Authority. The Authority Staff will prepare a report upon completion of their study.

A complete report covering both issues will be available for your review by August 25, 1982.

Sincerely,

Eric P. Yould

Eric P. Yould
Executive Director

ALASKA POWER AUTHORITY

334 WEST 5th AVENUE - ANCHORAGE, ALASKA 99501

Phone: (907) 277-7641
(907) 276-0001

September 8, 1982

Arliss Sturgulewski
Senator, District 10-H
1024 W. 6th Avenue, Room 204-D
Anchorage, Alaska 99501

SUBJECT: "Take-or-pay and multi-phase project work"

Dear Senator Sturgulewski:

In response to your letter concerning "take-or-pay" contracts and "contractor/multi-phase project work", the following write up is presented. Our response has treated these issues in the general context of the Power Authority's power project development program.

Should you have a more specific case in mind, we will attempt to address either of the two issues in that context.

I. TAKE-OR-PAY CONTRACTS

DEFINITION OF CONTRACT TERMS:

TAKE-or-PAY	Generally, an unconditional obligation of a purchaser to take a fixed percentage of the capacity of a project and pay a fixed percentage of power costs (including debt service) whether or not the project is completed, operable or operating. The purchaser will normally begin payment on a set certain date.
TAKE-and-PAY	Generally, a purchaser obligates itself to purchase all of its power and energy requirements (total or supplemental) from a supplier for a specific period of time thereby precluding itself from purchasing power from another source or constructing generating facilities. Payments normally do not begin until the purchaser is receiving power from the supplier.

TAKE-OR-PAY CONTRACTS

A "take-or-pay" contract for the purchase of electric power from a hydroelectric project is commonplace when the project is debt financed.

The take-or-pay contract obligates the purchaser of power to pay (at the contracted-for rate) for a specified amount of power regardless of whether the purchaser ultimately elects to actually take the power -- that is, the purchaser obligates itself to "take or pay". In addition, the purchaser is also typically obligated to pay for the specified amount of power regardless of whether the power is delivered as in a situation where a catastrophe has caused production to cease. This variation on the take-or-pay contract is referred to as a "hell-or-high-water" contract. Clearly, the take-or-pay contract is different from other simple sales contracts whereby the purchaser makes no promise to take anything, but does promise to pay at a contracted-for rate when power is taken.

POWER SALES CONTRACTS

The power sales contract is the primary credit document for purchasers of revenue bonds, the proceeds of which are used to finance the construction of a hydroelectric project. The only assurance that a holder of a pure revenue bond will have of a continued source of revenue is a guarantee of payment for power produced and that guarantee lies in a take-or-pay contract. The purchaser of power , while undoubtedly preferring the flexibility inherent in a "pay as you go" contract which would not obligate it to purchase any specific amount of power, nevertheless faces the simple fact that but for debt financing (especially debt financing through revenue bonds dependent on the purchaser's contract), the project would not have been built and the purchaser's recourse for energy would otherwise have been limited. Consequently, the purchaser will and must enter into take-or-pay contracts.

REVENUE BONDS

Since most tax-exempt electric utility bonds are revenue rather than tax-supported general obligations bonds, several general comments on revenue bond analysis are important. Revenue bond analysis is in many ways less difficult than general obligation bond analysis. Generally, it involves a closed system with a definite number of variables and greater possibilities for qualification. This pledge of security involves an enterprise where the debt is related to an earning asset. The principles of credit analysis are the same, but the analysis shifts from the use of sovereign power of government to extract a tax to the operation of a user enterprise involving benefit analysis. Generally, there is a measurable benefit for which people either are or are not willing to pay. Thus, we have bonds secured by pledges of electric, water, wastewater, toll bridge, college dormitory, off-street parking, toll road, airport, hospital, marine terminal, stadium, and multipurpose civic center/convention revenues.

Since bondholders and the marketplace look to assurances that debt service on bonds will be paid in a timely fashion, covenants are generally reflected in the trust indentures to assure that power rates will be sufficient to satisfy at least the debt service obligation and more

typically the debt service obligation plus an additional amount (i.e., a provision requiring that revenue derived from the sale of power in a particular fiscal year will be equal to at least 1.25 times the aggregate debt service for such fiscal year). Both a prospective bondholder and the rating agencies will test the assurances that debts will be repaid in fixing the interest rates on bond issues by reviewing the guarantees underlying those bonds. Take-or-pay contracts provide the primary assurances, although additional support for such bonds may come through letters of credit or, if specified, the moral obligation of either the issuer or perhaps the state to repay the debt.

TAX CONSIDERATIONS

To the extent that take-or-pay contracts are necessary ingredients of revenue bond issues, certain tax implications arise. This is so because the interest earned by a bondholder on a bond is tax-exempt only as specified. Bonds issued by public entities such as the Alaska Power Authority are tax-exempt unless they are industrial development bonds (IDB's) 26 U.S.C. 103(a) and (b). If the bond issue to finance a hydroelectric project is an IDB, the interest on the bond may still be tax-exempt if, for example, the proceeds will be used to finance an electric energy facility furnishing service to the general public in no more than two contiguous "counties". 26 U.S.C. 103(b)(4)(E) and Reg. 103-8(f)(2)(iii)(D). "Counties" in Alaska generally refer to boroughs. Since the Susitna Project, the Anchorage-Fairbanks Intertie, and the Bradley Lake Project would probably serve more than two such counties, it becomes important to recognize when an IDB has been created and triggers the two-county rule. If a bond is not an IDB, the two-county rule simple drops out of the picture as an issue.

A take-or-pay contract may well establish whether or not "nonexempt persons" are guaranteeing the repayment of debt service on the bond issue or whether those persons are in fact utilizing more than 25 percent of the output of the facility. Reg. 103-7(b)(5) provides:

> (5) Trade or business test and security interest test with respect to certain output contracts. (i) The use by one or more nonexempt persons of a major portion of the subparagraph (5) output of facilities such as electric energy, gas, or water facilities constructed, reconstructed, or acquired with the proceeds of an issue satisfies the trade or business test and the security interest test if such use has the effect of transferring to nonexempt persons the benefits of ownership of such facilities, and the burdens of paying the debt service on governmental obligations used directly or indirectly to finance such facilities, so as to constitute the indirect use by them of a major portion of such proceeds. Such benefits and burdens are transferred and a major portion of the proceeds of an issue is used indirectly by the users of the subparagraph (5) output of such a facility which is owned and operated by an exempt person where --

(a)(1) One nonexempt person agrees pursuant to a contract to take, or to take or pay for, a major portion (more than 25 percent) of the subparagraph (5) output (within the meaning of subdivision (ii) of this subparagraph) of such a facility (whether or not conditional upon the production of such output) or (2) two or more nonexempt persons, each of which pays annually a guaranteed minimum payment exceeding 3 percent of the average annual debt service with respect to the obligations in question, agree, pursuant to contracts, to take, or to take or pay for, a major portion (more then 25 percent) of the subparagraph (5) output of such a facility (whether or not conditioned upon the production of such output), and

(b) Payment made or to be made with respect to such contract or contracts by such nonexempt person or persons exceeds a major part (more than 25 percent) of the total debt service with respect to such issue of obligations. A bond may become an IDB if a nonexempt person -- i.e., a cooperative such as Chugach Electric Association or the like -- is the purchaser under the power sales agreement. If that nonexempt person purchases more than 25 percent of the output of the project and the manner of purchase is linked to the repayment of debt service, the "use" and "securities" tests are met and the bonds issued by a public entity would be deemed to be IDB's. The consequence is then the need to meet the electric energy facility exception and the two-county test described above. In any event, however, the Internal Revenue Service will look past the specified terms of a contract which on its face is not take-or-pay and analyze whether it is of a type which still meets the use and securities tests and would thus be an IDB. Such an analysis is generally based on a case-by-case basis. See Rev. Reg. 1.103-7(b)(4).

IMPLICATION OF STATE LEGISLATION

Aside from the Internal Revenue Code implications of take-or-pay contracts, the legislation established in the Energy Program for Alaska (AS 44.83.360-425) favors take-or-pay contracts. This is so because the legislation prescribes the calculation of a particular wholesale power rate for the sale of power from projects within the Energy Program. Included within the calculation is a component representing a particular project's "proportionate share of debt service". As 44.83.398(b)(1)(B). While the Energy Program for Alaska legislation does not specifically require power sales contracts to be take-or-pay contracts, a take-or-pay contract logically follows from the calculation. First, legislation enacted in 1982 provides that the wholesale power rate cannot be annualled or changed by the Legislature when wholesale power rates have been set by virtue of a contract with bondholders. AS 44.83.398(c) and (e). In order to assure bondholders that sufficient receipts are derived from the sale of power from a particular project or several projects (if the financing is premised upon the pledge of revenues from the sale of power from several projects), the contract would undoubtedly

be take-or-pay. Second, the calculation of the proportionate share of debt service and indeed the wholesale power rate itself require an estimation of the amount of energy to be sold in the particular year for the calculation. Under AS 44.83.398(h), the expression of a project's proportionate share of debt service "as a rate" and the average of all proportionate debt service rates require program wide estimates of power to be sold (debt service comprises the numerator and sales comprises the denominator). Similarly, a project's individual wholesale power rate (which equals specific operation and maintenance and inspection fees plus the project's proportionate share of debt service divided by the estimated sales of energy from that project) also require a consistent estimate of what the sale of energy will be. In order to make those estimates stand and be meaningful, little flexibility would be allowed to the purchaser to reduce the amount of energy to be purchased. If a purchaser is free to simply pay for the amount of energy it decides it needs at any one particular point in time, the validity of the calculation is thrown into substantial doubt. As such, the methodology for calculating the wholesale power rate under the Energy Program for Alaska necessarily restricts the ability of a purchaser to alter the amount of power that it would be willing to obligate itself to purchase in a particular period of time. That restriction proximates a take-or-pay contract.

TAKE-OR-PAY SUMMARY

As the above discussion indicates, take-or-pay agreements involve complex legal and financial issues. Take-or-pay contracts facilitate revenue bond financing of power project by serving as the prime credit source of the power sales contract.

It should be noted that take-or-pay contracts may not fulfill the same credit facilitating function in Alaska as they have in the lower forty-eight. The reason for this is that the power purchases in Alaska are likely to be small REA cooperatives or small municipal utility systems. These small utilities would not be rated by the rating services and therefore the take-or-pay provision would have a very limited usefulness on the overall credit standing of the bond issue.

The Alaska Power Authority is currently evaluating take-or-pay agreements as a part of our long range revenue bond financing plan.

II. CONTRACTOR/MULTI-PHASE

The Authority Staff has identified two issues related to the multi-phase question.

1. The "multi-step" project development process as mandated by Alaska Statutes and the preferred use of different contractors for each "step" of the work.

2. The "multi-phase" project design/construction as necessitated by "multi-year" funding appropriations the "multi-phase" project design/construction arising from characteristics inherent in the project, i.e., discreet stand-alone sub-elements of the total project.

I - MULTI-STEP PROJECT DEVELOPMENT

The Power Authority has been mandated by State legislation to use a multi-step power project development process.

STEP ONE: The process begins with reconnaissance studies to identify the electric production needs of communities or regions and to assess energy alternatives available to these communities. The reconnaissance study serves as a data collection/data analysis tool and as a source of information upon which to recommend more detailed studies, or detailed feasibility studies of one or more specific energy alternatives.

Project funding for reconnaissance studies is either for a specified community or on a regional basis. In the event that a project is identified and constructed the cost of the reconnaissance study is allocated to the project and is returned by project operating revenues. The reconnaissance study represents a discreet and clearly identifiable step in the power development process.

STEP TWO: Once a reconnaissance study is completed and a proposed power project is identified, a feasibility study is initiated to assess the detailed technical, economic and environmental aspects of a particular project. The feasibility study provides sufficient detail to allow decision making with regard to licensing, permitting and further investment in detailed engineering and design. The feasibility study will include information about the project, a statement of all assumptions which affect the economic feasibility of the project and a comparative analysis of all reasonable alternatives. The feasibility study and project plan of finance form the basis for an appropriations request to initiate project design and construction.

STEP THREE: Design and permitting is the final project planning phase prior to starting construction. This again is a discreet function but will carry over the construction and end only with project completion.

STEP FOUR: Project construction is undertaken when design is complete enough to allow firm-fixed price bidding of contract work. Once project construction is in process, the termination of the project would result in some form of penalty payments for termination at owner's convenience.

In conjunction with multi-step project development, the entire project is divided into discrete contracts with clearly defined work scopes. When a reconnaissance study is to be performed, and RFP is issued with the contract scope of work defined as "reconnaissance". This scope of work can not be expanded to the level of a feasibility

study. If a feasibility study is appropriate, following the completion of the reconnaissance study, an RFP must be issued for the feasibility study. The Power Authority believes that a more objective report is obtained by having different contractors perform the project reconnaissance and feasibility reports. This result is normally obtained by issuing a separate RFP for each phase of the "multi-step" process.

On very small projects it may be appropriate to use the feasibility study contractor for the project design work. If feasibility and design function are combined, then the RFP must clearly require both in the scope of contract work description.

It is the Power Authority's policy to clearly divide and separately contract project work in accordance with the "multi-step" development process. We believe that this policy results in greater objectivity and control of contractor work performance. Reference attachment I.

This multi-step process allows for legislative review at three significant junctures with each review point allowing for more detailed analysis based upon the increased amount of data and increased reliability of data presented to the legislative decision makers. The review junctures are:

1. Appropriation for reconnaissance study
   - little specific information other than general definition of needs

2. Appropriation for feasibility study
   - community or region specific detail
   - detail concerning alternatives or proposal for specific project
   - some preliminary cost data

3. Appropriation for design and construction
   - project specific detail
   - specific and detailed cost/economic information with plan of finance and second cost estimate

As the above discussion indicates, the multi-step process is a time consuming process covering several years. At each review/approval phase, the quantity and quality of information is increased which should allow for correct decision making prior to the committment of significant amounts of State funds.

II - MULTI-PHASE PROJECTS FROM MULTI-YEAR FUNDING

On large construction projects multi-year funding may be the only practical means of funding a project. Multi-year funding may also be the most economically astute funding method since monies appropriated in the first year of construction may not be expended for several years.

The problem encountered in multi-year funding is that most power project construction projects do not lend themselves to discreet phases which can be independently financed into defined units. As an example, the recent Anchorage-Fairbanks Intertie Project was initiated with State funding of $76,000,000 but total project costs were estimated at $130,000,000, leaving the unfunded balance of $54,000,000. A contractual obligation is established upon issuance of firm-fixed price construction or material procurement contracts. In the event that a project is terminated due to the lack of funds, a significant exposure to termination claims will occur.

A power project such as the intertie cannot be easily "packaged" to accommodate an obligation of funds approach. The construction contract is for $65.1 million and is firm-fixed price. In order to accommodate an obligation of funds construction schedule (this would limit contract value to funds-on-hand) cost economics of scale would be forfeited.

An example of a multi-phase project with discreet sub-projects is the Susitna Project. Susitna constitutes two distinct dam projects, Watana and Devil Canyon. Other projects with discreet sub-projects would involve power generation projects with associated power transmission projects. This type of project could be funded and constructed as a total project or on a multi-phase basis with one sub-project being completed prior to initiating the follow-on project components.

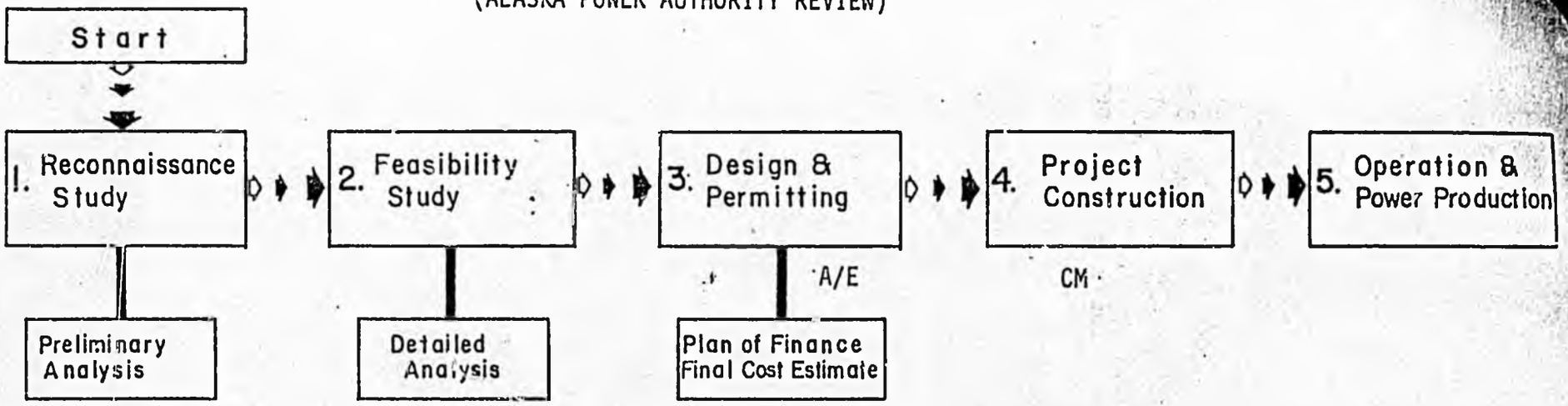
Sincerely,

R. A. Jenish

Eric P. Yould
Executive Director (for)

FIVE STAGES OF POWER PROJECT DEVELOPMENT

(ALASKA POWER AUTHORITY REVIEW)



32 ANALYTIC STATEMENT
(Six-year Capital Program)

CATEGORY _____

AGENCY _____

PROGRAM _____

ATTACHMENT I

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Revised Date

FY 84

September 15, 1982

Eric P. Yould, Executive Director
Alaska Power Authority
334 West 5th Avenue
Anchorage, AK 99501

Dear Mr. Yould:

Thank you for your letter of September 8, 1982 regarding "take or pay and multi-phase project work." I was pleased to read the results of your first exploration of these issues and look forward to subsequent task products.

I would hope that in the next analytical work on "take-and/or-pay" contracts you will build on this definitional work, elaborating on the potential advantages and disadvantages of pre-construction purchase contracts by type, as well as showing the projects that might fall under the IRS non-exempt definition. In passing, I would like to note that I believe there are crucial differences between purchase contracts and the kind of obligations which might be realized under AS 44.83.360-425, not only in terms of the strength of contractual obligations but also in terms of local commitment to and understanding of a project prior to construction. I would also think that having "take-and/or-pay contracts" would have contributed favorably to your current deliberations on pooled revenue bonds versus moral obligations. I will appreciate being kept informed of your efforts on take-or-pay agreements as a part of your long range revenue bond financing plan, which I assume is part of your long term capital budget request.

Regarding contractor/multi-phase issues, I believe that your staff has identified the relevant issues. In addition, the discussion provided interesting information about the current policies and practices of the Alaska Power Authority. I assume future work will address the issue

identified as "the preferred use of different contractors for each 'step' of the work," and the advantages and disadvantages of full or partial restructuring of those identified AFA policies and practices.

Again, I appreciated your initial efforts and look forward to hearing from you again as work on the HB 9 letter of intent issues progresses.

Sincerely,

Arliss Sturgulewski
Senator, District 10-H

cc: All Board Members

ALASKA POWER AUTHORITY

334 WEST 5th AVENUE - ANCHORAGE, ALASKA 99501

Phone: (907) 277-7641
(907) 276-0001

October 11, 1982

Mr. Charles Conway, Chairman
Alaska Power Authority
2481 Belmont Drive
Anchorage, Alaska 99503

Subject: Interim Financing for Alaska Power Authority Projects

Dear Chuck:

To date the Alaska Power Authority has issued interim financing having a total outstanding par amount of $200 million for the following projects:

Swan Lake	$ 35 million
Tyee Lake	50 million
Terror Lake	115 million

In each instance the interim financing was incurred in order to proceed with the award of contracts which would otherwise have exceeded the amount of funds on hand. It is expected that when due, the interim financing will be replaced with permanent financing in the form of long-term revenue bonds or additional direct State appropriations.

Interim financing offers advantages of cost and flexibility where the following circumstances apply:

1) Full funding at project costs is required to obtain the best bids and to avoid project completion delays.

2) The Legislature has evidenced a desire to consider additional direct funding for a project out of funds available in a subsequent fiscal year.

3) Short-term rates offer a significant cost savings at the time of issuance and market risks are hedged.

4) The Authority and its financial team have determined that it should defer long-term financing until market conditions are more favorable.

The use of interim financing need not constrain future debt issuance policies of the Authority, but purchasers or providers of credit facilities will want enforceable agreements regarding the Authority's intention to issue a long-term debt that is properly secured and. hence, marketable. In this regard, interim lenders normally expect

that long-term financing will be secured by contracts for the sale of the power produced by the project being constructed. This expectation is not unreasonable, especially in view of the fact that it is standard industry practice to conclude such power sales agreements prior to award of contracts and initiation of construction.

Therefore, it is the policy of the Alaska Power Authority to use interim financing under the following guidelines:

1. Permanent financing for the project can be obtained when the interim financing matures.

2. The interim financing matures no sooner than six months after the expected date of project completion.

3. Short-term rates offer a substantial advantage over long-term financing and future market risk has been incorporated in this segment.

4. At least 75% of the project cost is under contract when the interim financing is authorized.

5. Where possible, the interim financing combined with the available resources should fully fund the remaining cost of the project, plus an adequate contingency.

This brief letter is the Authority's response to the request in the Letter of Intent filed with H.B.9 concerning interim financing.

Sincerely,

Eric P. Yould

Eric P. Yould
Executive Director

Review Letter of Intent.

UNIVERSITY OF ALASKA
Institute of Social and Economic Research
707 "A" St., Suite 206
Anchorage, Alaska 99501
Phone (907) 278-4621

February 24, 1983

Senator Vic Fischer
Senate State Affairs Committee
Pouch V
Juneau, Alaska 99811

Dear Senator Fischer:

At the request of the Senate State Affairs Committee, I am sending you a brief paper which describes our work to date in developing new economic projections for determining future electricity demand in the Railbelt.

Our work is still in a preliminary stage as all components of our projection methodology and data inputs are currently under intensive review and scrutiny both from within and without the Institute. Consequently, the projections presented in the paper are subject to change before they are actually used in a revised evaluation of Susitna feasibility.

With the caveat in mind, the paper presents our best estimate at this time of a base case (most likely) projection of economic activity. High and low projections are not yet available, but it should be kept in mind that due to the inherent uncertainties surrounding oil prices and production, as well as other variables affecting the levels of future economic activity, the range of possible futures covers a broad band.

Tables 1-4 in the paper show the 1983 preliminary projections for state population, employment, petroleum revenues, and general fund expenditures (defined to include Permanent Fund Dividends and restricted general fund expenditures). It also compares these projections to those done by the Institute in 1981 for the Battelle Railbelt study.

The significantly lower population and employment projections are the result of the downward adjustment in forecasted petroleum revenues. For the mid-1990s the most recent projections are less

than one-third those of 1981. This fall in forecasted petroleum revenues dramatically reduces state spending in the current projection below the projection made in 1981. Further, as lower petroleum revenues are a reflection of lower real energy prices, lower petroleum revenue projections go hand in hand with a reduction of the economic viability of large scale energy projections such as the ANGTS line.

Table 5 of the paper describes the revised base case economic scenario and compares it with the one used in the Battelle study. One can see the postponement or elimination of several projects, but also the addition of some new projects.

The difference between the 1981 projection and the preliminary 1983 projection is symptomatic of the uncertainty inherent in energy planning in Alaska. We cannot expect that this uncertainty has now been eliminated because a revised set of projections, albeit preliminary, has been developed. Events will continue to surprise us, forcing us to continuously change our best estimates of what the future economic picture of the state will be. Energy planning must confront this uncertainty directly and direct us toward those options which minimize the risks inherent in planning in an uncertain world.

I will be unavailable to appear before the committee on March 1, but if you desire an oral briefing on our work to date, please contact Dr. Gunnar Knapp of the Institute, who is prepared to explain in more detail the current status of our research.

Sincerely,

Oliver Scott Goldsmith/D.K.

Oliver Scott Goldsmith
Associate Professor of Economics

Enclosures

cc: Ned Lesnick, Harza-Ebasco
Robert Mohn, APA

COMPARISON OF ISER MAP MODEL PROJECTIONS PREPARED IN 1981 FOR BATTELLE RAILBELT STUDY AND PRELIMINARY PROJECTIONS PREPARED IN 1983

Prepared for

The Alaska Senate State Affairs Committee

Prepared by

Scott Goldsmith and Gunnar Knapp
University of Alaska
Institute of Social and Economic Research

February 1983

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LIST OF TABLES

Our current work is still in a preliminary stage, and all of the components of the projection methodology and data inputs are currently under intensive review and scrutiny from both within and without ISER. Consequently, the projections presented in the attached tables are subject to change.

With this caveat in mind, the preliminary 1983 projections represent our best estimate at this time of a base case (most likely) projection of economic activity. We have not yet completed high and low projections, but it should be kept in mind that due to the inherent uncertainties surrounding oil prices and production, as well as other variables affecting the levels of future economic activity, the range of possible futures covers a broad band.

I. COMPARISON OF 1981 PROJECTIONS AND 1983 PRELIMINARY PROJECTIONS

In 1981, the Institute of Social and Economic Research (ISER) prepared projections of population and economic activity in Alaska and the Railbelt for Battelle.* Tables 1-4 compare these 1981 projections for state population, employment, petroleum revenues, and general fund expenditures with the preliminary results of projections which ISER is presently preparing for the Alaska Power Authority and the Minerals Management Service Alaska OCS Office.

The significantly lower population and employment projections are the result of the downward adjustment in forecasted petroleum revenues. For the mid-1990s the most recent petroleum revenue projections are less than one-third those made in 1981. This fall in forecasted petroleum revenues dramatically reduces state spending in the current projection below the projection made in 1981 Further, as lower petroleum revenues are a reflection of lower real energy prices, lower petroleum revenue projections go hand in hand with a reduction of the economic viability of large scale energy projects such as the ANGTS line.

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*See Scott Goldsmith and Ed Porter, "Alaska Economic Projections for Estimating Electricity Requirements for the Railbelt" (ISER report prepared for Battelle, October 1981).

TABLE 2.

COMPARISON OF MAP MODEL PROJECTIONS:

EMPLOYMENT

(THOUSANDS)

	1981 PROJECTIONS	1983 PRELIMINARY PROJECTIONS	DIFFERENCE
1980	206.214	-	-
1981	214.193	214.217	0.024
1982	223.028	228.620	5.592
1983	233.475	234.000	0.525
1984	244.809	237.027	-7.782
1985	268.663	242.787	-25.876
1986	291.040	251.519	-39.521
1987	299.174	256.739	-42.435
1988	298.113	263.751	-34.362
1989	301.154	268.122	-33.033
1990	299.004	271.005	-27.999
1991	303.003	278.883	-24.120
1992	303.739	277.461	-26.278
1993	306.920	275.488	-31.432
1994	311.561	275.260	-36.301
1995	316.167	274.677	-41.489
1996	322.484	273.882	-48.602
1997	329.803	274.101	-55.702
1998	336.114	275.637	-60.477
1999	343.883	278.370	-65.513
2000	351.656	281.385	-70.271
2001	-	284.108	-
2002	-	286.979	-
2003	-	290.281	-
2004	-	293.862	-
2005	-	297.658	-
2006	-	301.571	-
2007	-	305.768	-
2008	-	310.155	-
2009	-	314.532	-
2010	-	319.225	-

NOTE: DIFFERENCE IS 1983 PRELIMINARY PROJECTIONS MINUS 1981 PROJECTIONS
BLANKS INDICATE PROJECTIONS NOT AVAILABLE
SEE NOTES AT END OF TABLES FOR SOURCES

TABLE 1.

COMPARISON OF MAP MODEL PROJECTIONS:

POPULATION

(THOUSANDS)

	1981 PROJECTIONS	1983 PRELIMINARY PROJECTIONS	DIFFERENCE
1980	400.457	-	-
1981	412.395	415.695	3.300
1982	428.251	431.412	3.160
1983	444.492	445.441	0.948
1984	463.274	457.310	-5.964
1985	498.151	468.152	-30.000
1986	531.933	481.069	-50.864
1987	545.304	491.021	-54.283
1988	547.669	502.515	-45.154
1989	558.208	512.465	-45.743
1990	562.438	521.061	-41.377
1991	572.732	533.891	-38.841
1992	579.364	538.950	-40.413
1993	588.021	541.646	-46.375
1994	598.543	544.941	-53.603
1995	608.963	547.669	-61.293
1996	621.173	549.747	-71.426
1997	634.519	552.455	-82.064
1998	646.899	556.224	-90.675
1999	660.873	561.274	-99.600
2000	674.983	566.779	-108.204
2001	-	572.190	-
2002	-	577.875	-
2003	-	584.169	-
2004	-	590.959	-
2005	-	598.222	-
2006	-	605.880	-
2007	-	614.087	-
2008	-	622.780	-
2009	-	631.767	-
2010	-	641.297	-

NOTE: DIFFERENCE IS 1983 PRELIMINARY PROJECTIONS MINUS 1981 PROJECTIONS
BLANKS INDICATE PROJECTIONS NOT AVAILABLE
SEE NOTES AT END OF TABLES FOR SOURCES

NOTE: Population projections are for long-term trends and will not capture short-term cyclical swings.

TABLE 4.

COMPARISON OF MAP MODEL PROJECTIONS:

STATE GENERAL FUND EXPENDITURES

(MILLIONS OF CURRENT DOLLARS)

	1981 PROJECTIONS	1983 PRELIMINARY PROJECTIONS	DIFFERENCE
1980	1402.121	-	-
1981	2381.692	2783.068	401.375
1982	3238.556	4000.100	761.543
1983	3582.562	3076.350	-506.212
1984	4033.220	3510.656	-522.564
1985	4556.820	3841.445	-715.375
1986	5410.379	4191.855	-1218.523
1987	6319.211	4305.965	-2013.246
1988	6915.836	4834.742	-2081.094
1989	7354.871	5063.359	-2291.512
1990	7908.508	5711.844	-2196.664
1991	8566.227	6206.945	-2359.281
1992	9202.680	5754.664	-3448.012
1993	10045.590	5810.402	-4235.191
1994	11018.460	5987.262	-5031.195
1995	12145.130	5984.492	-6160.633
1996	13389.920	5981.754	-7408.168
1997	14818.750	6268.918	-8549.828
1998	16433.000	6537.012	-9895.980
1999	18144.310	6991.930	-11152.380
2000	20107.040	7382.637	-12724.410
2001	-	7798.238	-
2002	-	8237.258	-
2003	-	8705.035	-
2004	-	9205.180	-
2005	-	9738.430	-
2006	-	10306.680	-
2007	-	10911.940	-
2008	-	11557.960	-
2009	-	12245.140	-
2010	-	12976.270	-

NOTE: DIFFERENCE IS 1983 PRELIMINARY PROJECTIONS MINUS 1981 PROJECTIONS
BLANKS INDICATE PROJECTIONS NOT AVAILABLE
SEE NOTES AT END OF TABLES FOR SOURCES

NOTE: General Fund Expenditures are defined to include permanent fund dividends and restricted general fund expenditures.

TABLE 3.

COMPARISON OF MAP MODEL PROJECTIONS:

PETROLEUM REVENUES

(MILLIONS OF CURRENT DOLLARS)

	1981 PROJECTIONS	1983 PRELIMINARY PROJECTIONS	DIFFERENCE
1980	1721.020	-	-
1981	4036.738	3314.232	277.495
1982	4132.719	3964.701	-168.018
1983	5030.418	3450.448	-1579.970
1984	5598.605	3163.283	-2435.323
1985	6623.777	3388.757	-3235.021
1986	7427.689	3772.009	-3655.680
1987	8612.336	3952.286	-4660.047
1988	9549.510	4470.195	-5079.316
1989	10907.430	4713.133	-6194.301
1990	11456.360	4502.570	-6953.793
1991	12468.160	4213.605	-8254.551
1992	13032.680	4134.953	-8897.730
1993	13766.180	4049.570	-9716.610
1994	13911.120	4108.281	-9802.840
1995	13456.950	3938.794	-9518.150
1996	12864.070	3771.708	-9092.360
1997	12155.070	3927.083	-8227.984
1998	11311.730	4055.789	-7255.941
1999	10396.860	4369.531	-6027.324
2000	9559.230	4590.996	-4968.238
2001	-	4824.875	-
2002	-	5072.004	-
2003	-	5333.211	-
2004	-	5609.359	-
2005	-	5901.387	-
2006	-	6210.293	-
2007	-	6537.129	-
2008	-	6883.031	-
2009	-	7249.211	-
2010	-	7636.957	-

NOTE: DIFFERENCE IS 1983 PRELIMINARY PROJECTIONS MINUS 1981 PROJECTIONS
BLANKS INDICATE PROJECTIONS NOT AVAILABLE
SEE NOTES AT END OF TABLES FOR SOURCES

TABLE 5. COMPARISON OF ASSUMPTIONS, 1981 PROJECTIONS AND PRELIMINARY 1983 PROJECTIONS

	1981 Projections	Preliminary 1983 Projections
State Revenues and Expenditure Assumptions		
Revenues	Petroleum revenues based upon Alaska Department of Revenue projections published in June of 1981 (see Table 3 for projections).	Petroleum revenues based upon Alaska Department of Revenue projections published in December of 1982 (see Table 3 for projections). The income tax is reinstated in 1989.
Expenditures	Real per capita expenditures increase at the same rate as per capita income.	State expenditures are at the levels allowed by the recently-passed spending limit. In 1992 when revenues are no longer sufficient to allow expenditures at the level permitted by the spending limit, expenditures are cut to equal total revenues.
Exogenous Employment Assumptions*		
Trans-Alaska Pipeline	Operating employment continues; four new pumping stations constructed.	Operating employment continues; four new pumping stations constructed.
North Slope Oil	Long-run North Slope oil operating employment is 1,667.	Long-run North Slope oil operating employment is 2,400.
Upper Cook Inlet Oil and Gas	Upper Cook Inlet employment remains constant with gas development offsetting declines in oil production.	Upper Cook Inlet employment declines to 50 percent of current levels by 2010.
Tertiary Oil Recovery	No tertiary oil recovery assumed.	Tertiary employment in oil recovery project on North Slope utilizing natural gas peaks at 2,000 in early 1990s.
Gas Pipeline	Northwest gas pipeline constructed, 1983-87.	No gas pipeline assumed.

*Employment in different special projects and basic industries is totaled to arrive at the total exogenous employment assumptions shown in Table 6.

II. COMPARISON OF ASSUMPTIONS USED IN 1981 PROJECTIONS AND PRELIMINARY 1983 ASSUMPTIONS

Differences between the 1981 and 1983 projections result primarily from differences in the assumptions used. Some changes have also been made to the structure of the model; however, these are of less importance in explaining differences between projections.

Table 5 presents a brief comparison of these assumptions for the 1981 and the 1983 preliminary projections. Exogenous employment assumptions are developed by constructing a scenario of employment in different special projects and basic industries. The scenario used in the 1983 preliminary projections postponed or eliminated some projects assumed for the 1981 projections, but added others.

Table 6 compares the total exogenous employment that resulted from the exogenous employment scenarios outlined in Table 5. The significant decline in the assumptions for total exogenous employment results primarily from lower exogenous employment assumptions for the mining, construction, and transportation industries.

TABLE 6. COMPARISON OF MAP MODEL TOTAL EXOGENOUS EMPLOYMENT ASSUMPTIONS

(thousands)

	1981 Projections	1983 Preliminary Projections	Difference
1980	67.010	66.152	-.858
1981	69.105	66.696	-2.409
1982	70.184	69.150	-1.034
1983	72.627	70.688	-1.939
1984	74.391	70.733	-3.658
1985	80.888	71.160	-9.728
1986	83.928	72.238	-11.690
1987	80.182	72.525	-7.657
1988	75.257	73.319	-2.208
1989	76.170	74.565	-1.595
1990	77.657	74.964	-2.693
1991	79.648	74.944	-4.704
1992	79.451	74.683	-4.798
1993	79.250	75.026	-4.224
1994	80.295	75.486	-4.809
1995	80.749	74.964	-5.755
1996	81.388	74.944	-6.444
1997	82.344	74.683	-7.661
1998	82.190	75.026	-7.164
1999	82.672	75.486	-7.186
2000	83.308	75.947	-7.361
2001	-	75.912	-
2002	-	75.816	-
2003	-	75.902	-
2004	-	75.995	-
2005	-	76.097	-
2006	-	76.152	-
2007	-	76.284	-
2008	-	76.418	-
2009	-	76.438	-
2010	-	76.598	-

TABLE 5. COMPARISON OF ASSUMPTIONS, 1981 PROJECTIONS AND PRELIMINARY 1983 PROJECTIONS (Continued)

	1981 Projections	Preliminary 1983 Projections
National Petroleum Reserve in Alaska	Slow development of 5 oil fields.	No development assumed.
Outer Continental Shelf (OCS) Petroleum and Gas	Oil and gas resources are developed in Lower Cook Inlet, the Beaufort Sea, the Chukchi Sea, & the Navarin Basin, with total employment exceeding 4,000 by 1998.	Oil and gas resources are developed only in the Beaufort Sea, with maximum employment of 1,771 in 1995.
Hydroelectric Development	No hydroelectric development assumed.	Employment in construction of hydroelectric projects peaks at 700 in 1990.
Coal Development	Beluga Coal Field developed for export.	Beluga Coal Field developed for export.
Mining	1 percent annual growth in employment	U.S. Borax, Greens Creek, and Red Dog Mines constructed; other mining employment increases at 1 percent per year.
Petroleum Refining	100,000 barrel-per-day refinery constructed at Valdez.	No new refineries assumed.
Pacific LNG Project	LNG project assumed for Anchorage area.	No LNG project assumed.
Forestry, Lumber and Pulp	Employment expands to 6,778 in 2000.	Employment expands to 4,028 in 2000.
Agriculture	Employment expands to 1,037 in 2000.	Employment expands to 508 in 2000.
Fishing	Total fish-harvesting employment expands to 7,423 in 2000. Fish processing employment expands roughly proportionately.	Total fish-harvesting employment expands to 7,096 in 2000. Fish processing employment expands roughly proportionately.
Federal Gov't Employment	Military employment constant. Civilian employment grows at .5 percent per year.	Military employment constant. Civilian employment grows at .5 percent per year.

ALASKA POWER AUTHORITY

334 WEST 5th AVENUE - ANCHORAGE, ALASKA 99501

Phone: (907) 277-7641
(907) 276-0001

April 26, 1982

The Honorable Jay S. Hammond
Governor
State of Alaska
Pouch A
Juneau, Alaska 99811

Dear Governor Hammond:

Alaska Statute 44.83.300 mandates that the Alaska Power Authority prepare and submit a preliminary report recommending whether work should continue on the Susitna River Hydroelectric Project and on other viable alternatives. The law further directs the Authority to explain certain project aspects in detail, in the event of an affirmative recommendation. This letter and the accompanying materials constitute that preliminary report.

In formulating its recommendations, the Power Authority has reviewed the Acres American Draft Feasibility Report, has been briefed by Battelle Pacific Northwest on the results of the Railbelt Alternatives Study, has received an inuependent Susitna Project cost estimate, has received a final report from our Susitna External Review Panel, and has listened to public, agency and utility testimony about the proposed project.

The Board of Directors has concluded that the Susitna Project offers a potential of long term benefits to the residents of the State. While this potential exists, the realization of those benefits is dependent upon certain assumptions about the future that are far from certain, upon proper project development timing, and upon very skillful project management. Because of these uncertainties and the time available before any construction decision is necessary, the Authority believes it is premature to make any commitment, at this time, to actual project construction. On the other hand, since the potential exists for realizing substantial long-term benefits and since no information has come to light to suggest that environmental and social impacts, after mitigation, would be unacceptable, we recommend the following actions which were unanimously approved at the meeting of the Power Authority on April 22, 1982.

1. Pre-construction developmental efforts on the Susitna Hydroelectric Project should be continued;

2. The Alaska Legislature should authorize the Power Authority to submit a Federal Energy Regulatory Commission license application at a time deemed appropriate by the Authority. The issue of license application timing will be resolved by the Authority not later than June 30, 1982;

3. Funds in the amount of $25.6 million should be appropriated to the Authority in FY-83 for the continuation and intensification of environmental studies, for site exploration activities, and for the initiation of project design.

Ensuing Board discussions raised several additional issues. Assessment of selected alternative power generation options should be pursued in the event that Susitna development does not proceed as scheduled for one reason or another. Specifically, we suggest that an initial assessment be made of the technical viability, environmental impact and life cycle cost of a North Slope gas generation and transmission system to serve railbelt power needs, and that feasibility studies of the proposed Chakachamna Hydroelectric Project by continued. The estimated FY-83 costs of these activities are $200,000 and $3,300,000, respectively.

In as much as a substantial State monetary contribution (in the form of either a loan or a grant) will be necessary to offset the relatively high power cost in the initial years of project operation, State officials should carefully consider the alternative near term uses of these State funds that would be foregone.

The Authority wishes it be understood that the recommendation to continue development activities on the Susitna Project is not an endorsement of the consulting engineer's recommendations regarding specific project details. For instance, the engineer's plan for access to the project site is the subject of reanalysis and will be reconsidered by the Authority at an appropriate future time.

With respect to the detailed information required by AS 44.83.300, please reference the accompanying draft feasibility report and associated documents. The proposed conceptual design can be found in Chapters 11-14 of Volume 1. The phases of construction and the expected completion dates for each phase are presented in Chapter 17 of Volume 1 and on Plates 75 and 76 of Volume 3. This schedule represents an optimal program under the assumption of a mid-range load growth forecast. The actual commitment to begin construction will require continued assessment of the opportunities and constraints associated with financial markets, Railbelt load growth and State revenues. The expected cost of constructing each phase is shown in Chapter 16 of Volume 1. A second estimate, prepared at Power Authority direction independently of the consulting engineer is also provided. Finally, the anticipated costs to the State and to power consumers under a number of alternative methods of project financing are presented in Chapter 18 of Volume 1. Analysis must continue on these as well as other financing alternatives.

You will find additional very important information in the other sections of the draft feasibility report, in the independent cost estimate report, in the Susitna External Review Panel report, and in the transcript of public, agency and utility testimony.

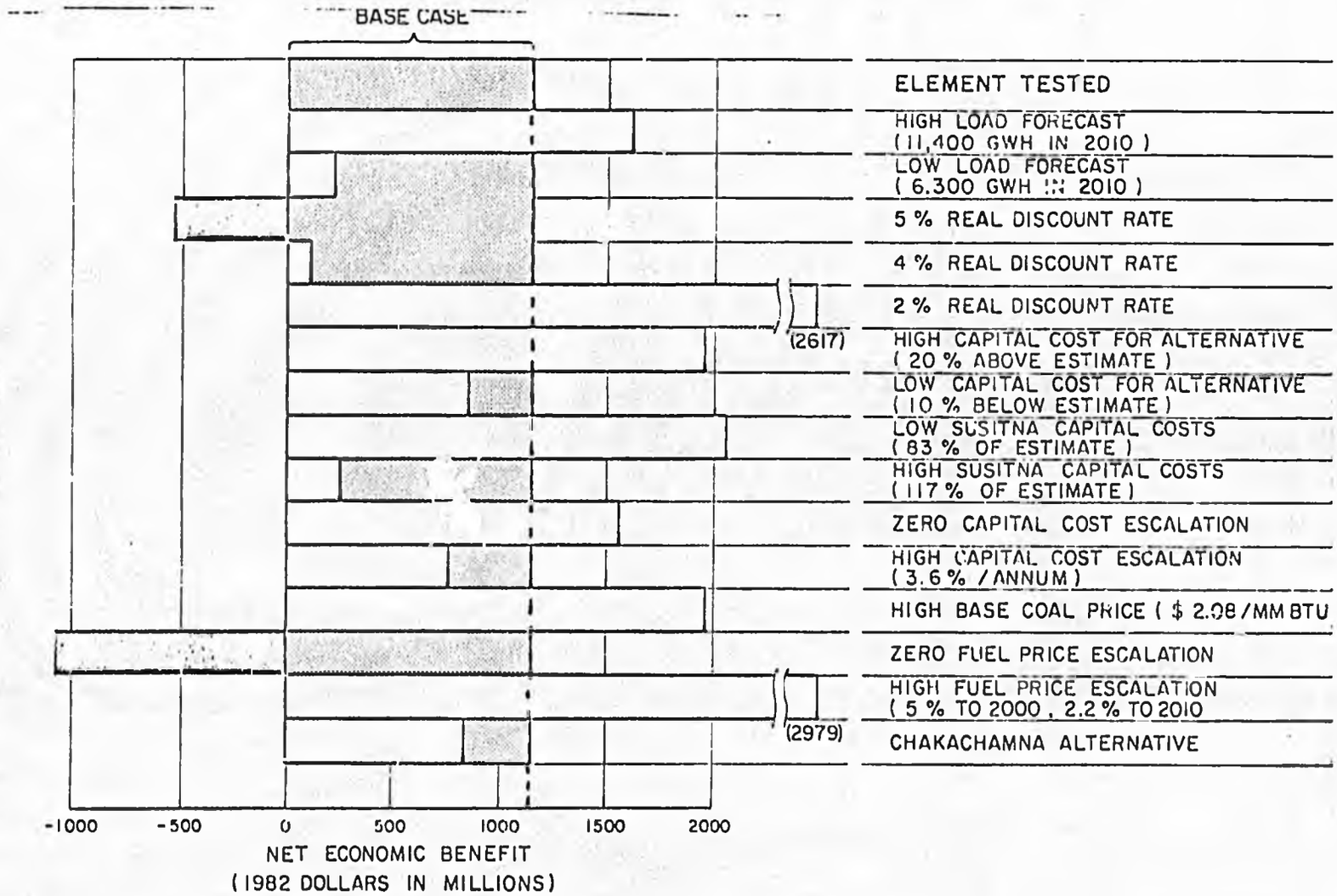
The Power Authority appreciates the opportunity to provide this preliminary report and make these recommendations on the Susitna Hydroelectric Project.

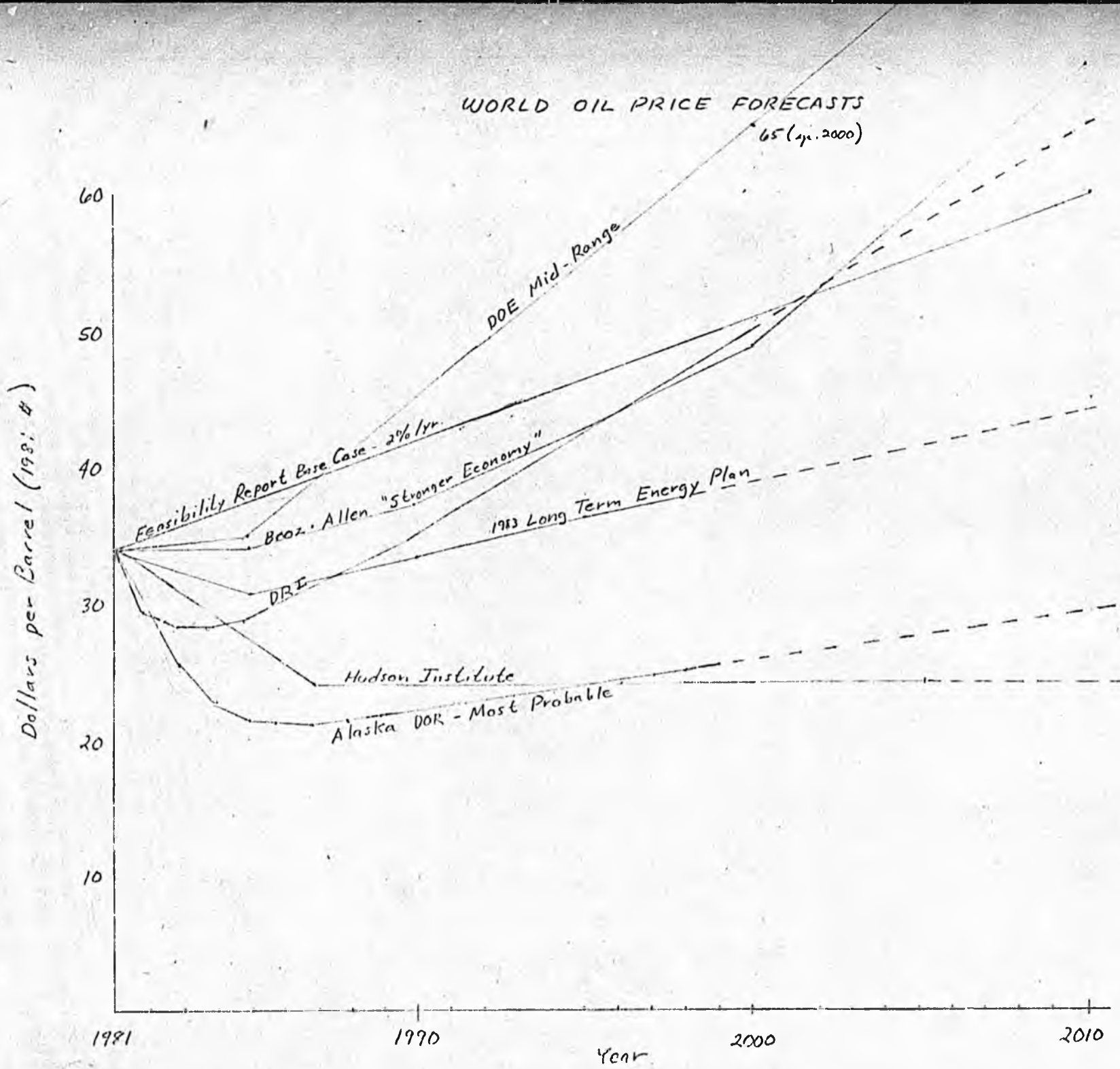
Respectfully Submitted,

Charles Conway
Chairman

Attachments: As noted.

SENSITIVITY ANALYSIS




WORLD OIL PRICE FORECASTS
65 (yr. 2000)
DOE Mid-Range
Feasibility Report Base Case - 2%/yr.
Broz. Allen "Stronger Economy"
1983 Long Term Energy Plan
DRI
Hudson Institute
Alaska DOR - Most Probable
60
50
40
30
20
10
Dollars per Barrel (1981 $)
1981
1990
2000
2010
Year

S U S I T N A P R O J E C T S T A T U S R E P O R T

F E B R U A R Y 1 9 8 3

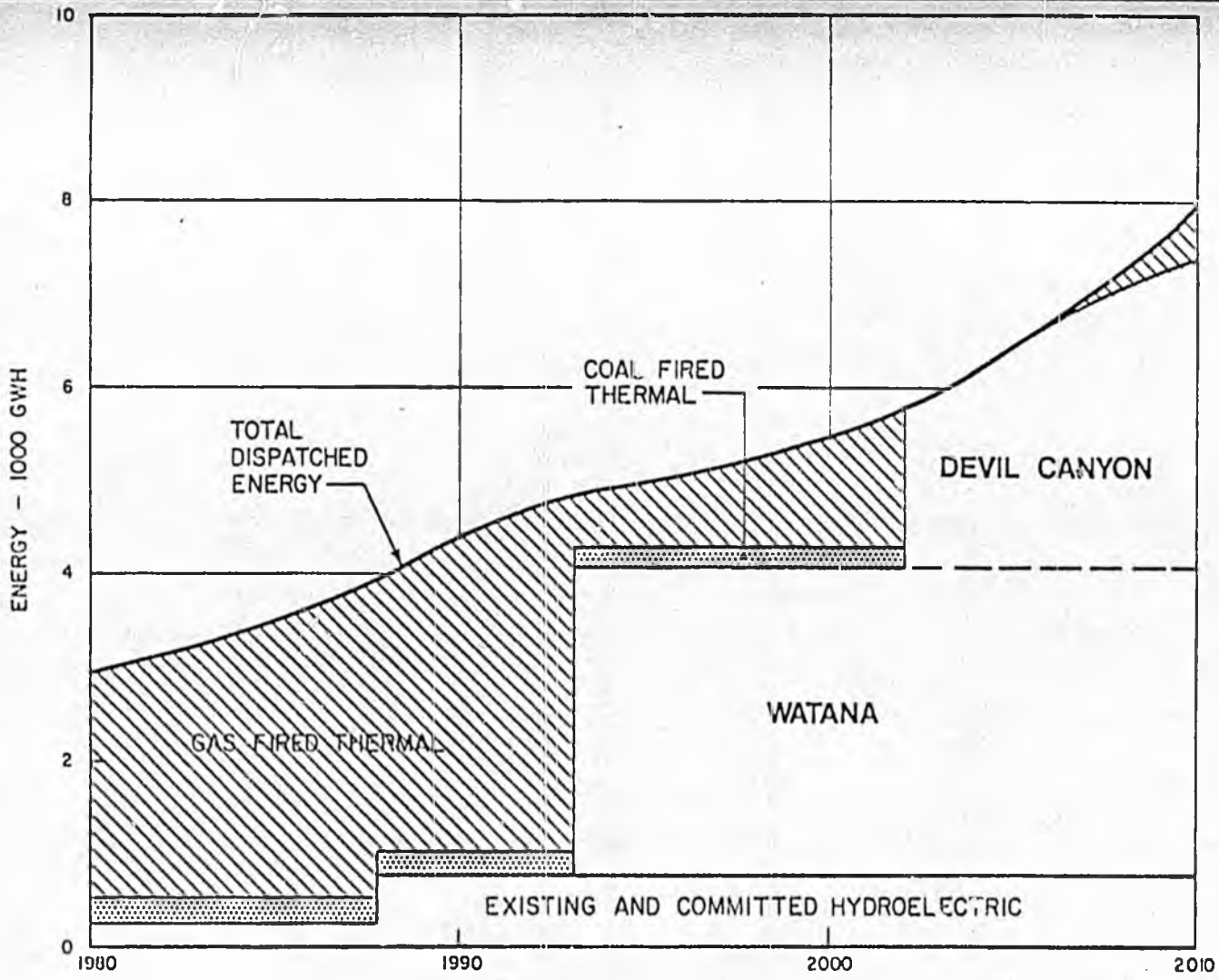
THE SUSITNA PROJECT

	WATANA	DEVIL CANYON
DAM TYPE	ZONED EARTHFILL	CONCRETE ARCH
DAM HEIGHT	885 FEET	645 FEET
RESERVOIR LENGTH	48 MILES	26 MILES
INSTALLED CAPACITY	1,020 MW	600 MW
AVERAGE ANNUAL ENERGY	3,460 GWH	3,340 GWH
TRANSMISSION SYSTEM	345 KV	345 KV
COST ($ 1982)	3.58 BILLION	1.57 BILLION
COST (@ 6% INFLATION)	5.74 BILLION	---
COMMISSIONING DATE	1993	2002

PROJECT PURPOSE

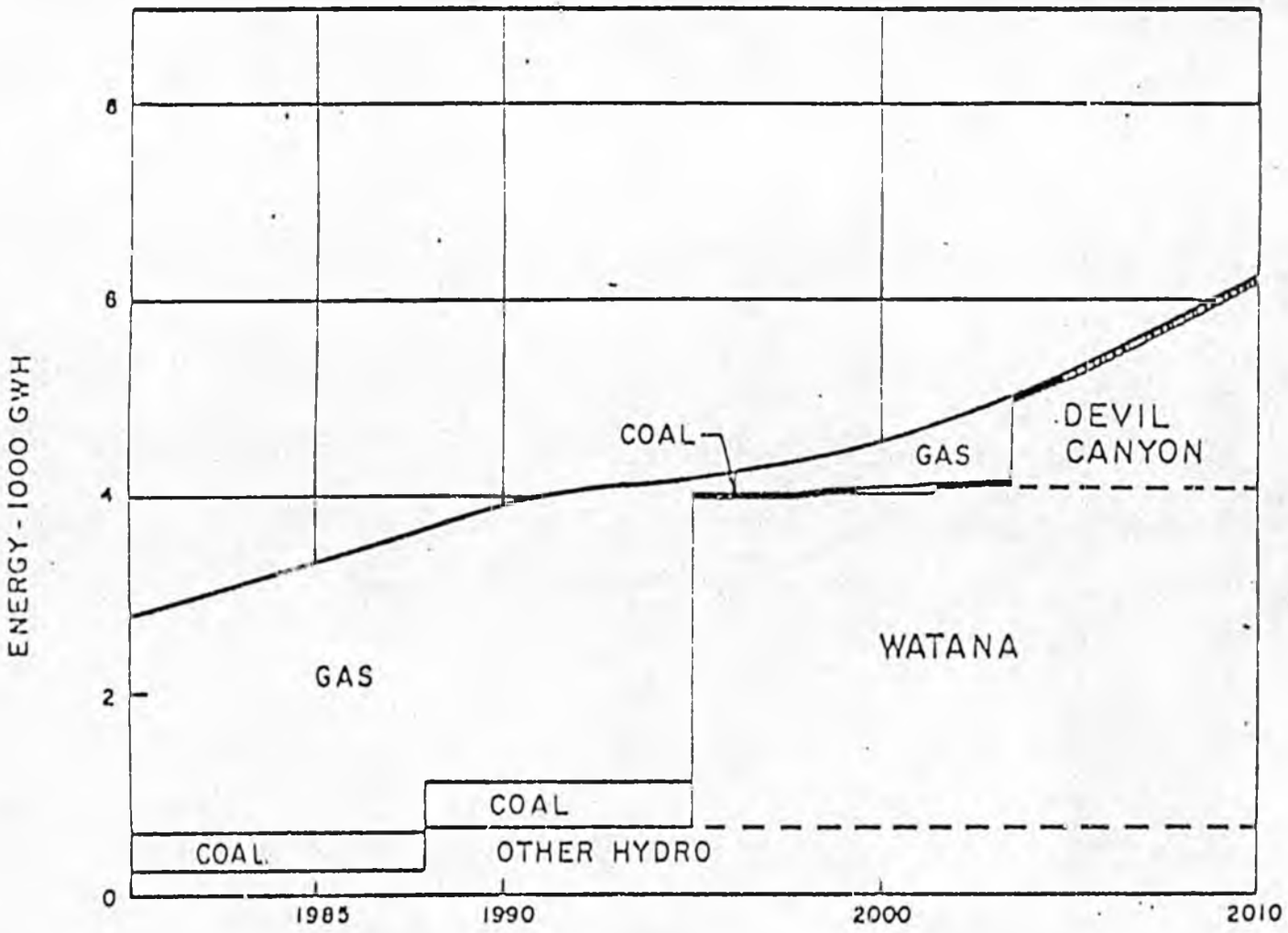
- MEET RESERVE MARGINAL AND ENERGY REQUIREMENTS
- REDUCE OVERALL COST OF THE GENERATING SYSTEM

USE OF SUSITNA GENERATION



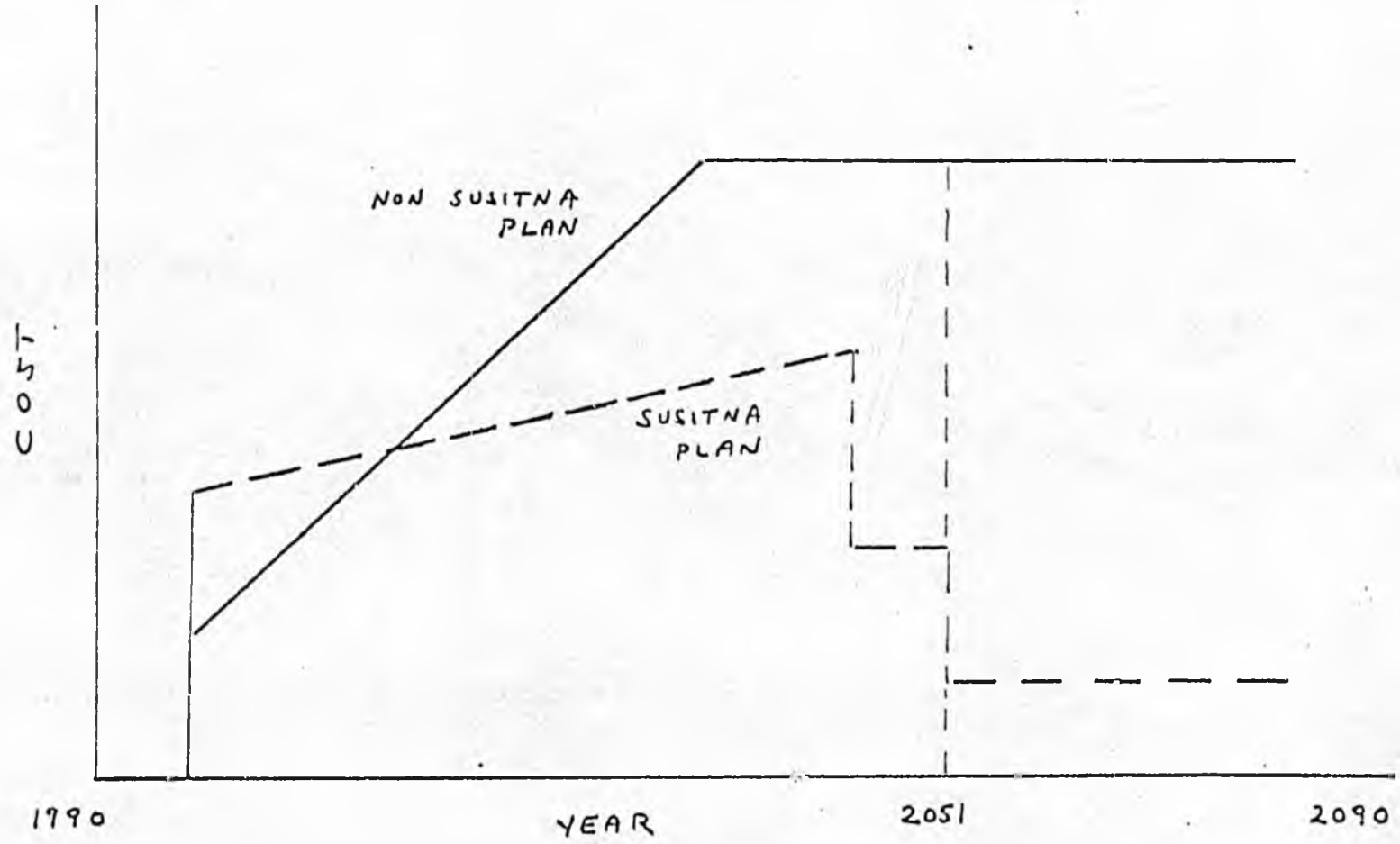
Medium Load Forecast

USE OF SUSITNA GENERATION

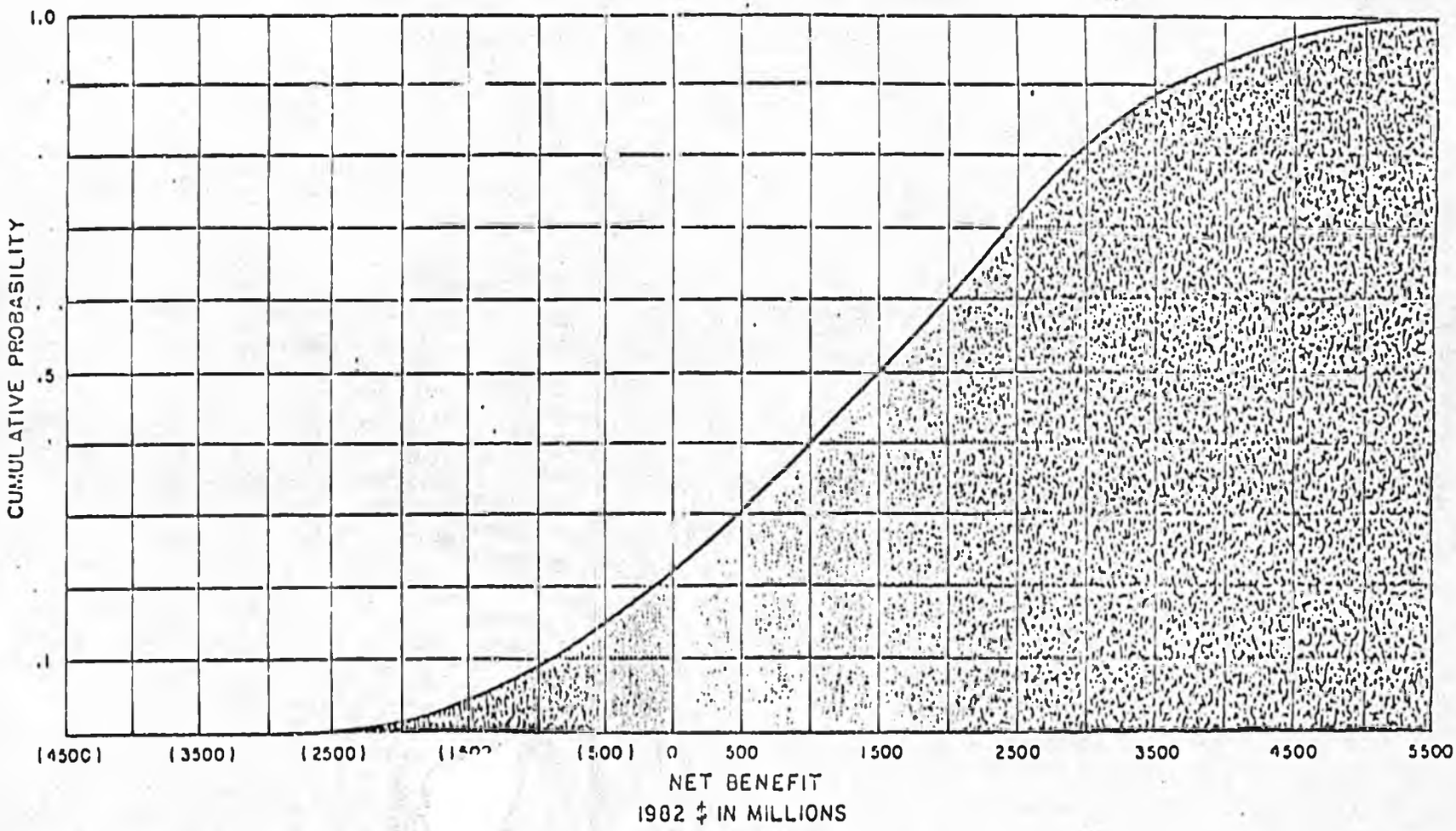


LOW LOAD FORECAST

ECONOMIC FEASIBILITY TEST



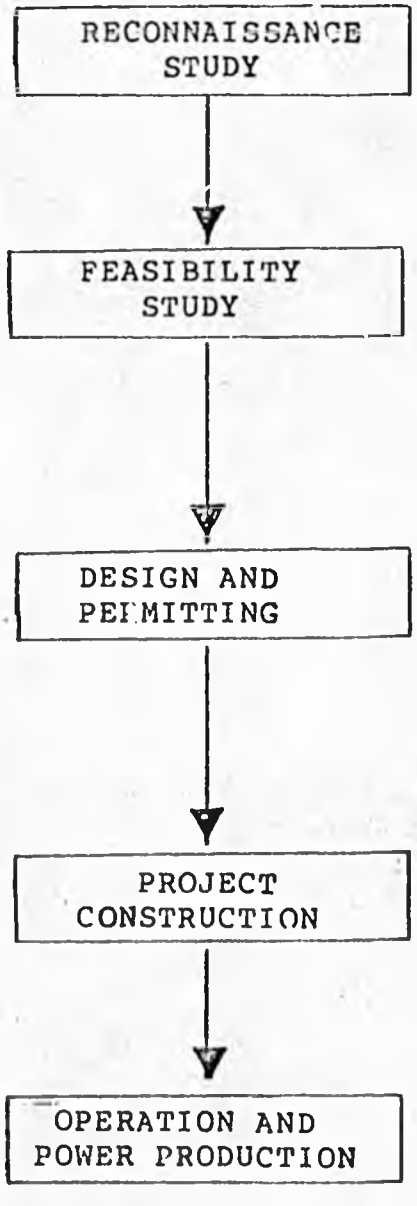
SYSTEM COSTS WITHOUT SUSITNA (A)
COMPARED TO
SYSTEM COSTS WITH SUSITNA (B)
(A-B) = NET BENEFITS OF SUSITNA PLAN



MULTIVARIATE ANALYSIS

	Low	Medium	High
Load Forecast	0.2	0.6	0.2
Susitna Capital Cost	0.60	0.25	0.15
Fuel Cost Escalation	0.25	0.50	0.25

FIVE STAGES OF PROJECT DEVELOPMENT



PRELIMINARY ANALYSIS.
NARROW RANGE OF OPTIONS

DETAILED ALTERNATIVES COMPARISON.
FEASIBILITY LEVEL COST ESTIMATE.
INDEPENDENT COST ESTIMATE.
FINANCE OPTIONS.

FINAL COST ESTIMATE.
CONSTRUCTION DECISION.
FINAL FINANCE PLAN.
POWER SALES AGREEMENTS.

OPERATION AND MAINTENANCE AGREEMENTS.

7

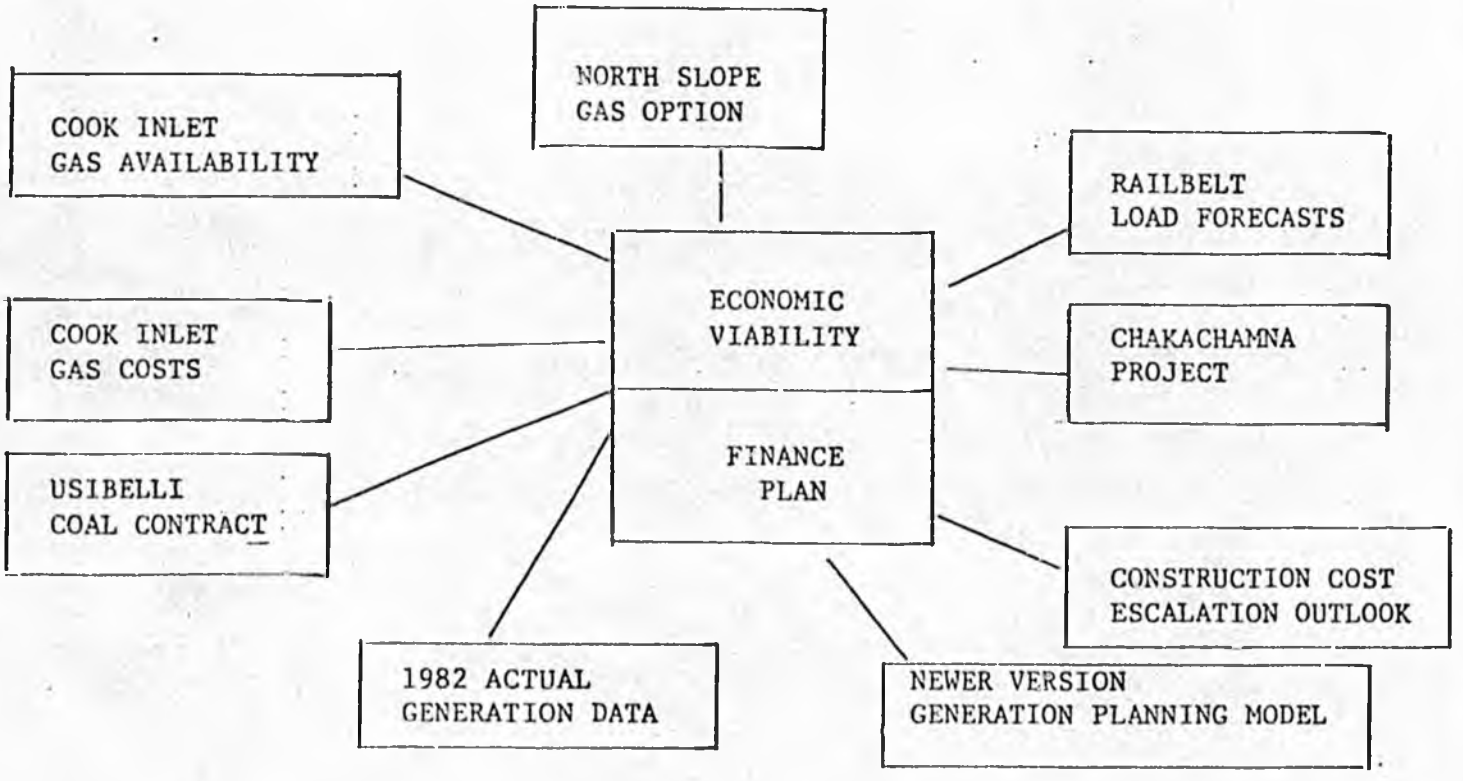
PREREQUISITES TO CONSTRUCTION

- 100 PERCENT DESIGN COMPLETION FOR INITIAL CONTRACTS.
- ACCEPTABLE MASTER LABOR AGREEMENT.
- FINAL PRE-CONSTRUCTION COST ESTIMATE.
- POWER SALES AGREEMENTS.
- FERC LICENSE AND OTHER MAJOR PERMITS.
- EXTERNAL REVIEW PANEL CONCURRENCE WITH DESIGN, SAFETY, AND MITIGATION MEASURES.
- FINANCE PLAN WITH FUNDING SOURCE ESTABLISHED.
- TAX EXEMPT STATUS RULING FOR REVENUE BONDS.
- LEGISLATIVE AUTHORIZATION.
- POWER AUTHORITY DECISION TO CONSTRUCT.
- PROJECT LANDS ACQUIRED.

LAND ACQUISITION SCHEDULE

JANUARY 1980 - DECEMBER 1982	o IDENTIFY PROJECT LANDS o IDENTIFY LAND STATUS
MARCH - JULY 1983	o PRIORITIZE ACQUISITION o EFFECT CONVEYANCE OF STATE AND NATIVE SELECTED LANDS
JULY 1983 - JANUARY 1985	o NEGOTIATE WITH PRIVATE LANDOWNERS o ACQUIRE ROW, LEASES

SPRING 1983 UPDATE



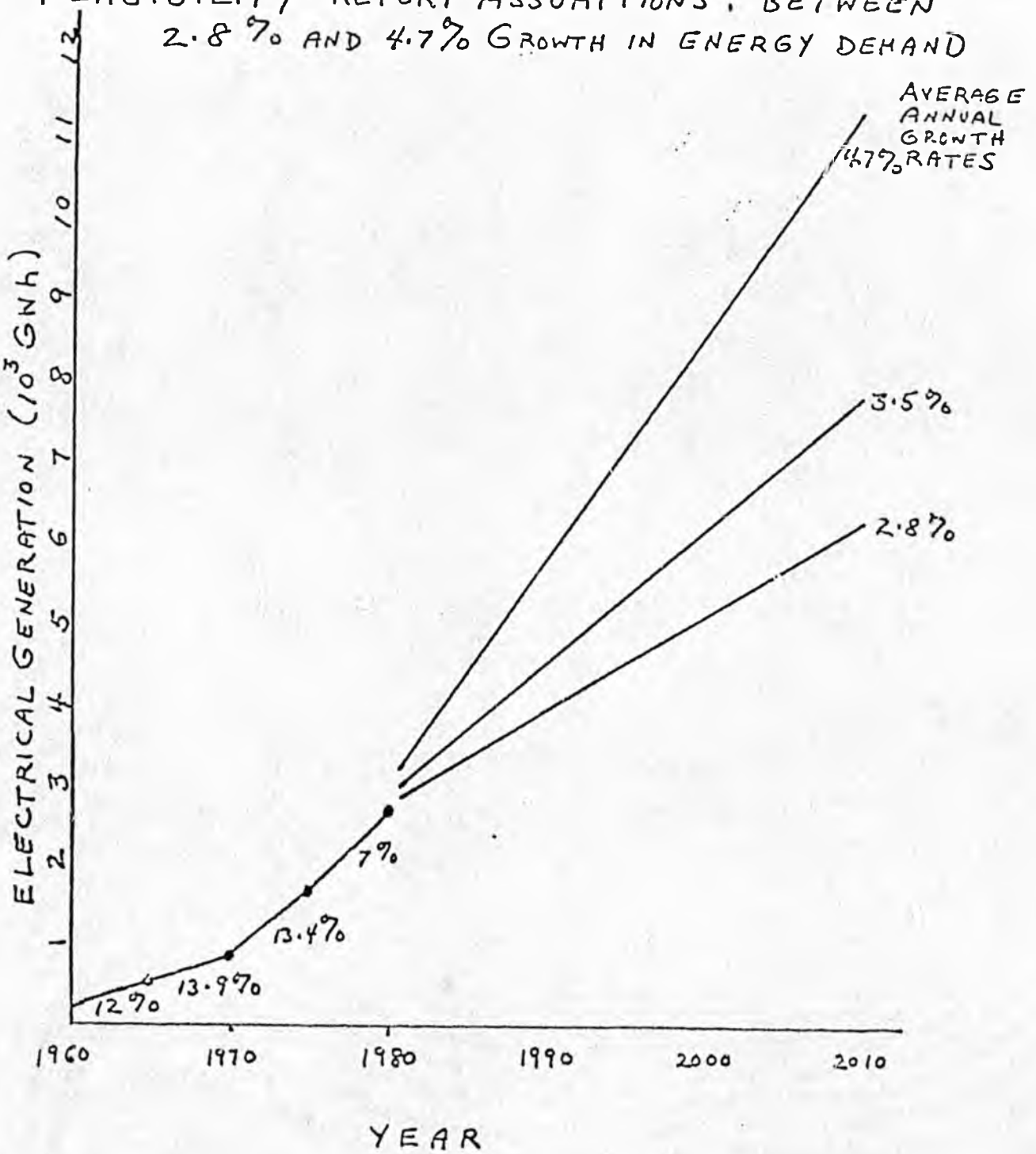
I M P O R T A N T P A R A M E T E R S

	LOW	BASE	HIGH
LOAD FORECAST (in 2010)	6,300 GWh	7,800 GWh	11,400 GWh
ANNUAL GROWTH RATE	(2.8%)	(3.5%)	(4.7%)
DISCOUNT RATE (CONSTANT $)	2%	3%	5%
SUSITNA CAPITAL COSTS (CONTINGENCY)	0%	20%	40%
CAPITAL COST ESCALATION	0%	2%	4%
FUEL PRICE ESCALATION*			
BELUGA COAL ($1.51/MMBTU)**	0%	2.1%/1.2%	4.2%/2.2%
NATURAL GAS ($3.00/MMBTU)	0%	2.5%/2.0%	5.0%/2.0%
OIL ($6.50/MMBTU)	0%	2.5%/2.0%	5.0%/2.0%

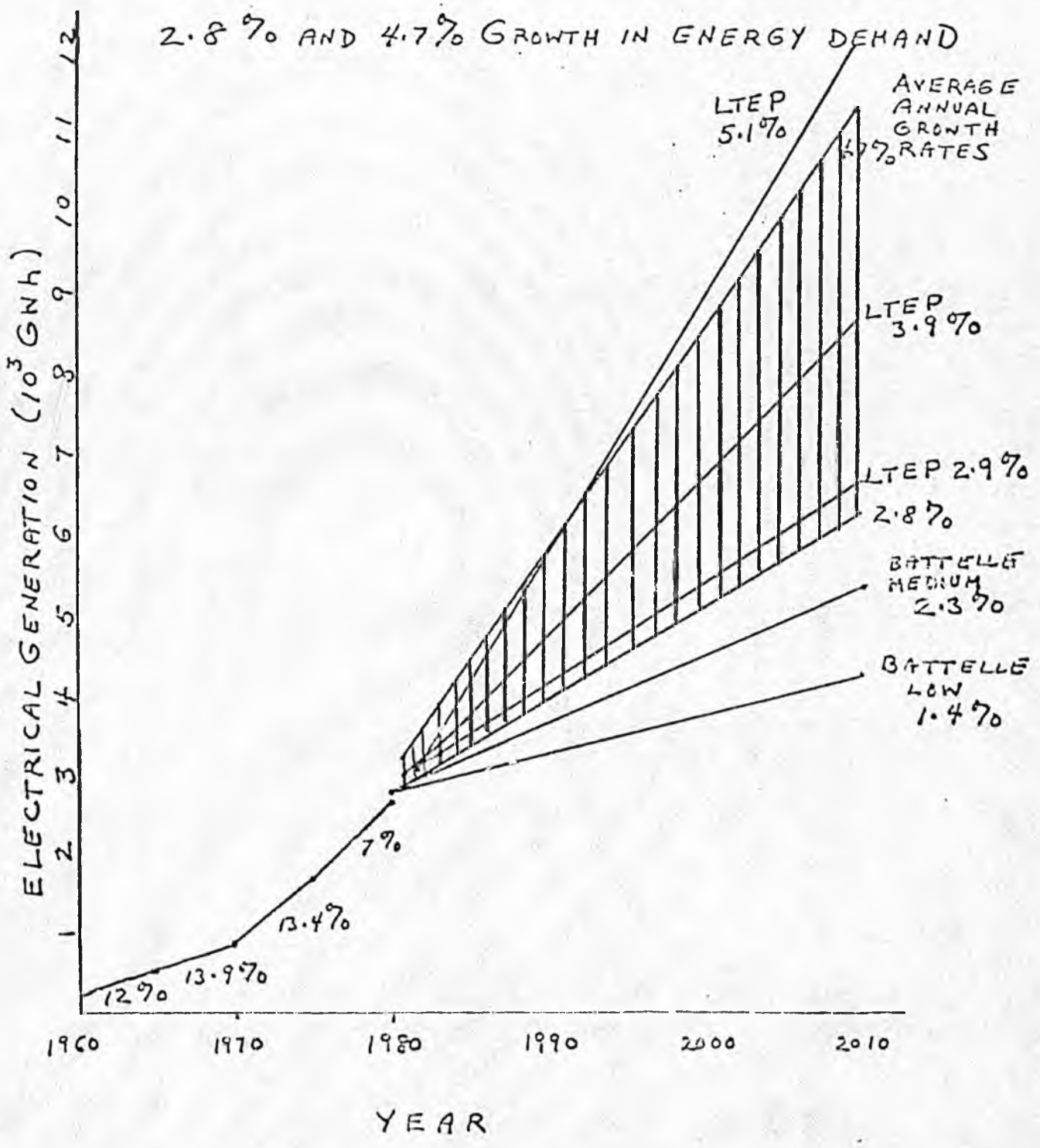
* (1982-2000)/2001-2010)
** 1982 Price Estimate

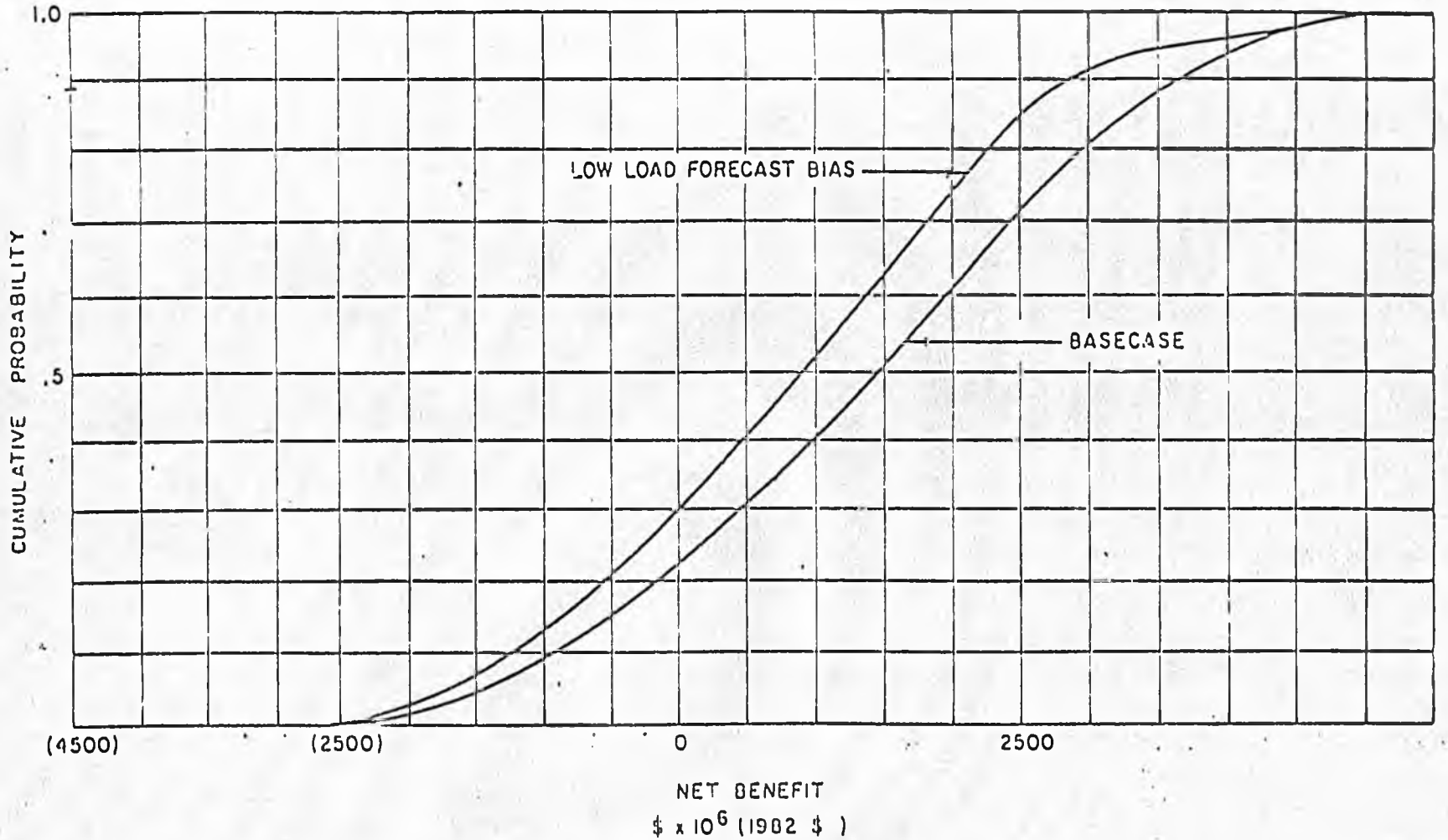
LOAD FORECAST

FEASIBILITY REPORT ASSUMPTIONS: BETWEEN 2.8% AND 4.7% GROWTH IN ENERGY DEMAND



LOAD FORECAST UPDATE

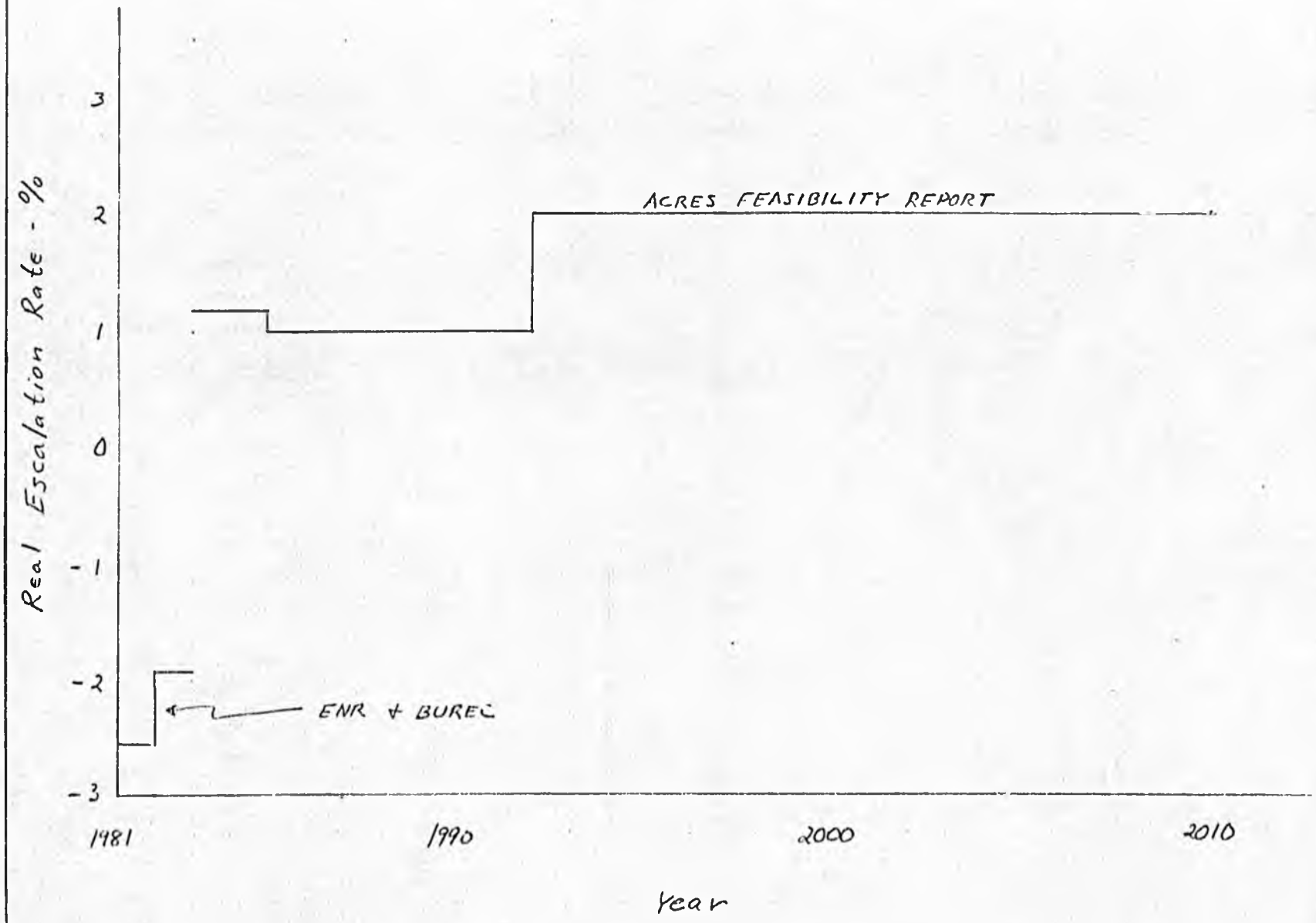


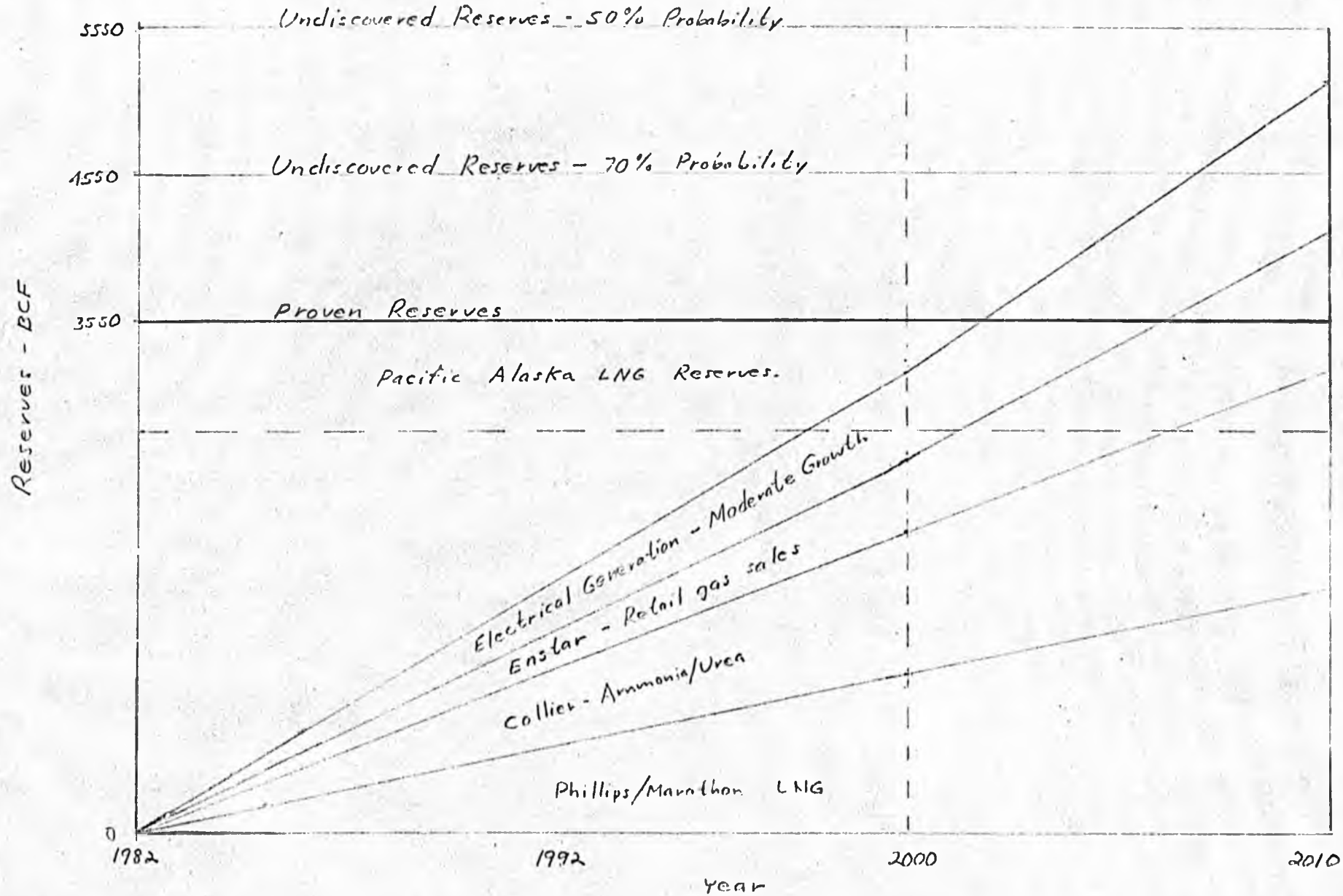


ASSIGNMENT OF PROBABILITIES

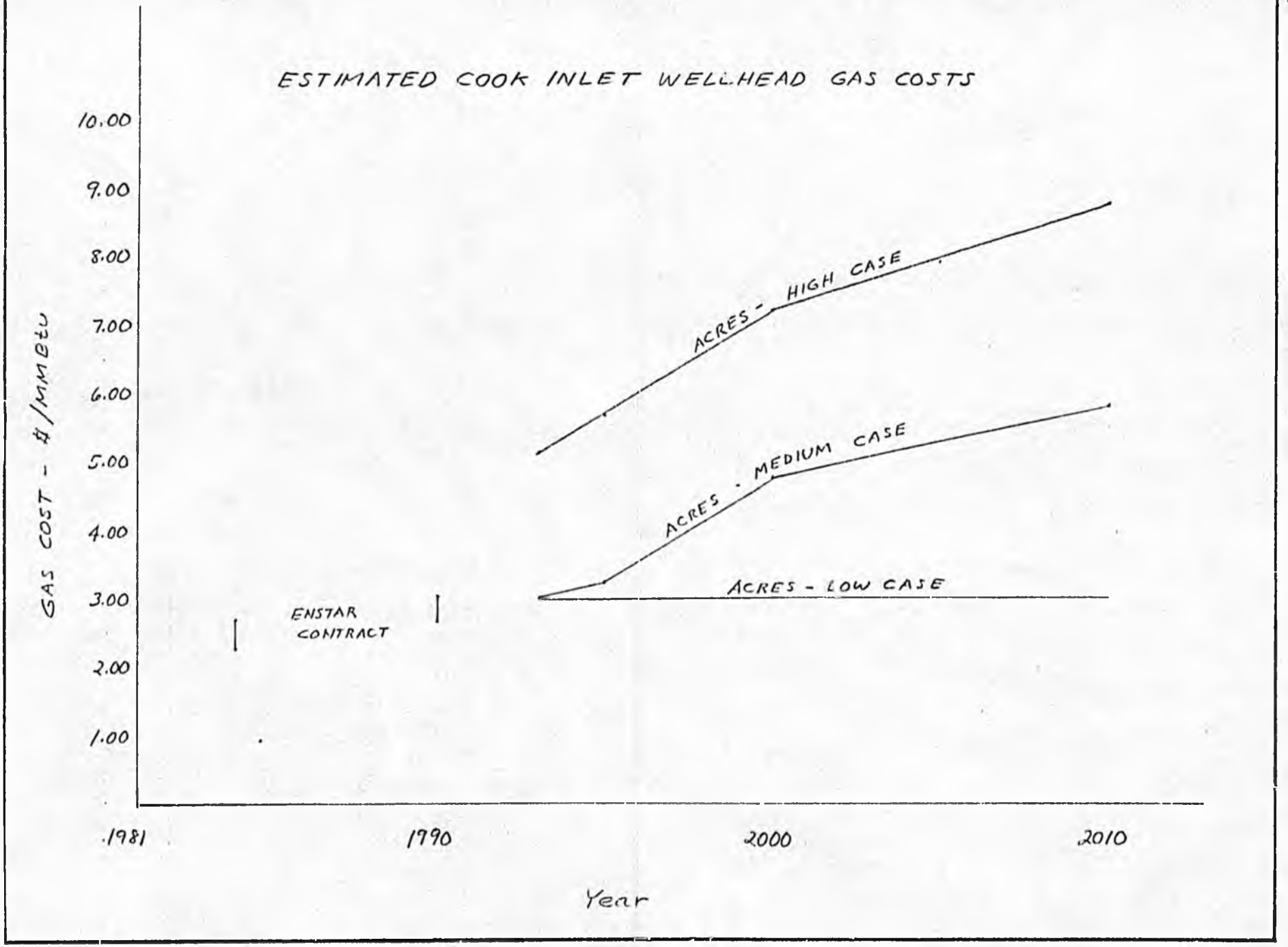
	Low	Medium	High
Feasibility Study	0.2	0.6	0.2
Alternative Outlook	0.6	0.3	6.1

CONSTRUCTION COST ESCALATION

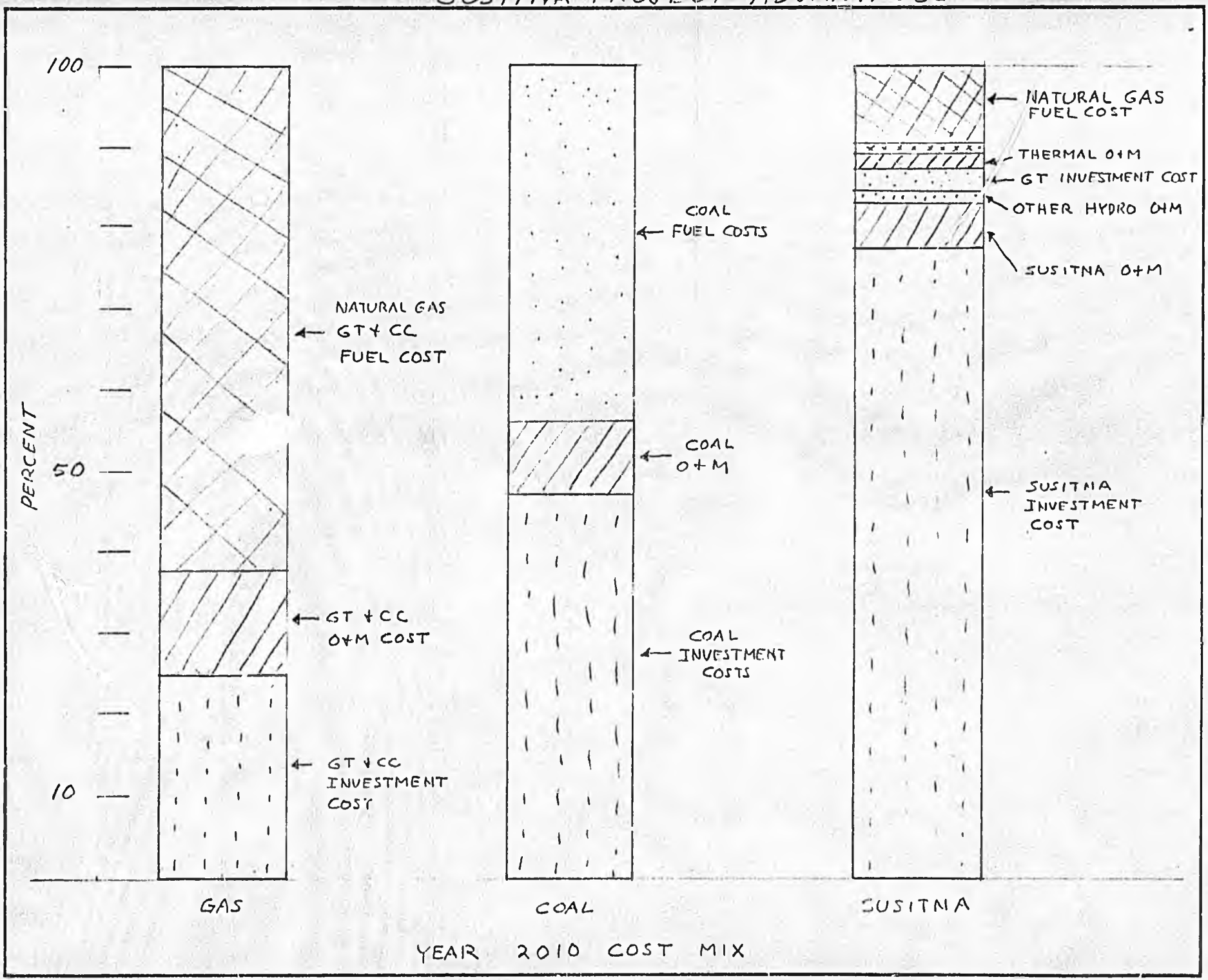




COOK INLET NATURAL GAS SUPPLIES
AND ESTIMATED CONSUMPTION


ESTIMATED COOK INLET WELLHEAD GAS COSTS
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
GAS COST - $/MMBtu
ACRES - HIGH CASE
ACRES - MEDIUM CASE
ACRES - LOW CASE
ENSTAR CONTRACT
1981
1990
2000
2010
Year

SUSITNA PROJECT ADVANTAGES



YEAR 2010 COST MIX

NORTH SLOPE GAS OPTION

- DRAFT REPORT UNDER REVIEW
- THREE OPTIONS
- SITING, CONCEPTUAL DESIGN, FACILITY COST ESTIMATES

CHAKACHAMNA PROJECT

	FEASIBILITY STUDY	UPDATE
CAPACITY	330 MW	330 MW
FIRM ANNUAL ENERGY	1,374 GWh	1,236 GWh
ANNUAL GENERATION	1,446 GWh	1,301 GWh
TOTAL COST (1982 $)	$1.45 BILLION	$1.32 BILLION
TOTAL COST ENERGY*	43.5 MILLS/KWh	44.5 MILLS/KWh

* Includes 15 MILLS PER KWh FOR O+M

WATANA DAM HEIGHT REDUCTION
CURRENTLY UNDER STUDY

DAM HEIGHT	885 FEET	800 FEET	700 FEET
FILL QUANTITY	62 MILLION CY	46 MILLION CY	29 MILLION CY
TIME OF CONSTRUCTION	9 YEARS	8 TO 9 YEARS	7 TO 8 YEARS
ANNUAL ENERGY	3450 GWh	3040 GWh	2550 GWh
CONSTRUCTION COST ($1982)	3.58 BILLION	3.2 BILLION	2.8 BILLION
PROBABLE COST REDUCTIONS	--	10%	20%

TECHNIQUES FOR SUSITNA COST CONTROL

- EMPHASIS ON "HIGH CONFIDENCE" ESTIMATE
- INDEPENDENT ESTIMATE
- EARLY CM INVOLVEMENT
- MAXIMUM PRE-CONSTRUCTION SITE INVESTIGATION
- 100% DESIGN PRIOR TO BIDDING
- RIGOROUS CHANGE CONTROL PROCEDURE
- MASTER LABOR AGREEMENT
- FIRM FIXED-PRICE CONTRACTS

POWER AUTHORITY RECOMMENDATIONS

APRIL 1982

- CONTINUE PER-CONSTRUCTION DEVELOPMENTAL EFFORTS
- SUBMIT A FERC LICENSE APPLICATION
- INITIATE DESIGN