

SCOMM

#50:26

ALASKA POWER AUTHORITY
FOUR DAM POOL
OBJECTIVES IN NEGOTIATIONS

- 1) Form the foundation for a statewide energy program for Alaska;
- 2) Establish debt service so that rate shock is not experienced by the communities;
- 3) Establish entry rates for the communities at no higher than their avoided cost; and
- 4) Establish long-term rates which benefit the communities as well as provide a return to the state.

3/4/85

MEMORANDUM

TO: Rep. John Sund, Chair,
House Special Committee on Loans

FROM: John Hartle, AA *JH*

RE: Analysis of HB 219 (Hydro)

The purpose of this bill is to set out in law, terms for the \$196 million loan from the Department of Commerce and Economic Development to the Alaska Power Authority which was appropriated last year to take out the short term bonds issued to complete construction of the four dam pool hydroelectric projects. The Department currently has broad discretion to set the terms of loans from the Power Development Revolving Loan Fund, but agreement has not been reached with the four dam pool communities.

The bill is based on the power sales proposal from the communities and will lead to long term power sales agreements if enacted. It adds a new subsection to AS 44.33.620 (attached) - terms for Power Development Loans. This subsection specifically addresses loan terms only for the initial project (as described in AS 44.83.398(a), "initial project" is the four dam pool).

The bill does not constrain the Department of Commerce's flexibility now in law for setting terms for future projects (Bradley, Susitna, etc.). In HB 219 we avoid interfering with the Department's discretion in setting the terms of loans for those projects.

Sectional Analysis:

Section 1: This section expands the definition of "qualified utility" to include joint operating agencies. A joint operating agency is an instrumentality of two public utilities owned and operated by municipalities. The primary purpose of this section is to allow Wrangel and Petersburg to jointly operate the Tyee Hydroelectric Project, without subjecting them to economic regulation by the APUC. There may be other communities in the state with the same needs.

Section 2: This section just adds the words "Except as provided in (d) of this section." It also shows current law setting loan terms.

Section 3: The new subsection. (1) Sets the loan terms to provide for an interest rate not to exceed four percent, fifty-year maximum term, forty-year amortization period.

(2) Sets the payment rate per kilowatt hour for the debt service component of electric rates. The rate is based on spreading the debt service payment over the total amount of electricity offered by the

project for sale. This will produce a fixed debt service rate for the life of the loan, subject to the "ramping" provision in (3).

(3) Allows repayment to be adjusted during the first five years to provide a "ramp up" in rates, avoiding a severe rate shock. Interest deferred during the first five years is added to the principal balance and scheduled for full repayment in later years.

(4) Provides that any principal not paid under subsection (2) be paid off, with interest, during the last ten years of the loan terms.

Section 4: Adds regional electric authority to the definition of "Qualified Utility" for APUC certification. (Same purpose as section 1.)

FOUR-DAM POOL DEBT SERVICE

ALASKA POWER AUTHORITY

VERSUS

PARTICIPANTS' PROPOSAL

**Comparison of Major Issues
Alaska Power Authority Proposal vs. 4-Dam Pool Proposal**

Issue

Alaska Power Authority

4-Dam Pool

4% HB-219

**Interest Rate
Amortization Period
Annual Debt Service**

- 8% Yield on Total Loan
- 35 Years
- Level Debt Service With Ramp Features.

- 5.8% (3.3% Yield on Total Loan)
- 40 years
- Level debt service with Purchasers to pay amount in proportion to energy usage; Ramp features included.

Ramp Features

- WHAT IS IT NOW!*
- Initially 2¢/KWH below alternative cost (2.5¢ for CVEA) decreasing to 0¢ at the point where Project costs without ramp and alternative costs cross.

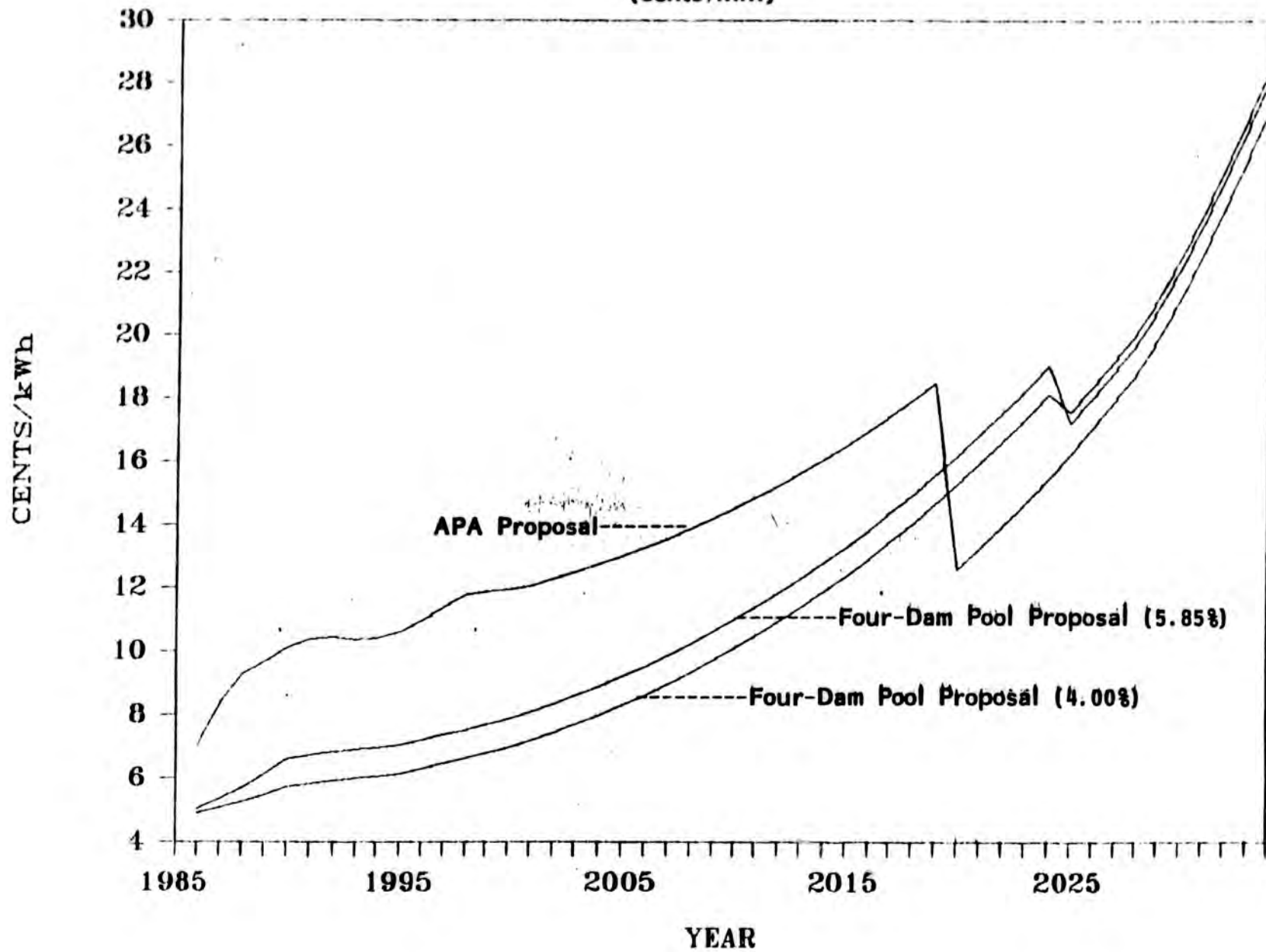
- Defer part of principal and interest payments in years 1-5 and repay, with interest, in years 6-40.

Deferred Payments

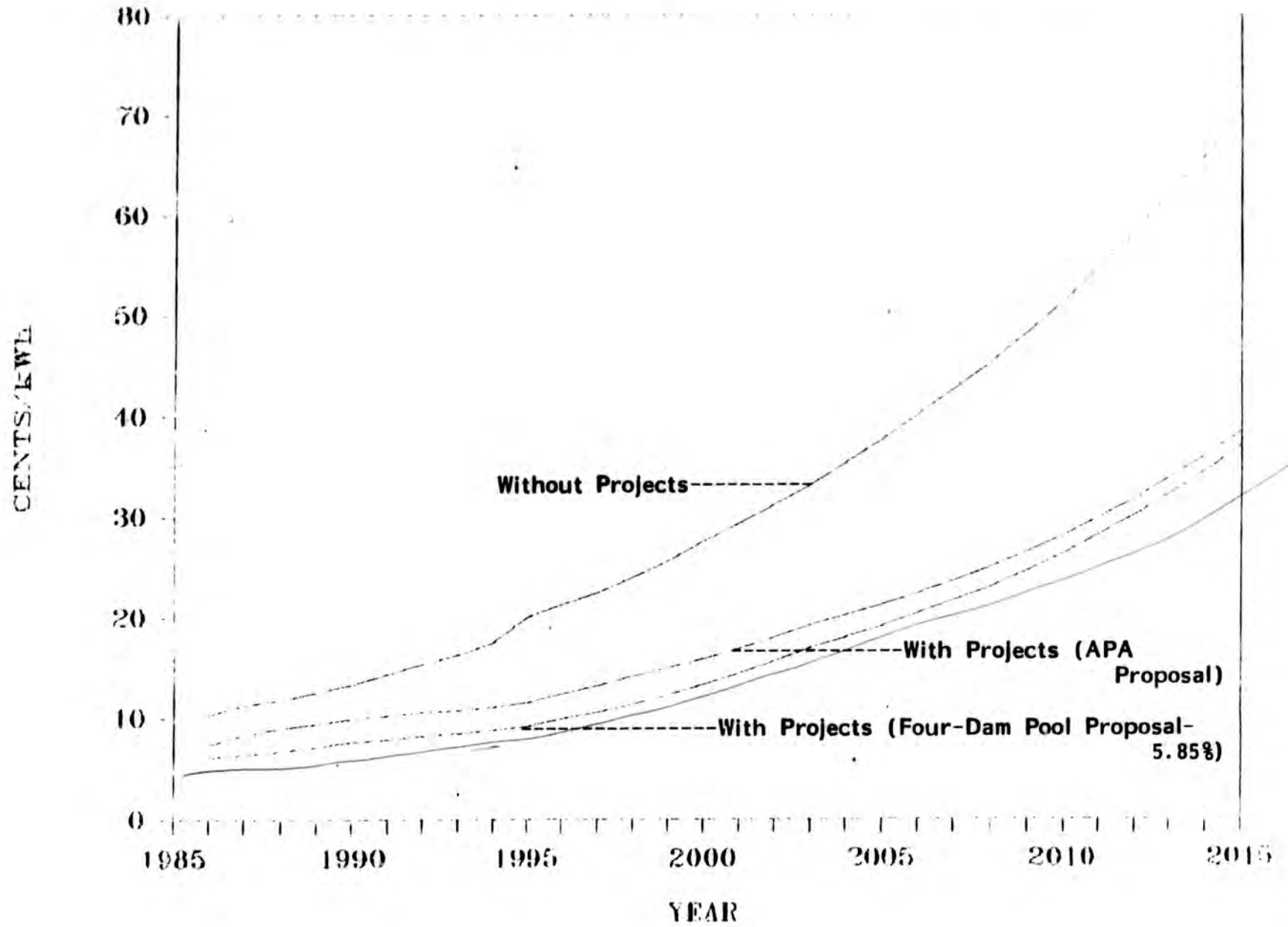
- All payments deferred in Ramp features are repayed with interest by the end of 35 years.

- Principal amount deferred due to unused Project capability is repaid, without interest, in years 41-50. Principal and interest deferred due to ramp features is repayed, with interest, in years 6-40.

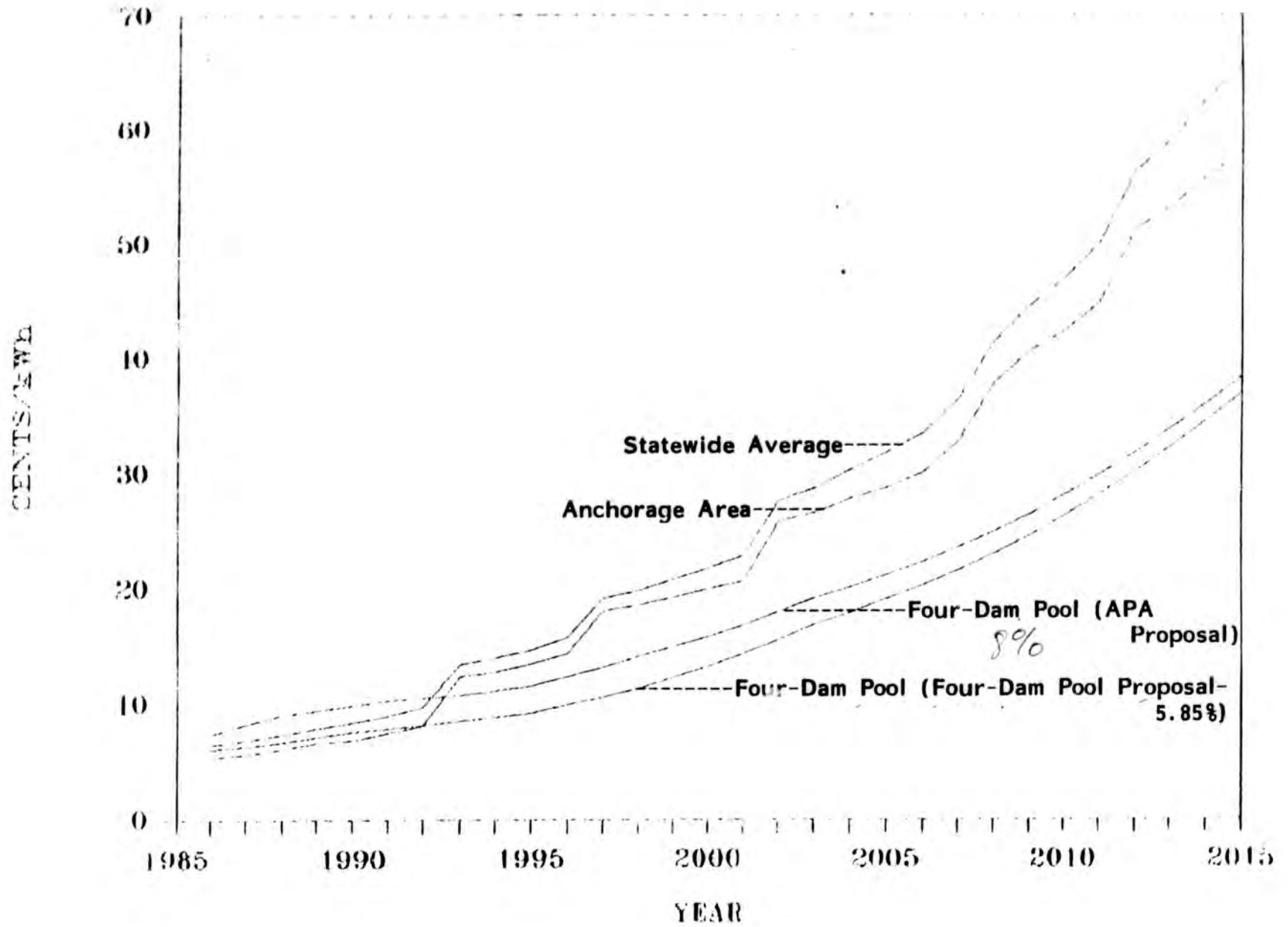
ALASKA POWER AUTHORITY
FOUR-DAM POOL ANALYSIS
PROJECT COSTS
(cents/kWh)



**ALASKA POWER AUTHORITY
FOUR-DAM POOL ANALYSIS
PARTICIPANT PRODUCTION COSTS
WITH AND WITHOUT PROJECTS
(cents/kWh)**



ALASKA POWER AUTHORITY
FOUR-DAM POOL ANALYSIS
PRODUCTION COSTS
(cents/kWh)



YEAR	BPA PROPOSAL					FOUR-DAM POOL PROPOSAL - 5.05%					W/D PROJECT				PROJ GENERATION (GWh)	PROJ SALES (GWh)	*****PROJECT COSTS ONLY***** FOUR-DAM POOL PROPOSAL - 4.05%			
	DEBT SERVICE (0000)	O & M (0000)	OTHER COSTS (0000)	TOTAL NOMINAL (C/KWh)	1966 (C/KWh)	DEBT SERVICE (c/KWh)	O & M (0000)	OTHER COSTS (0000)	TOTAL NOMINAL (C/KWh)	1966 (C/KWh)	W/D EXIST O&M (c/KWh)	OTHER (0000)	TOTAL (c/KWh)	1966 (C/KWh)			DEBT SERVICE (0000)	SERVICE (C/KWh)	DAM (0000)	PROJ COSTS (C/KWh)
1986	7713	5827	8513	7.4	7.4	4879	5827	8513	6.1	6.1	9.7	1002	10.3	10.3	287.6	181.5	3858	2.12	5827	4.9
1987	10622	5354	8865	8.3	7.8	4835	5354	8865	6.4	6.0	10.7	1040	11.3	10.6	290.9	191.4	4386	2.25	5354	5.0
1988	12810	5782	9459	9.0	8.0	5653	5782	9459	6.7	5.9	11.2	1770	11.0	10.4	389.9	199.2	4751	2.39	5782	5.3
1989	13882	6872	10186	9.4	7.8	6571	6872	10186	7.1	5.9	12.0	1750	12.6	10.4	319.6	206.0	5212	2.53	6872	5.5
1990	15936	6467	11055	9.9	7.7	7633	6467	11055	7.6	5.9	12.0	1754	13.3	10.4	329.1	213.0	5714	2.68	6467	5.7
1991	15982	6887	12021	10.3	7.5	7851	6887	12021	7.9	5.8	13.9	1756	14.4	10.5	337.7	219.1	5877	2.68	6887	5.8
1992	16351	7335	13109	10.6	7.3	8132	7335	13109	8.2	5.6	14.0	1766	15.3	10.5	347.4	226.9	6088	2.68	7335	5.9
1993	16660	7812	14245	10.8	7.0	8464	7812	14245	8.5	5.5	15.0	1694	16.3	10.5	358.4	236.2	6336	2.68	7812	6.0
1994	17380	8320	15770	11.2	6.7	8812	8320	15770	8.9	5.4	17.0	1867	17.5	10.6	378.0	245.9	6597	2.68	8320	6.1
1995	18248	8860	17480	11.6	6.6	9154	8860	17480	9.2	5.2	19.6	1455	20.0	11.3	384.8	255.4	6853	2.68	8860	6.1
1996	19189	9436	20030	12.4	6.6	9338	9436	20030	9.9	5.3	20.9	1536	21.3	11.3	398.7	268.6	6991	2.68	9436	6.3
1997	20211	10050	24148	13.2	6.6	9529	10050	24148	10.6	5.3	22.2	1197	22.5	11.2	412.3	265.9	7134	2.68	10050	6.5
1998	21316	10703	28285	14.1	6.6	9729	10703	28285	11.4	5.4	23.7	1153	24.0	11.3	426.5	271.5	7283	2.68	10703	6.6
1999	21646	11399	33068	15.0	6.6	9939	11399	33068	12.3	5.4	25.3	1130	25.6	11.3	440.7	277.3	7441	2.68	11399	6.8
2000	21774	12140	38485	15.9	6.6	10159	12140	38485	13.3	5.5	27.3	1058	27.5	11.4	455.8	283.5	7686	2.68	12140	7.0
2001	21882	12929	44707	16.9	6.6	10329	12929	44707	14.4	5.6	29.1	1052	29.3	11.4	471.0	288.2	7732	2.68	12929	7.2
2002	21882	13769	51763	18.0	6.6	10394	13769	51763	15.6	5.7	31.0	1054	31.2	11.4	485.8	298.0	7781	2.68	13769	7.4
2003	21882	14664	59761	19.2	6.6	10462	14664	59761	17.0	5.8	33.0	1053	33.2	11.4	500.8	291.9	7832	2.68	14664	7.7
2004	21882	15617	66687	20.2	6.5	10532	15617	66687	18.0	5.8	35.1	1053	35.3	11.4	516.2	293.9	7885	2.68	15617	8.0
2005	21882	16632	74484	21.2	6.4	10605	16632	74484	19.1	5.8	37.4	1053	37.6	11.4	532.1	295.9	7939	2.68	16632	8.3
2006	21882	17713	82995	22.3	6.3	10682	17713	82995	20.3	5.8	39.8	1053	40.0	11.4	548.6	298.1	7997	2.68	17713	8.6
2007	21882	18865	92564	23.6	6.3	10761	18865	92564	21.6	5.8	42.4	1053	42.6	11.4	565.5	300.3	8056	2.68	18865	9.0
2008	21882	20091	103215	24.9	6.2	10844	20091	103215	23.0	5.8	45.2	1053	45.4	11.4	583.0	302.6	8118	2.68	20091	9.3
2009	21882	21397	115448	26.4	6.2	10931	21397	115448	24.6	5.8	48.1	1053	48.3	11.3	601.0	305.0	8183	2.68	21397	9.7
2010	21882	22788	129066	28.0	6.2	11021	22788	129066	26.3	5.8	51.2	1053	51.4	11.3	619.6	307.5	8251	2.68	22788	10.1
2011	21882	24269	144245	29.8	6.2	11115	24269	144245	28.1	5.8	54.6	1053	54.7	11.3	638.8	310.2	8321	2.68	24269	10.5
2012	21882	25846	161151	31.7	6.2	11213	25846	161151	30.1	5.9	58.1	1053	58.3	11.3	658.6	312.9	8395	2.68	25846	10.9
2013	21882	27526	179978	33.8	6.2	11315	27526	179978	32.2	5.9	61.9	1053	62.1	11.3	679.1	315.8	8471	2.68	27526	11.4
2014	21882	29316	200939	36.0	6.2	11422	29316	200939	34.5	5.9	65.9	1053	66.1	11.3	700.1	318.7	8559	2.68	29316	11.9
2015	21882	31221	224272	38.4	6.2	11533	31221	224272	37.0	6.0	70.2	1053	70.4	11.3	721.9	321.8	8634	2.68	31221	12.4
2016	21882	33250	238850	39.5	6.0	11649	33250	238850	38.1	5.8	74.8	1053	74.9	11.3	744.3	325.1	8721	2.68	33250	12.9
2017	21882	35412	254375	40.6	5.8	11769	35412	254375	39.3	5.6	79.6	1053	79.8	11.3	767.3	328.4	8811	2.68	35412	13.5
2018	21882	37713	270909	41.8	5.6	11895	37713	270909	40.5	5.4	84.8	1053	84.9	11.3	791.1	331.9	8905	2.68	37713	14.0
2019	21882	40165	288518	43.0	5.4	12026	40165	288518	41.8	5.2	90.3	1053	90.5	11.3	815.7	335.6	9003	2.68	40165	14.6
2020	0	42776	307272	41.6	4.9	12163	42776	307272	43.1	5.1	96.2	1053	96.3	11.3	840.9	339.4	9106	2.68	42776	15.3
2021	0	45556	327245	43.0	4.7	12305	45556	327245	44.4	4.9	102.4	1053	102.6	11.3	867.0	343.4	9212	2.68	45556	15.9
2022	0	48517	348516	44.4	4.6	12454	48517	348516	45.8	4.7	109.1	1053	109.2	11.3	893.9	347.5	9323	2.68	48517	16.6
2023	0	51671	371169	45.9	4.5	12609	51671	371169	47.2	4.6	116.2	1053	116.3	11.3	921.6	351.8	9439	2.68	51671	17.4
2024	0	55029	395295	47.4	4.3	12770	55029	395295	48.7	4.5	123.0	1053	123.9	11.3	950.2	356.3	9568	2.68	55029	18.1
2025	0	58606	420989	49.0	4.2	3522	58606	420989	49.3	4.2	131.0	1053	131.9	11.3	979.6	361.0	9826	1.34	58606	17.6
2026	0	62416	448354	50.6	4.1	3522	62416	448354	50.9	4.1	140.4	1053	140.5	11.3	1010.0	365.9	9826	1.32	62416	18.4
2027	0	66473	477497	52.2	4.0	3522	66473	477497	52.6	4.0	149.5	1053	149.6	11.3	1041.3	371.0	9826	1.38	66473	19.2
2028	0	70793	508534	54.0	3.8	3522	70793	508534	54.3	3.9	159.2	1053	159.3	11.3	1073.6	376.3	9826	1.28	70793	20.1
2029	0	75395	541589	55.7	3.7	3522	75395	541589	56.1	3.7	169.6	1053	169.6	11.3	1106.9	378.8	9826	1.27	75395	21.2
2030	0	80296	576792	57.6	3.6	3522	80296	576792	57.9	3.6	180.6	1053	180.7	11.3	1141.2	378.6	9826	1.27	80296	22.5
2031	0	85515	614283	59.5	3.5	3522	85515	614283	59.8	3.5	192.3	1053	192.4	11.3	1176.6	378.6	9826	1.27	85515	23.9
2032	0	91073	654212	61.4	3.4	3522	91073	654212	61.7	3.4	204.8	1053	204.9	11.3	1213.0	378.6	9826	1.27	91073	25.3
2033	0	96993	696736	63.5	3.3	3522	96993	696736	63.7	3.3	218.1	1053	218.2	11.3	1250.6	378.6	9826	1.27	96993	26.9
2034	0	103298	742023	65.6	3.2	3522	103298	742023	65.8	3.2	232.3	1053	232.4	11.3	1289.4	378.6	9826	1.27	103298	28.6

NOTES

<u>Column No.</u>	<u>Explanation</u>
(1)	Debt service per Commerce Loan Agreement.
(2)	Estimated by APA and inflated at the assumed general inflation rate (6.5% per year).
(3)	Other power production costs of the Participants including diesel generation and transmission (estimated by R. W. Beck and Associates).
(4)	$(\text{Col. (1)} + \text{Col. (2)} + \text{Col. (3)}) / \text{Col. (15)} / 10$. Total production costs with the Projects.
(5)	Discounted at 6.5% per year.
(6)	Per January 23, 1985, memorandum from the Four-Dam Pool to the APA Board of Directors - Tab D.
(7)	Same as Col. (2).
(8)	Same as Col. (3).
(9)	$(\text{Col. (6)} + \text{Col. (7)} + \text{Col. (8)}) / \text{Col. (15)} / 10$. Total production costs with the Projects.
(10)	Same as Col. (5).
(11)	Weighted average "avoided cost" of Participants and includes some fixed costs. Estimated by R. W. Beck and Associates.
(12)	Existing debt service of Participants. Estimated by R. W. Beck.
(13)	$\text{Col. (12)} / \text{Col. (15)} / 10 + \text{Col. (11)}$. Total production costs without the Projects.
(14)	Same as Col. (5).
(15)	Total generation of Participants including the Projects and other generation. Estimated by R. W. Beck.
(16)	Generation of Projects utilized by the Participants. Estimated by the Participants.
(17)	Per proposal by the Participants utilizing 4.0% interest on loans.
(18)	$\text{Col. (17)} / \text{Col. (16)} / 10$.
(19)	Same as Col. (2).
(20)	$(\text{Col. (17)} + \text{Col. (19)}) / \text{Col. (16)} / 10$. Project costs only and CANNOT be compared with Cols. (4), (9), and (13).

3/4/85

MEMORANDUM

TO: Rep. John Sund, Chair
House Special Committee on Loans

FROM: J. Hartle, AA *JH*

RE: Electric power rates for four dam pool communities (HB 219)

	KEA	CVEA	KPU	Petersburg	Wrangell
Operations and Maintenance	2.0	2.76	2.91	4.59	4.59
Debt Service	2.68	2.68	2.68	2.68	2.68
Total APA	4.68	5.44	5.59	7.27	7.27
Retail Rate [*]	16.6	19.1** 15.1	10.0	11.1	14.9

* Per KWH at 750 KWH/Month, as of 2/16/85

** 19.1 = Copper River; 15.1 = Valdez

KEA = Kodiak
CVEA = Copper Valley
KPU = Ketchikan

LETTER OF UNDERSTANDING

The negotiating team representing APA, Ketchikan, Copper Valley Electric Association, Kodiak Electric Association, Petersburg and Wrangell have agreed on the terms and conditions of a power sales agreement incorporating the following:

1. The written and oral understandings of the parties heretofore reached shall be placed in writing in agreed final form, and remaining comments of the parties will be mutually and expeditiously resolved and also incorporated in the agreement.
2. A rate stabilization fund shall be established as proposed in the communities' 17 point proposal funded in part by a State appropriation of \$49,000,000.
3. The system increment proposal of the communities shall also be incorporated in such agreement.

We mutually recognize that certain statutory amendments are required to implement the agreements reached to date.

We expect to conclude draft O & M agreements and interconnection agreements following a mutual review of proposed contract revisions.

We will recommend to our respective boards and councils that the agreements be adopted and that we be authorized to execute them and to assist in the steps necessary to complete the financing.

DATED March 20, 1984

ALASKA POWER AUTHORITY

By: Larry R Crawford

CITY OF KETCHIKAN

By: Tom Newland

COPPER VALLEY ELECTRIC ASSOCIATION

By: J. A. Tillinger

CITY OF WRANGELL

By: James Bush

KODIAK ELECTRIC ASSOCIATION

By: David H. Nease

CITY OF PETERSBURG

By: Don Koenigs

SENATE FINANCE COMMITTEE

MAY 26, 1984

9:20 A.M.

CALL TO ORDER

CO-CHAIRMAN DON BENNETT CONVENED THE MEETING AT APPROXIMATELY 9:20 A.M.

PRESENT

MEMBERS PRESENT: SENATORS BENNETT, FERGUSON, MULCAHY, SACKETT, AND V. FISCHER. SENATORS JOSEPHSON AND FAIKS CAME IN LATER.

OTHERS PRESENT: MIKE GREANY, DIRECTOR, LEGISLATIVE FINANCE; P.S. DHILLON, REVENUE ANALYST, LEGISLATIVE FINANCE; MILT BARKER, DEPUTY COMMISSIONER, DEPARTMENT OF REVENUE; COMMISSIONER HEATH, DEPARTMENT OF REVENUE; COMMISSIONER LYON, DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT; REPRESENTATIVE HURLBERT; SENATOR KERTTULA; RICH UNDERKOFER, CITY MANAGER, CITY OF PETERSBURG; DON KOENIGS, MAYOR, CITY OF PETERSBURG; KURT DZINICH, SENIOR ADVISOR, SENATOR ADVISORY COUNCIL; SUSAN WHITE, EXECUTIVE ASSISTANT, ALASKA POWER AUTHORITY; MARTHA FOX, ASSISTANT ATTORNEY GENERAL, DEPARTMENT OF LAW; TERRY ELDER, DEPUTY COMMISSIONER, DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT; AND STAFF FROM STATE OFFICES AND LEGISLATIVE OFFICES.

SUMMARY INFO

CSHB 684(FIN) AM AN ACT MAKING SPECIAL APPROPRIATIONS TO THE ALASKA POWER AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE. DISCUSSION AND HELD IN COMMITTEE.

SENATOR FERGUSON WALKED THE COMMITTEE THROUGH THE PROPOSED SCS FOR CS FOR HB 684(FINANCE). HE THEN ASKED MR. LARRY CRAWFORD AND BILL BATT TO COME FORWARD AND DISCUSS THE PROPOSAL WITH THE COMMITTEE.

LARRY CRAWFORD

MR. LARRY CRAWFORD, EXECUTIVE DIRECTOR OF THE ALASKA POWER AUTHORITY CAME FORWARD TO TESTIFY AND INTRODUCED MR. BILL BATT, DIRECTOR OF FINANCE. SENATOR MULCAHY ASKED WHAT THE INTENT WAS OF THE ALASKA POWER AUTHORITY WITH REGARD TO SECTION 1, THE \$210,000,000 AND THE POWER CONTRACTS. MR. CRAWFORD SAID THE INTENT OF THE POWER AUTHORITY WAS TO USE THE RENEGOTIATED AGREEMENTS AS THE BASIS FOR THE LOAN AND THE COMMUNITIES WOULD HAVE RATES BASED ON THOSE RENEGOTIATED AGREEMENTS. HE SAID THE ONLY TIME THEY WOULD ENFORCE THE EXISTING AGREEMENT WOULD BE WHERE THEY DID NOT HAVE A NEW RENEGOTIATED AGREEMENT.

SENATOR MULCAHY ASKED ABOUT CLARIFICATION ON SECTION 1. HE FELT THE APPROACH BEING TAKEN WOULD DO AWAY WITH THE RATE STABILIZATION APPROPRIATION THAT HAD BEEN LOOKED AT BEFORE WHEN GOING OUT TO THE BOND MARKET. HE SAID IT WAS HIS UNDERSTANDING THAT THE RATE STABILIZATION APPROPRIATION WOULD NOT BE NEEDED BECAUSE OF THE USE OF GENERAL FUNDS AND BECAUSE THE LANGUAGE IN THE AUTHORIZING BILL IS SUCH THAT THE INTEREST RATE CAN BE "BACKED IN."

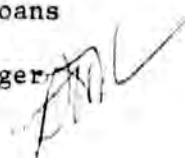
MR. CRAWFORD SAID THIS WAS CORRECT, THAT THEY ARE LOOKING AT WHAT THE DEBT SERVICE PAYMENTS WOULD HAVE BEEN UNDER THE RENEGOTIATED AGREEMENT AND THEN THEY WILL BE RETURNING THE MONEY TO THE STATE IN ACCORDANCE WITH THOSE DEBT SERVICE PAYMENTS. THE INTEREST RATE IS THE DERIVED NUMBER AND LOOKS TO BE ABOUT AN 8% YIELD TO THE STATE ON THE \$210,000,000 OVER THE LIFE OF THE LOAN. HE SAID THE PAYMENTS IN THE EARLY YEARS WILL BE LESS THAN IN THE LATER YEARS AND THEY CAN DO AWAY WITH THE RATE STABILIZATION FUND.

SCS FOR CSHB 589(FINANCE)

SENATOR FERGUSON WALKED THE COMMITTEE THROUGH THIS LEGISLATION. SECTIONS 1 THROUGH 3, CREATE THE POWER DEVELOPMENT REVOLVING FUND FOR THE PURPOSE OF IMPLEMENTING THE \$210,000,000 LOAN FOR THE FOUR-DAM POOL PAY OUT. SECTION 4 ALLOWS THE CREATION FOR THE FOUR-DAM POOL.

MEMORANDUM

TO: House Special Committee on State Loans

FROM: Richard D. Newland, Utilities Manager
Ketchikan Public Utilities 

RE: Wholesale Power Cost Comparison

DATE: March 5, 1985

Attached you will find a tabulation, accompanied by a graphic presentation, showing projected wholesale power costs for the City of Ketchikan under three alternative scenarios. The generation of power from the Swan Lake Hydroelectric Project is compared under HB 219 and the package proposed by the Alaska Power Authority (APA); we also project the costs of a like amount of power generated by diesel.

Several points should be emphasized regarding these numbers. First, these are wholesale rates. Rates to the customer would be considerably greater than what is presented here. Second, these are "marginal" rates, i.e., rates for power generated by the Swan Lake Project or by diesel generation used in lieu of Swan Lake. Their effect on Ketchikan's retail rates, up or down, is mitigated by Ketchikan's other sources of power, including other hydroelectric generation. Third, these rates do not account for needed generation in the future. Swan Lake is projected to meet Ketchikan's needs for approximately the next ten years, after which we will need to rely on new generation. Our future rates will therefore continue to be affected by changes in the energy program for Alaska.

In constructing these projections, we have relied on the following sources:

1. Load forecasts were developed by the APA.
2. Swan Lake operation and maintenance costs are from our current budget. They are inflated annually at the assumed inflation rate.
3. Diesel operation and maintenance costs are from the studies used to develop our most recent proposed rate ordinance. They are also inflated annually.
4. Diesel operation and maintenance costs are divided into fixed and variable costs. The fixed costs have been included under the Swan Lake projections because the diesels will be used as reserves.

5. APA debt service costs are from their projection of February 12, 1985.
6. Diesel fuel projections are from the Alaska Department of Revenue Mean Forecast of World Oil Price (Saudi Medium), calculated in 1983 dollars and then inflated at the assumed inflation rate.
7. Each of our cases uses different assumptions about 1985 diesel costs and about the rate of inflation. These assumptions are printed on the tables. The base case (Case 1), uses a 1985 diesel cost of 71¢ per gallon, computed from information provided by Chuck Logsden, Petroleum Economist for the Department of Revenue. The base inflation rate is 5% per year.

I would like to thank the Committee for the opportunity to present this information.

WHOLESALE POWER COST COMPARISON
Swan Lake Hydroelectric Project
Ketchikan Public Utilities Diesel Generation
March 5, 1985
CASE 1

PAGE 1 OF 2

	1985	1986	1987	1988	1989	1990	1991	1992
Generation in MWH	28,880	37,764	41,423	44,140	46,872	49,663	52,516	55,430
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,155,000	1,212,750	1,273,388	1,337,057	1,403,910	1,474,105	1,547,810
Diesel Reserve Cost (Dollars)	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.00	2.12	2.25	2.39	2.53	2.68	2.68	2.68
Principal (Dollars)	0	19,250	76,048	145,561	229,132	329,246	363,052	399,759
Interest (Dollars)	577,600	781,347	855,969	909,385	956,730	1,001,723	1,044,376	1,085,765
TOTAL - HB 219 ALTERNATIVE	2,064,592	2,361,938	2,571,426	2,725,725	2,993,310	3,228,789	3,400,140	3,577,871
HB 219 ALTERNATIVE (Cents/KWH)	7.15	6.25	6.21	6.29	6.39	6.50	6.47	6.45

APA ALTERNATIVE:

O & M Cost (Dollars)	1,100,000	1,155,000	1,212,750	1,273,388	1,337,057	1,403,910	1,474,105	1,547,810
Diesel Reserve Cost (Dollars)	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	2.19	3.39	4.40	5.41	6.30	7.28	7.66	7.40
Debt Service (Dollars)	632,000	1,281,000	1,324,000	2,386,000	2,951,000	3,613,000	4,024,000	4,101,000
TOTAL - APA ALTERNATIVE	2,118,992	2,842,342	3,463,409	4,107,379	4,758,448	5,510,820	6,016,711	6,193,347
APA ALTERNATIVE (Cents/KWH)	7.34	7.53	8.36	9.31	10.15	11.10	11.46	11.17

DIESEL ALTERNATIVE:

O & M:								
Variable	291,688	400,487	461,255	516,085	575,429	640,178	710,802	787,755
Fixed	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
Fuel	1,428,906	1,859,868	2,042,655	2,232,376	2,520,082	2,816,192	3,116,427	3,473,113
Lube Oil	43,320	59,478	68,503	76,646	85,460	95,076	105,565	116,993
TOTAL - DIESEL ALTERNATIVE	2,150,906	2,726,175	2,999,072	3,273,100	3,651,362	4,045,357	4,451,400	4,922,398
DIESEL ALTERNATIVE (Cents/KWH)	7.45	7.22	7.24	7.42	7.79	8.15	8.48	8.88

ASSUMPTIONS:

Inflation:	1.0500
Diesel (1985 Values):	
Variable O & M (Cents/KWH)	1.0100
Fuel (Cents/Gallon)	71.0000
KWH per Gallon of Diesel	14.3500

SOURCES:

Diesel Fuel Cost Projections: DREV
Generation Requirements: APA
O & M Cost Projections: Based on KPU Historical Data

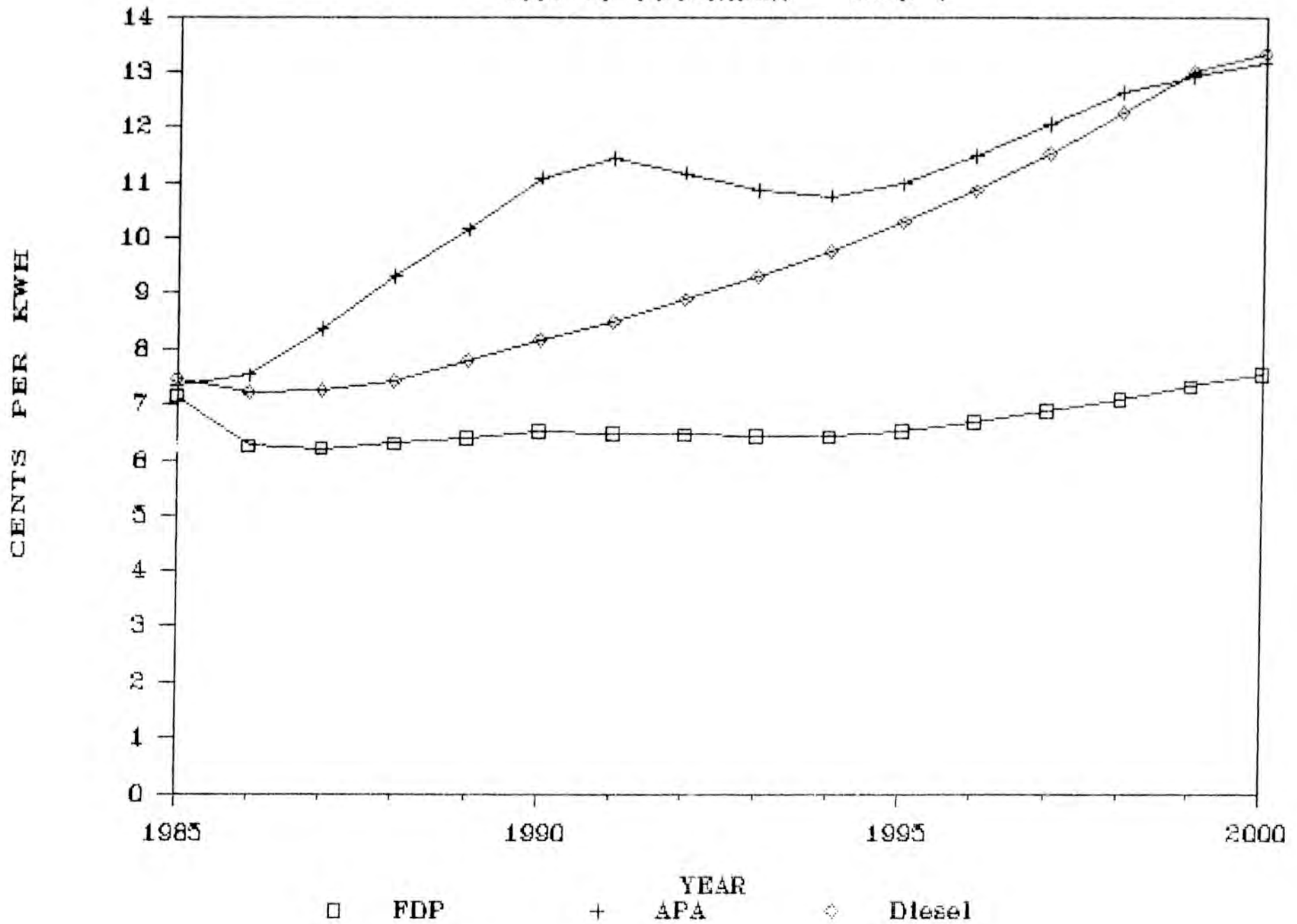
WHOLESALE POWER COST COMPARISON
Swan Lake Hydroelectric Project
Ketchikan Public Utilities Diesel Generation
March 5, 1985
CASE 1

PAGE 2 OF 2

	1993	1994	1995	1996	1997	1998	1999	2000
Generation in MWH	58,418	61,682	63,365	63,365	63,365	63,365	63,365	63,365
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,625,201	1,706,461	1,791,784	1,881,373	1,975,442	2,074,214	2,177,925	2,286,821
Diesel Reserve Cost (Dollars)	571,763	600,352	630,369	661,888	694,982	729,731	766,218	804,529
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
Principal (Dollars)	439,582	484,152	518,594	540,010	562,273	585,423	609,493	634,518
Interest (Dollars)	1,126,020	1,168,925	1,179,588	1,158,172	1,135,909	1,112,759	1,088,689	1,063,664
TOTAL - HB 219 ALTERNATIVE	3,762,567	3,959,890	4,120,335	4,241,443	4,368,606	4,502,127	4,642,324	4,789,532
HB 219 ALTERNATIVE (Cents/KWH)	6.44	6.42	6.50	6.69	6.89	7.11	7.33	7.56
APA ALTERNATIVE:								
O & M Cost (Dollars)	1,625,201	1,706,461	1,791,784	1,881,373	1,975,442	2,074,214	2,177,925	2,286,821
Diesel Reserve Cost (Dollars)	571,763	600,352	630,369	661,888	694,982	729,731	766,218	804,529
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	7.11	7.03	7.16	7.48	7.84	8.21	8.29	8.29
Debt Service (Dollars)	4,152,000	4,337,000	4,535,000	4,742,000	4,965,000	5,205,000	5,253,000	5,251,000
TOTAL - APA ALTERNATIVE	6,348,964	6,643,813	6,957,153	7,285,261	7,635,424	8,008,945	8,197,142	8,342,350
APA ALTERNATIVE (Cents/KWH)	10.87	10.77	10.98	11.50	12.05	12.64	12.94	13.17
DIESEL ALTERNATIVE:								
O & M:								
Variable	871,731	966,459	1,042,471	1,094,594	1,149,324	1,206,790	1,267,129	1,330,486
Fixed	571,763	600,352	630,369	661,888	694,982	729,731	766,218	804,529
Fuel	3,868,973	4,317,809	4,688,043	4,959,980	5,292,433	5,651,642	6,033,542	6,120,134
Lube Oil	129,465	143,534	154,822	162,563	170,692	179,226	188,188	197,597
TOTAL - DIESEL ALTERNATIVE	5,441,933	6,028,153	6,515,705	6,879,025	7,307,430	7,767,390	8,255,077	8,452,746
DIESEL ALTERNATIVE (Cents/KWH)	9.32	9.77	10.28	10.86	11.53	12.26	13.03	13.34

WHOLESALE POWER COST ALTERNATIVES

CITY OF KETCHIKAN - CASE 1



WHOLESALE POWER COST COMPARISON
Swan Lake Hydroelectric Project
Ketchikan Public Utilities Diesel Generation
March 5, 1985
CASE 2

PAGE 1 OF 2

	1985	1986	1987	1988	1989	1990	1991	1992
Generation in MWH	28,880	37,764	41,423	44,140	46,872	49,663	52,516	55,430
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,133,000	1,166,990	1,202,000	1,238,060	1,275,201	1,313,458	1,352,861
Diesel Reserve Cost (Dollars)	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.00	2.12	2.25	2.39	2.53	2.68	2.68	2.68
Principal (Dollars)	0	19,250	76,048	145,561	229,132	329,246	363,052	399,759
Interest (Dollars)	577,600	781,347	855,969	909,385	956,730	1,001,723	1,044,376	1,085,765
TOTAL - HB 219 ALTERNATIVE	2,064,592	2,332,199	2,509,567	2,679,822	2,859,484	3,054,800	3,182,975	3,314,337
HB 219 ALTERNATIVE (Cents/KWH)	7.15	6.18	6.06	6.07	6.10	6.15	6.06	5.98
APA ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,133,000	1,166,990	1,202,000	1,238,060	1,275,201	1,313,458	1,352,861
Diesel Reserve Cost (Dollars)	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	2.19	3.39	4.40	5.41	6.30	7.28	7.66	7.40
Debt Service (Dollars)	632,000	1,281,000	1,824,000	2,386,000	2,951,000	3,613,000	4,024,000	4,101,000
TOTAL - APA ALTERNATIVE	2,118,992	2,812,602	3,401,550	4,010,876	4,624,623	5,336,831	5,799,546	5,929,813
APA ALTERNATIVE (Cents/KWH)	7.34	7.45	8.21	9.09	9.87	10.75	11.04	10.70
DIESEL ALTERNATIVE:								
O & M:								
Variable	291,688	392,859	443,851	487,153	532,824	581,488	633,339	688,536
Fixed	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
Fuel	1,428,906	1,824,442	1,965,581	2,107,226	2,333,492	2,558,008	2,776,799	3,035,669
Lube Oil	43,320	58,345	65,918	72,349	79,132	86,360	94,060	102,258
TOTAL - DIESEL ALTERNATIVE	2,150,906	2,674,248	2,885,910	3,089,605	3,381,011	3,674,485	3,966,287	4,302,414
DIESEL ALTERNATIVE (Cents/KWH)	7.45	7.08	6.97	7.00	7.21	7.40	7.55	7.76

ASSUMPTIONS:

Inflation:	1.0300
Diesel (1985 Values):	
Variable O & M (Cents/KWH)	1.0100
Fuel (Cents/Gallon)	71.0000
KWH per Gallon of Diesel	14.3500

SOURCES:

Diesel Fuel Cost Projections: DREV
Generation Requirements: APA
O & M Cost Projections: Based on KPU Historical Data

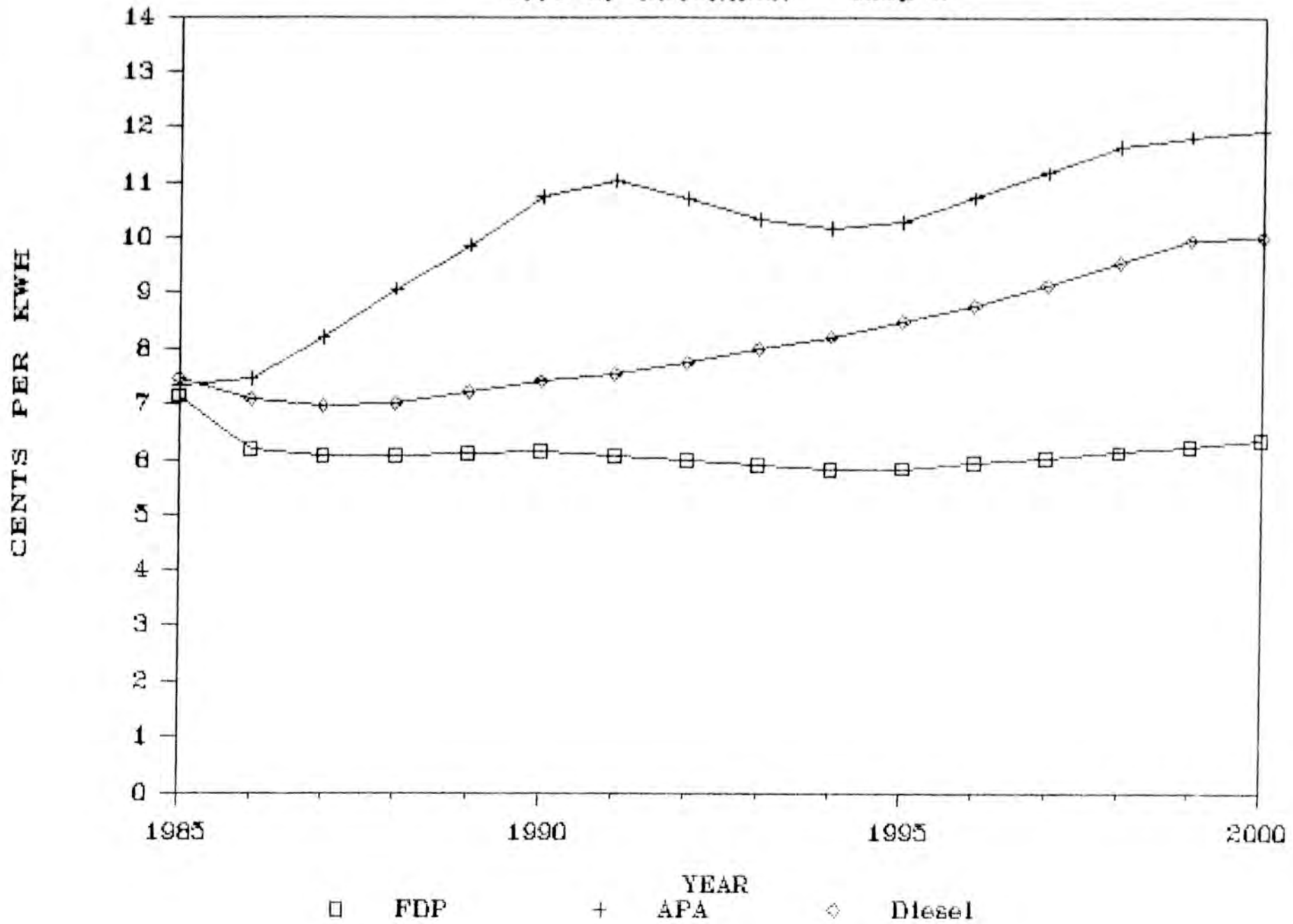
WHOLESALE POWER COST COMPARISON
Swan Lake Hydroelectric Project
Ketchikan Public Utilities Diesel Generation
March 5, 1985
CASE 2

PAGE 2 OF 2

	1993	1994	1995	1996	1997	1998	1999	2000
Generation in MWH	58,418	61,682	63,365	63,365	63,365	63,365	63,365	63,365
HB 219 ALTERNATIVE:								
D & M Cost (Dollars)	1,393,447	1,435,251	1,478,308	1,522,657	1,568,337	1,615,387	1,663,849	1,713,764
Diesel Reserve Cost (Dollars)	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
Principal (Dollars)	439,582	484,152	518,594	540,010	562,273	585,423	609,493	634,518
Interest (Dollars)	1,126,020	1,168,925	1,179,588	1,158,172	1,135,909	1,112,759	1,088,689	1,063,664
TOTAL - HB 219 ALTERNATIVE	3,449,279	3,593,265	3,696,575	3,756,527	3,818,277	3,881,880	3,947,391	4,014,867
HB 219 ALTERNATIVE (Cents/KWH)	5.90	5.83	5.83	5.93	6.03	6.13	6.23	6.34
APA ALTERNATIVE:								
D & M Cost (Dollars)	1,393,447	1,435,251	1,478,308	1,522,657	1,568,337	1,615,387	1,663,849	1,713,764
Diesel Reserve Cost (Dollars)	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	7.11	7.03	7.16	7.48	7.84	8.21	8.29	8.29
Debt Service (Dollars)	4,152,000	4,337,000	4,535,000	4,742,000	4,965,000	5,205,000	5,253,000	5,251,000
TOTAL - APA ALTERNATIVE	6,035,677	6,277,187	6,533,393	6,800,345	7,085,095	7,388,698	7,502,209	7,567,685
APA ALTERNATIVE (Cents/KWH)	10.33	10.18	10.31	10.73	11.18	11.66	11.84	11.94
DIESEL ALTERNATIVE:								
D & M:								
Variable	747,422	812,858	860,088	885,891	912,468	939,842	968,037	997,078
Fixed	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
Fuel	3,317,257	3,631,573	3,867,861	4,014,275	4,201,752	4,401,470	4,609,388	4,586,484
Lube Oil	111,003	120,722	127,736	131,568	135,515	139,580	143,768	148,081
TOTAL - DIESEL ALTERNATIVE	4,665,912	5,070,089	5,375,770	5,567,421	5,801,493	6,049,203	6,306,553	6,334,564
DIESEL ALTERNATIVE (Cents/KWH)	7.99	8.22	8.48	8.79	9.16	9.55	9.95	10.00

WHOLESALE POWER COST ALTERNATIVES

CITY OF KETCHIKAN - CASE 2



WHOLESALE POWER COST COMPARISON
Swan Lake Hydroelectric Project
Ketchikan Public Utilities Diesel Generation
March 5, 1985
CASE 3

PAGE 1 OF 2

	1985	1986	1987	1988	1989	1990	1991	1992
Generation in MWH	28,880	37,764	41,423	44,140	46,872	49,663	52,516	55,430
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,155,000	1,212,750	1,273,388	1,337,057	1,403,910	1,474,105	1,547,810
Diesel Reserve Cost (Dollars)	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.00	2.12	2.25	2.39	2.53	2.68	2.68	2.68
Principal (Dollars)	0	19,250	76,048	145,561	229,132	329,246	363,052	399,759
Interest (Dollars)	577,600	781,347	955,969	909,385	956,730	1,001,723	1,044,376	1,085,765
TOTAL - HB 219 ALTERNATIVE	2,064,592	2,361,938	2,571,426	2,776,325	2,993,310	3,228,789	3,400,140	3,577,871
HB 219 ALTERNATIVE (Cents/KWH)	7.15	6.25	6.21	6.29	6.39	6.50	6.47	6.45
APA ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,155,000	1,212,750	1,273,388	1,337,057	1,403,910	1,474,105	1,547,810
Diesel Reserve Cost (Dollars)	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	2.19	3.39	4.40	5.41	6.30	7.28	7.66	7.40
Debt Service (Dollars)	632,000	1,281,000	1,824,000	2,386,000	2,951,000	3,613,000	4,024,000	4,101,000
TOTAL - APA ALTERNATIVE	2,118,992	2,842,342	3,463,409	4,107,379	4,758,448	5,510,820	6,016,711	6,193,347
APA ALTERNATIVE (Cents/KWH)	7.34	7.53	8.36	9.31	10.15	11.10	11.46	11.17
DIESEL ALTERNATIVE:								
O & M:								
Variable	291,688	400,487	461,255	516,085	575,429	640,178	710,802	787,755
Fixed	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
Fuel	1,690,537	2,200,407	2,416,662	2,641,121	2,981,505	3,331,833	3,687,040	4,109,035
Lube Oil	43,320	59,478	68,503	76,646	85,460	95,076	105,565	116,993
TOTAL - DIESEL ALTERNATIVE	2,412,537	3,066,714	3,373,080	3,681,844	4,112,786	4,560,997	5,022,013	5,558,321
DIESEL ALTERNATIVE (Cents/KWH)	8.35	8.12	8.14	8.34	8.77	9.18	9.56	10.03

ASSUMPTIONS:

Inflation:	1.0500
Diesel (1985 Values):	
Variable O & M (Cents/KWH)	1.0100
Fuel (Cents/Gallon)	94.0000
KWH per Gallon of Diesel	14.3500

SOURCES:

Diesel Fuel Cost Projections: DREV
Generation Requirements: APA
O & M Cost Projections: Based on KPU Historical Data

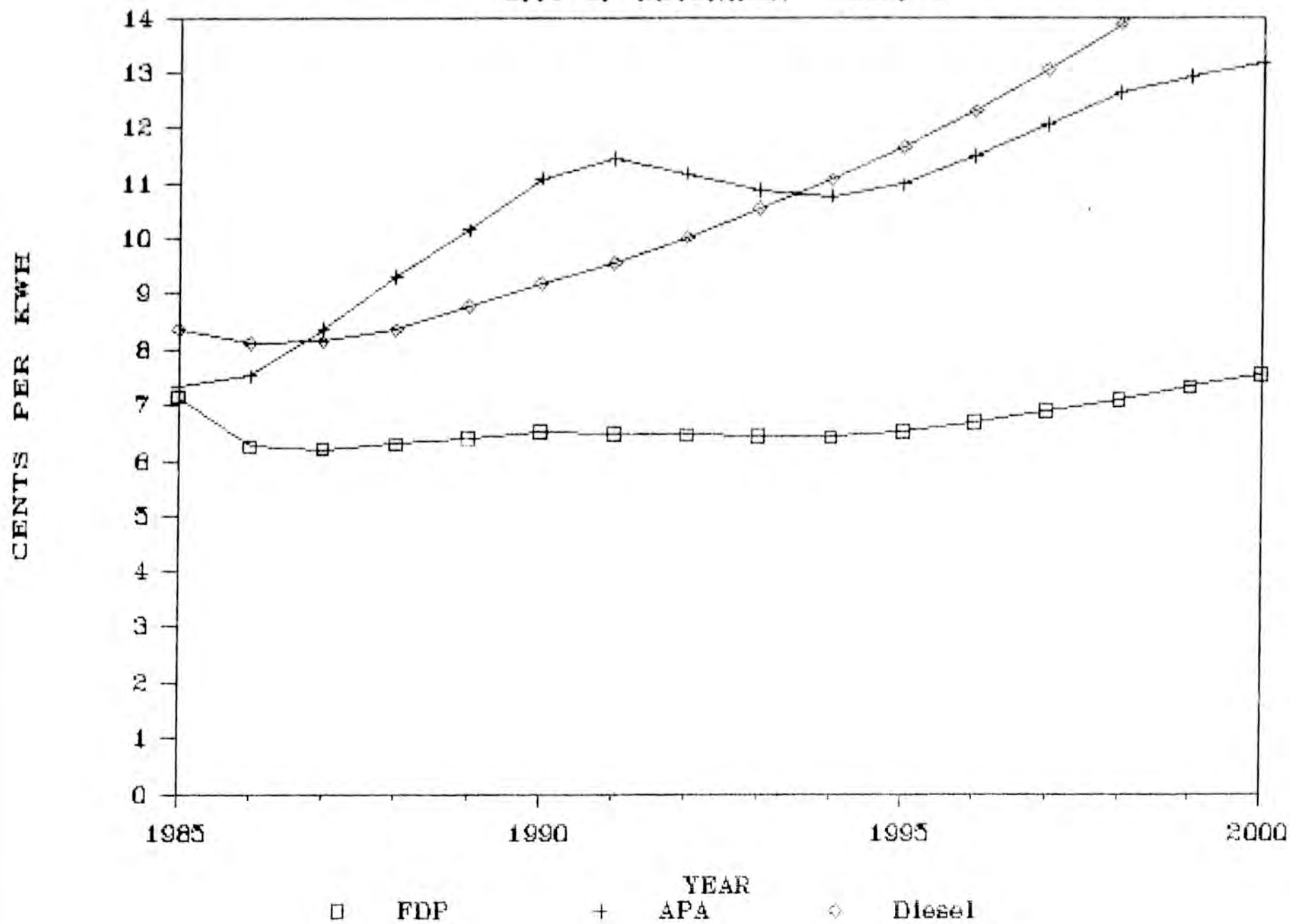
WHOLESALE POWER COST COMPARISON
Swan Lake Hydroelectric Project
Ketchikan Public Utilities Diesel Generation
March 5, 1985
CASE 3

PAGE 2 OF 2

	1993	1994	1995	1996	1997	1998	1999	2000
Generation in MWH	58,418	61,682	63,365	63,365	63,365	63,365	63,365	63,365
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,625,201	1,706,461	1,791,784	1,881,373	1,975,442	2,074,214	2,177,925	2,286,821
Diesel Reserve Cost (Dollars)	571,763	600,352	630,369	661,888	694,982	729,731	766,218	804,529
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
Principal (Dollars)	439,582	484,152	518,594	540,010	562,273	585,423	609,493	634,518
Interest (Dollars)	1,126,020	1,168,925	1,179,588	1,158,172	1,135,909	1,112,759	1,088,689	1,063,664
TOTAL - HB 219 ALTERNATIVE	3,762,567	3,959,890	4,120,335	4,241,443	4,368,606	4,502,127	4,642,324	4,789,532
HB 219 ALTERNATIVE (Cents/KWH)	6.44	6.42	6.50	6.69	6.89	7.11	7.33	7.56
APA ALTERNATIVE:								
O & M Cost (Dollars)	1,625,201	1,706,461	1,791,784	1,881,373	1,975,442	2,074,214	2,177,925	2,286,821
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APA DEBT SERVICE:								
Debt Service (Cents/KWH)	7.11	7.03	7.16	7.48	7.84	8.21	8.29	8.29
Debt Service (Dollars)	4,152,000	4,337,000	4,535,000	4,742,000	4,965,000	5,205,000	5,253,000	5,251,000
TOTAL - APA ALTERNATIVE	6,348,964	6,643,813	6,957,153	7,285,261	7,635,424	8,008,945	8,197,142	8,342,350
APA ALTERNATIVE (Cents/KWH)	10.87	10.77	10.98	11.50	12.05	12.64	12.94	13.17
DIESEL ALTERNATIVE:								
O & M:								
Variable	871,731	966,459	1,042,471	1,094,594	1,149,324	1,206,790	1,267,129	1,330,486
Fixed	571,763	600,352	630,369	661,888	694,982	729,731	766,218	804,529
Fuel	4,577,377	5,108,394	5,546,417	5,868,145	6,261,469	6,686,450	7,138,275	7,240,722
Lube Oil	125,465	143,534	154,822	162,563	170,692	179,226	188,188	197,597
TOTAL - DIESEL ALTERNATIVE	6,150,336	6,818,738	7,374,079	7,787,190	8,276,467	8,802,197	9,359,810	9,573,334
DIESEL ALTERNATIVE (Cents/KWH)	10.53	11.05	11.64	12.29	13.06	13.89	14.77	15.11

WHOLESALE POWER COST ALTERNATIVES

CITY OF KETCHIKAN - CASE 3



WHOLESALE POWER COST COMPARISON
Swan Lake Hydroelectric Project
Ketchikan Public Utilities Diesel Generation
March 5, 1985
CASE 4

PAGE 1 OF 2

	1985	1986	1987	1988	1989	1990	1991	1992
Generation in MWH	28,880	37,764	41,423	44,140	46,872	49,663	52,516	55,430
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,133,000	1,166,990	1,202,000	1,238,060	1,275,201	1,313,458	1,352,861
Diesel Reserve Cost (Dollars)	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.00	2.12	2.25	2.39	2.53	2.68	2.68	2.68
Principal (Dollars)	0	19,250	76,048	145,561	229,132	329,246	363,052	399,759
Interest (Dollars)	577,600	781,347	855,969	909,385	956,730	1,001,723	1,044,376	1,085,765
TOTAL - HB 219 ALTERNATIVE	2,064,592	2,332,199	2,509,567	2,679,822	2,859,484	3,054,800	3,182,975	3,314,337
HB 219 ALTERNATIVE (Cents/KWH)	7.15	6.18	6.06	6.07	6.10	6.15	6.06	5.98

APA ALTERNATIVE:

O & M Cost (Dollars)	1,100,000	1,133,000	1,166,990	1,202,000	1,238,060	1,275,201	1,313,458	1,352,861
Diesel Reserve Cost (Dollars)	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	2.19	3.39	4.40	5.41	6.30	7.28	7.66	7.40
Debt Service (Dollars)	632,000	1,281,000	1,824,000	2,386,000	2,951,000	3,613,000	4,024,000	4,101,000
TOTAL - APA ALTERNATIVE	2,118,992	2,812,602	3,401,550	4,010,876	4,624,623	5,336,831	5,799,546	5,929,813
APA ALTERNATIVE (Cents/KWH)	7.34	7.45	8.21	9.09	9.87	10.75	11.04	10.70

DIESEL ALTERNATIVE:

O & M:								
Variable	291,688	392,859	443,851	487,153	532,824	581,488	633,339	688,536
Fixed	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
Fuel	1,690,537	2,158,494	2,325,476	2,493,056	2,760,751	3,026,375	3,285,227	3,591,496
Lube Oil	43,320	58,345	65,918	72,349	79,132	86,360	94,060	102,258
TOTAL - DIESEL ALTERNATIVE	2,412,537	3,008,300	3,245,805	3,475,435	3,808,270	4,142,852	4,474,715	4,858,241
DIESEL ALTERNATIVE (Cents/KWH)	8.35	7.97	7.84	7.87	8.12	8.34	8.52	8.76

ASSUMPTIONS:

Inflation:	1.0300
Diesel (1985 Values):	
Variable O & M (Cents/KWH)	1.0100
Fuel (Cents/Gallon)	84.0000
KWH per Gallon of Diesel	14.3500

SOURCES:

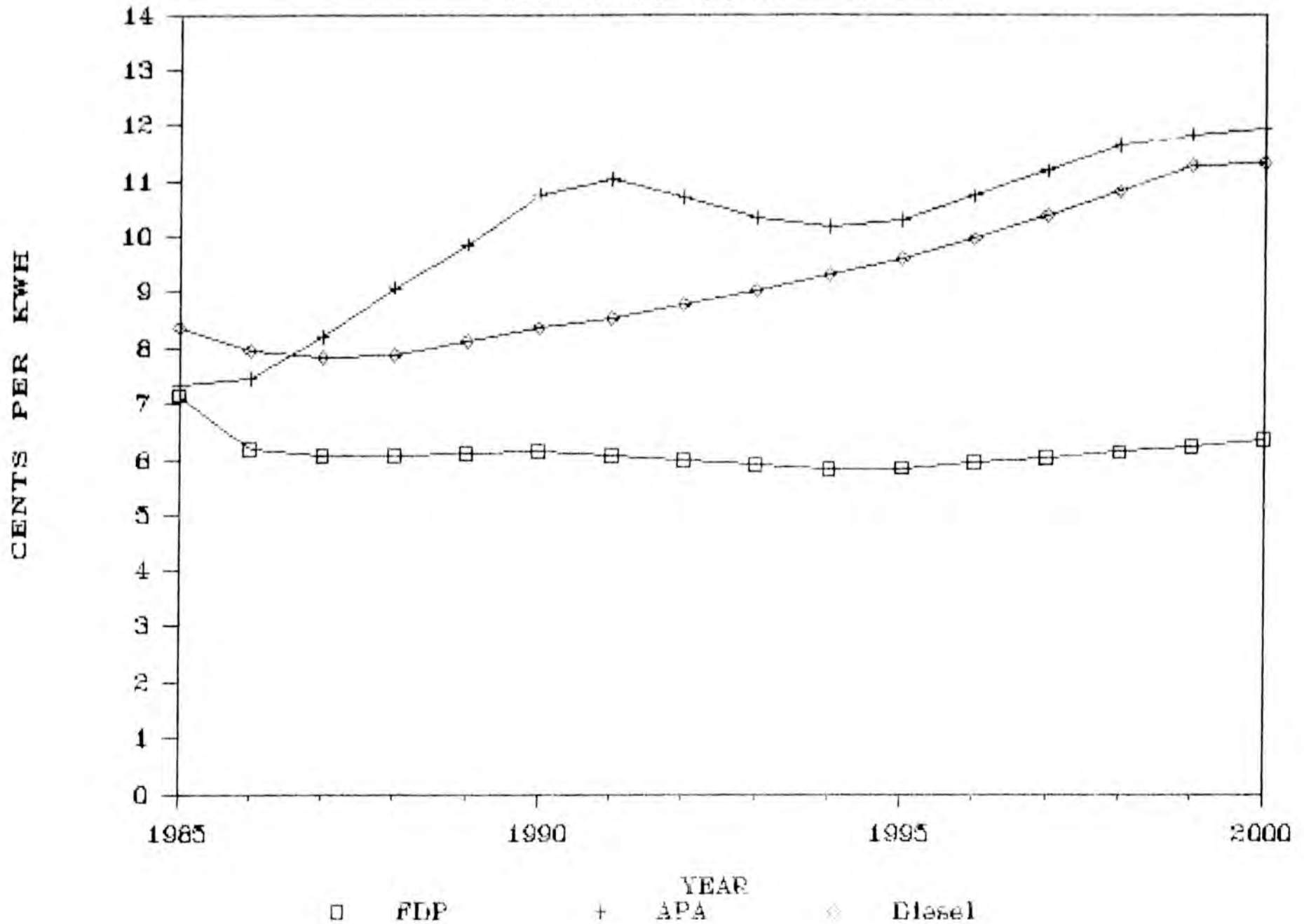
Diesel Fuel Cost Projections: DREV
Generation Requirements: APA
O & M Cost Projections: Based on KPU Historical Data

WHOLESALE POWER COST COMPARISON
 Swan Lake Hydroelectric Project
 Ketchikan Public Utilities Diesel Generation
 March 5, 1985
 CASE 4

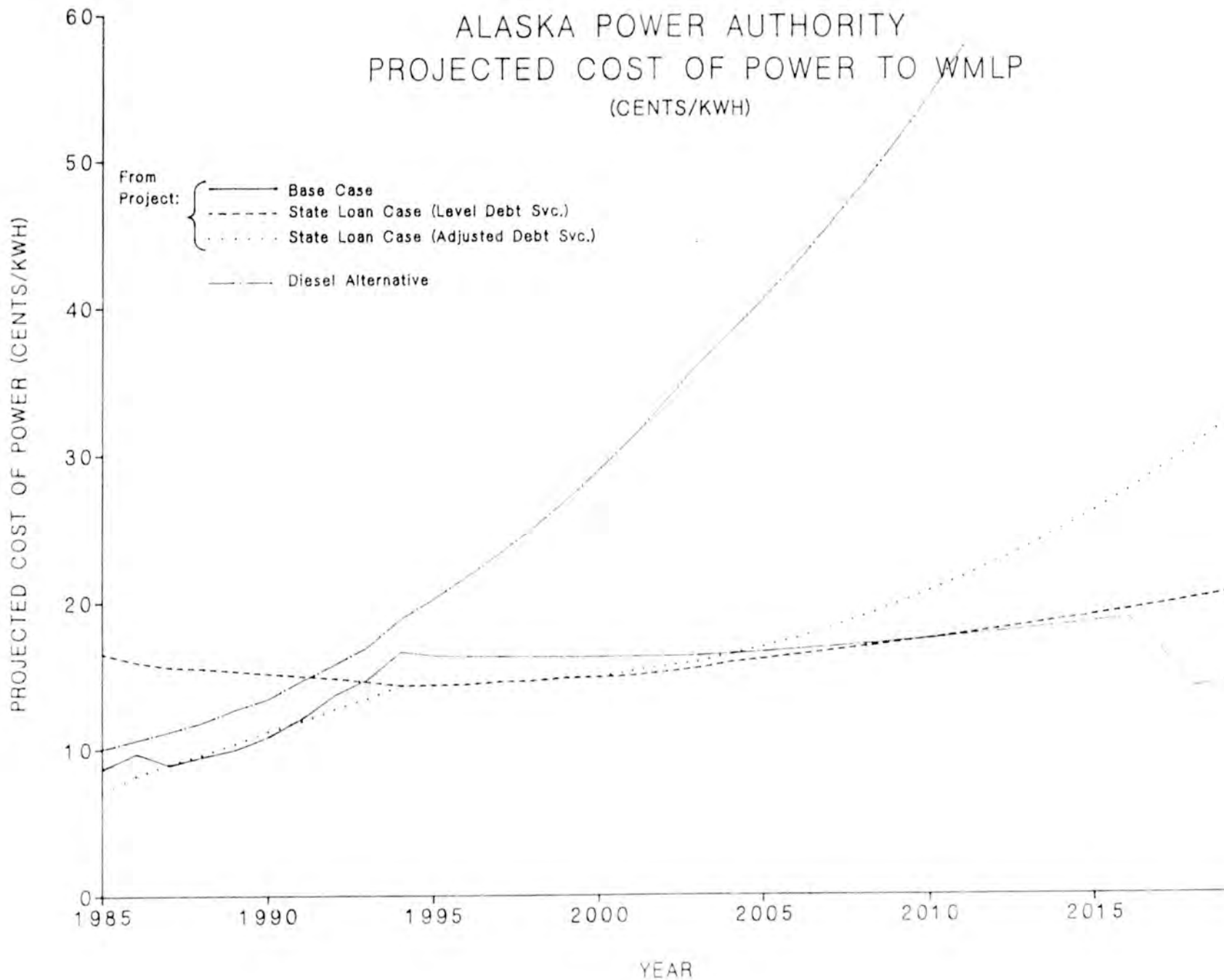
	1993	1994	1995	1996	1997	1998	1999	2000
Generation in MWH	58,418	61,682	63,365	63,365	63,365	63,365	63,365	63,365
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,393,447	1,435,251	1,478,308	1,522,657	1,568,337	1,615,387	1,663,849	1,713,764
Diesel Reserve Cost (Dollars)	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
Principal (Dollars)	439,582	484,152	518,594	540,010	562,273	585,423	609,493	634,518
Interest (Dollars)	1,126,020	1,168,925	1,179,588	1,158,172	1,135,909	1,112,759	1,088,689	1,063,664
TOTAL - HB 219 ALTERNATIVE	3,449,279	3,593,265	3,696,575	3,756,527	3,818,277	3,881,880	3,947,391	4,014,867
HB 219 ALTERNATIVE (Cents/KWH)	5.90	5.83	5.83	5.93	6.03	6.13	6.23	6.34
APA ALTERNATIVE:								
O & M Cost (Dollars)	1,393,447	1,435,251	1,478,308	1,522,657	1,568,337	1,615,387	1,663,849	1,713,764
Diesel Reserve Cost (Dollars)	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	7.11	7.03	7.16	7.48	7.84	8.21	8.29	8.29
Debt Service (Dollars)	4,152,000	4,337,000	4,535,000	4,742,000	4,965,000	5,205,000	5,253,000	5,251,000
TOTAL - APA ALTERNATIVE	6,035,677	6,277,187	6,533,393	6,800,345	7,085,095	7,388,698	7,502,209	7,567,685
APA ALTERNATIVE (Cents/KWH)	10.33	10.18	10.31	10.73	11.18	11.66	11.84	11.94
DIESEL ALTERNATIVE:								
O & M:								
Variable	747,422	812,858	860,088	885,891	912,468	939,842	968,037	997,078
Fixed	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
Fuel	3,924,642	4,296,509	4,576,060	4,749,283	4,971,087	5,207,372	5,453,361	5,426,262
Lube Oil	111,003	120,722	127,736	131,568	135,515	139,580	143,768	148,081
TOTAL - DIESEL ALTERNATIVE	5,273,297	5,735,025	6,083,970	6,302,429	6,570,828	6,855,105	7,150,526	7,174,342
DIESEL ALTERNATIVE (Cents/KWH)	9.03	9.30	9.60	9.95	10.37	10.82	11.28	11.32

WHOLESALE POWER COST ALTERNATIVES

CITY OF KETCHIKAN - CASE 4



ALASKA POWER AUTHORITY PROJECTED COST OF POWER TO WMLP (CENTS/KWH)



94 196

5.8%
4.0%

RAILBELT

Introduced: 2/20/85
Referred: House Special Committee
on State Loans, Resources and
Finance

BY THE HOUSE SPECIAL
COMMITTEE ON STATE LOANS

1 IN THE HOUSE

HOUSE BILL NO. 219

IN THE LEGISLATURE OF THE STATE OF ALASKA

FOURTEENTH LEGISLATURE - FIRST SESSION

A BILL

6 For an Act entitled: "An Act relating to the applicability of the Alaska
7 Public Utilities Commission Act to certain electric
8 utilities; power development loans; and the energy
9 program for Alaska."

10 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

11 * Section 1. AS 42.05.711(b) is amended to read:

12 (b) Public utilities owned and operated by a political subdivi-
13 sion of the state and regional electric authorities established as an
14 instrumentality of two or more public utilities owned and operated by
15 a political subdivision of the state, none of whose utilities is in
16 competition with any other utility, are exempt from the provisions of
17 this chapter, other than the provisions of AS 42.05.221 - 42.05.281,
18 unless the owner and operator elects to be subject to all provisions
19 of this chapter.

20 * Sec. 2. AS 44.33.620(a) is amended to read:

21 (a) Except as provided in (d) of this section, a [A] loan from
22 the fund must be repaid in accordance with the terms that the depart-
23 ment determines to be appropriate. In establishing the terms, includ-
24 ing provision for a return to the state of an amount in excess of the
25 principal amount of the loan, the department shall consider the reve-
26 nue that the authority could reasonably derive from the sale of power
27 from the projects based upon

28 (1) the market rate of interest for a loan of comparable
29 size and duration at the time the loan is made; and

1 (2) the estimated costs of alternative sources of energy
2 generation for utilities purchasing power from a project financed with
3 a loan from the fund.

4 * Sec. 3. AS 44.33.620 is amended by adding a new subsection to read:

5 (d) A loan from the fund to finance the initial project, as
6 described in AS 44.83.398(a), shall be subject to the following terms:

7 (1) the loan must be amortized based on an annual interest
8 rate not to exceed four percent, a term not to exceed 50 years, and a
9 40-year amortization period;

10 (2) the annual debt service payment per kilowatt hour for
11 energy purchased by utilities from the initial project equals the
12 total annual payment needed to amortize the loan on the terms set out
13 in (1) of this subsection divided by the long-term average annual
14 kilowatt hour capability of the initial project;

15 (3) repayment may be adjusted so that the debt service
16 payment per kilowatt hour, as determined under (2) of this subsection,
17 increases gradually over the first five years of the loan and remains
18 fixed over the next 35 years; and

19 (4) deferred principal shall be repaid with interest in
20 equal annual installments during the last 10 years of the loan.

21 * Sec. 4. AS 44.83.425(5) is amended to read:

22 (5) "qualified utility" means an electric utility or a
23 regional electric authority established as an instrumentality of two
24 or more electric utilities [THAT IS] certified by the Alaska Public
25 Utilities Commission to serve all or part of a market area that is
26 served or will be served by the power project, [AND] that the author-
27 ity determines is capable of operating and maintaining the power
28 project.



KETCHIKAN PUBLIC UTILITIES

334 FRONT STREET

KETCHIKAN, ALASKA 99801

TELEPHONE 907-236-3111

MUNICIPALLY OWNED
ELECTRIC WATER PHONE

November 27, 1984

ANALYSIS FOUR DAM POOL PROPOSAL

The Four Dam Pool proposal addresses, within existing law, several problems of the energy Program as currently structured and administered. I emphasize that these problems arise largely out of the statutory framework within which the APA operates. All prior contract negotiations with the APA have attempted to deal with these statutory structures. I believe our proposal simply does so more effectively than prior proposals. The problems we encounter are as follows:

- Uncertainty Under the Energy Program, we do not know the cost of power before we buy. Because power is priced according to the amount sold, a reduction or termination anywhere in the system could raise the price of power and force us to "true up" our bill after the fact.
- Unbearable Risks Unless otherwise limited, the Program makes each Purchaser jointly and severally responsible for the entire debt of the APA. A longterm contract on these terms could lock a small community into a fifty-year, open-ended obligation to pay off billions of dollars in debt.
- Guaranteed Inflation In order to pay for projects that are too big and too expensive for the communities' current needs, the APA has had to borrow money and accept a repayment schedule that includes "negative amortization" and periodic increases in debt service. These increases are purportedly based on predicted increases in the cost of diesel fuel. Even if these predictions were accurate, which we dispute, how can we benefit from hydropower if we aim for the diesel price? In fact, while diesel prices have been dropping, the only certainty about the APA's payment obligation is that it will increase.
- Unequal Benefits The Energy Program has been based on the idea that each community would pay according to the cost of APA facilities available to serve it. This formula ignores other variables such as whether the facilities are entirely necessary to that community and

Mayor Charles Freeman
November 27, 1984
Page Two

whether such costs would result in large disparities between the retail rates of that and other communities. Anomalies result. For example, one community could end up paying a "system increment" increase in order to subsidize a project in another community that already enjoys lower rates. Likewise, a community could find itself ultimately worse off by gaining the "benefits" of hydropower and thereby losing its power cost assistance entitlement.

- Out-of-Reach Prices No matter how theoretically elegant, a power cost formula fails if ratepayers cannot afford the power. In the best of circumstances, prices under the current Program are projected at or just above what the communities estimate they can afford to pay without suffering serious economic dislocation. If assumptions underlying the projections are wrong -- if loads do not materialize, for example -- the results could be disastrous.

- Uncontrollable Costs Finally the existing Program gives the purchasers of power little ability to learn about, much less to control, the debt service obligations and operations, maintenance, and administrative overhead costs incurred by the APA. Yet these costs are passed directly through to the purchasers. Such unanticipated costs can add substantially to the unpredictability discussed above. Since utilities cannot easily recover previously incurred costs from their ratepayers, the result could be extremely disruptive to a utility's ability to plan. As I have emphasized before, long-term planning is essential to the proper management of an electric utility.

The Four Dam Pool proposal is aimed at overcoming the problems described above, without the need for statutory change. The principles behind our proposal are applicable to the Energy Program state-wide, although possibly not without new legislation. Those principles are as follows:

- Certainty The creation of a Power Development Revolving Loan Fund enables the APA to borrow money upon very flexible terms from the Department of Commerce and Economic Development. We propose terms that would permit the APA to charge a fixed rate for power. Purchasers would thereby know the price of power before they buy.

- Acceptable Risks Our proposal is that debt service

Mayor Charles Freeman
November 27, 1984
Page Three

on the state loan be related to project usage, with power priced as though projects were fully utilized. This would place the risks of over-capacity and reduction in sales upon the State. Such a risk allocation is appropriate, since excess electric capacity is part of the infrastructure used to promote economic development throughout the State.

- Flat Rates Except for a brief initial "ramp up" to ease the rate shock for some utilities, we propose that debt service costs be flat throughout the contract period. This would assure that the benefits of hydropower are passed on to the citizens of the State, and that utilities would achieve a measure of predictability necessary for long-term planning.
- Equity Our proposal entails equal debt service costs for each member of the Four Dam Pool. Applied statewide, this principle might mean equality per kilowatthour for debt service, wholesale power costs, or total system revenue requirements.
- Affordability The ultimate wholesale power rate proposed by the Four Dam Pool was derived from what the communities believe they can afford. In most cases, that amount results in rates to the consumer at or near what those rates are today. We believe that no community in the State should be forced beyond its means to purchase power.
- Cost Control The role of the APA should be limited to helping finance the Energy Program. The only way operations and maintenance costs can be held in check is if they are placed within the control of those who must ultimately pay them. All APA borrowing, expenditures, and administrative overhead should be subject to strict audit, and should be governed at least in part with the active participation of the power purchasers.

Very truly yours,

KETCHIKAN PUBLIC UTILITIES



Richard D. Newland
Utilities Manager

Table 6. Hydroelectric Projects Operating in Alaska

<u>REGION</u>	<u>SERVICE AREA</u>	<u>PROJECT</u>	<u>INSTALLED CAPACITY (MW)</u>	<u>AVERAGE ANNUAL GENERATION (Mwh)</u>	<u>DATE CONSTRUCTED</u>
South Central	Anchorage	Cooper Lake	15.0	42,000	1961
	Anchorage	Eklutna	30.0	147,875	1955
	Kodiak	*Terror Lake	20.0	139,700	1984
	Valdez	*Solomon Gulch	12.0	55,000	1982
Southeast	Juneau	Annex Creek	3.5	27,500	1915
	Juneau	Gold Creek	1.6	6,000	1904
	Juneau	Snettisham	46.7	211,000	1973
	Juneau	Upper Salmon Creek	2.8	14,000	1914
	Ketchikan	Beaver Falls	5.4	36,200	1947
	Ketchikan	Ketchikan Lakes	4.2	16,400	1957
	Ketchikan	Silvis	2.2	11,000	1974
	Ketchikan	*Swan Lake	22.0	88,000	1984
	Metlakatla	Purple Lake	3.0	15,800	1956
	Pelican	Pelican Creek	0.5	2,500	1940
	Petersburg	Crystal Lake	1.6	11,000	1956
	Petersburg/ Wrangell	*Tyee Lake	20.0	133,000	1984
	Sitka	Blue Lake	8.0	39,800**	1961
	Sitka	Green Lake	18.5	46,500**	1982
	Skagway	Dewey Lakes	0.7	700	1909

* APA Projects.

** Firm energy rather than average annual generation.

Table 1
Electric Rates and Production Costs For Selected Utilities
1983

Utility	Production Cost (cents/kwh)	Retail Rate (cents/kwh)	Difference (Rate-Cost)
<u>Regulated</u>			
Alaska Electric (AEL&P)	3.5	5.9	2.4
Alaska Power (AP&T)	12.4	16.1	3.7
Alaska Villages (AVEC)	29.6	44.8	15.2
Anchorage (AML&P)	3.6	5.5	1.9
Aniak (APC)	28.3	33.9	5.6
Barrow (BU&EC)	2.7	9.0	6.3
Bethel (BUC)	15.7	18.1	2.4
Bettles (BL&P)	25.5	49.1	23.6
Chugach Electric (CEA)*	3.0	6.5	3.5
Cold Bay (NP&E)	16.4	19.3	2.9
Copper Valley (CVEA)	8.3	13.3	5.0
Ft. Yukon (FYU)	24.5	34.3	9.8
Galena (M&DE)	30.2	38.1	7.9
Golden Valley (GVEA)	6.4	10.0	3.6
Haines (HL&P)	13.7	16.4	2.7
Kodiak (KdEA)	12.1	16.4	4.3
Kotzebue (KtEA)	18.0	23.4	5.4
McGrath (MGL&P)	24.5	32.0	7.5
Northway (NP&L)	18.9	26.5	7.6
Pelican (PUC)	8.3	10.6	2.3
Sandpoint (PUC)	15.5	17.3	1.8
Tanana (TPC)	24.6	31.8	7.2
Tlingit-Haida (THREA)	25.3	38.4	13.1
Yakutat (YPI)	13.3	18.1	4.8
<u>Unregulated</u>			
Cordova (CEC)	14.6	20.4	5.8
Fairbanks (FMU)	6.6	7.5	.9
Glacier Highway (GHEA)	5.2	11.1	5.9
Ketchikan (KPU)	5.9	9.0	3.1
Metlakatla (MP&L)	5.6	8.2	2.6

Table 1 (continued)
Electric Rates and Production Costs For Selected Utilities
1983

Utility	Production Cost (cents/kwh)	Retail Rate (cents/kwh)	Difference (Rate-Cost)
Naknek (NEA)	14.7	22.8	8.1
Nome (NTUB)	17.7	20.4	2.7
Petersburg (PMP&L)	10.4	13.3	2.9
Sitka (SED) [†]	8.0	6.8	-1.2
Wrangell (WML&P)	10.5	14.6	4.1

* Homer Electric Association, Matanuska Electric Association and the City of Seward are combined with Chugach Electric. Seward is an unregulated utility.

† According to John McCracken, Finance Director for the City and Borough of Sitka, the utility did show a paper loss of approximately \$69,000 in 1983; however, this does not account for the large negative difference between the retail rate and the production cost. This difference is the result of not counting substantial income from interest on cash reserves and on overlapping financing, while apportioning the interest expense of this financing to production costs.

Source: Alaska Power Authority, Advisory Committee Report on Statewide Power Production Costs, December 15, 1984.

Table prepared by the House Research Agency, February 1985.

Initial Loan Principal	\$196,000,000	Ramp Period (Years)	5	4-DAM POOL
Loan Interest Rate	4.00%	D. S. Entry Rate (c/kW.h)	2.20	LOAN REPAYMENT SCHEDULE
Loan Term (Years)	40	Entry Rate Annual Escalation	6.05%	
Total Energy Capability (GW.h/yr)	378,607	D. S. Rate Ceiling (c/kW.h)	2.682840	CASE 4-A

Year	DEBT SERV COMPONENT (c/kW.h)	PAYMENT FROM ELEC REVENUE	ENERGY SALES (GW.h)	UTILIZATION	CURRENT PRINCIPAL BALANCE	INTEREST DUE FROM 4-DAM POOL	ACTUAL PAYMENT LESS INT. DUE	PRINCIPAL REPAYMENT DEFERRED	DEFERRED PRINCIPAL BALANCE
1985	2.00	3,104,120	155,206	40.99%	196,000,000	3,213,926	(109,806)	1,217,061	1,217,061
1986	2.12	3,849,550	181,496	47.94%	194,892,746	3,756,990	92,561	1,116,790	2,333,851
1987	2.25	4,306,077	191,437	50.56%	193,683,395	3,954,721	351,356	1,022,865	3,436,735
1988	2.39	4,751,347	199,181	52.61%	192,229,154	4,095,758	655,589	1,099,544	4,536,279
1989	2.53	5,212,390	206,042	54.42%	190,474,021	4,205,259	1,007,139	1,099,799	5,636,078
1990	2.68	5,714,200	212,994	56.25%	188,367,083	4,300,727	1,413,561	1,097,712	6,733,790
1991	2.68	5,877,217	219,067	57.86%	185,855,810	4,361,163	1,516,854	1,099,757	7,833,547
1992	2.68	6,007,552	226,907	59.93%	183,239,999	4,449,374	1,630,178	1,087,542	8,921,089
1993	2.68	6,336,412	236,183	62.38%	180,514,278	4,557,304	1,779,100	1,061,884	9,982,973
1994	2.68	6,596,916	245,893	64.95%	177,673,286	4,664,816	1,932,100	1,029,068	11,012,041
1995	2.68	6,853,020	255,439	67.47%	174,712,118	4,760,231	2,092,789	993,250	12,005,291
1996	2.68	6,990,569	260,566	68.82%	171,625,000	4,767,619	2,222,950	989,981	12,995,272
1997	2.68	7,133,591	265,897	70.23%	168,413,149	4,771,637	2,361,954	983,082	13,978,354
1998	2.68	7,283,428	271,402	71.71%	165,060,112	4,772,574	2,510,854	971,743	14,950,097
1999	2.68	7,440,669	277,343	73.25%	161,585,516	4,770,144	2,670,525	955,320	15,905,417
2000	2.68	7,605,529	283,400	74.88%	157,959,671	4,763,757	2,841,772	933,243	16,838,660
2001	2.68	7,732,481	288,220	76.13%	154,184,656	4,725,569	3,006,912	922,288	17,760,948
2002	2.68	7,781,390	290,043	76.61%	150,255,456	4,633,629	3,147,761	939,834	18,700,782
2003	2.68	7,831,907	291,926	77.11%	146,167,861	4,536,187	3,295,720	956,646	19,657,428
2004	2.68	7,884,572	293,889	77.62%	141,915,495	4,433,170	3,451,401	972,381	20,629,809
2005	2.68	7,939,463	295,935	78.16%	137,491,713	4,324,205	3,615,257	986,853	21,616,662
2006	2.68	7,996,661	298,067	78.73%	132,889,602	4,208,891	3,787,770	999,859	22,616,521
2007	2.68	8,056,300	300,290	79.31%	128,101,973	4,086,822	3,969,478	1,011,153	23,627,674
2008	2.68	8,118,488	302,606	79.93%	123,121,342	3,957,546	4,160,342	1,020,474	24,648,147
2009	2.68	8,183,279	305,023	80.56%	117,939,925	3,820,549	4,362,730	1,027,568	25,675,716
2010	2.68	8,250,833	307,541	81.23%	112,549,627	3,675,330	4,575,503	1,032,102	26,707,818
2011	2.68	8,321,231	310,165	81.92%	106,942,022	3,521,308	4,799,922	1,033,753	27,741,570
2012	2.68	8,394,633	312,901	82.65%	101,100,347	3,357,895	5,036,739	1,032,125	28,773,696
2013	2.68	8,471,140	315,753	83.40%	95,039,483	3,184,428	5,286,719	1,026,818	29,800,514
2014	2.68	8,550,882	318,725	84.18%	88,725,946	3,000,199	5,550,683	1,017,397	30,817,911
2015	2.68	8,634,023	321,824	85.00%	82,157,866	2,804,469	5,829,554	1,003,334	31,821,245
2016	2.68	8,720,652	325,053	85.85%	75,324,978	2,596,405	6,124,247	984,130	32,805,376
2017	2.68	8,810,983	328,420	86.74%	68,216,601	2,375,152	6,435,831	959,147	33,764,523
2018	2.68	8,905,124	331,929	87.67%	60,821,622	2,139,753	6,765,371	927,769	34,692,291
2019	2.68	9,003,262	335,587	88.64%	53,128,483	1,889,200	7,114,062	889,265	35,581,556
2020	2.68	9,105,559	339,400	89.64%	45,125,156	1,622,397	7,483,162	842,864	36,424,421
2021	2.68	9,212,202	343,375	90.69%	36,799,130	1,338,166	7,874,035	787,707	37,212,128
2022	2.68	9,323,352	347,518	91.79%	28,137,388	1,035,234	8,288,118	722,882	37,935,010
2023	2.68	9,439,197	351,836	92.93%	19,126,387	712,229	8,726,968	647,379	38,582,389
2024	2.68	9,559,978	356,338	94.12%	9,752,041	367,680	9,192,299	560,052	39,142,441
2025	1.34	4,825,870	361,030	95.36%	(310)	1,565,685	3,260,185		35,881,945
2026	1.32	4,825,870	365,921	96.65%		1,435,278	3,390,592		32,491,353
2027	1.30	4,825,870	371,019	98.00%		1,299,654	3,526,216		28,965,137
2028	1.28	4,825,870	376,334	99.40%		1,158,605	3,667,265		25,297,872
2029	1.27	4,825,870	378,607	100.00%		1,011,915	3,813,955		21,483,917
2030	1.27	4,825,870	378,607	100.00%		859,357	3,966,514		17,517,403
2031	1.27	4,825,870	378,607	100.00%		700,696	4,125,174		13,392,229
2032	1.27	4,825,870	378,607	100.00%		535,689	4,290,181		9,102,048
2033	1.27	4,825,870	378,607	100.00%		364,082	4,461,788		4,640,260
2034	1.27	4,825,870	378,607	100.00%		185,610	4,640,260		(0)
TOTALS		347,628,986	15,046,933			151,628,986	196,000,000	39,142,441	

1 The following exchange illustrates the point made earlier that
2 Congress' primary concern was only that the overall revenue derived
3 from rates be sufficient to repay the Federal investment in the
4 power project.

5 "Mr. KING. There may be some provision in the bill,
6 but I have failed to discover any--and I may say that
7 I have had the bill which passed the House, instead
8 of the Senate committee bill--which will provide for
9 reimbursement to the Government of the United States
10 of the enormous sums which are to be appropriated
11 under the provisions of the bill. I ask the Senator
12 whether or not it is contemplated that the Government
13 is to be reimbursed, and what provisions are found in
14 the bill to effectuate that purpose?

15 "Mr. McNARY. Mr. President, that is a very natural
16 question. On page 12 the bill provides:

17 'Rate schedules shall be drawn having regard to
18 the recovery (upon the basis of the application
19 of such rate schedules to the capacity of the
20 electric facilities at Bonneville project) of
21 the cost of producing and transmitting such
22 electric energy, including the amortization of
23 the capital investment over a reasonable period
24 of years. . . .'

25 "Mr. ELLENDER. While the Senator is considering
26 section 7 of this bill will he explain the meaning of
27 the language which appears in parenthesis on lines 18
28 and 19, page 12?

"Beginning at line 18, I find this language in
parenthesis:

'Upon the basis of the application of such rate
schedules to the capacity of the electric
facilities of Bonneville project.'

"Mr. STEIWER. Mr. President, there is some language
included in the parenthesis on page 12, line 18, to
which the Senator from Louisiana directs attention,
and with the permission of my colleague I will
undertake to answer the question by saying that in
figuring the amortization of the capital investment
it is necessary, of course, to have a formula of
revenue. That formula consists of the rate
multiplied by the amount of energy which presumably
will be offered for sale.

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"Mr. ELLENDER. Will that take into consideration the cost of the entire project?

"Mr. STEIWER. Ultimately it will. The parenthesis is merely to state the formula. It uses the words 'upon the basis of the application of such rate schedules to the capacity of the electric facilities of Bonneville project.'

"Mr. ELLENDER. Suppose the capacity of the plant is not used; how will the rate then be fixed so as to amortize the entire cost of the project in a given period?

"Mr. STEIWER. The rate will be figured on the capacity. It necessarily must be so, or we never could initiate the use of that power. The rate will be figured on the capacity; but, of course, the amortization will proceed more slowly, for the project is only partly completed, and only part of the energy is being sold.

"Mr. ELLENDER. Suppose the time for amortization is fixed. How would that language then be applicable? Am I to understand that the rate is fixed on a basis of the full capacity of the entire plant?

"Mr. STEIWER. That is correct.

"Mr. ELLENDER. Suppose the entire production is not sold and the time for amortization has been fixed. Would not the number of years in which the cost of the plant is to be repaid be changed, or would it not be necessary to increase the rates?

"Mr. STEIWER. It would have the practical effect of doing what the Senator first suggested, because the rate, being a fixed amount, if less capacity than anticipated should develop, of course, it would tend to postpone the time of complete repayment to the Treasury.

"Mr. ELLENDER. Does the Senator from Oregon understand from the language in section 7 that the Government will eventually get back operating expenses and also the entire amount of money spent for erecting the plant?

"Mr. STEIWER. Yes, the Government would get the entire amount, less the charge-off for navigation. Our government never recovers money expended for the building of rivers and harbors. The amount charged off for navigation, therefore, will not be recovered; but the amount that is charged for the development of hydroelectric power will be recovered eventually.

1 The rate of recovery, of course, will be dependent
2 upon the market and the amount of energy sold." 81
3 Cong. Rec. 8524 (1937).

4 One final argument conclusively refutes the California
5 utilities' contention that BPA's NF-2 rate must be cost-based, and
6 that is that one of the Act's primary objectives would not have
7 been achieved had the rates been required to have been cost-based.

8 The Bonneville Project Act emphasized the objective "to
9 encourage the widest possible use of all electric power . . ." The
10 widespread use policy appears three times in sections of the Act
11 authorizing building of transmission lines, requiring preference
12 for public and cooperative systems, and as guidance for setting
13 wholesale rates (Sections 2, 4, and 6).

14 Widely debated during the drafting of the bill was whether a
15 postage stamp or uniform rate would encourage widespread use more
16 than a zone rate, which is lowest at the dam and increases with
17 distance.

18 A zone rate reflects the actual power and transmission costs
19 associated with a particular user while the uniform rate does not.
20 It was thought at the time that if zone rates were charged, those
21 domestic and rural consumers farthest from the dam would not be
22 able to afford the actual cost of service, and thus the objective
23 of widespread use would not be attained.

24 As explained by the following exchange in the House Hearings on
25 H.R. 7642, Congress was concerned that rates not reflect the actual
26 cost of providing service, for to do so would price out those
27 farthest from the dam and allow big industry to locate near the dam
28 and buy up all the available power:

016892

Alaska State Legislature



House of Representatives

Committee on Loans

POUCH V
JUNEAU, ALASKA 99811

PHONE
[907] 465-4919
[907] 465-4920

AGENDA

MONDAY, 3/4/85, 3:30 p.m.
Room 124 (House Judiciary)

- * HB 219 "An Act relating to the applicability of the Alaska Public Utilities Commission Act to certain electric utilities; power development loans; and the energy program for Alaska."

TUESDAY, 3/5/85, 3:30 p.m.
Room 124 (House Judiciary)

Continuation of HB 219.

For more information, contact JOHN HARTLE
CAPITOL ROOM 411
465-4919

* Indicates first public hearing.

3/5/85

MEMORANDUM

TO: Rep. John Sund, Chair
House Special Committee on Loans

FROM: John Hartle, AA *JH*

RE: Questions for the APA

1. The single most critical assumption in all the forecasts of future electric rates is that of oil prices. WHY does the APA insist on using different forecasts than those made by the Department of Revenue?

[The importance of this cannot be stressed too much. The difference is so significant in all the APA forecasts. EXAMPLE: (see attached) In the year 2000, measured in 1983 dollars
Dept of Revenue = \$25.42/bbl; APA = \$40.00/bbl
Virtually everything the APA does depends on the price of oil for comparison - the financial feasibility of dams, comparing four dam pool electric rates to those of the rest of the state, etc.

Again: Why not use the official State of Alaska forecasts?

2. Will the APA charge different debt service component rates per kilowatt hour for each of the communities? WHY? Is this legal? (I was under the impression we were talking about pooling those rates.)

3. To the proposed one-year hold-everything-and-study-some-more plan: Steve Sealey, (Wrangell mill owner), and others like him, can't wait that long to make their decisions - they will generate their own power by then - this would mean the difference between a 36% useage of Tyee and the current 18% useage.

ALASKA POWER AUTHORITY

334 WEST 5th AVENUE - ANCHORAGE, ALASKA 99501

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

February 25, 1985

RECEIVED

FEB 27 1985

DOUGLAS H. ROSENBERG

Doug Rosenberg
2000 IBM Bldg
P. O. Box 2927
Seattle, Washington 98111

Subject: Oil Price Forecasts

Dear Mr. Rosenberg:

Attached are the two oil price forecasts that we discussed by telephone on February 19:

- 1) Alaska Department of Revenue mean forecast, issued December 1984;
- 2) Sherman H. Clark Associates "no supply disruption" forecast (adopted by the Power Authority as the base case for Susitna), issued August 1984.

Sincerely,



Richard Emerman
Senior Economist

RE/amh

1984 SHCA NSD Forecast*
World Oil Price -- "Marker Crude"
(\$1983/bbl)

<u>Year</u>	<u>Forecast</u>
1985	\$ 26.30
1986	26.30
1987	26.30
1988	26.30
1989	27.09
1990	27.90
1995	32.50
2000	40.00
2005	50.00
2010	60.00
2020	80.00
2030	90.00
2040	100.00
2050	110.00

* Sherman H. Clark Associates "no supply disruption" forecast. Extracted from "Alaska Power Authority Comments on the Federal Energy Regulatory Commission Draft Environmental Impact Statement of May 1984, Volume 3, Appendix I"; August 1984; p. 2-6.

Alaska Department of Revenue Mean Forecast
World Oil Price -- Saudi Medium
(1983/bbl)

<u>Fiscal Year</u>	<u>December 1984 Forecast</u>
1985	\$25.70
1986	24.36
1987	23.24
1988	22.81
1989	22.71
1990	23.08
1991	22.99
1992	23.13
1993	23.28
1994	23.43
1995	23.60
1996	23.76
1997	24.16
1998	24.56
1999	24.99
2000	25.42
2001	25.86

Alaska State Legislature



House of Representatives

REPRESENTATIVE
JOHN L. SUND

Box 6440
KETCHIKAN, ALASKA 99901
(907) 225-5552

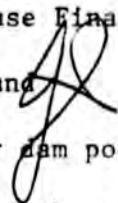
WHALE IN JUNEAU
POUCH V
JUNEAU, ALASKA 99811
(907) 465-4919

CHAIR, HOUSE SPECIAL COMMITTEE ON LOANS
VICE-CHAIR, JUDICIARY COMMITTEE
MEMBER, SPECIAL COMMITTEE ON OIL AND GAS
MEMBER, RESOURCES COMMITTEE

4/12/85

MEMORANDUM

TO: Members, House Finance Committee

FROM: Rep. John Sund 

RE: HB 219 (Four dam pool)

The subcommittee and the representatives of the four dam pool communities have been unable to agree on provisions for a Finance Committee CS for HB 219. I would appreciate your support for a version of the original bill.

The difference between the two proposed committee substitutes is one of approach:

The subcommittee bill sets guidelines for the APA and the communities to negotiate power sales.

The original bill actually sets the terms of the loan. This is in response to two years of negotiations. We have added a new provision for a price reopener to be included 15 years into any contract for power sales.

Initial Loan Principal	\$196,000,000	Ramp Period (Years)	5	4-DAM POOL
Loan Interest Rate	4.20%	D. S. Entry Rate (c/kW.h)	2.00	LOAN REPAYMENT SCHEDULE
Loan Term (Years)	40	Entry Rate Annual Escalation	6.05%	
Total Energy Capability (GW.h/yr)	378,607	D. S. Rate Ceiling (c/kW.h)	2.682940	CASE 4-A

Year	DEBT SERV COMPONENT (c/kW.h)	PAYMENT FROM ELEC REVENUE	ENERGY SALES (GW.h)	UTILIZ- ATION	CURRENT PRINCIPAL BALANCE	INTEREST DUE FROM 4-DAM POOL	ACTUAL PAY- MENT LESS INT. DUE	PRINCIPAL REPAYMENT DEFERRED	DEFERRED PRINCIPAL BALANCE
1985	2.00	3,104,120	155,236	40.99%	196,000,000	3,213,926	(109,806)	1,217,061	1,217,061
1986	2.12	3,849,550	181,496	47.94%	194,892,746	3,756,990	92,561	1,116,790	2,333,851
1987	2.25	4,306,077	191,437	50.56%	193,683,395	3,954,721	351,256	1,102,885	3,436,735
1988	2.39	4,751,347	199,181	52.61%	192,229,154	4,095,753	655,589	1,099,544	4,536,279
1989	2.53	5,212,398	206,042	54.42%	190,474,021	4,205,259	1,007,139	1,099,799	5,636,078
1990	2.68	5,714,288	212,994	56.25%	188,367,083	4,300,727	1,413,561	1,097,712	6,733,790
1991	2.68	5,877,217	219,067	57.86%	185,855,810	4,361,163	1,516,854	1,099,757	7,833,547
1992	2.68	6,097,552	226,907	59.93%	183,239,999	4,449,374	1,638,178	1,087,542	8,921,089
1993	2.68	6,336,412	236,183	62.38%	180,514,278	4,557,334	1,779,108	1,061,884	9,982,973
1994	2.68	6,596,916	245,893	64.35%	177,673,286	4,664,816	1,932,100	1,029,068	11,012,041
1995	2.68	6,853,020	255,433	67.47%	174,712,118	4,760,231	2,092,789	993,250	12,005,291
1996	2.68	6,990,569	260,566	68.82%	171,625,060	4,767,619	2,222,950	989,981	12,995,272
1997	2.68	7,133,591	265,897	70.23%	168,413,149	4,771,637	2,361,954	983,082	13,978,354
1998	2.68	7,283,428	271,482	71.71%	165,068,112	4,772,574	2,510,854	971,743	14,950,097
1999	2.68	7,440,669	277,343	73.25%	161,585,516	4,770,144	2,670,525	955,320	15,905,417
2000	2.68	7,605,529	283,488	74.88%	157,959,671	4,763,757	2,841,772	933,243	16,838,660
2001	2.68	7,732,481	288,220	76.13%	154,184,656	4,725,569	3,006,912	922,208	17,760,940
2002	2.68	7,781,390	290,043	76.61%	150,255,456	4,633,629	3,147,761	939,834	18,700,782
2003	2.68	7,831,907	291,926	77.11%	146,167,861	4,536,187	3,295,720	956,646	19,657,428
2004	2.68	7,884,572	293,889	77.62%	141,915,495	4,433,170	3,451,401	972,381	20,629,809
2005	2.68	7,939,463	295,935	78.16%	137,491,713	4,324,205	3,615,257	986,853	21,616,662
2006	2.68	7,996,661	298,067	78.73%	132,889,602	4,208,891	3,787,770	999,859	22,616,521
2007	2.68	8,056,300	300,290	79.31%	128,101,973	4,086,822	3,969,478	1,011,153	23,627,674
2008	2.68	8,118,488	302,608	79.93%	123,121,342	3,957,546	4,160,942	1,020,474	24,648,147
2009	2.68	8,183,279	305,023	80.56%	117,939,925	3,820,549	4,362,720	1,027,568	25,675,716
2010	2.68	8,250,833	307,541	81.23%	112,549,627	3,675,330	4,575,503	1,032,102	26,707,818
2011	2.68	8,321,231	310,165	81.92%	106,942,022	3,521,308	4,799,922	1,033,753	27,741,570
2012	2.68	8,394,633	312,901	82.55%	101,100,347	3,357,895	5,036,738	1,032,125	28,773,696
2013	2.68	8,471,148	315,753	83.40%	95,039,483	3,184,428	5,286,719	1,026,818	29,800,514
2014	2.68	8,550,882	318,725	84.18%	88,725,946	3,000,199	5,550,663	1,017,397	30,817,911
2015	2.68	8,634,023	321,824	85.00%	82,157,866	2,804,469	5,829,554	1,003,334	31,821,245
2016	2.68	8,720,652	325,053	85.85%	75,324,978	2,596,405	6,124,247	984,130	32,805,376
2017	2.68	8,810,983	328,420	86.74%	68,216,601	2,375,152	6,435,831	959,147	33,764,523
2018	2.68	8,905,124	331,929	87.57%	60,821,622	2,139,753	6,765,371	927,769	34,692,291
2019	2.68	9,003,262	335,587	88.54%	53,128,483	1,889,200	7,114,062	889,265	35,581,556
2020	2.68	9,105,559	339,400	89.64%	45,125,156	1,622,397	7,483,162	842,864	36,424,421
2021	2.68	9,212,202	343,375	90.69%	36,799,130	1,338,166	7,874,035	787,707	37,212,128
2022	2.68	9,323,352	347,518	91.79%	28,137,388	1,035,234	8,288,118	722,882	37,935,010
2023	2.68	9,439,197	351,836	92.93%	19,126,387	712,229	8,726,968	647,379	38,582,389
2024	2.68	9,559,978	356,338	94.12%	9,752,841	367,680	9,192,299	560,052	39,142,441
2025	1.34	4,825,870	361,030	95.36%	(310)	1,565,665	3,260,185		35,881,945
2026	1.32	4,825,870	365,921	96.65%		1,435,278	3,390,592		32,491,353
2027	1.30	4,825,870	371,019	98.00%		1,299,654	3,526,216		28,965,137
2028	1.28	4,825,870	376,334	99.40%		1,158,605	3,667,265		25,297,872
2029	1.27	4,825,870	378,607	100.00%		1,011,915	3,813,955		21,483,917
2030	1.27	4,825,870	378,607	100.00%		859,357	3,966,514		17,517,403
2031	1.27	4,825,870	378,607	100.00%		700,696	4,125,174		13,391,219
2032	1.27	4,825,870	378,607	100.00%		535,689	4,290,181		9,102,048
2033	1.27	4,825,870	378,607	100.00%		364,082	4,461,788		4,640,260
2034	1.27	4,825,870	378,607	100.00%		185,610	4,640,260		(0)
TOTALS		347,628,966	15,046,933			151,628,966	196,000,000	39,142,441	

MEMORANDUM OF UNDERSTANDING

Between the Alaska Power Authority
and
Representatives of the Four Dam Pool Communities
governing
Power Sales Contracts for the Four Dam Pool

Representatives of the APA and the Four Dam Pool utilities (Ketchikan, Kodiak, Copper Valley, Wrangell, and Petersburg) have reached agreement in principle on the terms and conditions of a power sales contract for the sale of power from the Solomon Gulch, Swan Lake, Lake Tyee, and Terror Lake hydroelectric projects (the "Initial Project"). Although the specific details of such a contract must still be resolved and drafted, the undersigned representatives hereby agree to recommend to their governing bodies the approval of power sales contracts embodying, among other things, the principles set forth in this Memorandum.

1. The Alaska Power Authority ("APA") and the purchasing utilities of the Four-Dam Pool communities ("Purchasing Utilities") agree to enter into a power sales agreement that will run for 50 years, subject to periodic renegotiations and other conditions set forth below.
2. At the end of the contract period, there will be no debt service component of the wholesale rate charged by the APA for power from the four projects. Debt service payments that may be required to pay for additions and expansions of the four projects that are made subsequent to the execution of these agreements will be governed by future agreements.
3. The Purchasing Utilities agree to pay a wholesale rate for energy purchased from the APA that is generated by the four projects that has a debt service component, and a component relevant to all other annual costs.
4. The annual costs exclusive of the debt service component shall include costs of on-site operations and maintenance, safety inspections and investigations, insurance, project-specific administrative and general expenses, and renewals and replacements.
5. Annual costs referred to in Section 4 will be based on prudent utility practice, and will be subject to mutual agreement arrived at through an annual process that establishes an operating budget for the coming year. An O&M

oversight committee composed of all parties to the agreement will be established. In the event disputes over these annual costs cannot be resolved by the parties, the matter will be referred to arbitration by a certified engineer mutually agreeable to the parties.

6. All annual costs referred to in Section 4 will be pooled and divided by the total annual sales from the four projects, so that all Purchasing Utilities pay the same annual cost component of the wholesale rate.
7. The debt service component of the wholesale rate has two elements: an element paid for energy shown in Schedule A as "forecast sales," and an element paid for energy in addition to the "forecast sales," which is referred to as "additional sales."
8. The "additional sales" debt service element in Schedule A will be charged only after the total annual sales from all four projects exceed the "forecast sales" for that year; that is, the distinction between "forecast sales" and "additional sales" applies to the entire four dam system (as configured at the time this agreement is executed).
9. The purchasing utilities will schedule the energy produced by the projects into their load ahead of energy from other sources, except from existing hydroelectric projects.
10. Upon the initiation of either party, the debt service rates shown in Schedule A may be renegotiated after 15 years. The contract shall require reasonable notice of intent to renegotiate rates, and the contract may direct the parties to consider certain factors and conditions in establishing a new rate schedule.
11. The parties to this agreement do not expect that the composite wholesale rate that results from this agreement will be less than the composite wholesale rate charged by the APA for energy produced from the Bradley Lake hydroelectric project.
12. The APA shall bear the risk of uninsured project failures, substandard project performance, and failure of any Purchasing Utility to make payments required by the contract.

DATED May 8, 1985

ALASKA POWER AUTHORITY

BY: [Signature]

CITY OF KETCHIKAN

BY: [Signature]

COPPER VALLEY ELECTRIC ASSOCIATION

By: Andrew E. Hoge

KODIAK ELECTRIC ASSOCIATION

By: William E. Eckhardt

CITY OF WRANGELL

By: James K. ...

CITY OF PETERSBURG

By: Jim Farnel

SCHEDULE A

<u>YEAR</u>	<u>FORECAST SALES (MWH)</u>	<u>DEBT SERVICE RATE FOR FORECAST SALES (CENTS/KWH)</u>	<u>DEBT SERVICE RATE FOR ADDITIONAL SALES (CENTS/HWH)</u>
1986	181,496	2.6	1.6
1987	191,437	2.8	1.8
1988	199,181	3.2	2.2
1989	206,042	3.5	2.5
1990	212,994	4.0	3.0
1991	219,067	4.0	3.0
1992	226,907	4.0	3.0
1993	236,183	4.0	3.0
1994	245,893	4.0	3.0
1995	255,439	4.0	3.0
1996	260,533	4.0	3.0
1997	265,897	4.0	3.0
1998	271,482	4.0	3.0
1999	277,343	4.0	3.0
2000	283,488	4.0	3.0
2001	288,220	4.0	3.0
2002	290,043	4.0	3.0
2003	291,926	4.0	3.0
2004	293,889	4.0	3.0
2005	295,935	4.0	3.0
2006	298,067	4.0	3.0
2007	300,290	4.0	3.0
2008	302,608	4.0	3.0
2009	305,023	4.0	3.0
2010	307,541	4.0	3.0
2011	310,165	4.0	3.0
2012	312,901	4.0	3.0
2013	315,753	4.0	3.0
2014	318,725	4.0	3.0
2015	321,824	4.0	3.0
2016	325,053	4.0	3.0
2017	328,420	4.0	3.0
2018	331,929	4.0	3.0
2019	335,587	4.0	3.0
2020	339,400	4.0	3.0
2021	343,375	4.0	3.0
2022	347,518	4.0	3.0
2023	351,836	4.0	3.0
2024	356,338	4.0	3.0
2025	361,030	4.0	3.0
2026	365,921	4.0	3.0
2027	371,019	4.0	3.0

<u>YEAR</u>	<u>FORECAST SALES (MWH)</u>	<u>DEBT SERVICE RATE FOR FORECAST SALES (¢1 KWH)</u>	<u>DEBT SERVICE RATE FOR ADDITIONAL SALES (¢1 KWH)</u>
2028	376,334	4.0	3.0
2029	378,607	4.0	3.0
2030	378,607	4.0	3.0
2031	378,607	4.0	3.0
2032	378,607	4.0	3.0
2033	378,607	4.0	3.0
2034	378,607	4.0	3.0
2035	378,607	4.0	3.0
2036	378,607	4.0	3.0
2037	378,607	4.0	3.0

M E M O R A N D U M

TO: John Hartle

DATE: May 2, 1985

FROM: Eric Redman and Doug Rosenberg *ER & DR*

SUBJECT: What Happened In Your Absence

1. The filthy lawyers fed at the public trough for hours and hours, with no one but the cleaning person here to restrain them.

2. There's good news about your diskette LOANS2! It's been liberated from its unpromising childhood here in Juneau, adopted by two terrific daddies from Seattle, and will grow up amid the joys of the Pacific Northwest. (We couldn't find another diskette onto which to duplicate our documents. But we did duplicate your document SB 186 INTENT onto diskette LOANS, and since that was the only document besides ours on the diskette, all you've lost is the value of one diskette.) If you begin a custody fight for LOANS2, we may relent and return it, even though it will never really be happy here.

3. Attached please find the fruits of our labors:

(a) A one-page draft of a Memorandum of Understanding, not yet shown to anyone and eager to retain that status. Short, sweet, clever.

(b) A one-page Exhibit A for same, showing the wholesale power rate schedule and its components, including the scheduled debt service component, with notes. (This, incidentally, is H-2 without additional loads, otherwise known as the H-2 base case.)

(c) A print-out of Exhibit B for same, showing the internal rate of return to the state and all the data (well, most of the data) used to derive it. This shows both the H-2 base case and the H-2 additional sales case.

4. On Friday, May 3rd, Doug will transmit copies of all the foregoing to each of the Four Dam Pool communities in preparation for next week's meeting. We will also try to reach Heath and/or Harrison to tell them:

(a) That we are trying for an MOU approach, and why we are doing so; and

(b) To emphasize that we now hope to have the Four Dam Pool signed off on a draft of the MOU on the 7th, with meeting with Heath and Harrison set for the 8th, in the hope that by the evening of the 8th Heath can tell Sen. Faiks and Sen. Halford that an MOU is in hand, and that it will produce a respectable rate of return to the state.

Draft
5/2/85

MEMORANDUM OF UNDERSTANDING

Between the Alaska Power Authority
and
Representatives of the Four Dam Pool Communities
governing
Power Sales Contracts for the Four Dam Pool

Representatives of the APA and the Four Dam Pool utilities (Ketchikan, Kodiak, Copper Valley, Wrangell, and Petersburg) will recommend that their governing boards approve power sales contracts that embody the principles set forth below:

1. Rates: Subject to a rate reopener provision (below), the purchasers will pay in each year a wholesale power rate consisting of three components:

(a) Debt service: 4¢ per kwh for all purchases except for purchases in excess of current forecasts and purchases during the 5-year "ramp" period. See Exhibit A.

(b) Operations & Maintenance (O&M): Actual O&M costs for the Pool divided by actual power sales to the Pool, expressed in cents per kwh. See Exhibit A for estimates.

(c) Renewals & Replacement Fund (R&R): \$500,000 per year to fund the project R&R capital account.

2. Projected Rate Of Return To State: The wholesale power rate schedule is projected to produce a return to the state of 6+ percent under the "additional sales" forecasts and 5+ percent under conservative forecasts. See Exhibit B. The parties regard these forecasts as reasonable.

3. Rate reopeners: APA may give a 7-year notice of rate increases at any time after the 8th contract year. Increased rates may not produce average wholesale power costs for Four Dam Pool communities in excess of average wholesale power costs projected for Railbelt utilities at that time. Purchasers may reduce or eliminate purchases of APA power when increased rates take effect or at any time after 15th contract year.

4. O & M responsibilities: The purchasers must pool and pay all on-site O&M expenses. An O&M oversight committee will provide supervision. APA will perform inspections and investigations, buy insurance, and include those costs in O&M.

5. Sharing of risks: Purchasers will bear the risk of increased rates caused by project failure, poor performance, and deviations in actual O&M costs or actual power sales from forecasts, up to a limit of 0.5¢ per kwh increase over the forecasted base case rates shown in Exhibit A.

6. Commerce Department loan to APA: The power sales contracts shall take effect when the terms of the loan have been modified in a manner that permits the contracts to be effective in accordance with the principles of this Memorandum.

EXHIBIT A: WHOLESALE POWER RATE SCHEDULE

Alaska Power Authority--Four Dam Pool
Memorandum of Understanding

YEAR	SCHEDULED DEBT SERVICE (CENTS/KWH)	ESTIMATED O & M COST (CENTS/KWH)	PROJECTED WHOLESALE POWER RATE (CENTS/KWH)
--A--	---B---	---C---	---D---
1986	2.60	2.72	5.32
1987	2.80	2.72	5.52
1988	3.20	2.76	5.96
1989	3.50	2.81	6.31
1990	4.00	2.87	6.87
1991	4.00	2.94	6.94
1992	4.00	3.00	7.00
1993	4.00	3.04	7.04
1994	4.00	3.08	7.08
1995	4.00	3.13	7.13
1996	4.00	3.24	7.24
1997	4.00	3.36	7.36
1998	4.00	3.47	7.47
1999	4.00	3.59	7.59
2000	4.00	3.72	7.72
2001	4.00	3.86	7.86
2002	4.00	4.06	8.06
2003	4.00	4.27	8.27
2004	4.00	4.48	8.48
2005	4.00	4.71	8.71
2006	4.00	4.94	8.94
2007	4.00	5.19	9.19
2008	4.00	5.45	9.45
2009	4.00	5.72	9.72
2010	4.00	6.01	10.01
2011	4.00	6.30	10.30
2012	4.00	6.61	10.61
2013	4.00	6.94	10.94
2014	4.00	7.28	11.28
2015	4.00	7.63	11.63
2016	4.00	8.00	12.00
2017	4.00	8.38	12.38
2018	4.00	8.78	12.78
2019	4.00	9.20	13.20
2020	4.00	9.63	13.63
2021	4.00	10.08	14.08
2022	4.00	10.55	14.55
2023	4.00	11.04	15.04
2024	4.00	11.54	15.54
2025	4.00	12.07	16.07
2026	4.00	12.61	16.61
2027	4.00	13.18	17.18
2028	4.00	13.76	17.76
2029	4.00	14.50	18.50
2030	4.00	15.36	19.36
2031	4.00	16.27	20.27
2032	4.00	17.24	21.24
2033	4.00	18.27	22.27
2034	4.00	19.35	23.35
2035	4.00	20.51	24.51

Notes:

1. O & M based on forecast loads without Additional Sales.
2. O & M includes \$500,000 per year capital cost for Renewals and Replacements.
3. O & M inflation assumed to be 6% per year.
4. Additional Sales to be charged for Debt Service at 1 Cent/kWh less than Scheduled Debt Service.

Case Number 2
 Loan Principal (\$=000's) \$190,000
 O&M Cost Inflation Rate 6.00%

EXHIBIT B: PROJECTED OPERATING RESULTS AND RATES OF RETURN
 Alaska Power Authority--Four Dam Pool
 Memorandum of Understanding

Average Rate of Return:
 Without Additional Sales 5.47%
 With Additional Sales 6.10%

YEAR	PROJECTED			OPERATIONS & MAINTENANCE						
	SCHEDULED DEBT SVC. (CENTS/KWH)	O & M COST (CENTS/KWH)	WHL'S. POWER RATE (CENTS/KWH)	SALES (MWH)	GROSS REVENUES (\$=000's)	NET REVENUES (\$=000's)	ADMIN (\$=000's)	ON-SITE (\$=000's)	R & R (\$=000's)	TOTAL O & M (\$=000's)
A	B	C	D	E	F	G	H	I	J	K
1986	2.60	2.72	5.32	181,496	9,658	5,219	863	3,576	500	4,939
1987	2.80	2.72	5.52	191,437	10,566	5,860	915	3,791	500	5,205
1988	3.20	2.76	5.96	199,181	11,861	6,874	970	4,018	500	5,488
1989	3.50	2.81	6.31	206,042	12,998	7,711	1,028	4,259	500	5,787
1990	4.00	2.87	6.87	212,994	14,624	9,020	1,090	4,515	500	6,104
1991	4.00	2.94	6.94	219,067	15,203	9,263	1,155	4,785	500	6,440
1992	4.00	3.00	7.00	226,907	15,873	9,576	1,224	5,073	500	6,797
1993	4.00	3.04	7.04	236,183	16,622	9,947	1,298	5,377	500	7,175
1994	4.00	3.08	7.08	245,893	17,411	10,336	1,375	5,700	500	7,575
1995	4.00	3.13	7.13	255,439	18,217	10,718	1,458	6,042	500	8,000
1996	4.00	3.24	7.24	260,533	18,871	10,921	1,546	6,404	500	8,450
1997	4.00	3.36	7.36	265,897	19,562	11,136	1,638	6,788	500	8,927
1998	4.00	3.47	7.47	271,482	20,291	11,359	1,737	7,196	500	9,432
1999	4.00	3.59	7.59	277,343	21,062	11,594	1,841	7,627	500	9,968
2000	4.00	3.72	7.72	283,488	21,876	11,840	1,951	8,085	500	10,536
2001	4.00	3.86	7.86	288,220	22,667	12,029	2,068	8,570	500	11,138
2002	4.00	4.06	8.06	290,043	23,378	12,102	2,192	9,084	500	11,777
2003	4.00	4.27	8.27	291,926	24,130	12,177	2,324	9,629	500	12,453
2004	4.00	4.48	8.48	293,889	24,926	12,256	2,463	10,207	500	13,170
2005	4.00	4.71	8.71	295,935	25,768	12,337	2,611	10,820	500	13,931
2006	4.00	4.94	8.94	298,067	26,659	12,423	2,768	11,469	500	14,736
2007	4.00	5.19	9.19	300,290	27,602	12,512	2,934	12,157	500	15,591
2008	4.00	5.45	9.45	302,608	28,600	12,604	3,110	12,886	500	16,496
2009	4.00	5.72	9.72	305,023	29,657	12,701	3,296	13,659	500	17,456
2010	4.00	6.01	10.01	307,541	30,775	12,802	3,494	14,479	500	18,473
2011	4.00	6.30	10.30	310,165	31,958	12,907	3,704	15,348	500	19,552
2012	4.00	6.61	10.61	312,901	33,211	13,016	3,926	16,269	500	20,695
2013	4.00	6.94	10.94	315,753	34,537	13,130	4,162	17,245	500	21,906
2014	4.00	7.28	11.28	318,725	35,940	13,249	4,411	18,279	500	23,191
2015	4.00	7.63	11.63	321,824	37,425	13,373	4,676	19,376	500	24,552
2016	4.00	8.00	12.00	325,053	38,997	13,502	4,957	20,539	500	25,995
2017	4.00	8.38	12.38	328,420	40,662	13,637	5,254	21,771	500	27,525
2018	4.00	8.78	12.78	331,929	42,424	13,777	5,569	23,077	500	29,147
2019	4.00	9.20	13.20	335,587	44,289	13,923	5,903	24,462	500	30,865
2020	4.00	9.63	13.63	339,400	46,263	14,076	6,258	25,930	500	32,687
2021	4.00	10.08	14.08	343,375	48,354	14,235	6,633	27,485	500	34,619
2022	4.00	10.55	14.55	347,518	50,566	14,401	7,031	29,135	500	36,666
2023	4.00	11.04	15.04	351,836	52,909	14,573	7,453	30,883	500	38,836
2024	4.00	11.54	15.54	356,338	55,389	14,754	7,900	32,736	500	41,136
2025	4.00	12.07	16.07	361,030	58,015	14,941	8,374	34,700	500	43,574
2026	4.00	12.61	16.61	365,921	60,795	15,137	8,877	36,782	500	46,158
2027	4.00	13.18	17.18	371,019	63,739	15,341	9,409	38,989	500	48,898
2028	4.00	13.76	17.76	376,334	66,855	15,553	9,974	41,328	500	51,802
2029	4.00	14.50	18.50	378,607	70,024	15,644	10,572	43,808	500	54,880
2030	4.00	15.36	19.36	378,607	73,287	15,644	11,206	46,436	500	58,143
2031	4.00	16.27	20.27	378,607	76,745	15,644	11,879	49,222	500	61,601
2032	4.00	17.24	21.24	378,607	80,411	15,644	12,592	52,176	500	65,267
2033	4.00	18.27	22.27	378,607	84,297	15,644	13,347	55,306	500	69,153
2034	4.00	19.35	23.35	378,607	88,417	15,644	14,148	58,624	500	73,272
2035	4.00	20.51	24.51	378,607	92,783	15,644	14,997	62,142	500	77,639

-----ADDITIONAL SALES TRUE-UP CALCULATION-----

YEAR	ADDITIONAL SALES (MWH)	GROSS REVENUE (\$=000'S)	DEBT SVC. TRUE-UP (\$=000'S)	O & N TRUE-UP (\$=000'S)	NET REVENUE (\$=000'S)	MELDED RATE (CENTS/KWH)	YEAR
A	L	M	N	O	P	Q	R
1986	10,828	10,234	108	295	5,392	5.11	1986
1987	21,656	11,761	217	589	6,250	5.14	1987
1988	32,484	13,796	325	895	7,588	5.43	1988
1989	42,312	15,668	423	1,188	8,769	5.66	1989
1990	54,140	18,341	541	1,552	10,644	6.08	1990
1991	54,140	18,960	541	1,592	10,887	6.16	1991
1992	54,140	19,660	541	1,622	11,200	6.23	1992
1993	54,140	20,432	541	1,645	11,572	6.28	1993
1994	54,140	21,244	541	1,668	11,960	6.34	1994
1995	54,140	22,078	541	1,696	12,342	6.41	1995
1996	54,140	22,792	541	1,756	12,546	6.51	1996
1997	54,140	23,546	541	1,818	12,760	6.62	1997
1998	54,140	24,338	541	1,881	12,983	6.73	1998
1999	54,140	25,173	541	1,946	13,218	6.84	1999
2000	54,140	26,053	541	2,012	13,464	6.96	2000
2001	54,140	26,925	541	2,092	13,653	7.10	2001
2002	54,140	27,742	541	2,198	13,726	7.26	2002
2003	54,140	28,605	541	2,310	13,801	7.44	2003
2004	54,140	29,518	541	2,426	13,880	7.63	2004
2005	54,140	30,482	541	2,549	13,962	7.82	2005
2006	54,140	31,501	541	2,677	14,047	8.03	2006
2007	54,140	32,579	541	2,811	14,136	8.25	2007
2008	54,140	33,717	541	2,951	14,229	8.47	2008
2009	54,140	34,921	541	3,098	14,325	8.71	2009
2010	54,140	36,193	541	3,252	14,426	8.96	2010
2011	54,140	37,537	541	3,413	14,531	9.22	2011
2012	54,140	38,957	541	3,581	14,640	9.49	2012
2013	54,140	40,458	541	3,756	14,754	9.78	2013
2014	54,140	42,045	541	3,939	14,873	10.07	2014
2015	54,140	43,721	541	4,130	14,997	10.39	2015
2016	53,554	45,422	536	4,283	15,109	10.72	2016
2017	50,187	46,876	502	4,206	15,142	11.14	2017
2018	46,678	48,390	467	4,099	15,177	11.58	2018
2019	43,020	49,966	430	3,957	15,214	12.04	2019
2020	39,207	51,608	392	3,776	15,252	12.53	2020
2021	35,232	53,315	352	3,552	15,292	13.05	2021
2022	31,089	55,090	311	3,280	15,333	13.60	2022
2023	26,771	56,935	268	2,955	15,377	14.19	2023
2024	22,269	58,851	223	2,571	15,422	14.81	2024
2025	17,577	60,840	176	2,121	15,469	15.46	2025
2026	12,686	62,903	127	1,600	15,517	16.16	2026
2027	7,588	65,042	76	1,000	15,568	16.90	2027
2028	2,273	67,259	23	313	15,622	17.68	2028
2029	0	70,024	0	0	15,644	18.50	2029
2030	0	73,287	0	0	15,644	19.36	2030
2031	0	76,745	0	0	15,644	20.27	2031
2032	0	80,411	0	0	15,644	21.24	2032
2033	0	84,297	0	0	15,644	22.27	2033
2034	0	88,417	0	0	15,644	23.35	2034
2035	0	92,783	0	0	15,644	24.51	2035

Note: Rates of Return are based upon Net Revenues (columns G and P), which include Debt Service payments and capital contributions to the Renewals and Replacements Fund, plus interest on reserves.

STATE OF ALASKA

OFFICE OF THE GOVERNOR

OFFICE OF MANAGEMENT AND BUDGET

DIVISION OF STRATEGIC PLANNING

BILL SHEFFIELD, GOVERNOR

POUCH AD
JUNEAU, ALASKA 99811
PHONE: (907) 465-3568

May 10, 1985

The Honorable Jan Faiks
Co-Chair
Senate Finance Committee
Pouch V
Juneau, AK 99811

Dear Senator Faiks:

For you and the other members of the Senate Finance Committee to have some perspective on the effect of the power sales agreement that would result from the Memorandum of Understanding of May 8, I have prepared the analysis that is enclosed. The numbers are based on our most current computer simulations of the contract. The avoided cost analysis is very crude, but I believe it presents a reasonably accurate estimate of the range of effects we can expect. We will continue to refine and revise the numbers shown here, but overall they reflect our best view of the impacts of the proposed contracts on wholesale power rates from the Four Dam Pool projects .

Sincerely,



Gordon S. Harrison
Associate Director

GSH/dmc/85F-255

Enclosures

cc: Senate Finance Committee

Comparative Analysis, Wholesale Rates (¢/kwh)

4 Dam Pool

\$196 million loan, 4% inflation;
\$100,000/yr. R&R

Bradley Lake

\$200 million; 4%
inflation;

Additional Sales

Revenue Bond Financing

<u>Year</u>	0	35 MWH	10%	12%
1986	5.1	4.5		
1987	5.3	4.7		
1988	5.7	5.1		
1989	6.0	5.5		
1990	6.5	6.0		
1991	6.5	6.0	5.7	6.7
1992	6.5	6.0	5.9	6.7
1993	6.5	6.1	5.9	6.7
1994	6.5	6.1	5.8	6.6
1995	6.5	6.1	5.8	6.5
1996	6.6	6.1	5.8	6.5
1997	6.6	6.2	5.7	6.4
1998	6.7	6.2	5.7	6.4
1999	6.7	6.3	5.7	6.3
2000	6.7	6.3	5.6	6.3

(ROR: 5.0%)

(ROR: 5.7%)

Variables that Influence Rates

4 Dam Pool

1. amount of additional sales
2. inflation on O&M
3. size of renewals and replacement (R&R) fund

Bradley Lake

1. size of revenue bond issue
2. interest rate
3. inflation on O&M

Avoided Cost Analysis: 4 Dam Pool

<u>Year</u>	Avoided Cost (¢/kwh)		Rates (¢/kwh)	
	7¢ @ 4%/yr.	9¢ @ 4%/yr.	0 Additional Sales	35 MWH Additional Sales
1986	7.0	9.0	5.1	4.5
1987	7.3	9.4	5.3	4.7
1988	7.6	9.7	5.7	5.1
1989	7.9	10.1	6.0	5.5
1990	8.2	10.5	6.5	6.0
1991	8.5	10.9	6.5	6.0
1992	8.9	11.4	6.5	6.0
1993	9.2	11.8	6.5	6.1
1994	9.6	12.3	6.5	6.1
1995	10.0	12.8	6.5	6.1
1996	10.4	13.3	6.6	6.1
1997	10.8	13.8	6.6	6.2
1998	11.2	14.4	6.7	6.2
1999	11.7	14.9	6.7	6.3
2000	12.1	15.6	6.7	6.3

Savings in Year 2000: 9.3 - 5.4/kwh

Assumptions

1986 diesel fuel 83¢/gallon
 14.5 kwh/gallon
 some amount for fixed costs, depreciation

Avoided Cost Analysis: Bradley Lake

Year	Avoided Cost (¢/kwh)			Rates (¢/kwh)	
	Chugach (1.5 Tier)	Beluga Coal (REA Financing)	Matanuska Coal (11% Financing)	10%	12%
1991	6.1	10.0		5.7	6.7
1992	6.2	10.5	9.1	5.9	6.7
1993	6.5	10.5	9.7	5.9	6.7
1994	10.1	10.8	10.5	5.8	6.6
1995	10.8	11.0	11.5	5.8	6.5
1996	11.4	11.4	12.8	5.8	6.5
1997	11.9	11.7	13.3	5.7	6.4
1998	12.7	12.0	13.3	5.7	6.4
1999	13.3	12.4		5.7	6.3
2000	14.1	12.8		5.6	6.3

Savings in year 2000: ¢8.5 - 6.5

MEMORANDUM OF UNDERSTANDING

Between the Alaska Power Authority
and
Representatives of the Four Dam Pool Communities
governing
Power Sales Contracts for the Four Dam Pool

Representatives of the APA and the Four Dam Pool utilities (Ketchikan, Kodiak, Copper Valley, Wrangell, and Petersburg) have reached agreement in principle on the terms and conditions of a power sales contract for the sale of power from the Solomon Gulch, Swan Lake, Lake Tyee, and Terror Lake hydroelectric projects (the "Initial Project"). Although the specific details of such a contract must still be resolved and drafted, the undersigned representatives hereby agree to recommend to their governing bodies the approval of power sales contracts embodying, among other things, the principles set forth in this Memorandum.

1. The Alaska Power Authority ("APA") and the purchasing utilities of the Four-Dam Pool communities ("Purchasing Utilities") agree to enter into a power sales agreement that will run for 50 years, subject to periodic renegotiations and other conditions set forth below.
2. At the end of the contract period, there will be no debt service component of the wholesale rate charged by the APA for power from the four projects. Debt service payments that may be required to pay for additions and expansions of the four projects that are made subsequent to the execution of these agreements will be governed by future agreements.
3. The Purchasing Utilities agree to pay a wholesale rate for energy purchased from the APA that is generated by the four projects that has a debt service component, and a component relevant to all other annual costs.
4. The annual costs exclusive of the debt service component shall include costs of on-site operations and maintenance, safety inspections and investigations, insurance, project-specific administrative and general expenses, and renewals and replacements.
5. Annual costs referred to in Section 4 will be based on prudent utility practice, and will be subject to mutual agreement arrived at through an annual process that establishes an operating budget for the coming year. An O&M

oversight committee composed of all parties to the agreement will be established. In the event disputes over these annual costs cannot be resolved by the parties, the matter will be referred to arbitration by a certified engineer mutually agreeable to the parties.

6. All annual costs referred to in Section 4 will be pooled and divided by the total annual sales from the four projects, so that all Purchasing Utilities pay the same annual cost component of the wholesale rate.
7. The debt service component of the wholesale rate has two elements: an element paid for energy shown in Schedule A as "forecast sales," and an element paid for energy in addition to the "forecast sales," which is referred to as "additional sales."
8. The "additional sales" debt service element in Schedule A will be charged only after the total annual sales from all four projects exceed the "forecast sales" for that year; that is, the distinction between "forecast sales" and "additional sales" applies to the entire four dam system (as configured at the time this agreement is executed).
9. The purchasing utilities will schedule the energy produced by the projects into their load ahead of energy from other sources, except from existing hydroelectric projects.
10. Upon the initiation of either party, the debt service rates shown in Schedule A may be renegotiated after 15 years. The contract shall require reasonable notice of intent to renegotiate rates, and the contract may direct the parties to consider certain factors and conditions in establishing a new rate schedule.
11. The parties to this agreement do not expect that the composite wholesale rate that results from this agreement will be less than the composite wholesale rate charged by the APA for energy produced from the Bradley Lake hydroelectric project.
12. The APA shall bear the risk of uninsured project failures, substandard project performance, and failure of any Purchasing Utility to make payments required by the contract.

DATED May 8, 1985

ALASKA POWER AUTHORITY

By: Robert D. Hunt

CITY OF KETCHIKAN

By: Paul E. Fournier

COPPER VALLEY ELECTRIC ASSOCIATION

By: Andrew E. Hoze

KODIAK ELECTRIC ASSOCIATION

By: William E. Eckhardt

CITY OF WRANGELL

By: James K. Smith

CITY OF PETERSBURG

By: Jim Farnell

SCHEDULE A

<u>YEAR</u>	<u>FORECAST SALES (MWH)</u>	<u>DEBT SERVICE RATE FOR FORECAST SALES (CENTS/KWH)</u>	<u>DEBT SERVICE RATE FOR ADDITIONAL SALES (CENTS/HWH)</u>
1986	181,496	2.6	1.6
1987	191,437	2.8	1.8
1988	199,181	3.2	2.2
1989	206,042	3.5	2.5
1990	212,994	4.0	3.0
1991	219,067	4.0	3.0
1992	226,907	4.0	3.0
1993	236,183	4.0	3.0
1994	245,893	4.0	3.0
1995	255,439	4.0	3.0
1996	260,533	4.0	3.0
1997	265,897	4.0	3.0
1998	271,482	4.0	3.0
1999	277,343	4.0	3.0
2000	283,488	4.0	3.0
2001	288,220	4.0	3.0
2002	290,043	4.0	3.0
2003	291,926	4.0	3.0
2004	293,889	4.0	3.0
2005	295,935	4.0	3.0
2006	298,067	4.0	3.0
2007	300,290	4.0	3.0
2008	302,608	4.0	3.0
2009	305,023	4.0	3.0
2010	307,541	4.0	3.0
2011	310,165	4.0	3.0
2012	312,901	4.0	3.0
2013	315,753	4.0	3.0
2014	318,725	4.0	3.0
2015	321,824	4.0	3.0
2016	325,053	4.0	3.0
2017	328,420	4.0	3.0
2018	331,929	4.0	3.0
2019	335,587	4.0	3.0
2020	339,400	4.0	3.0
2021	343,375	4.0	3.0
2022	347,518	4.0	3.0
2023	351,836	4.0	3.0
2024	356,338	4.0	3.0
2025	361,030	4.0	3.0
2026	365,921	4.0	3.0
2027	371,019	4.0	3.0

<u>YEAR</u>	<u>FORECAST SALES (MWH)</u>	<u>DEBT SERVICE RATE FOR FORECAST SALES (¢1 KWH)</u>	<u>DEBT SERVICE RATE FOR ADDITIONAL SALES (¢1 KWH)</u>
2028	376,334	4.0	3.0
2029	378,607	4.0	3.0
2030	378,607	4.0	3.0
2031	378,607	4.0	3.0
2032	378,607	4.0	3.0
2033	378,607	4.0	3.0
2034	378,607	4.0	3.0
2035	378,607	4.0	3.0
2036	378,607	4.0	3.0
2037	378,607	4.0	3.0

Sen Ziegler

ARLON R. TUSSING & ASSOCIATES, INC.
2720 Rainier Bank Tower • Seattle, Washington 98101 • (206) 447 0321

18 April, 1985

Mayor Don Koenigs
Petersburg, Alaska 99833

Dear Don:

It was a pleasure to visit Petersburg last weekend, meet you and your fellow citizens, and participate in the Rotary Club's annual benefit. I hope I shall be able to return soon.

The enclosed memo outlines the strategy we talked about for resolving the impasse over the four hydro projects. I think this strategy would result in almost exactly the kind of resolution the parties are looking for, whether they know it or not. For both tactical and selfish reasons, however, the memo strikes me as a bit too detailed and too specific, and I am a bit uneasy about seeing it circulated widely in its present form.

The best tactic for getting acceptance of a proposal of this kind is usually to let its details emerge from discussion and negotiation, so that the various parties (the municipalities, the Power Authority, the Administration, and key legislators) all feel that they have contributed to or at least influenced the final product. No matter how fair and well thought-out a it may be, a settlement proposal emanating from one side of a controversy tends to be perceived by those on other sides as a bargaining position to be diluted and whittled away at. A notion that comes unsolicited from an outside party like myself who has no stake in the dispute is likely to be treated even less seriously.

My selfish reservations about circulating a fully thought-out proposal stem from the fact that I occasionally like to get paid for performing the kind of service at which I am best, and from which I try to make a living. At the very worst, I would like to have been asked formally by one or more of the parties to make a stab at solving their problem. The kernel of an idea contained in the enclosed memorandum is, however, already the most critical part of any contribution I might make on behalf of a settlement. It is this one seemingly simple concept that might not have appeared absent my involvement. The further refining of the concept, its formulation in legislative language, and its public advocacy would all consume more professional effort and are, by that token, more "billable" than what I have already offered. But there are a host of people who are as good or almost as good as I am at these tasks, if not better. With this memo in hand, one may legitimately ask, who needs Tussing?

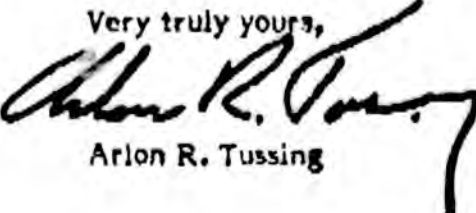
Here is the idea, nevertheless, for what it is worth, in sufficient detail for all the parties to understand. From the moment you and I began discussing the problem last weekend, I was convinced this general approach was superior --- from almost everyone's standpoint --- to the House Bill or anything else that has yet surfaced publicly.

I do want to see the strategy proposed and tried, even if it generates no personal credit and no professional fee. My druthers, however, lean toward getting a small retainer either from the municipalities or, preferably, from one of the responsible committees of the legislature to explore the general idea with the municipalities, the Power Authority, the Governor, and legislative leaders; to conduct research on relevant regulatory standards and precedents; to draft a proposal that could be incorporated into legislative language; and to appear at hearings on its behalf. I believe this is also the approach most likely to be successful.

The politics of the question I now leave to your judgment, however, and you are free to use this memorandum however seems most appropriate. My associate, Connie Barlow, has spoken with Senate Resources Committee staff about the approach, and I expect to get Senator Sturglewski's reaction within a few days. Let me know what you do and what happens, and I will keep you similarly informed.

Also enclosed are a statement for my late travel expenses, and a some nice publicity I will be getting in Forbes magazine next week.

Very truly yours,



Arlon R. Tussing

Apportionment of Four-Dam Pool Project Costs
A Suggested Settlement Procedure

OBJECT

The object of the procedure suggested here is the rational and fair apportionment of costs incurred by the Alaska Power Authority for electrical-generation and transmission facilities designed to serve the four municipalities. The key elements of such a settlement are ---

An impartial valuation of the projects, reflecting only the necessary and prudently incurred outlays for their construction, and

An impartial determination of the fair market rate of interest due the State on the value of the project.

The State would thus write off as a loss any expenditures determined to be unnecessary or to have resulted from imprudence or mismanagement, while electricity costs to the municipalities would be based upon an unsubsidized interest rate. This settlement would differ from others now being proposed in that it would be ---

Permanent,

Uncoupled from the politics of Statewide rural energy assistance, or future Railbelt energy planning, and

Free from dependence upon speculative and controversial estimates of future "avoided costs" of electricity in the four municipalities.

Because such a settlement apportions accountability for all sunk costs directly to the parties responsible for their occurrence, its precedent should make similar fiscal disasters less likely in the future.

ARBITRATION PANEL

The settlement would be determined in binding arbitration, conducted by a panel of three arbitrators, each of whom would have substantial experience as a commissioner, administrative law judge, or hearing officer of a federal, state or provincial public utility commission in the United States or Canada (other than the Alaska Public Utilities Commission). Two arbitrators, appointed respectively by the four municipalities and the Alaska Power Authority, would select the third.

TERMS OF REFERENCE

The arbitrators would determine the fair value, for purposes of sale or rate-making, of the facilities constructed by the Alaska Power Authority to serve the four municipalities. They would use the same standards that regulatory utility commissions throughout North America customarily use in reviewing the capital costs that electric utilities propose to include in their "rate bases", namely:

- (1) Are the facilities "used and useful", and
- (2) Were the expenditures "necessary and prudently incurred"?

The arbitrators would also determine a fair market interest rate, and the appropriate amortization schedule to be applied to the fair value of the facility, for the purposes of sale or electric rate-making.

STANDARDS

1. Valuation of Facilities. In determining fair value, the arbitrators would

- 1.1 Review the construction and interim financing costs actually incurred by the Alaska Power Authority, and
- 1.2 Determine what portion of these costs were necessary and prudently incurred for used and useful plant. Specifically, the arbitrators would be authorized to exclude from fair value any expenditures that were incurred ---
 - 1.2.1 For generating capacity in excess of that required to serve reasonably anticipated demand by the respective municipalities,
 - 1.2.2 Because of mismanagement or gross negligence, or
 - 1.2.3 After the date (if any) at which a prudent management would have concluded that a project as planned was not economically viable, and thus would have downsized the project or terminated construction in order to hold losses to unavoidable levels.

In determining any expenditures to be excluded from fair value, however, the arbitrators would be authorized to consider the extent to which the municipalities or their representatives may have knowingly encouraged, abetted, or agreed to unnecessary or imprudent outlays.

2. Fair market interest rate. In determining a fair market interest rate, the arbitrators would consider ---

- 2.1 The actual or probable cost of revenue- or general-obligation borrowing by the municipalities for power-project financing,
- 2.3 The actual or prospective cost of revenue- or general-obligation borrowing by the Alaska Power Authority for power-project financing, and
- 2.4 The actual or prospective returns to the State of Alaska from alternative uses of any State funds committed to the projects.

3. Appropriate amortization schedule. In determining the appropriate schedule for amortizing the sums determined to constitute the fair value of facilities, the arbitrators would follow generally accepted principles of power-project financing and public-utility ratemaking, but would be authorized to consider ---

- 3.1 Projected electricity-demand trends in the respective municipalities,
- 3.2 The prospective impact of the amortization schedule (when combined with the fair value of the facilities and the fair market rate of interest) on consumer costs of electricity, and
- 3.3 The present and prospective financial capacity of the respective municipalities.

EXECUTION OF THE SETTLEMENT

The decision of the arbitrators would be final and binding. Upon a determination of the fair value of each of the facilities, the fair market interest rate, and appropriate amortization schedule(s), the Alaska Power Authority and the municipalities would be required to execute contracts which, at the option of the respective municipalities, would provide for one of the following ---

1. Sale of electricity by the Alaska Power Authority to the municipalities for a lump-sum monthly charge that reflects the fair value of the facilities, the fair market interest rate, and the appropriate amortization schedule,
2. Sale of facilities to one or more of the municipalities, at fair value plus interest to the date of sale at the fair market interest rate --- with long-term financing arranged by the municipalities themselves, or
3. Sale of facilities to one or more of the municipalities at fair value --- with long-term financing by the State at the fair market interest rate and with the appropriate amortization schedule.

In the event a municipality elected to purchase facilities, the Alaska Power Authority would retain title to any project capacity that exceeds the capacity the arbitrators have determined to be used and useful for valuation purposes.

ly! No information was forthcoming on this point. What about Merrill Lynch? "We don't talk about what our customers do. I doubt you're going to find out about Phillips from anybody," Merrill told the committee.

But further inquiries revealed a good reason for brokers not to be diligent in tracking down wayward holders who left no instructions. Shares left in the custody of brokers in margin or managed-cash-type accounts could have been used to make substantial windfall profits—for the broker.

A reminder of the Phillips recapitalization will be helpful here. The company decided to exchange debt for half its shares. For every two shares tendered, the holder was to get back a package of debt securities worth \$62 and one share of stock. Before the offer expired, the old stock was trading at around \$49 a share. That means that the new stock would be worth only \$36. Why? Twice \$49 minus \$62 equals \$36. (Because not all shares were tendered, the shareholders actually got bonds for slightly more than half their stock—but that is a fine point.) Again, in round numbers: A 200-share, \$9,800 position in the old stock was going to turn into \$3,600 worth of new stock and \$6,200 worth of bonds.

The expected disparity between the value of old Phillips and the value of new Phillips created considerable demand for borrowed Phillips stock. Short-sellers and various other investors had been maneuvering to increase their profit on the Phillips tender (see box, p. 57). These efforts created a demand for untendered Phillips shares, to replace shares that had been called away or sold short. While the tender was under way, the premium exacted by lenders of Phillips stock certificates ranged from \$4 to \$9 a share, prices that one arbitrager terms "obscene." In most circumstances, stock certificates are lent at no premium at all.

Phillips shares owned by alert investors were, of course, en route to Phillips and unavailable. But what about stock owned by the aforementioned dummies? Some of it, apparently, was available. When stock is bought on margin, the investor signs an agreement allowing his broker to lend out his securities. Also, most so-called managed cash accounts are automatically deemed margin accounts. Margin accounts owned by customers who didn't respond to the tender thus provided a potential supply of lendable certificates.

Precisely how much lending took

place from nontendering margin accounts? Evidence is not available on this point. Brokers complained of enormous premiums being charged for borrowed stock, but few would admit to lending it. Shearson Lehman Brothers Senior Executive Vice President Victor Samra averred that he lent stock, the stock being obtained "from institutional investors, mostly." (Apparently some institutions did not have time to read the prospectus, either. It came less than two weeks before the tendering deadline.) Samra said he wasn't sure whether his firm got a premium.

It further appears that none of the

loan premiums found their way back to the accounts of the nontendering customers who made it all possible. The following testimony is from a vice president at a small firm in New York City, who was guaranteed anonymity in return for his statement. "Everyone supped at the expense of the negligent Phillips shareholder who left his stock in street name. That guy was carved up on the table."

The committee concludes that the brokers did nothing wrong, or at least nothing actionable. If it weren't the case that 8.6% of the world is slow on its feet, how would some others get rich? ■

The natural gas industry is moving into the world of competition. Some will sink and some will swim, says Arlon Tussing, who has a winning record on predictions.

The coming world of anything goes

By Tom Mack

ARLO R. TUSSING has run up an enviable record predicting swings in the volatile energy business, particularly in natural gas. He called the turn on prices in 1980. In 1981 he forecast that pipelines then contracting to take high-priced gas or pay for it anyway would break their contracts and take the lawsuits, which they did. In 1983 he predicted the industry would rediscover the Sherman Act. The state of Illinois is now suing Panhandle Eastern Corp., and Mobil Corp. is suing Transco Energy Co., both on antitrust grounds.

What next, FORBES asked Tussing (pronounced too-sing), a 51-year-old, blue-eyed and jut-jawed Seattle-based consultant.

Deregulation, in fact if not in law, is here, he says, and companies in the gas business aren't particularly happy about it. Says Tussing:

"In this new market, wellhead prices will be determined by competition, and neither the regulators nor the regulated companies will be able

to control the price. The market value of gas will be determined in competition with other fuels and electricity. It will only be the sheerest of accidents if the margin between the price of gas in the field and the market value to final customers equals the rates that would be set by regulators under traditional cost-of-service pricing.

"One of the biggest problems is that many executives think just like regulators and Congress. Regardless of their official economic philosophies, they don't like or trust competitive markets. They prefer a visible hand, however palsied, to an invisible one."

Today the pipelines' average costs for gas run from \$2 per thousand cubic feet (mcf) to more than \$4 per mcf. That disparity will narrow in two to three years as contracts expire and are renegotiated. Then, says Arlon Tussing, the gas transportation costs will be important.

"You'll see the competitive advantage shifting. For instance, Transco and Columbia Gas System have among the highest purchase costs, and they've been the most troubled



Energy consultant Arlon R. Tussing
Everything that isn't expressly prohibited can be done.

pipelines competing in the Middle Atlantic states. But they both have mature systems that have been pretty much written off. If either could get its gas purchase costs down (Columbia Gas in April agreed to lower the price for its gas to keep from losing more business), it would be in a relatively strong competitive position."

Most gas distributors—the companies taking gas from pipelines and delivering it to the customers—still resist competition, and that's where Tussing expects to see the greatest turmoil.

"They are still mentally and emotionally in the 1970s. Most rate cases at the state level are still for higher rates. Depending on how price-sensitive their load [demand] is, they can get into what I call the death spiral, where higher rates and load loss drive each other."

Attempts by pipelines or distributors to hold their monopolies will be futile, he thinks. Transco and Panhandle Eastern are being sued under antitrust laws for using their monopoly position to block competition (that

is, not moving competitive gas) or otherwise gain an advantage.

A second trend is the building of pipelines to bypass higher-priced suppliers. Bethlehem Steel is trying to bypass Northern Indiana Public Service Co. by building a spur to a pipeline a few miles away owned by American Natural Resources Co. (now merging with Coastal Corp.). Bethlehem would be able to buy gas for about \$1 per mcf under NipSCO's rate. There are already two applicants, and there may be four, to build an interstate pipeline into California's Kern County to serve the growing enhanced oil recovery market there. The purpose is to bypass both Pacific Gas & Electric and its regulator, the California Public Utilities Commission, notorious for the high prices it tolerates for industrial customers in the name of the consumer.

"The basic natural monopoly argument," says Tussing, "is that the cost of service for one pipeline is less than the cost of service for two smaller-scale pipelines. It follows that it is also possible for everybody to get a

lower rate under monopoly. But the cost of that is in the doing. If the monopoly, even a regulated monopoly, is mainly used to rip off customers, then the natural monopoly argument crumbles. So if Bethlehem or any other customer can get a better rate by building an additional pipeline, then let them do it. If it is cheaper for everybody collectively to be the only pipe in the area, then NipSCO and PG&E had damn well better provide cheaper service to everyone."

Tussing also predicts the natural gas industry will face competition from electric utilities. Today those utilities are raising rates. "That will cause a fall in consumption from normal markets, so they will be desperately trying to flog off extra power for anything over variable costs," he says. "The electric utilities haven't quite caught on yet, but they will."

With all these troubles, Tussing sees some pipelines and gas distributors pushed to the wall. "There's a one-word term for that: bankruptcy." He hesitates, then adds that there are also shotgun weddings.

But it isn't all gloom. Says Tussing: "One area of enormous potential for arbitrage profits and for marketing and transportation is replacing the physical movement of gas with exchange and displacement transactions. The pipeline system in North America is like a big swimming pool: You can take a bucket of water from one end and dump a bucket of water in the other end, without physically carrying the bucket from one end to the other."

For example, instead of building a pipeline to carry western Canadian gas to New England, there's a proposal to use existing lines to carry the Canadian gas to the Midwest. It would be traded for Texas gas, aimed at the Midwest, which could be diverted eastward through existing lines.

Tussing thinks Kenneth L. Lay, now chairman of Houston Natural Gas Corp., represents the new type of thinking coming into the business. "While Lay was president of Transco, Transco invented the whole notion of using spot market gas to regain lost customers [lost because its contract gas prices were too high]," Tussing says. Lay has directed \$1.2 billion in acquisitions for Houston Natural, and with two other companies has proposed one of the pipelines into Kern County, Calif. "Something he did at Transco and is now doing at HNG is completely swamping the regulators with proposals within the existing framework, which keeps them off-balance," says Tussing.

Buyer beware

If Arlon Tussing is right, natural gas companies—and their stocks—are in for it. "Whenever an industry gets deregulated, everybody gets clobbered initially, even the good companies. So earnings will be under pressure for all companies for several years," says Foster Corwith, an analyst for Dean Witter Reynolds.

But there will ultimately be winners. Analyst John Olson of Drexel Burnham Lambert likes the prospects, over the long haul, of Houston Natural Gas, which recently moved into Florida and California through acquisitions, and Lear Petroleum Corp., an aggressive pipeliner in Texas and Oklahoma.

Among the big interstate pipelines, MidCon Corp. and InterNorth Inc. are considered standouts for their efficiency, low-cost gas and competitive ability. They also avoided most of the contract and regulatory problems that plague others. Others getting favorable reviews include Texas Eastern Corp. and Coastal Corp.

The pariah of the group is Columbia Gas System. It has high-cost gas (Columbia is trying to renegotiate its contracts), fading markets (particularly in the East and Midwest), crippling contract problems and regulation by two federal and seven state agencies. "It's got a lot of things going against it," says Tussing.

On the plus side, of course, stock prices already have been pumped up in anticipation of takeovers, as other pipelines seek access to markets and low-cost gas. Producing properties also are spun off into publicly traded limited partnerships as an antitakeover technique, which pushes up stock prices.

"But there's a necessary caution. The problem is that you can't tell who is shark and who is lunch," says R. Gamble Baldwin, analyst for First Boston Corp. The effect, he says, is that "the natural gas group by and large is overvalued in relation to its fundamental outlook."—T.M.

He sees this as an evolution of management, drawing analogies to banking. "Natural gas has been pretty much a deadhead industry in both pipelines and distribution, and the whole presumption has been that anything not specifically approved by regulators in advance is out of bounds. That's where the bankers were 20 years ago. Bankers did only what bankers had always done.

"But something happened. Bankers left behind the old banker mentality. They assumed that everything that isn't expressly prohibited can be done, and put the onus on the regulators to stop them. Once you had some people with imagination out there, any deal became doable under some combination or permutation of existing institutions and rules. What Congress and the regulators have to say—interstate

banking is a good example—has no relevance.

"We're moving in that direction with natural gas. The most interesting things are the ones not foreseeable, because they will be the result of innovations by contrarian individuals. You now have a handful of people who start with the premise that everything not expressly forbidden is allowable." ■

Meet Pat McGovern, the centimillionaire magnate of computer publishing—as unlikely a magnate as ever was.

As you give

By Richard Behar

PATRICK MCGOVERN plans to give away his computer publishing empire when his International Data Group, outside Boston, reaches \$1 billion in sales. He says he will then turn over 51% of the firm to his employees. McGovern has already sold 15% of the company to a profit-sharing employee trust.

Says McGovern: "I won't have at

IDG what's happened in so many other businesses, where the owner dies or sells and a new team replaces the people who have given so much blood, sweat, toil and tears. What we try to do is build a total common family."

Of course, IDG still has a good way to go; its revenues in 1984, triple those of 1981, were just \$225 million, but McGovern figures that revenues will reach the \$1 billion mark by 1990.

McGovern is an intensely private person. IDG has 41 corporate units, each with its own president and business plan. His name appears only in *Computerworld*. But he founded, controls and runs the U.S.' biggest chain of computer publications, 62 at last count, as well as the biggest computer market research firm. IDG is private, with profits reportedly running about \$20 million a year and no debt. His wealth is estimated at \$250 million or so, and he says he's been offered around \$500 million for his company.

McGovern, a construction manager's son, caught the computer bug in the tenth grade after reading a book. Thirty-three years later he still remembers the title: *Giant Brains; or, Machines That Think*. Inspired, he built a computer that was unbearable in ticktacktoe. That won him a scholarship to MIT. He helped pay for school by editing a Boston-based computer magazine run by Edmund Berkeley, the author of *Giant Brains*. After college McGovern put an idea to work. He realized that IBM's rivals lacked information about computer customers; remember, this was 1964. He persuaded firms like Xerox, Burroughs and Univac to prepay \$7,500 each for a census report, gathered in \$75,000

5/9/85

MAY 10 1985

SENATORS:

RE: House Bill 219 Relating to Power Development Loans

Absence of my signature on the Memorandum of Understanding

Dated May 8, 1985 between APA and Four Dam Pool Communities indicates I do not endorse this agreement as it relates to HB 219.

Within this memo I strongly object to articles (1) periodic renegotiations, (7) two debt elements, (10) renegotiate in 15 years, (11) ties to Bradley Lake

Project. Therefore do not support this memorandum, nor the passage of the bill.

Recommend deferring bill until next session.

Further recommend this entire issue be determined in binding arbitration, conducted by a panel of three arbitrators. Two arbitrators, appointed respectively by the municipalities and Alaska Power Authority, would select the third.

Suggested Terms of Reference for Arbitration:

Are the facilities used and useful, and were the expenditures necessary and prudently incurred?

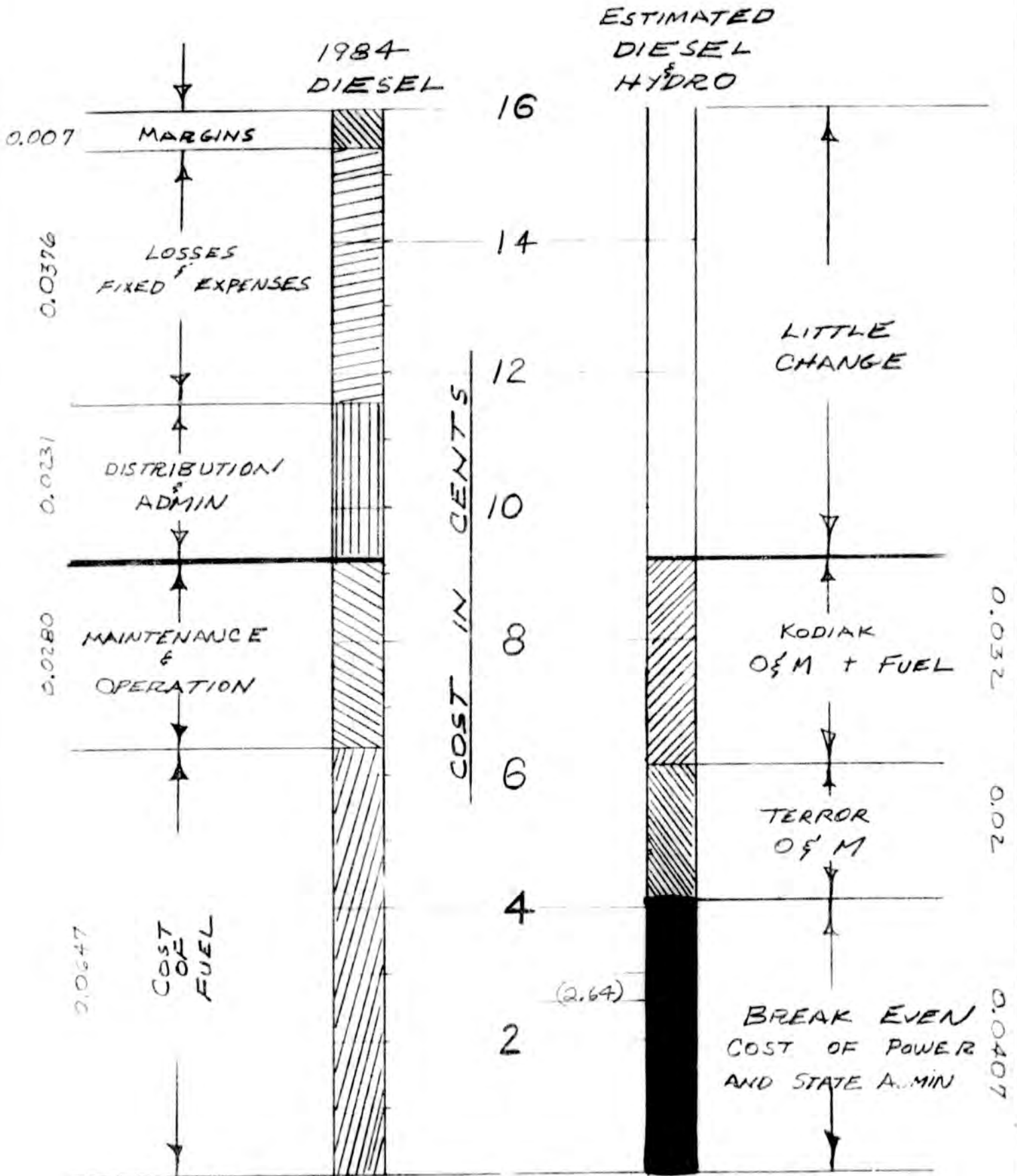
The arbitrators would determine a fair market rate of interest, the appropriate amortization schedule to be applied to the fair value of the facilities for the purposes of sale or electric rate making.

Sincerely,

Don Koenigs

Don Koenigs

KODIAK ELECTRIC ASSN
 AVERAGE COST OF POWER
 (AT CONSUMER METER)



3/4/85

MEMORANDUM

TO: Rep. John Sund, Chair
House Special Committee on Loans

FROM: J. Hartle, AA JH

RE: Electric power rates for four dam pool communities (HB 219)

	KEA	CVEA	KPU	Petersburg	Wrangell
Operations and Maintenance	2.0	2.76	2.91	4.59	4.59
Debt Service	2.68	2.68	2.68	2.68	2.68
Total APA	4.68	5.44	5.59	7.27	7.27
Retail Rate*	16.6	19.1** 15.1	10.0	11.1	14.9

* Per KWH at 750 KWH/Month, as of 2/16/85, with ~~debt service as proposed~~
in HB 219

** 19.1 = Copper River; 15.1 = Valdez

KEA = Kodiak
CVEA = Copper Valley
KPU = Ketchikan

RETAIL RATES
(cents per kwh)

<u>Community</u>	<u>@ 200 kwh/month</u>	<u>@ 500 kwh/month</u>	<u>@ 700 kwh/month</u>
Copper Valley			
-Glenallen	23.5	20.1	18.8
-Valdez	21.3	16.0	14.7
Kodiak	19.0	18.1	17.5
Wrangell	19.1	16.3	15.7
Petersburg	13.9	11.7	11.2
Ketchikan	14.3	10.8	10.2

COMPONENTS OF THE RATES
(cents per kwh)

<u>Community</u>	<u>APA O&M</u>	<u>APA Debt Service</u>	<u>Other^{*/}</u>	<u>Total (@ 700 kwh/month)</u>
Copper Valley				
-Glenallen	2.76	2.64	13.4	18.8
-Valdez	2.76	2.64	9.3	14.7
Kodiak	2.00	2.64	12.86	17.5
Wrangell	4.59	2.64	8.47	15.7
Petersburg	4.59	2.64	3.97	11.2
Ketchikan	2.26	2.64	5.3	10.2

^{*/} "Other" includes distribution, administrative and general, reserve generation, and other generation (other hydro as well as diesel in the case of Ketchikan and Petersburg.)

HARRY S. SUNDBERG

P.O. Box 613
Wrangell, Alaska 99929
907-874-3594

Oct. 28, 1985

Mr. Bruce Tennant
Assistant District Attorney
State of Alaska
1031 West 4th, Suite 200
Anchorage, Alaska 99501

Dear Mr. Tennant:

Re: Tyee Power Project

I will shortly be shipping you a box containing data, (Thomas Bay Power Commission records), which hopefully will help you in the court case. For your information, the following is a brief history of the events which developed into the Tyee Project as we now know it.

Thomas Bay Power Commission was founded by the communities of Wrangell and Petersburg in 1974, with responsibility of devising means for obtaining hydro power and water for the two cities. Funds for these studies were grant appropriations from the legislature, made possible by our state representative, Mr. Haugen.

Our first engineering study was done at Swan Lake (Thomas Bay), about twelve miles from Petersburg. This study was completed in Nov. 1975 by R.W. Beck and Assoc., and was a single P.W. first phase project with an estimated completion date cost in excess of 75 million dollars. This study was presented to state and federal officials at that time, (Dept. of Commerce and Alaska Power Administration), and was turned down as too large a project for the two communities. The Thomas Bay Power Commission was instructed to continue the studies to find a project with an initial first phase capacity which would be compatible with the present loads and load forecasts for the immediate future.

By August 1977, possible sites had been narrowed down to four, by R.W. Beck. They were:

Swan Lake	7.5 Mw	@ 59 Million dollars
Swan Lake	8.0 Mw	@ 57 Million dollars
Swan Lake	7.9 Mw	@ 49 Million Dollars
Swan Lake	3.9 Mw	@ 22 Million dollars

With the exception of Swan Lake, all possible projects had salmon runs besides being a source for the KW generated, and no 2nd phase potential. Other sites nearby which could be considered also had salmon streams or were in wilderness designated areas which could result in lengthy litigation if an attempt was made to utilize them.

The Dept. of Fish and Game Biological Survey Bulletin 1211-7, dated in 1969, listed three potential hydro power sites in the nearby area. One Mt. Lake in Burroughs, one at Hetchikan, and Eagle and Tyee Lakes on Bradford Canal near Wrangell. A copy of this booklet was obtained and Rotherford and Assoc., who were doing some engineering work at Petersburg's Crystal Lake hydro facility, were asked to do a study with the limited information available at the time, to see if there was potential for power at Tyee, Eagle Lake being a low elevation lake having substantial runs of all salmon species within its boundaries. The preliminary study proved promising, so the firm was hired to do an in depth study with the intent to apply for an F.B.R.G. permit. The stipulation at the time was to design a project with a first phase capability to take care of the two communities present needs, with a second phase available when the demand required it.

The initial plan developed originally with two 5 MW turbines in the first phase, with a single 15 MW additional turbine when the second phase became necessary. This was changed to two 7 1/2 MW generators at the first phase and a single 15 MW at the second, to more balance the system. Power lines were strung down for the first phase responsibility, with wood poles supporting the 62 MW capacity to Wrangell and 115 KVA on to Petersburg. Estimated cost of this project was in the forty to fifty million dollar range. For the second phase, needed after the turn of the century, it would be necessary to upgrade the entire transmission line components as well as the required additional generation and control costs, as it would then require the 115 KVA lines, steel towers, controls, etc, bringing the costs up considerably.

In the two years that passed before the F.B.R.C. permit application was hand carried to Washington D.C. in December 1979, a great many things occurred relating to energy in Alaska. Thomas Bay Power Commission had received \$300,000.00 dollars from the Dept. of Commerce for the study, and the balance from the newly named Alaska Power Authority, to pay for the \$200,000.00 study needed to apply for the F.B.R.C. permit. As the APA had been established by the legislature to make the power resources of the state available to all the citizens of the state, and had the capability of acquiring the expertise necessary to bring this into being, it became obvious to the Thomas Bay Power Authority members that the time had arrived to turn the project over to the APA for the actual construction. With the concurrence of the cities, the project was turned over to the APA for construction with the proviso that after completion the cities would have three options. 1. APA would own and run the project, 2. APA could lease the project to Thomas Bay Power Commission, or 3. The cities could buy the project. (later legislation and other events have apparently eliminated these options for the cities).

Many people have asked how our Tyee project increased to become a 20 MW facility and such associated costs, when we were told by the state and federal government at the beginning to keep our project within the present power needs of the two communities. I believe it should be clear to all that the Tyee project under APA planning, was no longer a project for Wrangell and Petersburg, but part of a long term objective to provide a power grid for south east Alaska. With the Tyee project in the center of south east Alaska, it was only logical to start change orders to upgrade transmission lines to carry such future loads and to increase the generating capacity. In fact, one of the last major change orders during tunnel excavation was to lower the intake tap depth to allow for a constant 20 MW output from the facility. (Remembering that the Wrangell/Petersburg area would not need until well after the turn of the century). This indicates to me at least, that the Tyee facility was planned for constant 20 MW. output to supply power to the entire southeast area within the proposed grid system, not for the intermittent demands that occur in rural communities such as ours.

I do not fault the APA staff entirely for this. They were given a mandate by the legislature to make a power rich state, and they were given with a great deal of enthusiasm. Had the money held out, Southeast Alaska could have had an intertie system for security and cheaper rates, the power area would have had Susitna, meeting that they still need, and the rest of the state would have been able to tap other power sources and methods including the rate stabilization program supported by the legislature. The power, if it, shared equally among the power users statewide, would have remained in affordable electric rates for the entire state, something we all appreciate.

The difficulties between the APA and the citizens of Wrangell and Petersburg over the past few years, have been among other things, the insistence

that the communities are liable for all the costs. Despite the fact that, as stated, the project was overbuilt by 100,000 sq. ft. Had the Thomas Commission and the two communities had ownership, we are quite certain that the project would have been built with the grant funds appropriated by the legislature, simply because it would have remained a smaller project.

Be that as it may, we now have a project that will supply our communities with power far into the future, and it will have the capability to be an integral part of an area's growth when such a development eventually occurs. Also, through the efforts of state officials, the legislature, local officials and the public, we have an agreement which hopefully will resolve and set to rest local, regional, and statewide concerns concerning these hydro projects. If the agreement is implemented, it will result in stable rates for our constituents and hopefully resolve the narrow and conflicting attitudes which in the past have prevented attempts to bring state hydro development into being.

As you have requested, I will be sending you copies of all the data that we have which is pertinent to the Tyee project and the project's early runs. I should emphasize, however, that with both the AEA and the Alaska Hydro Assoc. having their offices in Anchorage, we soon found ourselves excluded from much of the early stages in the project. This early exclusion of our input did much to contribute to turn the construction phase into a long one, and as a result we had little or no input on the decisions which turned the project from a 2 phase plan into a single full scale facility. This also resulted in our having no records on any decisions regarding our orders or information regarding changes to the contract. Because of this, our records may not help you a great deal, but they certainly welcome to have and hope that they provide you and your staff some of the information you might need.

11/17/76
Clarence Redberg
Clarence Redberg
Box 613
Anchorage, Alaska 99509
287-5400

2/6/86

Harry S. Sundberg
P.O. box 613
Wrangell, AK 99929

Dear Harry:

Thanks very much for your note and copy of your letter to Assistant D.A. Bruce Tennant.

Your points are well taken. There are many lessons to be learned from our experience with the Tyee Project. One lesson the APA and all State agencies should learn from this experience is not to leave policy decisions (e.g. the size of the Tyee) to consultants. Local decision-making and local control of projects is the only way to keep spending under control.

I certainly hope the State can win the current lawsuit over cost overruns on Tyee. This could have a significant impact on power rates for Wrangell and Petersburg in the long term by reducing the state debt service component.

With the passage, last session, of House Bill 219 we have finally managed to construct a framework for agreements with the APA for power sales to the communities. Now we are in for the ongoing work of making those agreements function.

Two items we will be monitoring closely in my office are those of insurance costs for the project and APA spending of program receipts from power sales. Insurance costs are significantly higher than forecast and we are getting less comprehensive coverage than last year. We are looking into the possibility of a state insurance pool for hydro projects. The APA, I feel, will always push to attribute whatever costs they can to power sales program receipts. I will be working with the House Finance Committee to do what we can about this ongoing problem.

Anyway, thanks again for your letter; let me know if there is anything I can do.

Sincerely,

John Sund, Representative

Loan Principal (\$=000's) **\$196,000**
 D & M Inflation Rate **4.00%**
 Rate of Return Floor **3.50%**
 Rate of Return Ceiling **8.00%**
 Change in Base Load Forecast **0.00%**

YEAR	FORECAST SALES (\$MM)		DEBT SVC RATE (CENTS/KWH)	D & M RATE (CENTS/KWH)	TOTAL RATE (CENTS/KWH)	INITIAL	ADDITIONAL	OM	BALANCE	MINIMUM	MAXIMUM	ACTUAL	NEW	ADDITIONAL	ACTUAL	TOTAL	ACTUAL	YEAR
	SALES	ADDITIONAL SALES				REVENUE (\$=000's)	REVENUE (\$=000's)	EXPENSE (\$=000's)	REMAINING FOR DEBT SV (\$=000's)	RETURN (FLOOR) (\$=000's)	RETURN (CEILING) (\$=000's)	PRINCIPAL RETIREMENT (\$=000's)	PRINCIPAL BALANCE (\$=000's)	CAPITAL REQUIRED (\$=000's)	RATE OF RETURN (%)	REVENUE REQUIREMENT (\$=000's)	REVENUE RATE (CENTS/KWH)	
1986	181,496	0	2.64	2.30	4.94	8,966	0	4,438	4,528	6,860	15,680	0	196,000	2,352	3.51	10,027	5.52	1986
1987	191,437	0	2.64	2.80	5.44	10,414	0	4,616	5,799	6,860	15,680	0	196,000	1,061	3.51	10,841	5.66	1987
1988	199,191	0	2.84	2.80	5.64	11,234	0	4,800	6,434	6,860	15,680	0	196,000	426	3.51	11,234	5.64	1988
1989	206,042	0	3.19	2.90	6.09	12,548	0	4,992	7,556	6,860	15,680	0	196,000	0	3.92	12,548	6.09	1989
1990	212,994	0	3.58	2.90	6.48	13,802	0	5,192	8,610	6,860	15,680	0	196,000	0	4.42	13,802	6.48	1990
1991	219,067	0	3.58	3.00	6.58	14,415	0	5,400	9,015	6,860	15,680	0	196,000	0	4.62	14,415	6.58	1991
1992	226,907	0	3.58	3.10	6.68	15,157	0	5,615	9,542	6,860	15,680	0	196,000	0	4.92	15,157	6.68	1992
1993	236,183	0	3.58	3.20	6.78	16,013	0	5,840	10,173	6,860	15,680	0	196,000	0	5.22	16,013	6.78	1993
1994	245,873	0	3.58	3.30	6.88	16,917	0	6,074	10,844	6,860	15,680	0	196,000	0	5.52	16,917	6.88	1994
1995	255,439	0	3.58	3.40	6.98	17,850	0	6,317	11,513	6,860	15,680	0	196,000	0	5.92	17,850	6.98	1995
1996	260,533	0	3.58	3.50	7.08	18,446	0	6,569	11,876	6,860	15,680	0	196,000	0	6.12	18,446	7.08	1996
1997	265,897	0	3.58	3.60	7.18	19,091	0	6,832	12,259	6,860	15,680	0	196,000	0	6.32	19,091	7.18	1997
1998	271,482	0	3.58	3.80	7.38	20,035	0	7,105	12,930	6,860	15,680	0	196,000	0	6.62	20,035	7.38	1998
1999	277,343	0	3.58	3.90	7.48	20,745	0	7,390	13,356	6,860	15,680	0	196,000	0	6.82	20,745	7.48	1999
2000	283,488	0	3.58	4.10	7.68	21,772	0	7,685	14,087	6,860	15,680	0	196,000	0	7.22	21,772	7.68	2000
2001	288,220	0	3.58	4.30	7.88	22,712	0	7,993	14,719	6,860	15,680	0	196,000	0	7.52	22,712	7.88	2001
2002	290,043	0	3.58	4.50	8.08	23,435	0	8,312	15,123	6,860	15,680	0	196,000	0	7.72	23,435	8.08	2002
2003	291,926	0	3.58	4.70	8.28	24,171	0	8,645	15,527	6,860	15,680	0	196,000	0	7.92	24,171	8.28	2003
2004	293,899	0	3.58	5.00	8.58	25,216	0	8,991	16,225	6,860	15,680	545	196,000	0	8.02	25,216	8.58	2004
2005	295,935	0	3.58	5.30	8.88	26,279	0	9,350	16,929	6,860	15,680	1,249	195,455	0	8.02	26,279	8.68	2005
2006	298,067	0	3.58	5.60	9.18	27,363	0	9,724	17,638	6,841	15,636	2,002	194,206	0	8.12	27,363	9.18	2006
2007	300,290	0	3.58	5.90	9.48	28,467	0	10,113	18,354	6,797	15,536	2,818	192,204	0	8.12	28,467	9.48	2007
2008	302,608	0	3.58	6.30	9.88	29,898	0	10,518	19,380	6,727	15,376	4,004	189,386	0	8.12	29,898	9.88	2008
2009	305,023	0	3.58	6.60	10.18	31,051	0	10,938	20,113	6,629	15,151	4,962	185,383	0	8.22	31,051	10.18	2009
2010	307,541	0	3.58	7.00	10.58	32,538	0	11,376	21,162	6,488	14,831	6,331	180,421	0	8.22	32,538	10.58	2010
2011	310,165	0	3.58	7.40	10.98	34,056	0	11,831	22,225	6,315	14,434	7,791	174,089	0	8.32	34,056	10.98	2011
2012	312,901	0	3.58	7.80	11.38	35,608	0	12,304	23,304	6,093	13,927	9,377	166,298	0	8.42	35,608	11.38	2012
2013	315,753	0	3.58	8.30	11.88	37,511	0	12,796	24,715	5,820	13,304	11,411	156,921	0	8.52	37,511	11.88	2013
2014	318,725	0	3.58	8.70	12.28	39,139	0	13,308	25,831	5,492	12,554	13,277	145,510	0	8.62	39,139	12.28	2014
2015	321,824	0	3.58	9.20	12.78	41,129	0	13,841	27,289	5,093	11,641	15,648	132,232	0	8.82	41,129	12.78	2015
2016	325,053	0	3.58	9.70	13.28	43,167	0	14,394	28,773	4,628	10,579	18,194	116,585	0	9.12	43,167	13.28	2016
2017	328,420	0	3.58	10.09	13.67	44,888	0	14,970	29,918	4,080	9,327	20,592	98,390	0	9.52	44,888	13.67	2017
2018	331,929	0	3.58	10.49	14.07	46,707	0	15,569	31,139	3,444	7,871	23,267	77,799	0	10.12	46,707	14.07	2018
2019	335,587	0	3.58	10.91	14.49	48,631	0	16,192	32,439	2,723	6,224	26,215	54,531	0	11.42	48,631	14.49	2019
2020	339,400	0	3.58	11.35	14.93	50,664	0	16,839	33,825	1,909	4,362	28,316	28,316	0	15.42	50,664	14.93	2020
2021	343,375	0	3.58	11.80	15.38	52,816	0	17,513	35,304	991	0	0	0	0	ERR	17,513	5.19	2021
2022	347,518	0	3.58	12.27	15.85	55,094	0	18,213	36,881	0	0	0	0	0	ERR	18,213	5.24	2022
2023	351,836	0	3.58	12.76	16.34	57,506	0	18,942	38,564	0	0	0	0	0	ERR	18,942	5.38	2023
2024	356,338	0	3.58	13.28	16.86	60,061	0	19,699	40,362	0	0	0	0	0	ERR	19,699	5.53	2024
2025	361,030	0	3.58	13.81	17.39	62,769	0	20,487	42,282	0	0	0	0	0	ERR	20,487	5.67	2025
2026	365,921	0	3.58	14.36	17.94	65,640	0	21,307	44,333	0	0	0	0	0	ERR	21,307	5.82	2026
2027	371,019	0	3.58	14.93	18.51	68,686	0	22,159	46,526	0	0	0	0	0	ERR	22,159	5.97	2027
2028	376,334	0	3.58	15.53	19.11	71,917	0	23,046	48,872	0	0	0	0	0	ERR	23,046	6.12	2028
2029	378,607	0	3.58	16.15	19.73	74,704	0	23,967	50,736	0	0	0	0	0	ERR	23,967	6.33	2029
2030	378,607	0	3.58	16.80	20.38	77,150	0	24,926	52,224	0	0	0	0	0	ERR	24,926	6.58	2030
2031	378,607	0	3.58	17.47	21.05	79,694	0	25,923	53,770	0	0	0	0	0	ERR	25,923	6.85	2031
2032	378,607	0	3.58	18.17	21.75	82,339	0	26,960	55,379	0	0	0	0	0	ERR	26,960	7.12	2032
2033	378,607	0	3.58	18.89	22.47	85,091	0	28,038	57,052	0	0	0	0	0	ERR	28,038	7.41	2033
2034	378,607	0	3.58	19.65	23.23	87,952	0	29,160	58,792	0	0	0	0	0	ERR	29,160	7.70	2034
2035	378,607	0	3.58	20.44	24.02	90,928	0	30,326	60,602	0	0	0	0	0	ERR	30,326	8.01	2035
2036	378,607	0	3.58	21.25	24.83	94,023	0	31,539	62,483	0	0	0	0	0	ERR	31,539	8.33	2036
2037	378,607	0	3.58	22.10	25.68	97,242	0	32,801	64,441	0	0	0	0	0	ERR	32,801	8.66	2037
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16,027,515 0 2,193,639 0 741,877 1,451,752 217,270 494,353 196,000 6,011,726 3,820 6.12 1,346,514																		

Loan Principal (\$=000's)
 O & M Inflation Rate
 Rate of Return Floor
 Rate of Return Ceiling

\$196,000
 4.00%
 3.50%
 8.00%

2

YEAR	FORECAST SALES (\$=000's)	ADDITIONAL SALES (\$=000's)	DEBT SVC RATE (CENTS/KWH)	O & M RATE (CENTS/KWH)	TOTAL RATE (CENTS/KWH)	INITIAL REVENUE STREAM (\$=000's)	ADDITIONAL REVENUE (\$=000's)	DEM EXPENSE (\$=000's)	REMAINING FOR DEBT SV (\$=000's)	MINIMUM RETURN (FLOOR) (\$=000's)	MAXIMUM RETURN (CEILING) (\$=000's)	ACTUAL PRINCIPAL RETIREMENT (\$=000's)	NEW PRINCIPAL BALANCE (\$=000's)	ADDITIONAL CAPITAL REQUIRED (\$=000's)	ACTUAL RATE OF RETURN (%)	TOTAL REVENUE REQUIREMENT (\$=000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1986	181,496	10,828	2.25	2.30	4.55	3,258	244	4,174	4,327	6,860	15,680	0	196,000	2,533	3.5%	8,952	4.93	1986
1987	191,437	21,656	2.53	2.80	5.33	10,204	548	4,341	6,410	6,860	15,680	0	196,000	450	3.5%	10,751	5.62	1987
1988	199,181	32,484	2.84	2.80	5.64	11,234	923	4,515	7,641	6,860	15,680	0	196,000	0	3.9%	12,156	6.10	1988
1989	206,042	43,312	3.19	2.90	6.09	12,548	1,382	4,696	9,234	6,860	15,680	0	196,000	0	4.7%	13,930	6.76	1989
1990	212,994	54,140	3.58	2.90	6.48	13,802	1,938	4,883	10,857	6,860	15,680	0	196,000	0	5.5%	15,740	7.39	1990
1991	219,067	54,140	3.58	3.00	6.58	14,415	1,938	5,079	11,274	6,860	15,680	0	196,000	0	5.8%	16,353	7.46	1991
1992	226,907	54,140	3.58	3.10	6.68	15,157	1,938	5,282	11,814	6,860	15,680	0	196,000	0	6.0%	17,096	7.53	1992
1993	236,183	54,140	3.58	3.20	6.78	16,013	1,938	5,493	12,458	6,860	15,680	0	196,000	0	6.4%	17,951	7.60	1993
1994	245,893	54,140	3.58	3.30	6.88	16,917	1,938	5,713	13,143	6,860	15,680	0	196,000	0	6.7%	18,856	7.67	1994
1995	255,419	54,140	3.58	3.40	6.98	17,830	1,938	5,941	13,826	6,860	15,680	0	196,000	0	7.1%	19,768	7.74	1995
1996	260,533	54,140	3.58	3.50	7.08	18,446	1,938	6,179	14,205	6,860	15,680	0	196,000	0	7.2%	20,384	7.82	1996
1997	265,897	54,140	3.58	3.60	7.18	19,091	1,938	6,426	14,603	6,860	15,680	0	196,000	0	7.5%	21,030	7.91	1997
1998	271,482	54,140	3.58	3.80	7.38	20,035	1,938	6,683	15,290	6,860	15,680	0	196,000	0	7.8%	21,974	8.09	1998
1999	277,343	54,140	3.58	3.90	7.48	20,745	1,938	6,951	15,733	6,860	15,680	53	196,000	0	8.0%	22,683	8.18	1999
2000	283,488	54,140	3.58	4.10	7.68	21,772	1,938	7,229	16,481	6,860	15,680	801	195,947	0	8.0%	23,710	8.36	2000
2001	288,220	54,140	3.58	4.30	7.88	22,712	1,938	7,518	17,132	6,858	15,676	1,456	195,146	0	8.0%	24,650	8.55	2001
2002	290,043	54,140	3.58	4.50	8.08	23,435	1,938	7,819	17,555	6,830	15,612	1,943	193,690	0	8.1%	25,374	8.75	2002
2003	291,926	54,140	3.58	4.70	8.28	24,171	1,938	8,131	17,978	6,779	15,495	2,483	191,746	0	8.1%	26,110	8.94	2003
2004	293,889	54,140	3.58	5.00	8.58	25,216	1,938	8,457	18,697	6,711	15,340	3,358	189,263	0	8.1%	27,154	9.24	2004
2005	295,935	54,140	3.58	5.30	8.88	26,279	1,938	8,795	19,422	6,624	15,141	4,281	185,905	0	8.1%	28,217	9.53	2005
2006	298,067	54,140	3.58	5.60	9.18	27,363	1,938	9,147	20,154	6,507	14,872	5,282	181,624	0	8.2%	29,301	9.83	2006
2007	300,290	54,140	3.58	5.90	9.48	28,467	1,938	9,513	20,893	6,357	14,530	6,363	176,342	0	8.2%	30,406	10.13	2007
2008	302,608	54,140	3.58	6.30	9.88	29,898	1,938	9,893	21,943	6,172	14,107	7,835	169,979	0	8.3%	31,836	10.52	2008
2009	305,023	54,140	3.58	6.60	10.18	31,051	1,938	10,289	22,701	5,949	13,598	9,103	162,144	0	8.4%	32,990	10.82	2009
2010	307,541	54,140	3.58	7.00	10.58	32,538	1,938	10,700	23,776	5,675	12,971	10,804	153,041	0	8.5%	34,476	11.21	2010
2011	310,165	54,140	3.58	7.40	10.98	34,056	1,938	11,128	24,866	5,356	12,243	12,623	142,237	0	8.6%	35,994	11.60	2011
2012	312,901	54,140	3.58	7.80	11.38	35,608	1,938	11,573	25,973	4,978	11,379	14,594	129,614	0	8.8%	37,546	12.00	2012
2013	315,753	54,140	3.58	8.30	11.88	37,511	1,938	12,036	27,413	4,536	10,369	17,044	115,020	0	9.0%	39,450	12.49	2013
2014	318,725	54,140	3.58	8.70	12.28	39,139	1,938	12,518	28,560	4,026	9,202	19,358	97,976	0	9.4%	41,078	12.89	2014
2015	321,824	54,140	3.58	9.20	12.78	41,129	1,938	13,019	30,049	3,429	7,838	22,211	78,618	0	10.0%	43,067	13.38	2015
2016	325,053	53,554	3.58	9.70	13.28	43,167	1,917	13,539	31,545	2,752	6,289	25,256	56,407	0	11.2%	45,084	13.87	2016
2017	328,420	50,187	3.58	10.09	13.67	44,888	1,797	14,081	32,604	1,974	4,513	28,092	31,151	0	14.5%	46,685	14.22	2017
2018	331,929	46,678	3.58	10.49	14.07	46,707	1,671	14,644	33,734	1,090	2,492	3,059	3,059	0	81.5%	48,379	14.57	2018
2019	335,587	43,020	3.58	10.91	14.49	48,631	1,540	15,230	34,941	107	0	0	0	0	ERR	15,230	4.54	2019
2020	339,400	39,207	3.58	11.35	14.93	50,664	1,404	15,839	36,229	0	0	0	0	0	ERR	15,839	4.67	2020
2021	343,375	35,232	3.58	11.80	15.38	52,816	1,261	16,473	37,605	0	0	0	0	0	ERR	16,473	4.80	2021
2022	347,518	31,089	3.58	12.27	15.85	55,094	1,113	17,131	39,076	0	0	0	0	0	ERR	17,131	4.93	2022
2023	351,836	26,771	3.58	12.76	16.34	57,506	958	17,817	40,648	0	0	0	0	0	ERR	17,817	5.06	2023
2024	356,338	22,269	3.58	13.28	16.86	60,061	797	18,529	42,329	0	0	0	0	0	ERR	18,529	5.20	2024
2025	361,030	17,577	3.58	13.81	17.39	62,769	629	19,271	44,128	0	0	0	0	0	ERR	19,271	5.34	2025
2026	365,921	12,686	3.58	14.36	17.94	65,640	454	20,041	46,053	0	0	0	0	0	ERR	20,041	5.48	2026
2027	371,019	7,588	3.58	14.93	18.51	68,686	272	20,843	48,114	0	0	0	0	0	ERR	20,843	5.62	2027
2028	376,334	2,273	3.58	15.53	19.11	71,917	81	21,677	50,322	0	0	0	0	0	ERR	21,677	5.76	2028
2029	378,607	0	3.58	16.15	19.73	74,704	0	22,544	52,160	0	0	0	0	0	ERR	22,544	5.95	2029
2030	378,607	0	3.58	16.80	20.38	77,150	0	23,446	53,704	0	0	0	0	0	ERR	23,446	6.19	2030
2031	378,607	0	3.58	17.47	21.05	79,694	0	24,383	55,310	0	0	0	0	0	ERR	24,383	6.44	2031
2032	378,607	0	3.58	18.17	21.75	82,339	0	25,359	56,980	0	0	0	0	0	ERR	25,359	6.70	2032
2033	378,607	0	3.58	18.89	22.47	85,091	0	26,373	58,717	0	0	0	0	0	ERR	26,373	6.97	2033
2034	378,607	0	3.58	19.65	23.23	87,952	0	27,428	60,524	0	0	0	0	0	ERR	27,428	7.24	2034
2035	378,607	0	3.58	20.44	24.02	90,928	0	28,525	62,403	0	0	0	0	0	ERR	28,525	7.53	2035
2036	378,607	0	3.58	21.25	24.83	94,023	0	29,666	64,357	0	0	0	0	0	ERR	29,666	7.84	2036
2037	378,607	0	3.58	22.10	25.68	97,242	0	30,853	66,389	0	0	0	0	0	ERR	30,853	8.15	2037
	16,027,515	1,904,051				2,192,711	67,384	597,814	1,562,282	195,612	446,868	196,000	5,392,908	2,983	6.6%	1,310,557		

Loan Principal (\$=000's) \$196,000
 O & M Inflation Rate 4.001
 Rate of Return Floor 3.502
 Rate of Return Ceiling 8.002

YEAR	FORECAST	ADDITIONAL	DEBT SVC	O & M	TOTAL	INITIAL	ADDITIONAL	OSM	BALANCE	MINIMUM	MAXIMUM	ACTUAL	NEW	ADDITIONAL	ACTUAL	TOTAL	ACTUAL	YEAR
	SALES	SALES	RATE	RATE	RATE	REVENUE	REVENUE	EXPENSE	REMAINING	RETURN	RETURN	PRINCIPAL	PRINCIPAL	CAPITAL	RATE OF	REVENUE	RATE	
	(MMH)	(MMH)	(CENTS/KWH)	(CENTS/KWH)	(CENTS/KWH)	(\$=000's)	(\$=000's)	(\$=000's)	(\$=000's)	(FLOOR)	(CEILING)	(\$=000's)	(\$=000's)	(\$=000's)	(%)	(\$=000's)	(CENTS/KWH)	
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1986	181,496	10,828	2.64	2.30	4.94	8,966	286	4,174	5,077	6,860	15,680	0	196,000	1,783	3.52	9,467	5.22	1986
1987	191,437	21,656	2.64	2.80	5.44	10,414	572	4,341	6,645	6,860	15,680	0	196,000	215	3.52	10,986	5.74	1987
1988	199,181	32,484	2.84	2.80	5.64	11,234	923	4,515	7,641	6,860	15,680	0	196,000	0	3.92	12,156	6.10	1988
1989	206,042	43,312	3.19	2.90	6.09	12,548	1,382	4,696	9,234	6,860	15,680	0	196,000	0	4.72	13,930	6.76	1989
1990	212,994	54,140	3.58	2.90	6.48	13,802	1,938	4,883	10,857	6,860	15,680	0	196,000	0	5.52	15,740	7.39	1990
1991	219,067	54,140	3.58	3.00	6.58	14,415	1,938	5,079	11,274	6,860	15,680	0	196,000	0	5.82	16,353	7.46	1991
1992	226,907	54,140	3.58	3.10	6.68	15,157	1,938	5,282	11,814	6,860	15,680	0	196,000	0	6.02	17,096	7.53	1992
1993	236,183	54,140	3.58	3.20	6.78	16,013	1,938	5,493	12,458	6,860	15,680	0	196,000	0	6.42	17,951	7.60	1993
1994	245,893	54,140	3.58	3.30	6.88	16,917	1,938	5,713	13,143	6,860	15,680	0	196,000	0	6.72	18,856	7.67	1994
1995	255,439	54,140	3.58	3.40	6.98	17,830	1,938	5,941	13,826	6,860	15,680	0	196,000	0	7.12	19,768	7.74	1995
1996	260,533	54,140	3.58	3.50	7.08	18,446	1,938	6,179	14,205	6,860	15,680	0	196,000	0	7.22	20,384	7.82	1996
1997	265,897	54,140	3.58	3.60	7.18	19,091	1,938	6,426	14,605	6,850	15,680	0	196,000	0	7.52	21,030	7.91	1997
1998	271,482	54,140	3.58	3.80	7.38	20,035	1,938	6,683	15,290	6,860	15,680	0	196,000	0	7.82	21,974	8.09	1998
1999	277,345	54,140	3.58	3.90	7.48	20,745	1,938	6,951	15,733	6,860	15,680	53	196,000	0	8.02	22,683	8.18	1999
2000	283,488	54,140	3.58	4.10	7.68	21,772	1,938	7,229	16,481	6,860	15,680	801	195,947	0	8.02	23,710	8.36	2000
2001	288,220	54,140	3.58	4.30	7.88	22,712	1,938	7,518	17,132	6,858	15,676	1,456	195,146	0	8.02	24,650	8.55	2001
2002	290,043	54,140	3.58	4.50	8.08	23,435	1,938	7,819	17,555	6,830	15,612	1,943	193,690	0	8.12	25,374	8.75	2002
2003	291,926	54,140	3.58	4.70	8.28	24,171	1,938	8,131	17,978	6,779	15,495	2,483	191,746	0	8.12	26,110	8.94	2003
2004	293,889	54,140	3.58	5.00	8.58	25,216	1,938	8,457	18,697	6,711	15,340	3,358	189,263	0	8.12	27,154	9.24	2004
2005	295,935	54,140	3.58	5.30	8.88	26,279	1,938	8,795	19,422	6,624	15,141	4,281	185,905	0	8.12	28,217	9.53	2005
2006	298,067	54,140	3.58	5.60	9.18	27,363	1,938	9,147	20,154	6,507	14,872	5,282	181,624	0	8.22	29,301	9.83	2006
2007	300,290	54,140	3.58	5.90	9.48	28,467	1,938	9,513	20,893	6,357	14,530	6,363	176,342	0	8.22	30,406	10.13	2007
2008	302,608	54,140	3.58	6.30	9.88	29,898	1,938	9,893	21,943	6,172	14,107	7,835	169,979	0	8.32	31,836	10.52	2008
2009	305,023	54,140	3.58	6.60	10.18	31,051	1,938	10,289	22,701	5,949	13,598	9,103	162,144	0	8.42	32,990	10.82	2009
2010	307,541	54,140	3.58	7.00	10.58	32,538	1,938	10,700	23,776	5,675	12,971	10,804	153,041	0	8.52	34,476	11.21	2010
2011	310,165	54,140	3.58	7.40	10.98	34,056	1,938	11,128	24,866	5,356	12,243	12,623	142,237	0	8.62	35,994	11.60	2011
2012	312,901	54,140	3.58	7.80	11.38	35,608	1,938	11,573	25,973	4,978	11,379	14,594	129,614	0	8.82	37,546	12.00	2012
2013	315,753	54,140	3.58	8.30	11.88	37,511	1,938	12,036	27,413	4,536	10,369	17,044	115,020	0	9.02	39,450	12.49	2013
2014	318,725	54,140	3.58	8.70	12.28	39,139	1,938	12,518	28,560	4,026	9,202	19,358	97,976	0	9.42	41,078	12.89	2014
2015	321,824	54,140	3.58	9.20	12.78	41,129	1,938	13,019	30,049	3,429	7,838	22,211	78,618	0	10.02	43,067	13.38	2015
2016	325,053	53,554	3.58	9.70	13.28	43,167	1,917	13,539	31,545	2,752	6,289	25,256	56,407	0	11.22	45,084	13.87	2016
2017	328,420	50,187	3.58	10.09	13.67	44,888	1,797	14,081	32,604	1,974	4,513	28,092	31,151	0	14.52	46,685	14.22	2017
2018	331,929	46,678	3.58	10.49	14.07	46,707	1,671	14,644	33,734	1,090	2,492	3,059	3,059	0	91.52	48,379	14.57	2018
2019	335,587	43,020	3.58	10.91	14.49	48,631	1,540	15,230	34,941	107	0	0	0	0	ERR	15,230	4.54	2019
2020	339,400	39,207	3.58	11.35	14.93	50,664	1,404	15,839	36,229	0	0	0	0	0	ERR	15,839	4.67	2020
2021	343,375	35,232	3.58	11.80	15.38	52,816	1,261	16,473	37,605	0	0	0	0	0	ERR	16,473	4.80	2021
2022	347,518	31,089	3.58	12.27	15.85	55,094	1,113	17,131	39,076	0	0	0	0	0	ERR	17,131	4.93	2022
2023	351,836	26,771	3.58	12.76	16.34	57,506	958	17,817	40,648	0	0	0	0	0	ERR	17,817	5.06	2023
2024	356,338	22,269	3.58	13.28	16.86	60,061	797	18,529	42,329	0	0	0	0	0	ERR	18,529	5.20	2024
2025	361,030	17,577	3.58	13.81	17.39	62,769	629	19,271	44,128	0	0	0	0	0	ERR	19,271	5.34	2025
2026	365,921	12,686	3.58	14.36	17.94	65,640	454	20,041	46,053	0	0	0	0	0	ERR	20,041	5.48	2026
2027	371,019	7,588	3.58	14.93	18.51	68,686	272	20,843	48,114	0	0	0	0	0	ERR	20,843	5.62	2027
2028	376,334	2,273	3.58	15.53	19.11	71,917	91	21,677	50,322	0	0	0	0	0	ERR	21,677	5.76	2028
2029	378,607	0	3.58	16.15	19.73	74,704	0	22,544	52,160	0	0	0	0	0	ERR	22,544	5.95	2029
2030	378,607	0	3.58	16.80	20.38	77,150	0	23,446	53,704	0	0	0	0	0	ERR	23,446	6.19	2030
2031	378,607	0	3.58	17.47	21.05	79,694	0	24,383	55,310	0	0	0	0	0	ERR	24,383	6.44	2031
2032	378,607	0	3.58	18.17	21.75	82,339	0	25,359	56,980	0	0	0	0	0	ERR	25,359	6.70	2032
2033	378,607	0	3.58	18.89	22.47	85,091	0	26,373	58,717	0	0	0	0	0	ERR	26,373	6.97	2033
2034	378,607	0	3.58	19.65	23.23	87,952	0	27,428	60,524	0	0	0	0	0	ERR	27,428	7.24	2034
2035	378,607	0	3.58	20.44	24.02	90,928	0	28,525	62,403	0	0	0	0	0	ERR	28,525	7.51	2035
2036	378,607	0	3.58	21.25	24.83	94,023	0	29,666	64,357	0	0	0	0	0	ERR	29,666	7.84	2036
2037	378,607	0	3.58	22.10	25.68	97,242	0	30,853	66,389	0	0	0	0	0	ERR	30,853	8.15	2037
	16,027,515	1,904,051				2,193,629	67,450	697,814	1,563,266	195,612	446,868	196,000	5,392,908	1,998	6.72	1,311,307		

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Loan Principal (\$=000's) \$196,000
 O & M Inflation Rate 4.00%
 Rate of Return Floor 3.50%
 Rate of Return Ceiling 8.00%
 Change in Base Load Forecast 10.00%

YEAR	FORECAST SALES		DEBT SVC RATE (CENTS/KWH)	O & M RATE (CENTS/KWH)	TOTAL RATE (CENTS/KWH)	INITIAL REVENUE (\$=000's)	ADDITIONAL REVENUE (\$=000's)	O&M EXPENSE (\$=000's)	BALANCE REMAINING FOR DEBT SV (\$=000's)	MINIMUM RETURN (FLOOR) (\$=000's)	MAXIMUM RETURN (CEILING) (\$=000's)	ACTUAL PRINCIPAL RETIREMENT (\$=000's)	NEW PRINCIPAL BALANCE (\$=000's)	ADDITIONAL CAPITAL REQUIRED (\$=000's)	ACTUAL RATE OF RETURN (%)	TOTAL REVENUE REQUIREMENT (\$=000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR
	(MMH)	(MMH)																
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1986	199,646	10,828	2.64	2.30	4.94	9,862	286	4,438	5,710	6,860	15,680	0	196,000	1,150	3.52	10,148	5.08	1986
1987	210,581	21,656	2.64	2.80	5.44	11,456	572	4,616	7,412	6,860	15,680	0	196,000	0	3.82	12,027	5.71	1987
1988	219,099	32,484	2.84	2.80	5.64	12,357	923	4,800	8,480	6,860	15,680	0	196,000	0	4.32	13,280	6.06	1988
1989	226,646	42,312	3.19	2.90	6.09	13,803	1,350	4,992	10,160	6,860	15,680	0	196,000	0	5.22	15,153	6.69	1989
1990	234,293	54,140	3.58	2.90	6.48	15,182	1,938	5,192	11,929	6,860	15,680	0	196,000	0	6.12	17,120	7.31	1990
1991	240,974	54,140	3.58	3.00	6.58	15,856	1,938	5,400	12,395	6,860	15,680	0	196,000	0	6.32	17,794	7.38	1991
1992	249,598	54,140	3.58	3.10	6.68	16,673	1,938	5,615	12,996	6,860	15,680	0	196,000	0	6.62	18,611	7.46	1992
1993	259,801	54,140	3.58	3.20	6.78	17,615	1,938	5,840	13,713	6,860	15,680	0	196,000	0	7.02	19,553	7.53	1993
1994	270,482	54,140	3.58	3.30	6.88	18,609	1,938	6,074	14,474	6,860	15,680	0	196,000	0	7.42	20,547	7.60	1994
1995	280,983	54,140	3.58	3.40	6.98	19,613	1,938	6,317	15,234	6,860	15,680	0	196,000	0	7.82	21,551	7.67	1995
1996	286,586	54,140	3.58	3.50	7.08	20,290	1,938	6,569	15,659	6,860	15,680	0	196,000	0	8.02	22,229	7.76	1996
1997	292,487	54,140	3.58	3.60	7.18	21,001	1,938	6,832	16,107	6,860	15,680	427	196,000	0	8.02	22,939	7.84	1997
1998	298,630	54,140	3.58	3.80	7.38	22,039	1,938	7,105	16,872	6,860	15,680	1,192	195,573	0	8.02	23,977	8.03	1998
1999	305,077	54,140	3.58	3.90	7.48	22,820	1,938	7,390	17,368	6,845	15,646	1,723	194,382	0	8.02	24,758	8.12	1999
2000	311,837	54,140	3.58	4.10	7.68	23,949	1,938	7,685	18,202	6,803	15,551	2,652	192,659	0	8.12	25,887	8.30	2000
2001	317,042	54,140	3.58	4.30	7.88	24,983	1,938	7,993	18,929	6,743	15,413	3,516	190,007	0	8.12	26,921	8.49	2001
2002	319,047	54,140	3.58	4.50	8.08	25,779	1,938	8,312	19,405	6,650	15,201	4,204	186,492	0	8.22	27,717	8.69	2002
2003	321,119	54,140	3.58	4.70	8.28	26,589	1,938	8,645	19,882	6,527	14,919	4,963	182,287	0	8.22	28,527	8.88	2003
2004	323,278	54,140	3.58	5.00	8.58	27,737	1,938	8,991	20,685	6,380	14,583	6,102	177,325	0	8.22	29,675	9.18	2004
2005	325,529	53,079	3.58	5.30	8.88	28,907	1,900	9,350	21,457	6,206	14,186	7,271	171,223	0	8.32	30,807	9.46	2005
2006	327,874	50,733	3.58	5.60	9.18	30,099	1,816	9,724	22,191	5,993	13,698	8,493	163,952	0	8.42	31,915	9.73	2006
2007	330,319	48,288	3.58	5.90	9.48	31,314	1,729	10,113	22,930	5,738	13,116	9,814	155,459	0	8.42	33,043	10.00	2007
2008	332,869	45,738	3.58	6.30	9.88	32,887	1,637	10,518	24,007	5,441	12,437	11,570	145,645	0	8.52	34,525	10.37	2008
2009	335,525	43,082	3.58	6.60	10.18	34,156	1,542	10,938	24,760	5,098	11,652	13,109	134,075	0	8.72	35,699	10.64	2009
2010	338,295	40,312	3.58	7.00	10.58	35,792	1,443	11,376	25,859	4,693	10,726	15,133	120,966	0	8.92	37,235	11.01	2010
2011	341,182	37,426	3.58	7.40	10.98	37,462	1,340	11,831	26,971	4,234	9,677	17,293	105,833	0	9.12	38,802	11.37	2011
2012	344,191	34,416	3.58	7.80	11.38	39,169	1,232	12,304	28,097	3,704	8,467	19,630	88,540	0	9.62	40,401	11.74	2012
2013	347,328	31,279	3.58	8.30	11.88	41,263	1,120	12,796	29,586	3,099	7,083	22,503	68,909	0	10.32	42,382	12.20	2013
2014	350,598	28,010	3.58	8.70	12.28	43,053	1,003	13,308	30,748	2,412	5,513	25,235	46,407	0	11.92	44,056	12.57	2014
2015	354,006	24,601	3.58	9.20	12.78	45,242	881	13,841	32,282	1,624	3,713	21,172	21,172	0	17.52	46,123	13.03	2015
2016	357,558	21,049	3.58	9.70	13.28	47,484	754	14,394	33,843	741	0	0	0	0	ERR	14,394	4.03	2016
2017	361,262	17,345	3.58	10.09	13.67	49,377	621	14,970	35,028	0	0	0	0	0	ERR	14,970	4.14	2017
2018	365,122	13,485	3.58	10.49	14.07	51,378	483	15,569	36,292	0	0	0	0	0	ERR	15,569	4.26	2018
2019	369,146	9,461	3.58	10.91	14.49	53,494	339	16,192	37,641	0	0	0	0	0	ERR	16,192	4.39	2019
2020	373,340	5,267	3.58	11.35	14.93	55,731	189	16,839	39,080	0	0	0	0	0	ERR	16,839	4.51	2020
2021	377,713	895	3.58	11.80	15.38	58,098	32	17,513	40,617	0	0	0	0	0	ERR	17,513	4.64	2021
2022	378,607	0	3.58	12.27	15.85	60,023	0	18,213	41,810	0	0	0	0	0	ERR	18,213	4.81	2022
2023	378,607	0	3.58	12.76	16.34	61,882	0	18,942	42,940	0	0	0	0	0	ERR	18,942	5.00	2023
2024	378,607	0	3.58	13.28	16.86	63,815	0	19,699	44,115	0	0	0	0	0	ERR	19,699	5.20	2024
2025	378,607	0	3.58	13.81	17.39	65,825	0	20,487	45,338	0	0	0	0	0	ERR	20,487	5.41	2025
2026	378,607	0	3.58	14.36	17.94	67,916	0	21,307	46,609	0	0	0	0	0	ERR	21,307	5.63	2026
2027	378,607	0	3.58	14.93	18.51	70,090	0	22,159	47,931	0	0	0	0	0	ERR	22,159	5.85	2027
2028	378,607	0	3.58	15.53	19.11	72,352	0	23,046	49,306	0	0	0	0	0	ERR	23,046	6.09	2028
2029	378,607	0	3.58	16.15	19.73	74,704	0	23,967	50,736	0	0	0	0	0	ERR	23,967	6.33	2029
2030	378,607	0	3.58	16.80	20.38	77,150	0	24,926	52,224	0	0	0	0	0	ERR	24,926	6.58	2030
2031	378,607	0	3.58	17.47	21.05	79,694	0	25,923	53,770	0	0	0	0	0	ERR	25,923	6.85	2031
2032	378,607	0	3.58	18.17	21.75	82,339	0	26,960	55,379	0	0	0	0	0	ERR	26,960	7.12	2032
2033	378,607	0	3.58	18.89	22.47	85,091	0	28,038	57,052	0	0	0	0	0	ERR	28,038	7.41	2033
2034	378,607	0	3.58	19.65	23.23	87,952	0	29,160	58,797	0	0	0	0	0	ERR	29,160	7.70	2034
2035	378,607	0	3.58	20.44	24.02	90,928	0	30,326	60,602	0	0	0	0	0	ERR	30,326	8.01	2035
2036	378,607	0	3.58	21.25	24.83	94,023	0	31,539	62,483	0	0	0	0	0	ERR	31,539	8.33	2036
2037	378,607	0	3.58	22.10	25.68	97,242	0	32,801	64,441	0	0	0	0	0	ERR	32,801	8.66	2037
17,156,774		1,423,843				2,312,141	50,263	741,877	1,620,527	178,112	405,419	196,000	4,892,904	1,150	6.52	1,306,375		

Loan Principal (\$=000's) \$196,000
 O & M Inflation Rate 4.00%
 Rate of Return Floor 3.50%
 Rate of Return Ceiling 8.00%
 Change in Base Load Forecast -10.00%

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YEAR	FORECAST		DEBT SVC RATE (CENTS/KWH)	O & M RATE (CENTS/KWH)	TOTAL RATE (CENTS/KWH)	INITIAL REVENUE STREAM (\$=000's)	ADDITIONAL REVENUE (\$=000's)	O&M EXPENSE (\$=000's)	BALANCE REMAINING FOR DEBT SV (\$=000's)	MINIMUM RETURN (FLOOR) (\$=000's)	MAXIMUM RETURN (CEILING) (\$=000's)	ACTUAL PRINCIPAL RETIREMENT (\$=000's)	NEW PRINCIPAL BALANCE (\$=000's)	ADDITIONAL CAPITAL REQUIRED (\$=000's)	ACTUAL RATE OF RETURN (%)	TOTAL REVENUE REQUIREMENT (\$=000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR
	SALES (MMH)	ADDITIONAL SALES (MMH)																
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1986	163,346	10,828	2.64	2.30	4.94	8,069	286	4,438	3,917	6,860	15,680	0	196,000	2,943	3.52	9,886	6.05	1986
1987	172,293	21,656	2.64	2.80	5.44	9,373	572	4,616	5,329	6,860	15,680	0	196,000	1,531	3.52	10,572	6.14	1987
1988	179,263	32,484	2.84	2.80	5.64	10,110	923	4,800	6,233	6,860	15,680	0	196,000	627	3.52	11,033	6.15	1988
1989	185,438	42,312	3.19	2.90	6.09	11,293	1,350	4,792	7,651	6,860	15,680	0	196,000	0	3.92	12,643	6.82	1989
1990	191,695	54,140	3.58	2.90	6.48	12,422	1,938	5,192	9,168	6,860	15,680	0	196,000	0	4.72	14,360	7.49	1990
1991	197,160	54,140	3.58	3.00	6.58	12,973	1,938	5,400	9,512	6,860	15,680	0	196,000	0	4.92	14,911	7.56	1991
1992	204,216	54,140	3.58	3.10	6.68	13,642	1,938	5,615	9,964	6,860	15,680	0	196,000	0	5.12	15,580	7.63	1992
1993	212,565	54,140	3.58	3.20	6.78	14,412	1,938	5,840	10,510	6,860	15,680	0	196,000	0	5.42	16,350	7.69	1993
1994	221,304	54,140	3.58	3.30	6.88	15,226	1,938	6,074	11,090	6,860	15,680	0	196,000	0	5.72	17,164	7.76	1994
1995	229,895	54,140	3.58	3.40	6.98	16,047	1,938	6,317	11,668	6,860	15,680	0	196,000	0	6.02	17,985	7.82	1995
1996	234,480	54,140	3.58	3.50	7.08	16,601	1,938	6,569	11,970	6,860	15,680	0	196,000	0	6.12	18,539	7.91	1996
1997	239,307	54,140	3.58	3.60	7.18	17,182	1,938	6,832	12,288	6,860	15,680	0	196,000	0	6.32	19,120	7.99	1997
1998	244,334	54,140	3.58	3.80	7.38	18,032	1,938	7,105	12,865	6,860	15,680	0	196,000	0	6.62	19,970	8.17	1998
1999	249,609	54,140	3.58	3.90	7.48	18,671	1,938	7,390	13,219	6,860	15,680	0	196,000	0	6.72	20,609	8.26	1999
2000	255,139	54,140	3.58	4.10	7.68	19,595	1,938	7,685	13,848	6,860	15,680	0	196,000	0	7.12	21,533	8.44	2000
2001	259,398	54,140	3.58	4.30	7.88	20,441	1,938	7,993	14,386	6,860	15,680	0	196,000	0	7.32	22,379	8.63	2001
2002	261,039	54,140	3.58	4.50	8.08	21,092	1,938	8,312	14,718	6,860	15,680	0	196,000	0	7.52	23,030	8.82	2002
2003	262,733	54,140	3.58	4.70	8.28	21,754	1,938	8,645	15,048	6,860	15,680	0	196,000	0	7.72	23,693	9.02	2003
2004	264,500	54,140	3.58	5.00	8.58	22,694	1,938	8,991	15,642	6,860	15,680	0	196,000	0	8.02	24,632	9.31	2004
2005	266,342	54,140	3.58	5.30	8.88	23,651	1,938	9,350	16,239	6,860	15,680	559	196,000	0	8.02	25,589	9.61	2005
2006	268,260	54,140	3.58	5.60	9.18	24,626	1,938	9,724	16,840	6,860	15,680	1,160	195,441	0	8.02	26,565	9.90	2006
2007	270,261	54,140	3.58	5.90	9.48	25,621	1,938	10,113	17,446	6,840	15,635	1,811	194,281	0	8.02	27,559	10.20	2007
2008	272,347	54,140	3.58	6.30	9.88	26,908	1,938	10,518	18,328	6,800	15,542	2,786	192,470	0	8.12	28,846	10.59	2008
2009	274,521	54,140	3.58	6.60	10.18	27,946	1,938	10,938	18,946	6,736	15,398	3,548	189,684	0	8.12	29,884	10.89	2009
2010	276,787	54,140	3.58	7.00	10.58	29,284	1,938	11,376	19,846	6,639	15,175	4,672	186,136	0	8.22	31,222	11.28	2010
2011	279,149	54,140	3.58	7.40	10.98	30,651	1,938	11,831	20,758	6,515	14,891	5,867	181,464	0	8.22	32,589	11.67	2011
2012	281,611	54,140	3.58	7.80	11.38	32,047	1,938	12,304	21,681	6,351	14,517	7,164	175,597	0	8.32	33,986	12.07	2012
2013	284,178	54,140	3.58	8.30	11.88	33,760	1,938	12,796	22,902	6,146	14,048	8,854	168,433	0	8.32	35,699	12.56	2013
2014	286,851	54,140	3.58	8.70	12.28	35,225	1,938	13,308	23,855	5,895	13,475	10,381	159,579	0	8.42	37,164	12.96	2014
2015	289,642	54,140	3.58	9.20	12.78	37,016	1,938	13,841	25,114	5,585	12,766	12,348	149,198	0	8.62	38,954	13.45	2015
2016	292,548	54,140	3.58	9.70	13.28	38,850	1,938	14,394	26,394	5,222	11,936	14,459	136,850	0	8.72	40,789	13.94	2016
2017	295,578	54,140	3.58	10.09	13.67	40,400	1,938	14,970	27,368	4,790	10,948	16,420	122,392	0	8.92	42,338	14.32	2017
2018	298,736	54,140	3.58	10.49	14.07	42,037	1,938	15,569	28,406	4,284	9,791	18,615	105,972	0	9.22	43,975	14.72	2018
2019	302,028	54,140	3.58	10.91	14.49	43,767	1,938	16,192	29,514	3,709	8,478	21,036	87,357	0	9.72	45,706	15.13	2019
2020	305,460	54,140	3.58	11.35	14.93	45,598	1,938	16,839	30,697	3,057	6,989	23,708	66,321	0	10.52	47,536	15.56	2020
2021	309,038	54,140	3.58	11.80	15.38	47,535	1,938	17,513	31,960	2,321	5,306	26,655	42,612	0	12.52	49,473	16.01	2021
2022	312,766	54,140	3.58	12.27	15.85	49,585	1,938	18,213	33,310	1,491	3,409	15,958	15,958	0	21.42	51,523	16.47	2022
2023	316,652	54,140	3.58	12.76	16.34	51,755	1,938	18,942	34,752	559	0	0	0	0	ERR	18,942	5.98	2023
2024	320,704	54,140	3.58	13.28	16.86	54,055	1,938	19,699	36,294	0	0	0	0	0	ERR	19,699	6.14	2024
2025	324,927	53,680	3.58	13.81	17.39	56,492	1,922	20,487	37,927	0	0	0	0	0	ERR	20,487	6.31	2025
2026	329,329	49,278	3.58	14.36	17.94	59,076	1,764	21,307	39,533	0	0	0	0	0	ERR	21,307	6.47	2026
2027	333,917	44,690	3.58	14.93	18.51	61,817	1,600	22,159	41,258	0	0	0	0	0	ERR	22,159	6.64	2027
2028	338,701	39,906	3.58	15.53	19.11	64,726	1,429	23,046	43,109	0	0	0	0	0	ERR	23,046	6.80	2028
2029	340,746	37,861	3.58	16.15	19.73	67,233	1,355	23,967	44,621	0	0	0	0	0	ERR	23,967	7.03	2029
2030	340,746	37,861	3.58	16.80	20.38	69,435	1,355	24,926	45,864	0	0	0	0	0	ERR	24,926	7.32	2030
2031	340,746	37,861	3.58	17.47	21.05	71,724	1,355	25,923	47,156	0	0	0	0	0	ERR	25,923	7.61	2031
2032	340,746	37,861	3.58	18.17	21.75	74,105	1,355	26,960	48,501	0	0	0	0	0	ERR	26,960	7.91	2032
2033	340,746	37,861	3.58	18.89	22.47	76,581	1,355	28,038	49,898	0	0	0	0	0	ERR	28,038	8.23	2033
2034	340,746	37,861	3.58	19.65	23.23	79,157	1,355	29,160	51,352	0	0	0	0	0	ERR	29,160	8.56	2034
2035	340,746	37,861	3.58	20.44	24.02	81,835	1,355	30,326	52,864	0	0	0	0	0	ERR	30,326	8.90	2035
2036	340,746	37,861	3.58	21.25	24.83	84,621	1,355	31,539	54,437	0	0	0	0	0	ERR	31,539	9.26	2036
2037	340,746	37,861	3.58	22.10	25.68	87,517	1,355	32,801	56,072	0	0	0	0	0	ERR	32,801	9.67	2037
	14,424,764	2,530,481				1,974,266	89,880	741,877	1,322,270	227,001	517,583	196,000	6,289,744	5,101	6.32	1,382,667		

Loan Principal (\$=000's) \$196,000
 O & M Inflation Rate 4.00%
 Rate of Return Floor 3.50%
 Rate of Return Ceiling 8.00%
 Change in Base Load Forecast 10.00%

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YEAR	FORECAST		DEBT SVC RATE	O & M RATE	TOTAL RATE	INITIAL REVENUE STREAM (\$=000's)	ADDITIONAL REVENUE (\$=000's)	O&M EXPENSE (\$=000's)	BALANCE REMAINING FOR DEBT SV (\$=000's)	MINIMUM RETURN (FLOOR) (\$=000's)	MAXIMUM RETURN (CEILING) (\$=000's)	ACTUAL PRINCIPAL RETIREMENT (\$=000's)	NEW PRINCIPAL BALANCE (\$=000's)	ADDITIONAL CAPITAL REQUIRED (\$=000's)	ACTUAL RATE OF RETURN (%)	TOTAL REVENUE REQUIREMENT (\$=000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR												
	SALES (\$MM)	ADDITIONAL SALES (\$MM)																												
1986	179,646	0	2.64	2.30	4.94	9,862	0	4,438	5,424	6,860	15,680	0	196,000	1,436	3.51	9,982	4.95	1986												
1987	210,591	0	2.64	2.80	5.44	11,456	0	4,616	6,840	6,860	15,680	0	196,000	20	3.51	11,456	5.44	1987												
1988	219,099	0	2.84	2.80	5.64	12,357	0	4,800	7,557	6,860	15,680	0	196,000	0	3.91	12,357	5.64	1988												
1989	226,646	0	3.19	2.90	6.09	13,803	0	4,992	8,811	6,860	15,680	0	196,000	0	4.51	13,803	6.09	1989												
1990	234,293	0	3.58	2.90	6.48	15,182	0	5,192	9,990	6,860	15,680	0	196,000	0	5.11	15,182	6.48	1990												
1991	240,974	0	3.58	3.00	6.58	15,856	0	5,400	10,457	6,860	15,680	0	196,000	0	5.71	15,856	6.58	1991												
1992	249,598	0	3.58	3.10	6.68	16,673	0	5,615	11,058	6,860	15,680	0	196,000	0	5.61	16,673	6.68	1992												
1993	259,801	0	3.58	3.20	6.78	17,615	0	5,840	11,774	6,860	15,680	0	196,000	0	6.01	17,615	6.78	1993												
1994	270,482	0	3.58	3.30	6.88	18,609	0	6,074	12,535	6,860	15,680	0	196,000	0	6.41	18,609	6.88	1994												
1995	280,783	0	3.58	3.40	6.98	19,613	0	6,317	13,296	6,860	15,680	0	196,000	0	6.81	19,613	6.98	1995												
1996	286,586	0	3.58	3.50	7.08	20,290	0	6,569	13,721	6,860	15,680	0	196,000	0	7.01	20,290	7.08	1996												
1997	292,487	0	3.58	3.60	7.18	21,001	0	6,832	14,168	6,860	15,680	0	196,000	0	7.21	21,001	7.18	1997												
1998	298,630	0	3.58	3.80	7.38	22,039	0	7,105	14,934	6,860	15,680	0	196,000	0	7.61	22,039	7.38	1998												
1999	305,077	0	3.58	3.90	7.48	22,820	0	7,390	15,430	6,860	15,680	0	196,000	0	7.91	22,820	7.48	1999												
2000	311,837	0	3.58	4.10	7.68	23,949	0	7,685	16,264	6,860	15,680	584	196,000	0	8.01	23,949	7.68	2000												
2001	317,042	0	3.58	4.30	7.88	24,983	0	7,993	16,990	6,860	15,680	1,310	195,416	0	8.01	24,983	7.88	2001												
2002	319,047	0	3.58	4.50	8.08	25,779	0	8,312	17,467	6,860	15,633	1,833	194,106	0	8.11	25,779	8.08	2002												
2003	321,119	0	3.58	4.70	8.28	26,589	0	8,645	17,944	6,794	15,528	2,415	192,272	0	8.11	26,589	8.28	2003												
2004	323,278	0	3.58	5.00	8.58	27,737	0	8,991	18,747	6,730	15,382	3,365	189,857	0	8.11	27,737	8.58	2004												
2005	325,529	0	3.58	5.30	8.88	28,907	0	9,350	19,557	6,645	15,189	4,368	186,492	0	8.11	28,907	8.88	2005												
2006	327,874	0	3.58	5.60	9.18	30,099	0	9,724	20,375	6,527	14,919	5,455	182,124	0	8.21	30,099	9.18	2006												
2007	330,319	0	3.58	5.90	9.48	31,314	0	10,113	21,201	6,374	14,570	6,631	176,669	0	8.21	31,314	9.48	2007												
2008	332,869	0	3.58	6.30	9.88	32,887	0	10,518	22,370	6,183	14,133	8,236	170,038	0	8.31	32,887	9.88	2008												
2009	335,525	0	3.58	6.60	10.18	34,156	0	10,938	23,218	5,951	13,603	9,615	161,801	0	8.41	34,156	10.18	2009												
2010	338,295	0	3.58	7.00	10.58	35,792	0	11,376	24,416	5,663	12,944	11,472	152,186	0	8.51	35,792	10.58	2010												
2011	341,182	0	3.58	7.40	10.98	37,462	0	11,831	25,631	5,327	12,175	13,456	140,715	0	8.71	37,462	10.98	2011												
2012	344,191	0	3.58	7.80	11.38	39,169	0	12,304	26,865	4,925	11,257	15,608	127,259	0	8.81	39,169	11.38	2012												
2013	347,328	0	3.58	8.30	11.88	41,263	0	12,796	28,466	4,454	10,181	18,286	111,651	0	9.11	41,263	11.88	2013												
2014	350,598	0	3.58	8.70	12.28	43,053	0	13,308	29,745	3,908	8,932	20,813	93,366	0	9.61	43,053	12.28	2014												
2015	354,006	0	3.58	9.20	12.78	45,242	0	13,841	31,401	3,268	7,469	23,932	72,553	0	10.31	45,242	12.78	2015												
2016	357,558	0	3.58	9.70	13.28	47,484	0	14,394	33,090	2,539	5,804	27,285	48,621	0	11.91	47,484	13.28	2016												
2017	361,262	0	3.58	10.09	13.67	49,377	0	14,970	34,407	1,702	3,890	21,335	21,335	0	18.21	49,377	13.67	2017												
2018	365,122	0	3.58	10.49	14.07	51,378	0	15,569	35,809	747	0	0	0	0	ERR	15,569	4.26	2018												
2019	369,146	0	3.58	10.91	14.49	53,494	0	16,192	37,302	0	0	0	0	0	ERR	16,192	4.39	2019												
2020	373,340	0	3.58	11.35	14.93	55,731	0	16,839	38,892	0	0	0	0	0	ERR	16,839	4.51	2020												
2021	377,713	0	3.58	11.80	15.38	58,098	0	17,513	40,585	0	0	0	0	0	ERR	17,513	4.64	2021												
2022	378,607	0	3.58	12.27	15.85	60,023	0	18,213	41,810	0	0	0	0	0	ERR	18,213	4.81	2022												
2023	378,607	0	3.58	12.76	16.34	61,882	0	18,942	42,940	0	0	0	0	0	ERR	18,942	5.00	2023												
2024	378,607	0	3.58	13.28	16.86	63,815	0	19,699	44,115	0	0	0	0	0	ERR	19,699	5.20	2024												
2025	378,607	0	3.58	13.81	17.39	65,825	0	20,487	45,338	0	0	0	0	0	ERR	20,487	5.41	2025												
2026	378,607	0	3.58	14.36	17.94	67,916	0	21,307	46,609	0	0	0	0	0	ERR	21,307	5.63	2026												
2027	378,607	0	3.58	14.93	18.51	70,090	0	22,159	47,931	0	0	0	0	0	ERR	22,159	5.85	2027												
2028	378,607	0	3.58	15.53	19.11	72,352	0	23,046	49,306	0	0	0	0	0	ERR	23,046	6.09	2028												
2029	378,607	0	3.58	16.15	19.73	74,704	0	23,967	50,736	0	0	0	0	0	ERR	23,967	6.33	2029												
2030	378,607	0	3.58	16.80	20.38	77,150	0	24,926	52,224	0	0	0	0	0	ERR	24,926	6.58	2030												
2031	378,607	0	3.58	17.47	21.05	79,694	0	25,923	53,770	0	0	0	0	0	ERR	25,923	6.85	2031												
2032	378,607	0	3.58	18.17	21.75	82,339	0	26,960	55,379	0	0	0	0	0	ERR	26,960	7.12	2032												
2033	378,607	0	3.58	18.89	22.47	85,091	0	28,038	57,052	0	0	0	0	0	ERR	28,038	7.41	2033												
2034	378,607	0	3.58	19.65	23.23	87,952	0	29,160	58,792	0	0	0	0	0	ERR	29,160	7.70	2034												
2035	378,607	0	3.58	20.44	24.02	90,928	0	30,326	60,602	0	0	0	0	0	ERR	30,326	8.01	2035												
2036	378,607	0	3.58	21.25	24.83	94,023	0	31,539	62,483	0	0	0	0	0	ERR	31,539	8.33	2036												
2037	378,607	0	3.58	22.10	25.68	97,242	0	32,801	64,441	0	0	0	0	0	ERR	32,801	8.66	2037												
													17,156,774	0				2,312,141	0	741,877	1,570,264	194,336	442,490	196,000	5,158,460	1,455	6.42	1,326,045		

Loan Principal (\$=000's) \$196,000
 D & M Inflation Rate 4.00Z
 Rate of Return Floor 3.50Z
 Rate of Return Ceiling 8.00Z
 Change in Base Load Forecast -10.00Z

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YEAR	FORECAST		DEBT SVC RATE (CENTS/KWH)	D & M RATE (CENTS/KWH)	TOTAL RATE (CENTS/KWH)	INITIAL	ADDITIONAL REVENUE (\$=000's)	D&M EXPENSE (\$=000's)	BALANCE	MINIMUM	MAXIMUM	ACTUAL PRINCIPAL RETIREMENT (\$=000's)	NEW PRINCIPAL BALANCE (\$=000's)	ADDITIONAL CAPITAL REQUIRED (\$=000's)	ACTUAL RATE OF RETURN (%)	TOTAL	ACTUAL	YEAR
	SALES (MMH)	ADDITIONAL SALES (MMH)				REVENUE STREAM (\$=000's)			REMAINING FOR DEBT SV (\$=000's)	RETURN (FLOOR) (\$=000's)	RETURN (CEILING) (\$=000's)					REVENUE (\$=000's)	REVENUE (\$=000's)	
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1986	163,346	0	2.64	2.30	4.94	8,069	0	4,438	3,631	6,860	15,680	0	196,000	3,229	3.5Z	10,172	6.2Z	1986
1987	172,293	0	2.64	2.80	5.44	9,373	0	4,616	4,757	6,860	15,680	0	196,000	2,103	3.5Z	10,922	6.34	1987
1988	179,263	0	2.84	2.80	5.64	10,110	0	4,800	5,310	6,860	15,680	0	196,000	1,550	3.5Z	10,669	5.95	1988
1989	185,438	0	3.19	2.90	6.09	11,293	0	4,992	6,301	6,860	15,680	0	196,000	559	3.5Z	11,293	6.09	1989
1990	191,695	0	3.58	2.90	6.48	12,422	0	5,192	7,230	6,860	15,680	0	196,000	0	3.7Z	12,422	6.48	1990
1991	197,160	0	3.58	3.00	6.58	12,973	0	5,400	7,574	6,860	15,680	0	196,000	0	3.9Z	12,973	6.58	1991
1992	204,216	0	3.58	3.10	6.68	13,642	0	5,615	8,026	6,860	15,680	0	196,000	0	4.1Z	13,642	6.68	1992
1993	212,565	0	3.58	3.20	6.78	14,412	0	5,840	8,572	6,860	15,680	0	196,000	0	4.4Z	14,412	6.78	1993
1994	221,304	0	3.58	3.30	6.88	15,226	0	6,074	9,152	6,860	15,680	0	196,000	0	4.7Z	15,226	6.88	1994
1995	229,895	0	3.58	3.40	6.98	16,047	0	6,317	9,730	6,860	15,680	0	196,000	0	5.0Z	16,047	6.98	1995
1996	234,480	0	3.58	3.50	7.08	16,601	0	6,569	10,332	6,860	15,680	0	196,000	0	5.1Z	16,601	7.08	1996
1997	239,307	0	3.58	3.60	7.18	17,182	0	6,832	10,950	6,860	15,680	0	196,000	0	5.3Z	17,182	7.18	1997
1998	244,334	0	3.58	3.80	7.38	18,032	0	7,105	10,926	6,860	15,680	0	196,000	0	5.6Z	18,032	7.38	1998
1999	249,609	0	3.58	3.90	7.48	18,671	0	7,390	11,281	6,860	15,680	0	196,000	0	5.8Z	18,671	7.48	1999
2000	255,139	0	3.58	4.10	7.68	19,595	0	7,685	11,910	6,860	15,680	0	196,000	0	6.1Z	19,595	7.68	2000
2001	259,398	0	3.58	4.30	7.88	20,441	0	7,993	12,448	6,860	15,680	0	196,000	0	6.4Z	20,441	7.88	2001
2002	261,039	0	3.58	4.50	8.08	21,092	0	8,312	12,780	6,860	15,680	0	196,000	0	6.5Z	21,092	8.08	2002
2003	262,733	0	3.58	4.70	8.28	21,754	0	8,645	13,110	6,860	15,680	0	196,000	0	6.7Z	21,754	8.28	2003
2004	264,500	0	3.58	5.00	8.58	22,694	0	8,991	13,704	6,860	15,680	0	196,000	0	7.0Z	22,694	8.58	2004
2005	266,342	0	3.58	5.30	8.88	23,651	0	9,350	14,301	6,860	15,680	0	196,000	0	7.3Z	23,651	8.88	2005
2006	268,260	0	3.58	5.60	9.18	24,626	0	9,724	14,902	6,860	15,680	0	196,000	0	7.6Z	24,626	9.18	2006
2007	270,261	0	3.58	5.90	9.48	25,621	0	10,113	15,508	6,860	15,680	0	196,000	0	7.9Z	25,621	9.48	2007
2008	272,347	0	3.58	6.30	9.88	26,908	0	10,518	16,390	6,860	15,680	710	196,000	0	8.0Z	26,908	9.88	2008
2009	274,521	0	3.58	6.60	10.18	27,946	0	10,938	17,008	6,860	15,680	1,328	195,290	0	8.0Z	27,946	10.18	2009
2010	276,787	0	3.58	7.00	10.58	29,284	0	11,376	17,908	6,835	15,623	2,285	193,962	0	8.1Z	29,284	10.58	2010
2011	279,149	0	3.58	7.40	10.98	30,651	0	11,831	18,820	6,789	15,517	3,303	191,677	0	8.1Z	30,651	10.98	2011
2012	281,611	0	3.58	7.80	11.38	32,047	0	12,304	19,743	6,709	15,334	4,409	189,375	0	8.1Z	32,047	11.38	2012
2013	284,178	0	3.58	8.30	11.88	33,760	0	12,796	20,964	6,593	15,070	5,894	183,966	0	8.2Z	33,760	11.88	2013
2014	286,853	0	3.58	8.70	12.28	35,225	0	13,308	21,917	6,439	14,717	7,200	178,072	0	8.3Z	35,225	12.28	2014
2015	289,642	0	3.58	9.20	12.78	37,016	0	13,841	23,176	6,233	14,246	8,930	170,872	0	8.3Z	37,016	12.78	2015
2016	292,548	0	3.58	9.70	13.28	38,850	0	14,394	24,456	5,981	13,670	10,786	161,942	0	8.4Z	38,850	13.28	2016
2017	295,578	0	3.58	10.09	13.67	40,400	0	14,970	25,430	5,668	12,955	12,474	151,155	0	8.6Z	40,400	13.67	2017
2018	298,736	0	3.58	10.49	14.07	42,037	0	15,569	26,468	5,290	12,092	14,376	138,681	0	8.7Z	42,037	14.07	2018
2019	302,028	0	3.58	10.91	14.49	43,767	0	16,192	27,576	4,854	11,094	16,481	124,305	0	8.9Z	43,767	14.49	2019
2020	305,460	0	3.58	11.35	14.93	45,598	0	16,839	28,759	4,351	9,944	18,814	107,824	0	9.2Z	45,598	14.93	2020
2021	309,038	0	3.58	11.80	15.38	47,535	0	17,513	30,022	3,774	8,626	21,396	89,010	0	9.7Z	47,535	15.38	2021
2022	312,766	0	3.58	12.27	15.85	49,585	0	18,213	31,371	3,115	7,121	24,251	67,614	0	10.5Z	49,585	15.85	2022
2023	316,652	0	3.58	12.76	16.34	51,755	0	18,942	32,814	2,366	5,409	27,404	43,363	0	12.5Z	51,755	16.34	2023
2024	320,704	0	3.58	13.28	16.86	54,055	0	19,699	34,356	1,518	3,469	15,959	15,959	0	21.7Z	54,055	16.86	2024
2025	324,927	0	3.58	13.81	17.39	56,492	0	20,487	36,005	559	0	0	0	0	ERR	20,487	6.31	2025
2026	329,329	0	3.58	14.36	17.94	59,076	0	21,307	37,769	0	0	0	0	0	ERR	21,307	6.47	2026
2027	333,917	0	3.58	14.93	18.51	61,817	0	22,159	39,658	0	0	0	0	0	ERR	22,159	6.64	2027
2028	338,701	0	3.58	15.53	19.11	64,726	0	23,046	41,680	0	0	0	0	0	ERR	23,046	6.80	2028
2029	340,746	0	3.58	16.15	19.73	67,233	0	23,967	43,266	0	0	0	0	0	ERR	23,967	7.03	2029
2030	340,746	0	3.58	16.80	20.38	69,435	0	24,926	44,509	0	0	0	0	0	ERR	24,926	7.32	2030
2031	340,746	0	3.58	17.47	21.05	71,724	0	25,923	45,801	0	0	0	0	0	ERR	25,923	7.61	2031
2032	340,746	0	3.58	18.17	21.75	74,105	0	26,960	47,145	0	0	0	0	0	ERR	26,960	7.91	2032
2033	340,746	0	3.58	18.89	22.47	76,581	0	28,038	48,543	0	0	0	0	0	ERR	28,038	8.22	2033
2034	340,746	0	3.58	19.65	23.23	79,157	0	29,160	49,997	0	0	0	0	0	ERR	29,160	8.56	2034
2035	340,746	0	3.58	20.44	24.02	81,835	0	30,326	51,509	0	0	0	0	0	ERR	30,326	8.90	2035
2036	340,746	0	3.58	21.25	24.83	84,621	0	31,539	53,081	0	0	0	0	0	ERR	31,539	9.26	2036
2037	340,746	0	3.58	22.10	25.68	87,517	0	32,801	54,716	0	0	0	0	0	ERR	32,801	9.67	2037

14,424,764 0 1,974,266 0 741,877 1,232,389 241,712 551,208 196,000 6,310,065 7,440 6.0Z 1,384,799																		

Loan Principal (\$=000's) \$196,000
 O & M Inflation Rate 6.00%
 Rate of Return Floor 3.50%
 Rate of Return Ceiling 8.00%
 Change in Base Load Forecast 0.00%

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YEAR	FORECAST SALES (MMH)		DEBT SVC RATE (CENTS/KWH)	O & M RATE (CENTS/KWH)	TOTAL RATE (CENTS/KWH)	INITIAL REVENUE (\$=000's)	ADDITIONAL REVENUE (\$=000's)	O&M EXPENSE (\$=000's)	BALANCE REMAINING FOR DEBT SV (\$=000's)	MINIMUM RETURN (FLOOR) (\$=000's)	MAXIMUM RETURN (CEILING) (\$=000's)	ACTUAL PRINCIPAL RETIREMENT (\$=000's)	NEW PRINCIPAL BALANCE (\$=000's)	ADDITIONAL CAPITAL REQUIRED (\$=000's)	ACTUAL RATE OF RETURN (%)	TOTAL REVENUE REQUIREMENT (\$=000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR		
	A	B																	C	D
1986	181,496	0	2.64	2.30	4.94	8,966	0	4,438	4,528	6,860	15,680	0	196,000	2,332	0	3.5%	10,116	5.57	1986	
1987	191,437	0	2.64	2.80	5.44	10,414	0	4,704	5,710	6,860	15,680	0	196,000	1,150	0	3.5%	11,027	5.76	1987	
1988	199,181	0	2.84	2.80	5.64	11,234	0	4,987	6,247	6,860	15,680	0	196,000	613	0	3.5%	11,234	5.64	1988	
1989	206,042	0	3.19	2.90	6.09	12,548	0	5,286	7,262	6,860	15,680	0	196,000	0	0	3.7%	12,548	6.09	1989	
1990	212,994	0	3.58	2.90	6.48	13,802	0	5,603	8,199	6,860	15,680	0	196,000	0	0	4.2%	13,802	6.48	1990	
1991	219,067	0	3.58	3.00	6.58	14,415	0	5,939	8,476	6,860	15,680	0	196,000	0	0	4.3%	14,415	6.58	1991	
1992	226,907	0	3.58	3.10	6.68	15,157	0	6,295	8,862	6,860	15,680	0	196,000	0	0	4.5%	15,157	6.68	1992	
1993	236,183	0	3.58	3.20	6.78	16,013	0	6,673	9,340	6,860	15,680	0	196,000	0	0	4.8%	16,013	6.78	1993	
1994	245,893	0	3.58	3.30	6.88	16,917	0	7,073	9,844	6,860	15,680	0	196,000	0	0	5.0%	16,917	6.88	1994	
1995	255,439	0	3.58	3.40	6.98	17,830	0	7,498	10,332	6,860	15,680	0	196,000	0	0	5.3%	17,830	6.98	1995	
1996	260,533	0	3.58	3.50	7.08	18,446	0	7,948	10,498	6,860	15,680	0	196,000	0	0	5.4%	18,446	7.08	1996	
1997	265,897	0	3.58	3.60	7.18	19,091	0	8,425	10,667	6,860	15,680	0	196,000	0	0	5.4%	19,091	7.18	1997	
1998	271,482	0	3.58	3.80	7.38	20,035	0	8,930	11,105	6,860	15,680	0	196,000	0	0	5.7%	20,035	7.38	1998	
1999	277,343	0	3.58	3.90	7.48	20,745	0	9,466	11,279	6,860	15,680	0	196,000	0	0	5.8%	20,745	7.48	1999	
2000	283,488	0	3.58	4.10	7.68	21,772	0	10,034	11,738	6,860	15,680	0	196,000	0	0	6.0%	21,772	7.68	2000	
2001	288,220	0	3.58	4.30	7.88	22,712	0	10,636	12,076	6,860	15,680	0	196,000	0	0	6.2%	22,712	7.88	2001	
2002	290,043	0	3.58	4.50	8.08	23,435	0	11,274	12,161	6,860	15,680	0	196,000	0	0	6.2%	23,435	8.08	2002	
2003	291,926	0	3.58	4.70	8.28	24,171	0	11,951	12,221	6,860	15,680	0	196,000	0	0	6.2%	24,171	8.28	2003	
2004	293,889	0	3.58	5.00	8.58	25,216	0	12,668	12,548	6,860	15,680	0	196,000	0	0	6.4%	25,216	8.58	2004	
2005	295,935	0	3.58	5.30	8.88	26,279	0	13,428	12,851	6,860	15,680	0	196,000	0	0	6.6%	26,279	8.88	2005	
2006	298,067	0	3.58	5.60	9.18	27,363	0	14,233	13,129	6,860	15,680	0	196,000	0	0	6.7%	27,363	9.18	2006	
2007	300,290	0	3.58	5.90	9.48	28,467	0	15,087	13,380	6,860	15,680	0	196,000	0	0	6.8%	28,467	9.48	2007	
2008	302,608	0	3.58	6.30	9.88	29,898	0	15,992	13,905	6,860	15,680	0	196,000	0	0	7.1%	29,898	9.88	2008	
2009	305,023	0	3.58	6.60	10.18	31,051	0	16,952	14,099	6,860	15,680	0	196,000	0	0	7.2%	31,051	10.18	2009	
2010	307,541	0	3.58	7.00	10.58	32,538	0	17,969	14,569	6,860	15,680	0	196,000	0	0	7.4%	32,538	10.58	2010	
2011	310,165	0	3.58	7.40	10.98	34,056	0	19,047	15,009	6,860	15,680	0	196,000	0	0	7.7%	34,056	10.98	2011	
2012	312,901	0	3.58	7.80	11.38	35,608	0	20,190	15,418	6,860	15,680	0	196,000	0	0	7.9%	35,608	11.38	2012	
2013	315,753	0	3.58	8.30	11.88	37,511	0	21,402	16,110	6,860	15,680	430	196,000	0	0	8.0%	37,511	11.88	2013	
2014	318,725	0	3.58	8.70	12.28	39,139	0	22,686	16,454	6,860	15,680	774	195,570	0	0	8.0%	39,139	12.28	2014	
2015	321,824	0	3.58	9.20	12.78	41,129	0	24,047	17,082	6,845	15,646	1,417	194,796	0	0	8.0%	41,129	12.78	2015	
2016	325,053	0	3.58	9.70	13.28	43,167	0	25,490	17,677	6,818	15,584	2,094	193,360	0	0	8.1%	43,167	13.28	2016	
2017	328,420	0	3.58	10.09	13.67	44,888	0	27,019	17,869	6,768	15,469	2,401	191,266	0	0	8.1%	44,888	13.67	2017	
2018	331,929	0	3.58	10.49	14.07	46,707	0	28,640	18,067	6,694	15,301	2,766	188,865	0	0	8.1%	46,707	14.07	2018	
2019	335,587	0	3.58	10.91	14.49	48,631	0	30,359	18,272	6,610	15,109	3,163	186,099	0	0	8.1%	48,631	14.49	2019	
2020	339,400	0	3.58	11.35	14.93	50,664	0	32,180	18,484	6,513	14,888	3,596	182,936	0	0	8.1%	50,664	14.93	2020	
2021	343,375	0	3.58	11.80	15.38	52,816	0	34,111	18,705	6,403	14,635	4,071	179,340	0	0	8.2%	52,816	15.38	2021	
2022	347,518	0	3.58	12.27	15.85	55,094	0	36,158	18,937	6,277	14,347	4,589	175,269	0	0	8.2%	55,094	15.85	2022	
2023	351,836	0	3.58	12.76	16.34	57,506	0	38,327	19,179	6,134	14,022	5,157	170,680	0	0	8.2%	57,506	16.34	2023	
2024	356,338	0	3.58	13.28	16.86	60,061	0	40,627	19,435	5,974	13,654	5,780	165,523	0	0	8.2%	60,061	16.86	2024	
2025	361,030	0	3.58	13.81	17.39	62,769	0	43,064	19,705	5,793	13,242	6,463	159,742	0	0	8.3%	62,769	17.39	2025	
2026	365,921	0	3.58	14.36	17.94	65,640	0	45,648	19,992	5,591	12,779	7,213	153,279	0	0	8.3%	65,640	17.94	2026	
2027	371,019	0	3.58	14.93	18.51	68,686	0	48,387	20,299	5,365	12,262	8,036	146,066	0	0	8.4%	68,686	18.51	2027	
2028	376,334	0	3.58	15.53	19.11	71,917	0	51,290	20,627	5,112	11,685	8,942	138,030	0	0	8.5%	71,917	19.11	2028	
2029	378,607	0	3.58	16.15	19.73	74,704	0	54,368	20,336	4,831	11,042	9,294	129,088	0	0	8.6%	74,704	19.73	2029	
2030	378,607	0	3.58	16.80	20.38	77,150	0	57,630	19,520	4,518	10,327	9,193	119,794	0	0	8.6%	77,150	20.38	2030	
2031	378,607	0	3.58	17.47	21.05	79,694	0	61,087	18,606	4,193	9,584	9,023	110,601	0	0	8.7%	79,694	21.05	2031	
2032	378,607	0	3.58	18.17	21.75	82,339	0	64,753	17,587	3,871	8,848	8,738	101,578	0	0	8.7%	82,339	21.75	2032	
2033	378,607	0	3.58	18.89	22.47	85,091	0	68,638	16,453	3,555	8,126	8,327	92,840	0	0	8.8%	85,091	22.47	2033	
2034	378,607	0	3.58	19.65	23.23	87,952	0	72,756	15,196	3,249	7,427	7,769	84,513	0	0	8.8%	87,952	23.23	2034	
2035	378,607	0	3.58	20.44	24.02	90,928	0	77,121	13,807	2,958	6,761	7,045	76,745	0	0	8.8%	90,928	24.02	2035	
2036	378,607	0	3.58	21.25	24.83	94,023	0	81,749	12,274	2,686	6,140	6,135	69,699	0	0	8.8%	94,023	24.83	2036	
2037	378,607	0	3.58	22.10	25.68	97,242	0	86,654	10,588	2,439	5,576	5,012	63,564	0	0	8.8%	97,242	25.68	2037	
													137,448	0.951,246	4,095	5.4%	2,195,392			

16,027,515

2,193,629

1,456,913

736,716

318,129

727,175

Loan Principal (\$=000's) \$196,000
 O & M Inflation Rate 8.00Z
 Rate of Return Floor 3.50Z
 Rate of Return Ceiling 8.00Z
 Change in Base Load Forecast 0.00Z

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YEAR	FORECAST SALES (MWH)	ADDITIONAL SALES (MWH)	DEBT SVC RATE (CENTS/KWH)	O & M RATE (CENTS/KWH)	TOTAL RATE (CENTS/KWH)	INITIAL REVENUE STREAM (\$=000's)	ADDITIONAL REVENUE (\$=000's)	O&M EXPENSE (\$=000's)	BALANCE REMAINING FOR DEBT SV (\$=000's)	MINIMUM RETURN (FLOOR) (\$=000's)	MAXIMUM RETURN (CEILING) (\$=000's)	ACTUAL PRINCIPAL RETIREMENT (\$=000's)	NEW PRINCIPAL BALANCE (\$=000's)	ADDITIONAL CAPITAL REQUIRED (\$=000's)	ACTUAL RATE OF RETURN (%)	TOTAL REVENUE REQUIREMENT (\$=000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR											
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S											
1986	181,496	0	2.64	2.30	4.94	8,966	0	4,438	4,528	6,860	15,680	0	196,000	2,332	3.5Z	10,205	5.62	1986											
1987	191,437	0	2.64	2.80	5.44	10,414	0	4,793	5,621	6,860	15,680	0	196,000	1,239	3.5Z	11,217	5.86	1987											
1988	199,181	0	2.84	2.80	5.64	11,234	0	5,176	6,057	6,860	15,680	0	196,000	803	3.5Z	11,234	5.64	1988											
1989	206,042	0	3.19	2.90	6.09	12,548	0	5,591	6,957	6,860	15,680	0	196,000	0	3.5Z	12,548	6.09	1989											
1990	212,994	0	3.58	2.90	6.48	13,802	0	6,038	7,764	6,860	15,680	0	196,000	0	4.0Z	13,802	6.48	1990											
1991	219,067	0	3.58	3.00	6.58	14,415	0	6,521	7,894	6,860	15,680	0	196,000	0	4.0Z	14,415	6.58	1991											
1992	226,907	0	3.58	3.10	6.68	15,157	0	7,043	8,115	6,860	15,680	0	196,000	0	4.1Z	15,157	6.68	1992											
1993	236,183	0	3.58	3.20	6.78	16,013	0	7,606	8,407	6,860	15,680	0	196,000	0	4.3Z	16,013	6.78	1993											
1994	245,893	0	3.58	3.30	6.88	16,917	0	8,214	8,703	6,860	15,680	0	196,000	0	4.4Z	16,917	6.88	1994											
1995	255,439	0	3.58	3.40	6.98	17,830	0	8,872	8,958	6,860	15,680	0	196,000	0	4.6Z	17,830	6.98	1995											
1996	260,533	0	3.58	3.50	7.08	18,446	0	9,581	8,864	6,860	15,680	0	196,000	0	4.5Z	18,446	7.08	1996											
1997	265,897	0	3.58	3.60	7.18	19,091	0	10,348	8,744	6,860	15,680	0	196,000	0	4.5Z	19,091	7.18	1997											
1998	271,482	0	3.58	3.80	7.38	20,035	0	11,176	8,860	6,860	15,680	0	196,000	0	4.5Z	20,035	7.38	1998											
1999	277,343	0	3.58	3.90	7.48	20,745	0	12,070	8,676	6,860	15,680	0	196,000	0	4.4Z	20,745	7.48	1999											
2000	283,498	0	3.58	4.10	7.68	21,772	0	13,035	8,737	6,860	15,680	0	196,000	0	4.5Z	21,772	7.68	2000											
2001	288,220	0	3.58	4.30	7.88	22,712	0	14,078	8,634	6,860	15,680	0	196,000	0	4.4Z	22,712	7.88	2001											
2002	290,043	0	3.58	4.50	8.08	23,435	0	15,204	8,231	6,860	15,680	0	196,000	0	4.2Z	23,435	8.08	2002											
2003	291,926	0	3.58	4.70	8.28	24,171	0	16,421	7,751	6,860	15,680	0	196,000	0	4.0Z	24,171	8.28	2003											
2004	293,889	0	3.58	5.00	8.58	25,216	0	17,734	7,481	6,860	15,680	0	196,000	0	3.8Z	25,216	8.58	2004											
2005	295,935	0	3.58	5.30	8.88	26,279	0	19,153	7,126	6,860	15,680	0	196,000	0	3.6Z	26,279	8.94	2005											
2006	298,067	0	3.58	5.60	9.18	27,363	0	20,685	6,677	6,860	15,680	0	196,000	183	3.5Z	28,095	9.43	2006											
2007	300,290	0	3.58	5.90	9.48	28,467	0	22,340	6,127	6,860	15,680	0	196,000	733	3.5Z	29,557	9.84	2007											
2008	302,698	0	3.58	6.30	9.88	29,898	0	24,127	5,770	6,860	15,680	0	196,000	1,090	3.5Z	31,764	10.50	2008											
2009	305,023	0	3.58	6.60	10.18	31,051	0	26,058	4,994	6,860	15,680	0	196,000	1,866	3.5Z	33,516	10.99	2009											
2010	307,541	0	3.58	7.00	10.58	32,538	0	28,142	4,396	6,860	15,680	0	196,000	2,464	3.5Z	35,735	11.62	2010											
2011	310,165	0	3.58	7.40	10.98	34,056	0	30,394	3,663	6,860	15,680	0	196,000	3,197	3.5Z	38,133	12.29	2011											
2012	312,901	0	3.58	7.80	11.38	35,608	0	32,825	2,783	6,860	15,680	0	196,000	4,077	3.5Z	40,408	12.91	2012											
2013	315,753	0	3.58	8.30	11.88	37,511	0	35,451	2,060	6,860	15,680	0	196,000	4,800	3.5Z	43,519	13.78	2013											
2014	318,725	0	3.58	8.70	12.28	39,139	0	38,287	852	6,860	15,680	0	196,000	6,008	3.5Z	45,999	14.43	2014											
2015	321,824	0	3.58	9.20	12.78	41,129	0	41,350	0	6,860	15,680	0	196,000	6,860	3.5Z	47,989	14.91	2015											
2016	325,053	0	3.58	9.70	13.28	43,167	0	44,658	0	6,860	15,680	0	196,000	6,860	3.5Z	50,027	15.39	2016											
2017	328,420	0	3.58	10.09	13.67	44,888	0	48,231	0	6,860	15,680	0	196,000	6,860	3.5Z	51,748	15.76	2017											
2018	331,929	0	3.58	10.49	14.07	46,707	0	52,089	0	6,860	15,680	0	196,000	6,860	3.5Z	53,567	16.14	2018											
2019	335,587	0	3.58	10.91	14.49	48,631	0	56,256	0	6,860	15,680	0	196,000	6,860	3.5Z	55,491	16.54	2019											
2020	339,400	0	3.58	11.35	14.93	50,664	0	60,757	0	6,860	15,680	0	196,000	6,860	3.5Z	57,524	16.95	2020											
2021	343,375	0	3.58	11.80	15.38	52,816	0	65,617	0	6,860	15,680	0	196,000	6,860	3.5Z	59,676	17.38	2021											
2022	347,518	0	3.58	12.27	15.85	55,094	0	70,867	0	6,860	15,680	0	196,000	6,860	3.5Z	61,954	17.83	2022											
2023	351,836	0	3.58	12.76	16.34	57,506	0	76,536	0	6,860	15,680	0	196,000	6,860	3.5Z	64,366	18.29	2023											
2024	356,338	0	3.58	13.28	16.86	60,061	0	82,659	0	6,860	15,680	0	196,000	6,860	3.5Z	66,921	18.78	2024											
2025	361,030	0	3.58	13.81	17.39	62,789	0	89,272	0	6,860	15,680	0	196,000	6,860	3.5Z	69,629	19.29	2025											
2026	365,921	0	3.58	14.36	17.94	65,640	0	96,413	0	6,860	15,680	0	196,000	6,860	3.5Z	72,500	19.81	2026											
2027	371,019	0	3.58	14.93	18.51	68,686	0	104,127	0	6,860	15,680	0	196,000	6,860	3.5Z	75,546	20.36	2027											
2028	376,334	0	3.58	15.53	19.11	71,917	0	112,457	0	6,860	15,680	0	196,000	6,860	3.5Z	78,777	20.93	2028											
2029	378,607	0	3.58	16.15	19.73	74,704	0	121,453	0	6,860	15,680	0	196,000	6,860	3.5Z	81,564	21.54	2029											
2030	378,607	0	3.58	16.80	20.38	77,150	0	131,169	0	6,860	15,680	0	196,000	6,860	3.5Z	84,010	22.19	2030											
2031	378,607	0	3.58	17.47	21.05	79,694	0	141,663	0	6,860	15,680	0	196,000	6,860	3.5Z	86,554	22.86	2031											
2032	378,607	0	3.58	18.17	21.75	82,339	0	152,996	0	6,860	15,680	0	196,000	6,860	3.5Z	89,199	23.56	2032											
2033	378,607	0	3.58	18.89	22.47	85,091	0	165,236	0	6,860	15,680	0	196,000	6,860	3.5Z	91,951	24.29	2033											
2034	378,607	0	3.58	19.65	23.23	87,952	0	178,455	0	6,860	15,680	0	196,000	6,860	3.5Z	94,812	25.04	2034											
2035	378,607	0	3.58	20.44	24.02	90,928	0	192,731	0	6,860	15,680	0	196,000	6,860	3.5Z	97,788	25.81	2035											
2036	378,607	0	3.58	21.25	24.83	94,023	0	208,149	0	6,860	15,680	0	196,000	6,860	3.5Z	100,883	26.65	2036											
2037	378,607	0	3.58	22.10	25.68	97,242	0	224,801	0	6,860	15,680	0	196,000	6,860	3.5Z	97,242	25.68	2037											
												0	10,192,000	186,571	0.0Z	2,377,868													
												16,027,515	0				2,193,629	0	2,979,343	193,430	356,720	815,360							

Loan Principal (\$MM) 51
 D & M Inflation Rate 4.00%
 Rate of Return Floor 8.00%
 Rate of Return Ceiling 8.00%
 Change in Base Load Forecast 0.00%

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YEAR	FORECAST SALES		DEBT SVC RATE	D & M RATE	TOTAL RATE	INITIAL	BALANCE	MINIMUM	MAXIMUM	ACTUAL PRINCIPAL RETIREMENT	NEW PRINCIPAL BALANCE	ADDITIONAL CAPITAL REQUIRED	ACTUAL RATE OF RETURN (%)	TOTAL REVENUE REQUIREMENT (\$'000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR		
	(MMH)	ADDITIONAL SALES (MMH)				REVENUE STREAM (\$'000's)	REMAINING FOR DEBT SV (\$'000's)	RETURN (FLOOR) (\$'000's)	RETURN (CEILING) (\$'000's)									
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
1986	181,496	0	2.64	2.30	4.94	8,966	0	4,438	4,528	15,680	15,680	0	196,000	11,152	8.0%	18,847	10.38	1986
1987	191,437	0	2.64	2.80	5.44	10,414	0	4,616	5,799	15,680	15,680	0	196,000	9,881	8.0%	19,661	10.27	1987
1988	199,181	0	2.84	2.80	5.64	11,234	0	4,800	6,434	15,680	15,680	0	196,000	9,246	8.0%	19,358	9.72	1988
1989	206,042	0	3.19	2.90	6.09	12,548	0	4,992	7,556	15,680	15,680	0	196,000	8,124	8.0%	19,618	9.52	1989
1990	212,994	0	3.58	2.90	6.48	13,802	0	5,192	8,610	15,680	15,680	0	196,000	7,070	8.0%	20,467	9.61	1990
1991	219,067	0	3.58	3.00	6.58	14,415	0	5,400	9,015	15,680	15,680	0	196,000	6,665	8.0%	20,553	9.58	1991
1992	226,907	0	3.58	3.10	6.68	15,157	0	5,615	9,542	15,680	15,680	0	196,000	6,138	8.0%	20,664	9.11	1992
1993	236,183	0	3.58	3.20	6.78	16,013	0	5,840	10,173	15,680	15,680	0	196,000	5,507	8.0%	20,849	8.83	1993
1994	245,893	0	3.58	3.30	6.88	16,917	0	6,074	10,844	15,680	15,680	0	196,000	4,836	8.0%	21,084	8.57	1994
1995	255,439	0	3.58	3.40	6.98	17,830	0	6,317	11,513	15,680	15,680	0	196,000	4,167	8.0%	21,633	8.47	1995
1996	265,533	0	3.58	3.50	7.08	18,446	0	6,569	11,876	15,680	15,680	0	196,000	3,804	8.0%	21,866	8.39	1996
1997	265,897	0	3.58	3.60	7.18	19,091	0	6,832	12,259	15,680	15,680	0	196,000	3,421	8.0%	21,841	8.21	1997
1998	271,482	0	3.58	3.80	7.38	20,035	0	7,105	12,910	15,680	15,680	0	196,000	2,750	8.0%	22,360	8.24	1998
1999	277,343	0	3.58	3.90	7.48	20,745	0	7,390	13,356	15,680	15,680	0	196,000	2,324	8.0%	22,339	8.05	1999
2000	283,488	0	3.58	4.10	7.68	21,772	0	7,685	14,087	15,680	15,680	0	196,000	1,593	8.0%	22,733	9.02	2000
2001	288,220	0	3.58	4.30	7.88	22,712	0	7,993	14,719	15,680	15,680	0	196,000	961	8.0%	23,269	8.07	2001
2002	290,043	0	3.58	4.50	8.08	23,435	0	8,312	15,123	15,680	15,680	0	196,000	557	8.0%	23,589	8.13	2002
2003	291,926	0	3.58	4.70	8.28	24,171	0	8,645	15,527	15,680	15,680	0	196,000	153	8.0%	24,171	8.28	2003
2004	293,889	0	3.58	5.00	8.58	25,216	0	8,991	16,225	15,680	15,680	545	196,000	0	8.0%	25,216	8.58	2004
2005	295,975	0	3.58	5.30	8.88	26,279	0	9,350	16,929	15,680	15,680	1,249	195,455	0	8.0%	26,279	8.88	2005
2006	298,067	0	3.58	5.60	9.18	27,363	0	9,724	17,638	15,636	15,636	2,002	194,206	0	8.1%	27,363	9.18	2006
2007	300,290	0	3.58	5.90	9.48	28,467	0	10,113	18,354	15,536	15,536	2,818	192,204	0	8.1%	28,467	9.48	2007
2008	302,608	0	3.58	6.30	9.88	29,898	0	10,518	19,380	15,376	15,376	4,004	189,386	0	8.1%	29,898	9.88	2008
2009	305,023	0	3.58	6.60	10.18	31,051	0	10,938	20,113	15,151	15,151	4,962	185,383	0	8.2%	31,051	10.18	2009
2010	307,541	0	3.58	7.00	10.58	32,538	0	11,376	21,162	14,831	14,831	6,331	180,421	0	8.2%	32,538	10.58	2010
2011	310,165	0	3.58	7.40	10.98	34,056	0	11,831	22,225	14,434	14,434	7,791	174,089	0	8.3%	34,056	10.98	2011
2012	312,901	0	3.58	7.80	11.38	35,608	0	12,304	23,304	13,927	13,927	9,377	166,298	0	8.4%	35,608	11.38	2012
2013	315,753	0	3.58	8.30	11.88	37,511	0	12,796	24,715	13,304	13,304	11,411	156,921	0	8.5%	37,511	11.88	2013
2014	318,725	0	3.58	8.70	12.28	39,139	0	13,308	25,831	12,554	12,554	13,277	145,510	0	8.6%	39,139	12.28	2014
2015	321,824	0	3.58	9.20	12.78	41,129	0	13,841	27,289	11,641	11,641	15,648	132,232	0	8.8%	41,129	12.78	2015
2016	325,053	0	3.58	9.70	13.28	43,167	0	14,394	28,773	10,579	10,579	18,194	116,585	0	9.1%	43,167	13.28	2016
2017	328,420	0	3.58	10.09	13.67	44,888	0	14,970	29,918	9,327	9,327	20,592	98,390	0	9.5%	44,888	13.67	2017
2018	331,929	0	3.58	10.49	14.07	46,707	0	15,569	31,139	7,871	7,871	23,267	77,799	0	10.1%	46,707	14.07	2018
2019	335,587	0	3.58	10.91	14.49	48,631	0	16,192	32,439	6,224	6,224	26,215	54,531	0	11.4%	48,631	14.49	2019
2020	339,400	0	3.58	11.35	14.93	50,664	0	16,839	33,925	4,362	4,362	28,316	28,316	0	15.4%	50,664	14.93	2020
2021	343,375	0	3.58	11.80	15.38	52,816	0	17,513	35,304	2,265	0	0	0	0	ERR	17,513	5.10	2021
2022	347,518	0	3.58	12.27	15.85	55,094	0	18,213	36,881	0	0	0	0	0	ERR	18,213	5.24	2022
2023	351,836	0	3.58	12.76	16.34	57,506	0	18,942	38,564	0	0	0	0	0	ERR	18,942	5.38	2023
2024	356,338	0	3.58	13.28	16.86	60,061	0	19,699	40,362	0	0	0	0	0	ERR	19,699	5.53	2024
2025	361,030	0	3.58	13.81	17.39	62,769	0	20,487	42,282	0	0	0	0	0	ERR	20,487	5.67	2025
2026	365,921	0	3.58	14.36	17.94	65,640	0	21,307	44,333	0	0	0	0	0	ERR	21,307	5.82	2026
2027	371,019	0	3.58	14.93	18.51	68,686	0	22,159	46,526	0	0	0	0	0	ERR	22,159	5.97	2027
2028	376,334	0	3.58	15.53	19.11	71,917	0	23,046	48,872	0	0	0	0	0	ERR	23,046	6.12	2028
2029	378,607	0	3.58	16.15	19.73	74,704	0	23,967	50,736	0	0	0	0	0	ERR	23,967	6.33	2029
2030	378,607	0	3.58	16.80	20.38	77,150	0	24,926	52,224	0	0	0	0	0	ERR	24,926	6.58	2030
2031	378,607	0	3.58	17.47	21.05	79,694	0	25,923	53,770	0	0	0	0	0	ERR	25,923	6.85	2031
2032	378,607	0	3.58	18.17	21.75	82,339	0	26,960	55,379	0	0	0	0	0	ERR	26,960	7.12	2032
2033	378,607	0	3.58	18.89	22.47	85,091	0	28,038	57,052	0	0	0	0	0	ERR	28,038	7.41	2033
2034	378,607	0	3.58	19.65	23.23	87,952	0	29,160	58,792	0	0	0	0	0	ERR	29,160	7.70	2034
2035	378,607	0	3.58	20.44	24.02	90,928	0	30,326	60,602	0	0	0	0	0	ERR	30,326	8.01	2035
2036	378,607	0	3.58	21.25	24.83	94,023	0	31,539	62,483	0	0	0	0	0	ERR	31,539	8.33	2036
2037	378,607	0	3.58	22.10	25.68	97,242	0	32,801	64,441	0	0	0	0	0	ERR	32,801	8.66	2037

16,027,515 0 2,193,629 0 741,877 1,451,752 496,618 494,353 196,000 6,011,726 88,350 0.0% 1,422,224																		

Loan Principal (\$=000's) \$196,000
 O & M Inflation Rate 2.00%
 Rate of Return Floor 3.50%
 Rate of Return Ceiling 8.00%
 Change in Base Load Forecast 0.00%

YEAR	FORECAST	ADDITIONAL	DEBT SVC	O & M	TOTAL	INITIAL	ADDITIONAL	O&M	BALANCE	MINIMUM	MAXIMUM	ACTUAL	NEW	ADDITIONAL	ACTUAL	TOTAL	ACTUAL	YEAR
	SALES	SALES	RATE	RATE	RATE	REVENUE	REVENUE	EXPENSE	REMAINING	RETURN	RETURN	PRINCIPAL	PRINCIPAL	CAPITAL	RATE OF	REVENUE	RATE	
	(MMH)	(MMH)	(CENTS/KWH)	(CENTS/KWH)	(CENTS/KWH)	(\$=000's)	(\$=000's)	(\$=000's)	(\$=000's)	(\$=000's)	(\$=000's)	(\$=000's)	(\$=000's)	(\$=000's)	(%)	(\$=000's)	(CENTS/KWH)	
1986	181,496	0	2.64	2.30	4.94	8,966	0	4,438	4,528	6,860	15,680	0	196,000	2,332	3.5%	9,938	5.48	1986
1987	191,437	0	2.64	2.80	5.44	10,414	0	4,527	5,887	6,860	15,680	0	196,000	973	3.5%	10,658	5.57	1987
1988	199,181	0	2.84	2.80	5.64	11,234	0	4,617	6,617	6,860	15,680	0	196,000	243	3.5%	11,234	5.64	1988
1989	206,042	0	3.19	2.90	6.09	12,548	0	4,710	7,838	6,860	15,680	0	196,000	0	4.0%	12,548	6.09	1989
1990	212,994	0	3.58	2.90	6.48	13,802	0	4,804	8,998	6,860	15,680	0	196,000	0	4.6%	13,802	6.48	1990
1991	219,067	0	3.58	3.00	6.58	14,415	0	4,900	9,515	6,860	15,680	0	196,000	0	4.9%	14,415	6.58	1991
1992	226,907	0	3.58	3.10	6.68	15,157	0	4,998	10,159	6,860	15,680	0	196,000	0	5.2%	15,157	6.68	1992
1993	236,183	0	3.58	3.20	6.78	16,013	0	5,098	10,915	6,860	15,680	0	196,000	0	5.6%	16,013	6.78	1993
1994	245,893	0	3.58	3.30	6.88	16,917	0	5,200	11,718	6,860	15,680	0	196,000	0	6.0%	16,917	6.88	1994
1995	255,439	0	3.58	3.40	6.98	17,830	0	5,304	12,526	6,860	15,680	0	196,000	0	6.4%	17,830	6.98	1995
1996	265,533	0	3.58	3.50	7.08	18,446	0	5,410	13,036	6,860	15,680	0	196,000	0	6.7%	18,446	7.08	1996
1997	275,897	0	3.58	3.60	7.18	19,091	0	5,518	13,573	6,860	15,680	0	196,000	0	6.9%	19,091	7.18	1997
1998	271,482	0	3.58	3.80	7.38	20,035	0	5,628	14,407	6,860	15,680	0	196,000	0	7.4%	20,035	7.38	1998
1999	277,343	0	3.58	3.90	7.48	20,745	0	5,741	15,004	6,860	15,680	0	196,000	0	7.7%	20,745	7.48	1999
2000	283,488	0	3.58	4.10	7.68	21,772	0	5,856	15,916	6,860	15,680	236	196,000	0	8.0%	21,772	7.68	2000
2001	288,220	0	3.58	4.30	7.88	22,712	0	5,973	16,739	6,860	15,680	1,059	195,764	0	8.0%	22,712	7.88	2001
2002	290,043	0	3.58	4.50	8.08	23,435	0	6,092	17,343	6,860	15,680	1,682	194,705	0	8.0%	23,435	8.08	2002
2003	291,926	0	3.58	4.70	8.28	24,171	0	6,214	17,957	6,860	15,680	2,381	193,023	0	8.1%	24,171	8.28	2003
2004	293,889	0	3.58	5.00	8.58	25,216	0	6,339	18,877	6,756	15,442	3,435	190,642	0	8.1%	25,216	8.58	2004
2005	295,935	0	3.58	5.30	8.88	26,279	0	6,465	19,814	6,672	15,251	4,562	187,207	0	8.1%	26,279	8.88	2005
2006	298,067	0	3.58	5.60	9.18	27,363	0	6,595	20,768	6,552	14,977	5,791	182,645	0	8.2%	27,363	9.18	2006
2007	300,290	0	3.58	5.90	9.48	28,467	0	6,727	21,741	6,393	14,612	7,129	176,854	0	8.3%	28,467	9.48	2007
2008	302,608	0	3.58	6.30	9.88	29,898	0	6,861	23,037	6,190	14,148	8,888	169,724	0	8.3%	29,898	9.88	2008
2009	305,023	0	3.58	6.60	10.18	31,051	0	6,998	24,053	5,940	13,578	10,475	160,836	0	8.4%	31,051	10.18	2009
2010	307,541	0	3.58	7.00	10.58	32,538	0	7,138	25,400	5,629	12,867	12,533	150,361	0	8.6%	32,538	10.58	2010
2011	310,165	0	3.58	7.40	10.98	34,056	0	7,281	26,775	5,263	12,029	14,746	137,828	0	8.7%	34,056	10.98	2011
2012	312,901	0	3.58	7.80	11.38	35,608	0	7,427	28,182	4,824	11,026	17,155	123,082	0	9.0%	35,608	11.38	2012
2013	315,753	0	3.58	8.30	11.88	37,511	0	7,575	29,936	4,308	9,847	20,090	105,927	0	9.3%	37,511	11.88	2013
2014	318,725	0	3.58	8.70	12.28	39,139	0	7,727	31,413	3,707	8,474	22,939	85,837	0	9.9%	39,139	12.28	2014
2015	321,824	0	3.58	9.20	12.78	41,129	0	7,881	33,248	3,004	6,867	26,381	62,898	0	10.9%	41,129	12.78	2015
2016	325,053	0	3.58	9.70	13.28	43,167	0	8,039	35,128	2,201	5,032	30,096	36,517	0	13.8%	43,167	13.28	2016
2017	328,420	0	3.58	10.09	13.67	44,888	0	8,200	36,689	1,278	2,921	6,421	6,421	0	45.5%	44,888	13.67	2017
2018	331,929	0	3.58	10.49	14.07	46,707	0	8,364	38,344	275	0	0	0	0	ERR	8,364	2.52	2018
2019	335,587	0	3.58	10.91	14.49	48,631	0	8,531	40,100	0	0	0	0	0	ERR	8,531	2.54	2019
2020	339,400	0	3.58	11.35	14.93	50,664	0	8,701	41,963	0	0	0	0	0	ERR	8,701	2.56	2020
2021	343,375	0	3.58	11.80	15.38	52,816	0	8,876	43,941	0	0	0	0	0	ERR	8,876	2.58	2021
2022	347,518	0	3.58	12.27	15.85	55,094	0	9,053	46,041	0	0	0	0	0	ERR	9,053	2.61	2022
2023	351,836	0	3.58	12.76	16.34	57,506	0	9,234	48,272	0	0	0	0	0	ERR	9,234	2.62	2023
2024	356,338	0	3.58	13.28	16.86	60,061	0	9,419	50,642	0	0	0	0	0	ERR	9,419	2.64	2024
2025	361,030	0	3.58	13.81	17.39	62,769	0	9,607	53,162	0	0	0	0	0	ERR	9,607	2.66	2025
2026	365,921	0	3.58	14.36	17.94	65,640	0	9,799	55,841	0	0	0	0	0	ERR	9,799	2.68	2026
2027	371,019	0	3.58	14.93	18.51	68,686	0	9,995	58,690	0	0	0	0	0	ERR	9,995	2.69	2027
2028	376,334	0	3.58	15.53	19.11	71,917	0	10,195	61,722	0	0	0	0	0	ERR	10,195	2.71	2028
2029	378,607	0	3.58	16.15	19.73	74,704	0	10,399	64,305	0	0	0	0	0	ERR	10,399	2.75	2029
2030	378,607	0	3.58	16.80	20.38	77,150	0	10,607	66,543	0	0	0	0	0	ERR	10,607	2.80	2030
2031	378,607	0	3.58	17.47	21.05	79,694	0	10,819	68,874	0	0	0	0	0	ERR	10,819	2.86	2031
2032	378,607	0	3.58	18.17	21.75	82,339	0	11,036	71,304	0	0	0	0	0	ERR	11,036	2.91	2032
2033	378,607	0	3.58	18.89	22.47	85,091	0	11,256	73,834	0	0	0	0	0	ERR	11,256	2.97	2033
2034	378,607	0	3.58	19.65	23.23	87,952	0	11,481	76,471	0	0	0	0	0	ERR	11,481	3.03	2034
2035	378,607	0	3.58	20.44	24.02	90,928	0	11,711	79,217	0	0	0	0	0	ERR	11,711	3.09	2035
2036	378,607	0	3.58	21.25	24.83	94,023	0	11,945	82,078	0	0	0	0	0	ERR	11,945	3.16	2036
2037	378,607	0	3.58	22.10	25.68	97,242	0	12,184	85,057	0	0	0	0	0	ERR	12,184	3.22	2037

16,027,515 0 2,193,629 0 399,493 1,794,137 192,369 439,188

196,000 5,300,271 3,548 9.7% 988,445

Loan Principal (\$=000's) \$196,000
 O & M Inflation Rate 3.00%
 Rate of Return Floor 3.00%
 Rate of Return Ceiling 8.00%
 Change in Base Load Forecast 0.00%

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YEAR	FORECAST SALES (MMH)		DEBT SVC RATE (CENTS/KWH)	O & M RATE (CENTS/KWH)	TOTAL RATE (CENTS/KWH)	INITIAL REVENUE STREAM (\$=000's)	ADDITIONAL REVENUE (\$=000's)	O&M EXPENSE (\$=000's)	BALANCE REMAINING FOR DEBT SV (\$=000's)	MINIMUM RETURN (FLOOR) (\$=000's)	MAXIMUM RETURN (CEILING) (\$=000's)	ACTUAL PRINCIPAL RETIREMENT (\$=000's)	NEW PRINCIPAL BALANCE (\$=000's)	ADDITIONAL CAPITAL REQUIRED (\$=000's)	ACTUAL RATE OF RETURN (%)	TOTAL REVENUE REQUIREMENT (\$=000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR																
	A	B																	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1986	181,496	0	2.68	2.30	4.98	9,039	0	4,438	4,601	5,880	15,680	0	196,000	1,279	3.02	10,318	5.48	1986																
1987	191,437	0	2.68	2.80	5.48	10,491	0	4,571	5,920	5,880	15,680	0	196,000	0	3.02	10,491	5.48	1987																
1988	199,181	0	2.68	2.80	5.48	10,915	0	4,708	6,207	5,880	15,680	0	196,000	0	3.22	10,915	5.48	1988																
1989	206,042	0	2.68	2.90	5.58	11,497	0	4,850	6,648	5,880	15,680	0	196,000	0	3.42	11,497	5.58	1989																
1990	212,994	0	2.68	2.90	5.58	11,885	0	4,975	6,890	5,880	15,680	0	196,000	0	3.52	11,885	5.58	1990																
1991	219,067	0	2.68	3.00	5.68	12,443	0	5,145	7,298	5,880	15,680	0	196,000	0	3.72	12,443	5.68	1991																
1992	226,907	0	2.68	3.10	5.78	13,115	0	5,299	7,816	5,880	15,680	0	196,000	0	4.02	13,115	5.78	1992																
1993	236,183	0	2.68	3.20	5.88	13,888	0	5,458	8,429	5,880	15,680	0	196,000	0	4.32	13,888	5.88	1993																
1994	245,893	0	2.68	3.30	5.98	14,704	0	5,622	9,082	5,880	15,680	0	196,000	0	4.62	14,704	5.98	1994																
1995	255,439	0	2.68	3.40	6.08	15,531	0	5,791	9,740	5,880	15,680	0	196,000	0	5.02	15,531	6.08	1995																
1996	260,533	0	2.68	3.50	6.18	16,101	0	5,964	10,137	5,880	15,680	0	196,000	0	5.22	16,101	6.18	1996																
1997	265,897	0	2.68	3.60	6.28	16,698	0	6,143	10,555	5,880	15,680	0	196,000	0	5.42	16,698	6.28	1997																
1998	271,482	0	2.68	3.80	6.48	17,592	0	6,328	11,265	5,880	15,680	0	196,000	0	5.72	17,592	6.48	1998																
1999	277,343	0	2.68	3.90	6.58	18,249	0	6,517	11,732	5,880	15,680	0	196,000	0	6.02	18,249	6.58	1999																
2000	283,488	0	2.68	4.10	6.78	19,220	0	6,713	12,508	5,880	15,680	0	196,000	0	6.42	19,220	6.78	2000																
2001	288,220	0	2.68	4.30	6.98	20,118	0	6,914	13,203	5,880	15,680	0	196,000	0	6.72	20,118	6.98	2001																
2002	290,043	0	2.68	4.50	7.18	20,825	0	7,122	13,703	5,880	15,680	0	196,000	0	7.02	20,825	7.18	2002																
2003	291,926	0	2.68	4.70	7.38	21,544	0	7,335	14,209	5,880	15,680	0	196,000	0	7.22	21,544	7.38	2003																
2004	293,889	0	2.68	5.00	7.68	22,571	0	7,555	15,015	5,880	15,680	0	196,000	0	7.72	22,571	7.68	2004																
2005	295,935	0	2.68	5.30	7.98	23,616	0	7,782	15,834	5,880	15,680	154	196,000	0	8.02	23,616	7.98	2005																
2006	298,067	0	2.68	5.60	8.28	24,680	0	8,016	16,664	5,880	15,680	984	195,846	0	8.02	24,680	8.28	2006																
2007	300,290	0	2.68	5.90	8.58	25,765	0	8,256	17,509	5,875	15,668	1,841	194,862	0	8.02	25,765	8.58	2007																
2008	302,608	0	2.68	6.30	8.98	27,174	0	8,504	18,671	5,846	15,589	3,082	193,021	0	8.12	27,174	8.98	2008																
2009	305,023	0	2.68	6.60	9.28	28,306	0	8,759	19,547	5,791	15,442	4,106	189,939	0	8.12	28,306	9.28	2009																
2010	307,541	0	2.68	7.00	9.68	29,770	0	9,022	20,748	5,698	15,195	5,553	185,834	0	8.22	29,770	9.68	2010																
2011	310,165	0	2.68	7.40	10.08	31,265	0	9,292	21,972	5,575	14,867	7,106	180,280	0	8.22	31,265	10.08	2011																
2012	312,901	0	2.68	7.80	10.48	32,792	0	9,571	23,221	5,408	14,422	8,799	173,175	0	8.32	32,792	10.48	2012																
2013	315,753	0	2.68	8.30	10.98	34,670	0	9,858	24,812	5,195	13,854	10,958	164,376	0	8.42	34,670	10.98	2013																
2014	318,725	0	2.68	8.70	11.38	36,271	0	10,154	26,117	4,931	13,150	12,967	153,418	0	8.62	36,271	11.38	2014																
2015	321,824	0	2.68	9.20	11.88	38,233	0	10,458	27,774	4,603	12,273	15,501	140,451	0	8.72	38,233	11.88	2015																
2016	325,053	0	2.68	9.70	12.38	40,242	0	10,772	29,469	4,214	11,236	18,233	124,950	0	9.02	40,242	12.38	2016																
2017	328,420	0	2.68	10.09	12.77	41,933	0	11,095	30,837	3,749	9,996	20,841	106,717	0	9.42	41,933	12.77	2017																
2018	331,929	0	2.68	10.49	13.17	43,720	0	11,428	32,292	3,202	8,531	23,755	85,876	0	9.92	43,720	13.17	2018																
2019	335,587	0	2.68	10.91	13.59	45,610	0	11,771	33,839	2,576	6,870	26,969	62,121	0	11.12	45,610	13.59	2019																
2020	339,400	0	2.68	11.35	14.03	47,610	0	12,124	35,486	1,864	4,970	30,516	35,152	0	14.12	47,610	14.03	2020																
2021	343,375	0	2.68	11.80	14.48	49,726	0	12,488	37,238	1,055	2,812	4,636	4,636	0	60.72	49,726	14.48	2021																
2022	347,518	0	2.68	12.27	14.95	51,966	0	12,863	39,104	139	0	0	0	0	ERR	12,863	3.70	2022																
2023	351,836	0	2.68	12.76	15.44	54,339	0	13,248	41,091	0	0	0	0	0	ERR	13,248	3.77	2023																
2024	356,338	0	2.68	13.28	15.96	56,854	0	13,646	43,208	0	0	0	0	0	ERR	13,646	3.83	2024																
2025	361,030	0	2.68	13.81	16.49	59,520	0	14,055	45,465	0	0	0	0	0	ERR	14,055	3.89	2025																
2026	365,921	0	2.68	14.36	17.04	62,347	0	14,477	47,870	0	0	0	0	0	ERR	14,477	3.96	2026																
2027	371,019	0	2.68	14.93	17.61	65,346	0	14,911	50,435	0	0	0	0	0	ERR	14,911	4.02	2027																
2028	376,334	0	2.68	15.53	18.21	68,530	0	15,359	53,172	0	0	0	0	0	ERR	15,359	4.08	2028																
2029	378,607	0	2.68	16.15	18.83	71,296	0	15,819	55,477	0	0	0	0	0	ERR	15,819	4.18	2029																
2030	378,607	0	2.68	16.80	19.48	73,742	0	16,294	57,448	0	0	0	0	0	ERR	16,294	4.30	2030																
2031	378,607	0	2.68	17.47	20.15	76,286	0	16,785	59,503	0	0	0	0	0	ERR	16,783	4.43	2031																
2032	378,607	0	2.68	18.17	20.85	78,932	0	17,286	61,645	0	0	0	0	0	ERR	17,286	4.57	2032																
2033	378,607	0	2.68	18.89	21.57	81,683	0	17,805	63,878	0	0	0	0	0	ERR	17,805	4.70	2033																
2034	378,607	0	2.68	19.65	22.33	84,545	0	18,339	66,206	0	0	0	0	0	ERR	18,339	4.84	2034																
2035	378,607	0	2.68	20.44	23.12	87,520	0	18,889	68,631	0	0	0	0	0	ERR	18,889	4.99	2035																
2036	378,607	0	2.68	21.25	23.93	90,615	0	19,456	71,160	0	0	0	0	0	ERR	19,456	5.14	2036																
2037	378,607	0	2.68	22.10	24.78	93,834	0	20,039	73,795	0	0	0	0	0	ERR	20,039	5.29	2037																
16,027,515																		0	2,055,165		0	540,888	1,515,077	189,200	504,162	196,000	6,110,656	1,279	9.02	1,157,076				



U.S. DEPARTMENT OF COMMERCE
Economic Development Administration
701 "C" Street, Box 10
Anchorage, Alaska 99513

May 9, 1985

Honorable John L. Sund
District 1-B
The Legislature
State of Alaska
Juneau, Alaska 99811

Dear Representative Sund:

In January, 1985, the Economic Development Administration of the U. S. Department of Commerce authorized the submission of a formal application by the City of Saxman for a grant in the amount of \$550,000, contingent upon a matching State Legislative appropriation in the amount of \$1,245,312 for the construction of a traditional Tribal House (Longhouse).

This project would provide some \$650,000 or more in construction wages to local workers in an area of exceedingly high unemployment. The project, which is part of the Tlingit-Haida Central Council and City of Saxman Overall Economic Development Programs, and is a significant component of tourism development planned within the Ketchikan area, would also employ some 100 local residents during the tourist season through dance performances, cultural interpretation, totem pole and other craft demonstrations, and from food and other sales.

As this appears to be a true economic development project benefitting Southeast Alaska and is one which is revenue producing, I am anxious to see the project succeed.

Because of your indicated support for this project, the City of Saxman has requested that I contact you on the current status. If there is some way in which I may be of assistance in this regard, please let me know.

Sincere best regards,

Bernhard Richert

Bernhard Richert
Economic Development
Representative

Original sponsor: House Special Committee
on State Loans

1
2 IN THE HOUSE

BY THE FINANCE COMMITTEE

3 CS FOR HOUSE BILL NO. 219 (Finance)

4 IN THE LEGISLATURE OF THE STATE OF ALASKA

5 FOURTEENTH LEGISLATURE - FIRST SESSION

6 A BILL

7 For an Act entitled: "An Act relating to the applicability of the Alaska
8 Public Utilities Commission Act to certain electric
9 utilities; power development loans; and the energy
10 program for Alaska."

11 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

12 * Section 1. AS 42.05.711(b) is amended to read:

13 (b) Public utilities owned and operated by a political subdivi-
14 sion of the state and electric operating entities established as an
15 instrumentality of two or more public utilities owned and operated by
16 a political subdivision of the state, none of whose utilities is in
17 competition with any other utility, are exempt from the provisions of
18 this chapter, other than the provisions of AS 42.05.221 - 42.05.281,
19 unless the owner and operator elects to be subject to all provisions
20 of this chapter.

21 * Sec. 2. AS 44.33.620(a) is amended to read:

22 (a) A loan from the fund shall [MUST] be repaid in accordance
23 with the terms that the department determines to be appropriate. In
24 establishing the terms, including provision for a return to the state
25 of an amount in excess of the principal amount of the loan, the de-
26 partment shall consider the revenue that the authority could reason-
27 ably derive from the sale of power from the projects based upon

28 (1) [THE MARKET RATE OF INTEREST FOR A LOAN OF COMPARABLE
29 SIZE AND DURATION AT THE TIME THE LOAN IS MADE; AND

(2)] the [ESTIMATED] costs, at the time the power sales

1
2 agreement is initially negotiated or renegotiated, of alternative
3 sources of energy generation for utilities purchasing power from a
4 project financed with a loan from the fund;

5 (2) the effect of the loan terms on the wholesale power
6 costs to all utilities purchasing power from the initial project;

7 (3) the long-term benefits to consumers and communities of
8 stable wholesale power costs;

9 (4) the affordability of initial wholesale power costs that
10 result from the loan terms with utilities purchasing power from the
11 initial project;

12 (5) increasing repayment, not to exceed five years, of debt
13 service payment per kilowatt hour gradually over the initial period of
14 a loan repayment schedule to the extent necessary to avoid significant
15 rate increases to the consumer;

16 (6) the existing excess capacity of power projects; and

17 (7) the effects of increased capacity utilization, infla-
18 tion, and alternative energy production costs over the life of the
19 initial project.

20 * Sec. 3. AS 44.33.620 is amended by adding a new subsection to read:

21 (d) In (a) of this section "initial project" means the project
22 described in AS 44.83.398(a).

23 * Sec. 4. AS 44.33 is amended by adding a new section to read:

24 Sec. 44.33.625. RATE REOPENERS. A power sales agreement for the
25 sale of power from the initial project, as described in AS 44.83.-
26 398(a), financed with a loan under AS 44.33.610 may include among its
27 provisions an agreed schedule of wholesale power rates notwithstanding
28 the provisions of AS 44.83.398, but must include a provision for a
29 rate reopener.

* Sec. 5. AS 44.83.425(5) is amended to read:

1
2 (5) "qualified utility" means an electric utility or an
3 electric operating entity established as an instrumentality of two or
4 more electric utilities [THAT IS] certified by the Alaska Public
5 Utilities Commission to serve all or part of a market area that is
6 served or will be served by the power project, [AND] that the author-
7 ity determines is capable of operating and maintaining the power
8 project.
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25 of an amount in excess of the principal amount of the loan, the de-
26 partment shall consider the revenue that the authority could reason-
27 ably derive from the sale of power from the projects based upon

28 (1) [THE MARKET RATE OF INTEREST FOR A LOAN OF COMPARABLE
29 SIZE AND DURATION AT THE TIME THE LOAN IS MADE; AND

(2)] the [ESTIMATED] costs, at the time the power sales

1 agreement is initially negotiated or renegotiated, of alternative
2 sources of energy generation for utilities purchasing power from a
3 project financed with a loan from the fund;

4 (2) the effect of the loan terms on the wholesale power
5 costs to all utilities purchasing power from the initial project;

6 (3) the long-term benefits to consumers and communities of
7 stable wholesale power costs;

8 (4) the affordability of initial wholesale power costs that
9 result from the loan terms with utilities purchasing power from the
10 initial project;

11 (5) increasing repayment, not to exceed five years, of debt
12 service payment per kilowatt hour gradually over the initial period of
13 a loan repayment schedule to the extent necessary to avoid significant
14 rate increases to the consumer;

15 (6) the existing excess capacity of power projects; and

16 (7) the effects of increased capacity utilization, infla-
17 tion, and alternative energy production costs over the life of the
18 initial project.

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20 (d) In (a) of this section "initial project" means the project
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25 398(a), financed with a loan under AS 44.33.610 may include among its
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27 the provisions of AS 44.83.398, but must include a provision for a
28 rate reopener.
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3 electric operating entity established as an instrumentality of two or
4 more electric utilities [THAT IS] certified by the Alaska Public
5 Utilities Commission to serve all or part of a market area that is
6 served or will be served by the power project, [AND] that the author-
7 ity determines is capable of operating and maintaining the power
8 project.

AMENDMENT

TO: "Discussion Draft" HB 219

Page 2, Line 23:

Replace Section 4 with:

* Sec. 4. AS 44.33 is amended by adding a new section to read:

Sec. 44.33.²⁵ RATE REOPENERS. A power sales agreement for the sale of power from the initial project financed with a loan under AS 44.33.610 may include among its provisions an agreed schedule of wholesale power rates notwithstanding the provisions of AS 44.83.398 but must include a provision for a rate reopener, after the first 15 years.

PAT

① If this is acceptable we have a deal

② The major issue in .398 is the separate accounting of debt service and O+M.

The ability to avoid .398 will allow them to be ~~as~~ put together in one fixed rate.

③ Harth is discussing issue with your staff

Dave:
The committee and Messers Briggs have agreed to trust Harth and accept Powhite's amendment. Shively assures me Harth has direct support of the governor. S.H.

This looks good to me
let's get a clean COPY - 1/17
talk to Richard & Harth
Pat

~~1005~~

JOHN -

I DON'T LIKE POLICY BASED
ON PERSONALITY, HOWEVER, I WILL
NOT OBJECT IF WE CAN GET ALL
TO SIGN OFF ON IT. BETTER AN
UNDERSTANDING, HOWEVER FLAWED,
THAN NOTHING. CERTAINLY WE
HAVE MADE HEATH REALIZE THE
PRIORITY OF THE ISSUE. I
^{HOPE}
~~GUESS~~ OUR TIME HAS BEEN
WELL SPENT. NOW THE FLOOR FIGHTS
OUT

~~PHASE~~
Thompson
Rosenfeld



KETCHIKAN PUBLIC UTILITIES

334 FRONT STREET

KETCHIKAN, ALASKA 99901

TELEPHONE 907-225-3111

MUNICIPALLY OWNED
ELECTRIC WATER PHONE

April 30, 1985

Representative John Sund
Alaska State Legislature
Pouch B (MS 3100)
Juneau, Alaska 99811

Dear Representative Sund:

Attached is a computer analysis that forms the most promising basis for agreement in our current discussions with the Alaska Power Authority. As we mentioned to John Hartle, this model was proposed by Bob Heath and Gordon Harrison, and grew out of certain reservations expressed by the Power Authority staff in response to a prior proposal that was also made by Gordon Harrison. The model appears to offer an affordable wholesale power rate to the communities and a fair return to the state.

For purposes of comparison, we have also included a printout of the first Harrison proposal. As you can see, that proposal featured an agreed wholesale power rate schedule that was to cover both debt service and operations and maintenance (O & M). Debt service would be funded out of any revenues remaining after O & M was paid. A floor and ceiling rate of return on the state's investment would trigger either increased payments by the communities or an early retirement of principal debt.

The Power Authority staff felt that this type of agreement might be difficult to administer because it would make debt service revenues highly dependent on O & M costs over which they would exercise little control. They were also concerned that it placed the risks of inflation, low loads, and excessive O & M costs squarely on the state, without sufficient incentives to the communities to assure the state of a fair return. Of course the benefits of high loads and lower-than-projected O & M costs would also be enjoyed by the state.

The new proposal has the virtue of simplicity. Each community would pay for O & M at the actual pooled average rate for all four projects, and thus bear much of the risk and benefit of fluctuations in load and cost. In this example, "debt service", or an amount above O & M, would be charged at 2.6 cents/kWh in 1986, rising to 4 cents/kWh by 1990, for all sales up to a particular combined forecast load. Sales above the

Representative John Sund
April 30, 1985
Page Two

forecast would be deemed "incentive sales" and would be charged at 1 cent/kWh less than the regular debt service amount. This lower rate would make it possible to attract large industrial loads, and would give the communities an additional incentive to increase project utilization. Finally, the communities would contribute a total of \$500,000 per year in addition to O & M to build a fund for renewals and replacements.

Because both O & M and debt service would be pooled, the wholesale power rate would be identical for all communities. This makes it possible to market the power from projects with high unit costs of O & M. The pooling of O & M is one reason that a statutory change is required in order to implement this proposal.

The rate of return to the state in this model is primarily sensitive to changes in load. By passing on the benefits of an incentive rate, we believe the communities can market substantial amounts of additional power to potential large loads that would otherwise develop their own diesel generation. The incentive sales increase the rate of return to the state to over 6%. They also lower the effective melded wholesale power rate to the communities. Without incentive sales, the forecast wholesale power rate would face stiff competition from alternative forms of generation, and the return to the state would be substantially lower.

The rate of return to the state is based upon revenues which include interest on reserves and the communities' contribution to the renewal and replacement fund. These are capital costs paid in consideration of the state's risk, and dedicated to the long-term preservation of the state's investment in the projects. The benefit of these funds will extend well beyond the period for which rate certainty will be guaranteed to the communities. We have not attempted to estimate the extent to which these reserves would be drawn down to pay for claims or improvements, or when such costs would be incurred.

The models provided are as follows:

1. Case H1-1 is the original proposal without any large loads.
2. Case H1-2 is the original proposal with large loads added.
3. Case H2-1 is the new proposal without any large loads.
4. Case H2-2 is the new proposal with large loads added.

I hope you will find this information useful evaluating the legislation necessary to implement the proposal. Please let me know if I can provide anything further.

Representative John Sund
April 30, 1985
Page Three

Very truly yours,

KETCHIKAN PUBLIC UTILITIES



Richard D. Newland
Utilities Manager

RDN:LLM

Enclosures

cc: Mayor & City Council
KPU Advisory Board
Doug Rosenberg, PTE&H
Four Dam Pool Members

PRESTON.1
(COM/Z6)
007/B6

Loan Principal (\$=000's)
 O & N Inflation Rate
 Rate of Return Floor
 Rate of Return Ceiling
 Change in Base Load Forecast

\$194,000
 4.00%
 3.50%
 8.00%
 0.00%

Case Number NI-1
 Internal Rate of Return (IRR) 5.9%

30-Apr-65

YEAR	BASELOAD FORECAST		TOTAL			ACTUAL		MINIMUM	MAXIMUM	ACTUAL	NEW	ADDITIONAL	ACTUAL	TOTAL	ACTUAL	YEAR										
	SALES (\$M)	RATE (CENTS/KWH)	REVENUE (\$=000's)	SALES (\$M)	RATE (CENTS/KWH)	REVENUE (\$=000's)	REVENUE (\$=000's)	EXPENSE (\$=000's)	FOR DEBT SV (\$=000's)	RETURN (FLOOR) (\$=000's)	RETURN (CEILING) (\$=000's)	PRINCIPAL RETIREMENT (\$=000's)	PRINCIPAL BALANCE (\$=000's)	CAPITAL REQUIRED (\$=000's)	RATE OF RETURN (%)		REVENUE (\$=000's)	REVENUE (\$=000's)								
1984	181,496	4.94	8,966	0	1.60	0	8,966	4,438	4,528	6,860	15,480	0	196,000	2,332	3.5%	11,298	6.22	1984								
1987	191,417	5.44	10,414	0	1.80	0	10,414	4,616	5,799	6,860	15,480	0	196,000	1,061	3.5%	11,476	5.99	1987								
1988	199,161	5.64	11,254	0	2.20	0	11,254	4,800	6,454	6,860	15,480	0	196,000	426	3.5%	11,660	5.85	1988								
1989	206,042	6.09	12,548	0	2.50	0	12,548	4,992	7,556	6,860	15,480	0	196,000	0	3.9%	12,548	6.09	1989								
1990	212,954	6.48	13,802	0	3.00	0	13,802	5,192	8,610	6,860	15,480	0	196,000	0	4.4%	13,802	6.48	1990								
1991	219,067	6.53	14,415	0	3.00	0	14,415	5,400	9,015	6,860	15,480	0	196,000	0	4.6%	14,415	6.53	1991								
1992	226,907	6.68	15,157	0	3.00	0	15,157	5,615	9,542	6,860	15,480	0	196,000	0	4.9%	15,157	6.68	1992								
1993	236,183	6.78	16,013	0	3.00	0	16,013	5,840	10,173	6,860	15,480	0	196,000	0	5.2%	16,013	6.78	1993								
1994	245,593	6.88	16,917	0	3.00	0	16,917	6,074	10,844	6,860	15,480	0	196,000	0	5.5%	16,917	6.88	1994								
1995	255,439	6.93	17,830	0	3.00	0	17,830	6,317	11,513	6,860	15,480	0	196,000	0	5.9%	17,830	6.93	1995								
1996	265,533	7.08	18,446	0	3.00	0	18,446	6,569	11,876	6,860	15,480	0	196,000	0	6.1%	18,446	7.08	1996								
1997	269,697	7.18	19,091	0	3.00	0	19,091	6,832	12,259	6,860	15,480	0	196,000	0	6.3%	19,091	7.18	1997								
1998	271,462	7.39	20,025	0	3.00	0	20,025	7,105	12,920	6,860	15,480	0	196,000	0	6.6%	20,025	7.39	1998								
1999	277,343	7.48	20,745	0	3.00	0	20,745	7,390	13,356	6,860	15,480	0	196,000	0	6.8%	20,745	7.48	1999								
2000	283,468	7.48	21,772	0	3.00	0	21,772	7,685	14,087	6,860	15,480	0	196,000	0	7.2%	21,772	7.48	2000								
2001	288,220	7.08	22,712	0	3.00	0	22,712	7,993	14,719	6,860	15,480	0	196,000	0	7.5%	22,712	7.08	2001								
2002	290,043	8.18	23,425	0	3.00	0	23,425	8,312	15,123	6,860	15,480	0	196,000	0	7.7%	23,425	8.18	2002								
2003	291,926	8.28	24,171	0	3.00	0	24,171	8,645	15,527	6,860	15,480	0	196,000	0	7.9%	24,171	8.28	2003								
2004	292,669	8.58	25,216	0	3.00	0	25,216	8,991	16,225	6,860	15,480	545	196,000	0	8.0%	25,216	8.58	2004								
2005	295,915	8.88	26,279	0	3.00	0	26,279	9,350	16,929	6,860	15,480	1,249	195,455	0	8.0%	26,279	8.88	2005								
2006	296,067	9.18	27,363	0	3.00	0	27,363	9,724	17,638	6,841	15,426	2,002	194,206	0	8.0%	27,363	9.18	2006								
2007	300,290	9.48	28,467	0	3.00	0	28,467	10,113	18,354	6,797	15,535	2,818	192,204	0	8.0%	28,467	9.48	2007								
2008	302,608	9.88	29,898	0	3.00	0	29,898	10,518	19,180	6,727	15,776	4,004	189,766	0	8.0%	29,898	9.88	2008								
2009	305,023	10.18	31,051	0	3.00	0	31,051	10,938	20,113	6,629	15,151	4,942	185,383	0	8.0%	31,051	10.18	2009								
2010	307,541	10.58	32,578	0	3.00	0	32,578	11,376	21,162	6,489	14,831	6,331	180,421	0	8.0%	32,578	10.58	2010								
2011	310,055	10.98	34,056	0	3.00	0	34,056	11,831	22,225	6,315	14,434	7,791	174,089	0	8.0%	34,056	10.98	2011								
2012	312,561	11.38	35,608	0	3.00	0	35,608	12,304	23,304	6,093	13,927	9,377	166,298	0	8.0%	35,608	11.38	2012								
2013	315,253	11.88	37,511	0	3.00	0	37,511	12,796	24,715	5,820	13,294	11,411	155,921	0	8.0%	37,511	11.88	2013								
2014	318,725	12.28	39,139	0	3.00	0	39,139	13,308	25,851	5,492	12,554	13,277	145,510	0	8.0%	39,139	12.28	2014								
2015	321,824	12.78	41,129	0	3.00	0	41,129	13,841	27,289	5,093	11,641	15,648	132,232	0	8.0%	41,129	12.78	2015								
2016	325,053	13.28	43,167	0	3.00	0	43,167	14,394	28,773	4,628	10,579	18,194	116,585	0	8.0%	43,167	13.28	2016								
2017	328,420	13.67	44,888	0	3.00	0	44,888	14,970	29,918	4,080	9,327	20,592	96,390	0	8.0%	44,888	13.67	2017								
2018	331,929	14.07	46,707	0	3.00	0	46,707	15,569	31,129	3,444	7,871	23,267	77,799	0	8.0%	46,707	14.07	2018								
2019	335,537	14.49	48,631	0	3.00	0	48,631	16,192	32,439	2,723	6,224	26,215	54,521	0	8.0%	48,631	14.49	2019								
2020	339,400	14.92	50,664	0	3.00	0	50,664	16,839	33,825	1,909	4,362	28,316	28,316	0	8.0%	50,664	14.92	2020								
2021	343,325	15.38	52,816	0	3.00	0	52,816	17,513	35,304	991	0	0	0	0	8.0%	52,816	15.38	2021								
2022	347,516	15.85	55,094	0	3.00	0	55,094	18,213	36,891	0	0	0	0	0	8.0%	55,094	15.85	2022								
2023	351,876	16.34	57,506	0	3.00	0	57,506	18,942	38,564	0	0	0	0	0	8.0%	57,506	16.34	2023								
2024	356,378	16.84	60,061	0	3.00	0	60,061	19,699	40,322	0	0	0	0	0	8.0%	60,061	16.84	2024								
2025	361,030	17.39	62,769	0	3.00	0	62,769	20,487	42,282	0	0	0	0	0	8.0%	62,769	17.39	2025								
2026	365,921	17.94	65,640	0	3.00	0	65,640	21,307	44,333	0	0	0	0	0	8.0%	65,640	17.94	2026								
2027	371,019	18.51	68,686	0	3.00	0	68,686	22,159	46,526	0	0	0	0	0	8.0%	68,686	18.51	2027								
2028	376,374	19.11	71,917	0	3.00	0	71,917	23,046	48,872	0	0	0	0	0	8.0%	71,917	19.11	2028								
2029	381,997	19.73	74,704	0	3.00	0	74,704	23,967	50,736	0	0	0	0	0	8.0%	74,704	19.73	2029								
2030	387,807	20.38	77,150	0	3.00	0	77,150	24,926	52,224	0	0	0	0	0	8.0%	77,150	20.38	2030								
2031	393,807	21.05	79,694	0	3.00	0	79,694	25,923	53,770	0	0	0	0	0	8.0%	79,694	21.05	2031								
2032	398,607	21.75	82,339	0	3.00	0	82,339	26,960	55,379	0	0	0	0	0	8.0%	82,339	21.75	2032								
2033	398,607	22.47	85,091	0	3.00	0	85,091	28,038	57,052	0	0	0	0	0	8.0%	85,091	22.47	2033								
2034	398,607	23.21	87,952	0	3.00	0	87,952	29,160	58,792	0	0	0	0	0	8.0%	87,952	23.21	2034								
2035	398,607	24.02	90,928	0	3.00	0	90,928	30,326	60,602	0	0	0	0	0	8.0%	90,928	24.02	2035								
2036	398,607	24.83	94,023	0	3.00	0	94,023	31,539	62,483	0	0	0	0	0	8.0%	94,023	24.83	2036								
2037	398,607	25.68	97,242	0	3.00	0	97,242	32,801	64,441	0	0	0	0	0	8.0%	97,242	25.68	2037								
16,027,515																0	0	2,193,629	741,877	1,451,752	217,270	494,353	196,000	6,011,724	3,820	1,348,846

Loan Principal (\$=1000 \$) 8198,000
 Inflation Rate 4.002
 Internal Rate of Return (IRR) 5.472
 Case Number H2-1

20-Apr-85

YEAR	BASELOAD			ADDITIONAL			TOTAL DEBT SVC (\$=000's)	OPERATIONS & MAINTENANCE				TOTAL COST (\$=000's)	ACTUAL RATE REQUIRED (CENTS/YR)	YEAR						
	SALES (MWH)	RATE (CENTS/YR)	REVENUE (\$=000's)	SALES (MWH)	RATE (CENTS/YR)	REVENUE (\$=000's)		ADMIN (\$=000's)	ON-SITE (\$=000's)	R & R (\$=000's)	TOTAL (\$=000's)				RATE (CENTS/YR)					
1986	181,496	2.6	4,719	0	1.6	0	4,719	863	3,576	500	4,939	2.7	9,658	5.3	1986					
1987	191,457	2.8	5,360	0	1.8	0	5,360	898	3,719	500	5,117	2.7	10,477	5.5	1987					
1988	199,181	3.2	6,374	0	2.2	0	6,374	935	3,868	500	5,301	2.7	11,675	5.9	1988					
1989	206,042	3.5	7,211	0	2.5	0	7,211	971	4,025	500	5,493	2.7	12,705	6.2	1989					
1990	212,994	4.0	8,520	0	3.0	0	8,520	1,010	4,183	500	5,693	2.7	14,213	6.7	1990					
1991	219,067	4.0	8,763	0	3.0	0	8,763	1,050	4,351	500	5,901	2.7	14,663	6.7	1991					
1992	226,907	4.0	9,076	0	3.0	0	9,076	1,092	4,525	500	6,117	2.7	15,193	6.7	1992					
1993	236,185	4.0	9,447	0	3.0	0	9,447	1,136	4,706	500	6,341	2.7	15,789	6.7	1993					
1994	245,893	4.0	9,816	0	3.0	0	9,816	1,181	4,894	500	6,575	2.7	16,411	6.7	1994					
1995	255,439	4.0	10,218	0	3.0	0	10,218	1,228	5,090	500	6,818	2.7	17,036	6.7	1995					
1996	260,533	4.0	10,421	0	3.0	0	10,421	1,277	5,293	500	7,071	2.7	17,492	6.7	1996					
1997	265,897	4.0	10,636	0	3.0	0	10,636	1,329	5,505	500	7,334	2.8	17,970	6.8	1997					
1998	271,462	4.0	10,859	0	3.0	0	10,859	1,382	5,725	500	7,607	2.8	18,466	6.8	1998					
1999	277,247	4.0	11,094	0	3.0	0	11,094	1,437	5,954	500	7,891	2.8	18,985	6.8	1999					
2000	283,468	4.0	11,340	0	3.0	0	11,340	1,494	6,192	500	8,187	2.9	19,526	6.9	2000					
2001	288,320	4.0	11,529	0	3.0	0	11,529	1,554	6,440	500	8,494	2.9	20,023	6.9	2001					
2002	290,842	4.0	11,602	0	3.0	0	11,602	1,616	6,698	500	8,814	3.0	20,416	7.0	2002					
2003	291,926	4.0	11,677	0	3.0	0	11,677	1,681	6,966	500	9,147	3.1	20,824	7.1	2003					
2004	291,829	4.0	11,756	0	3.0	0	11,756	1,748	7,244	500	9,493	3.2	21,248	7.2	2004					
2005	295,935	4.0	11,837	0	3.0	0	11,837	1,818	7,574	500	9,852	3.3	21,690	7.3	2005					
2006	298,067	4.0	11,923	0	3.0	0	11,923	1,891	7,875	500	10,226	3.4	22,149	7.4	2006					
2007	300,290	4.0	12,012	0	3.0	0	12,012	1,967	8,149	500	10,615	3.5	22,627	7.5	2007					
2008	302,608	4.0	12,104	0	3.0	0	12,104	2,045	8,475	500	11,020	3.6	23,124	7.6	2008					
2009	305,022	4.0	12,201	0	3.0	0	12,201	2,127	8,814	500	11,441	3.8	23,642	7.8	2009					
2010	307,541	4.0	12,302	0	3.0	0	12,302	2,212	9,166	500	11,879	3.9	24,180	7.9	2010					
2011	310,165	4.0	12,407	0	3.0	0	12,407	2,301	9,533	500	12,334	4.0	24,740	8.0	2011					
2012	312,901	4.0	12,516	0	3.0	0	12,516	2,393	9,914	500	12,807	4.1	25,323	8.1	2012					
2013	315,753	4.0	12,630	0	3.0	0	12,630	2,488	10,311	500	13,299	4.2	25,929	8.2	2013					
2014	318,725	4.0	12,749	0	3.0	0	12,749	2,588	10,723	500	13,811	4.3	26,560	8.3	2014					
2015	321,824	4.0	12,873	0	3.0	0	12,873	2,691	11,152	500	14,344	4.5	27,217	8.5	2015					
2016	325,052	4.0	13,002	0	3.0	0	13,002	2,799	11,598	500	14,897	4.6	27,900	8.6	2016					
2017	328,420	4.0	13,137	0	3.0	0	13,137	2,911	12,062	500	15,473	4.7	28,610	8.7	2017					
2018	331,929	4.0	13,277	0	3.0	0	13,277	3,027	12,545	500	16,072	4.8	29,349	8.8	2018					
2019	325,587	4.0	13,423	0	3.0	0	13,423	3,149	13,047	500	16,695	5.0	30,119	9.0	2019					
2020	329,400	4.0	13,576	0	3.0	0	13,576	3,274	13,569	500	17,343	5.1	30,917	9.1	2020					
2021	343,725	4.0	13,725	0	3.0	0	13,725	3,405	14,111	500	18,017	5.2	31,732	9.2	2021					
2022	347,518	4.0	13,901	0	3.0	0	13,901	3,542	14,676	500	18,717	5.4	32,618	9.4	2022					
2023	351,836	4.0	14,073	0	3.0	0	14,073	3,683	15,263	500	19,446	5.5	33,519	9.5	2023					
2024	356,338	4.0	14,254	0	3.0	0	14,254	3,831	15,873	500	20,204	5.7	34,457	9.7	2024					
2025	361,070	4.0	14,441	0	3.0	0	14,441	3,984	16,508	500	20,992	5.8	35,433	9.8	2025					
2026	365,921	4.0	14,637	0	3.0	0	14,637	4,143	17,168	500	21,812	6.0	36,449	10.0	2026					
2027	371,019	4.0	14,841	0	3.0	0	14,841	4,309	17,855	500	22,664	6.1	37,515	10.1	2027					
2028	376,334	4.0	15,053	0	3.0	0	15,053	4,481	18,569	500	23,551	6.3	38,634	10.3	2028					
2029	381,697	4.0	15,144	0	3.0	0	15,144	4,661	19,312	500	24,473	6.5	39,817	10.5	2029					
2030	387,607	4.0	15,144	0	3.0	0	15,144	4,847	20,085	500	25,432	6.7	40,576	10.7	2030					
2031	378,607	4.0	15,144	0	3.0	0	15,144	5,041	20,890	500	26,429	7.0	41,573	11.0	2031					
2032	378,607	4.0	15,144	0	3.0	0	15,144	5,243	21,724	500	27,466	7.3	42,610	11.3	2032					
2033	378,607	4.0	15,144	0	3.0	0	15,144	5,452	22,593	500	28,545	7.5	43,659	11.5	2033					
2034	378,607	4.0	15,144	0	3.0	0	15,144	5,670	23,496	500	29,667	7.8	44,811	11.8	2034					
2035	378,607	4.0	15,144	0	3.0	0	15,144	5,897	24,436	500	30,833	8.1	45,978	12.1	2035					
2036	378,607	4.0	15,144	0	3.0	0	15,144	6,133	25,413	500	32,047	8.5	47,191	12.5	2036					
2037	378,607	4.0	15,144	0	3.0	0	15,144	6,378	26,430	500	33,308	8.8	48,453	12.8	2037					
16,027,515													0	633,639	144,263	597,781	26,000	768,044	1,401,683	

Loan Principal (\$=000's) 119,000
 Inflation Rate 4.001
 Internal Rate of Return (IRR) 4.101
 Case Number HC-2

YEAR	BASELOAD			ADDITIONAL			TOTAL					OPERATIONS & MAINTENANCE		TOTAL	ACTUAL	YEAR		
	SALES (MWH)	RATE (CENTS/KWH)	REVENUE (\$=000's)	SALES (MWH)	RATE (CENTS/KWH)	REVENUE (\$=000's)	DEBT SVC (\$=000's)	ADMIN (\$=000's)	ON-SITE (\$=000's)	R & R (\$=000's)	TOTAL (\$=000's)	RATE (CENTS/KWH)	COST (\$=000's)	RATE REQUIRED (CENTS/KWH)				
1986	181,496	2.6	4,719	10,828	1.6	173	4,892	863	3,576	500	4,929	2.6	9,831	5.1	1986			
1987	191,417	2.8	5,360	21,656	1.8	390	5,750	898	3,719	500	5,117	2.4	10,867	5.1	1987			
1988	199,181	3.2	6,374	32,484	2.2	715	7,089	933	3,868	500	5,301	2.3	12,390	5.3	1988			
1989	206,042	3.5	7,211	42,312	2.5	1,050	8,269	971	4,023	500	5,493	2.2	13,763	5.5	1989			
1990	212,954	4.0	8,520	54,140	3.0	1,624	10,144	1,010	4,183	500	5,693	2.1	15,837	5.9	1990			
1991	219,057	4.0	8,763	54,140	3.0	1,624	10,387	1,050	4,251	500	5,901	2.2	16,288	6.0	1991			
1992	226,907	4.0	9,076	54,140	3.0	1,624	10,700	1,092	4,325	500	6,117	2.2	16,817	6.0	1992			
1993	236,183	4.0	9,447	54,140	3.0	1,624	11,072	1,136	4,406	500	6,241	2.2	17,413	6.0	1993			
1994	245,893	4.0	9,816	54,140	3.0	1,624	11,460	1,181	4,494	500	6,575	2.2	18,035	6.0	1994			
1995	255,439	4.0	10,218	54,140	3.0	1,624	11,842	1,228	4,580	500	6,818	2.2	18,660	6.0	1995			
1996	265,523	4.0	10,621	54,140	3.0	1,624	12,246	1,277	4,671	500	7,071	2.2	19,316	6.1	1996			
1997	275,897	4.0	11,036	54,140	3.0	1,624	12,660	1,329	4,765	500	7,334	2.3	19,994	6.1	1997			
1998	286,482	4.0	11,469	54,140	3.0	1,624	13,083	1,382	4,862	500	7,607	2.3	20,699	6.2	1998			
1999	297,243	4.0	11,924	54,140	3.0	1,624	13,518	1,437	4,962	500	7,891	2.4	21,420	6.2	1999			
2000	308,158	4.0	12,400	54,140	3.0	1,624	13,964	1,494	5,065	500	8,187	2.4	22,168	6.3	2000			
2001	319,200	4.0	12,896	54,140	3.0	1,624	14,422	1,554	5,171	500	8,494	2.5	22,943	6.3	2001			
2002	330,369	4.0	13,402	54,140	3.0	1,624	14,892	1,616	5,280	500	8,814	2.6	23,744	6.4	2002			
2003	341,666	4.0	13,928	54,140	3.0	1,624	15,374	1,681	5,391	500	9,147	2.6	24,571	6.5	2003			
2004	353,191	4.0	14,476	54,140	3.0	1,624	15,868	1,748	5,504	500	9,493	2.7	25,426	6.6	2004			
2005	364,934	4.0	15,046	54,140	3.0	1,624	16,374	1,818	5,619	500	9,852	2.8	26,307	6.7	2005			
2006	376,895	4.0	15,638	54,140	3.0	1,624	16,892	1,891	5,736	500	10,224	2.9	27,214	6.7	2006			
2007	389,074	4.0	16,242	54,140	3.0	1,624	17,422	1,967	5,855	500	10,614	3.0	28,147	6.8	2007			
2008	401,471	4.0	16,858	54,140	3.0	1,624	17,964	2,045	5,976	500	11,020	3.1	29,096	6.9	2008			
2009	414,086	4.0	17,486	54,140	3.0	1,624	18,518	2,127	6,098	500	11,441	3.2	30,071	7.0	2009			
2010	426,919	4.0	18,126	54,140	3.0	1,624	19,084	2,212	6,221	500	11,879	3.3	31,074	7.1	2010			
2011	439,970	4.0	18,778	54,140	3.0	1,624	19,662	2,301	6,345	500	12,334	3.4	32,104	7.2	2011			
2012	453,239	4.0	19,442	54,140	3.0	1,624	20,252	2,393	6,471	500	12,804	3.5	33,161	7.3	2012			
2013	466,726	4.0	20,118	54,140	3.0	1,624	20,854	2,488	6,598	500	13,294	3.6	34,244	7.4	2013			
2014	480,431	4.0	20,806	54,140	3.0	1,624	21,468	2,588	6,726	500	13,814	3.7	35,354	7.6	2014			
2015	494,354	4.0	21,506	54,140	3.0	1,624	22,094	2,691	6,855	500	14,364	3.8	36,491	7.7	2015			
2016	508,495	4.0	22,218	54,140	3.0	1,624	22,732	2,799	6,985	500	14,934	3.9	37,654	7.8	2016			
2017	522,854	4.0	22,942	54,140	3.0	1,624	23,382	2,911	7,116	500	15,524	4.1	38,844	8.0	2017			
2018	537,431	4.0	23,678	54,140	3.0	1,624	24,044	3,027	7,248	500	16,134	4.2	40,061	8.1	2018			
2019	552,226	4.0	24,426	54,140	3.0	1,624	24,718	3,149	7,381	500	16,764	4.4	41,304	8.3	2019			
2020	567,239	4.0	25,186	54,140	3.0	1,624	25,404	3,274	7,515	500	17,414	4.6	42,574	8.5	2020			
2021	582,470	4.0	25,958	54,140	3.0	1,624	26,102	3,405	7,649	500	18,084	4.8	43,874	8.7	2021			
2022	597,919	4.0	26,742	54,140	3.0	1,624	26,812	3,542	7,784	500	18,784	4.9	45,194	8.9	2022			
2023	613,586	4.0	27,538	54,140	3.0	1,624	27,534	3,683	7,919	500	19,514	5.1	46,534	9.1	2023			
2024	629,471	4.0	28,346	54,140	3.0	1,624	28,268	3,831	8,054	500	20,264	5.3	47,894	9.3	2024			
2025	645,574	4.0	29,166	54,140	3.0	1,624	29,014	3,984	8,191	500	21,024	5.5	49,274	9.5	2025			
2026	661,895	4.0	30,008	54,140	3.0	1,624	29,772	4,143	8,329	500	21,794	5.7	50,674	9.7	2026			
2027	678,434	4.0	30,872	54,140	3.0	1,624	30,542	4,309	8,468	500	22,574	6.0	52,094	10.0	2027			
2028	695,191	4.0	31,758	54,140	3.0	1,624	31,324	4,481	8,608	500	23,364	6.2	53,534	10.2	2028			
2029	712,166	4.0	32,666	54,140	3.0	1,624	32,118	4,661	8,749	500	24,164	6.5	55,004	10.5	2029			
2030	729,369	4.0	33,596	54,140	3.0	1,624	32,924	4,847	8,891	500	24,974	6.7	56,514	10.7	2030			
2031	746,790	4.0	34,548	54,140	3.0	1,624	33,742	5,041	9,034	500	25,794	7.0	58,054	11.0	2031			
2032	764,429	4.0	35,522	54,140	3.0	1,624	34,572	5,243	9,178	500	26,624	7.3	59,624	11.3	2032			
2033	782,286	4.0	36,518	54,140	3.0	1,624	35,414	5,452	9,323	500	27,464	7.5	61,224	11.5	2033			
2034	800,361	4.0	37,536	54,140	3.0	1,624	36,268	5,670	9,468	500	28,314	7.8	62,854	11.8	2034			
2035	818,654	4.0	38,576	54,140	3.0	1,624	37,134	5,897	9,614	500	29,174	8.1	64,514	12.1	2035			
2036	837,166	4.0	39,638	54,140	3.0	1,624	38,012	6,133	9,761	500	30,044	8.5	66,194	12.5	2036			
2037	855,895	4.0	40,722	54,140	3.0	1,624	38,902	6,378	9,908	500	30,924	8.8	67,904	12.8	2037			
													1,457,892					
													1,027,515					
			1,903,051			689,847					144,263		597,781		26,000		758,044	

Alaska State Legislature

House of Representatives



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CHAIR, HOUSE SPECIAL COMMITTEE ON LOANS
VICE-CHAIR, JUDICIARY COMMITTEE
MEMBER, SPECIAL COMMITTEE ON OIL AND GAS
MEMBER, RESOURCES COMMITTEE

4/22/85

MEMORANDUM

TO: Sen. Arliss Sturgulewski, Chair,
Senate Resources Committee

FROM: Rep. John Suno *[Signature]*

RE: HB 219 "An act relating to the applicability of the Alaska Public Utilities Commission Act to certain electric utilities; power development loans; and the energy program for Alaska."

The purpose of this bill is to resolve the problems holding up four-dam-pool power sales agreements and to provide for payback of the \$196 million appropriation made last year to complete the hydroelectric projects. The Alaska Power Authority and the six communities served by the four dams have been negotiating power sales agreements for 2½ years without success. The goal is a long-term power sales agreement that provides affordable electricity for the communities and a maximum return on the state's investment.

\$210 million was appropriated last year; \$196 million has been spent to complete the dams and pay off short-term construction financing issued by the APA. This appropriation was structured as a loan from the Department of Commerce and Economic Development to the APA to be paid off through power sales from the project. AS 44.33.620 sets terms for the loan.

As in existing law, the Finance Committee Substitute does not set in law exact terms for the loan, nor does it set power rates. These are left open for further negotiation. The bill provides specific guidelines for resolving the issue under a plan developed by Gordon Harrison of the APA board.

The APA and the six communities report recent significant progress in power sales agreement negotiations; the plan they are now working with requires the passage of CSHB 219 (Fin). Action is required this session to permit sales agreements which will capture additional loads for the under-utilized hydroelectric capacity.

The bill is supported by both the APA and the four-dam-pool communities. Bob Heath, Executive Director of the APA and representatives of the communities are expected to testify before the Resources Committee.

Sectional analysis:

Section 1:

Sections 1 and 5, propose a change in law to allow two communities to get together for joint operation of a dam. The main purpose is to allow the Thomas Bay Power Authority to operate the Tye Dam. Tye serves two communities (Wrangell and Petersburg); Current law requires one or the other to operate the dam. This section corrects that by adding "electric operating entities established as an instrumentality of two or more public utilities owned and operated by a political subdivision of the state" to the APUC statutes. Like the communities, the 'joint operating entity' would not be subject to APUC regulation.

Section 2:

This section amends the loan terms for the Power Development Revolving Loan Fund (AS 44.33.620). This fund was created last session and the statutory loan terms give little direction to the APA. The added language sets clear guidelines for the agencies to work with. Deleted is the requirement that the loan terms be set considering market rates of interest.

Section 3 adds a definition: "initial project" means the four dams.

Section 4 adds a provision for power sales contract rate reopeners. This protects the state in times of inflation when the power sales rate could not provide sufficient loan repayment in real terms and protects the communities should the price of alternate power generation drop significantly. An important provision is added allowing an agreed schedule of wholesale power rates to be included in the contracts. This allows a contract to be reached through negotiation which will provide for certainty in power rates as needed by utility planners. This also will provide for a greater return to the state in debt service from the project.

Section 5 adds joint operating entities to the definition of "qualified utilities" which may purchase power from the APA. (See explanation of Section 1)

RETAIL RATES
(cents per kwh)

<u>Community</u>	<u>@ 200 kwh/month</u>	<u>@ 500 kwh/month</u>	<u>@ 700 kwh/month</u>
Copper Valley			
-Glenallen	23.5	20.1	18.8
-Valdez	21.3	16.0	14.7
Kodiak	19.0	18.1	17.5
Wrangell	19.1	16.3	15.7
Petersburg	13.9	11.7	11.2
Ketchikan	14.3	10.8	10.2

COMPONENTS OF THE RATES
(cents per kwh)

<u>Community</u>	<u>APA O&M</u>	<u>APA Debt Service</u>	<u>Other^{*/}</u>	<u>Total (@ 700 kwh/month)</u>
Copper Valley				
-Glenallen	2.76	2.64	13.4	18.8
-Valdez	2.76	2.64	9.3	14.7
Kodiak	2.00	2.64	12.86	17.5
Wrangell	4.59	2.64	8.47	15.7
Petersburg	4.59	2.64	3.97	11.2
Ketchikan	2.26	2.64	5.3	10.2

^{*/} "Other" includes distribution, administrative and general, reserve generation, and other generation (other hydro as well as diesel in the case of Ketchikan and Petersburg.)

Draft: April 23, 1985

SHORTCOMINGS OF PRICING APA POWER AS A PERCENTAGE OF AVOIDED COST

A. Problems for the purchasing utility (in the Alaskan context)^{*/}

1. Loss of potential loads: Some or all potential large new loads that could increase project utilization will be lost, because such loads demand a higher degree of certainty over longer periods. Many such loads will either be met with private generation or cogeneration (e.g., Wrangell Forest Products) or will be lost entirely (e.g., Phillips). In the cogeneration case, the utility may be required by law to purchase ~~excess~~ cogenerated power from the private party, thus reducing the utility's own purchases from the APA project. In the case of loads lost because the economic activity is relocated (e.g., to the Lower 48), the community loses not only employment and taxes, but also the "induced" loads, i.e., increases in other community loads resulting from the economic activity represented by the primary load.

2. Ratemaking and billing problems: The utility must make its retail rates prospectively, yet its power costs will become known only retrospectively. Matching costs to rates during each rate period (and keeping rates fairly predictable for consumers), always a chore, becomes significantly more difficult.

3. Added administrative costs: A fairly sophisticated formula is needed to calculate true avoided cost, and the values for each variable in the formula must be recalculated at frequent (e.g., monthly) intervals. This would create some administrative burden even if (a) diesel were the only alternative, and (b) disputes with APA over the proper value for each variable never arose. (It is also difficult to continue getting realistic quotes for a large volume of diesel once the utility begins buying reduced volumes.) In practice, the difficulties are even greater because (a) the formula must accommodate other alternatives (e.g., cogeneration) as such alternatives become available, and (b) disputes with the APA over the value of individual variables are likely.

*/ Such pricing works well in power "pools" in which a sophisticated computer controls the generators of many producers on an instantaneous central-dispatch basis. The computer is programmed to minimize total generation costs at all times, based on each generator's fuel cost, efficiency, and maximum/minimum operating guides. Cost savings made possible by using Utility A's generator rather than Utility B's to serve a portion of Utility B's load are "split" (usually on a 50/50 basis) through use of a share-the-savings rate the computer charges to Utility B and credits to Utility A. The actual rate for each transaction, and each utility's costs and savings for any given period, are known at once, facilitating utility ratemaking and billing. Nothing similar exists in Alaska, nor could it exist in the Four Dam Pool context where (a) the communities are not electrically interconnected, and (b) APA power is intended to displace thermal generation completely for most days of the year.

AMENDMENT

TO: "Discussion Draft" HB 219

Page 2, Line 23:

Replace Section 4 with:

* Sec. 4. AS 44.33 is amended by adding a new section to read:

Sec. 44.33.⁶²⁵~~33~~. RATE REOPENERS. A power sales agreement for the sale of power from the initial project financed with a loan under AS 44.33.610 may include among its provisions an agreed schedule of wholesale power rates notwithstanding the provisions of AS 44.83.398 but must include a provision for a rate reopener, ~~after the first 15 years.~~

AMENDMENT

TO: HB 219

Page 2, Line 21:

Add a new section:

* Sec. 4. AS ⁶²⁵44.33 is amended by adding a new section to read:

^{OK} Sec. 44.33.33. ~~PRICE~~ ^{RATE} REOPENERS. A power sales agreement for the sale of power from a power project financed with a loan under AS 44.33.610 ^{44.33.610} may include among its provisions an agreed schedule of wholesale power rates notwithstanding ^{44.33.398} any other provisions of law and must include a provision for a ^{RATE} ~~price~~ reopener after the first 15 years.

Renumber following sections accordingly

① All APA

②

AMENDMENT

TO: "Discussion Draft" HB 219

Page 2, Line 23:

Replace Section 4 with:

* Sec. 4. AS 44.33 is amended by adding a new section to read:

~~Sec. 44.33.33. PRICE REOPENERS.~~ ⁶²⁵ *RATE* A power sales agreement for the sale of power from a power project financed with a loan under AS 44.33.610 ~~may~~ include among its provisions an agreed schedule of wholesale power rates notwithstanding any other provisions of law and must include a provision for a ~~price~~ ^{rate} reopener after the first 15 years. 44.33.398

- (1) system increment
- (2) separate O&M can now be combined
- (3) 398E - distribution of all LPA cost over all kW hours.

Levy
4/10/85 ✓

Original sponsor: House Special Committee
on State Loans

DISCUSSION DRAFT

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IN THE HOUSE

CS FOR HOUSE BILL NO. 219 ()
IN THE LEGISLATURE OF THE STATE OF ALASKA
FOURTEENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act relating to the applicability of the Alaska Public Utilities Commission Act to certain electric utilities; power development loans; and the energy program for Alaska."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. AS 42.05.711(b) is amended to read:

(b) Public utilities owned and operated by a political subdivision of the state and regional electric authorities established as an instrumentality of two or more public utilities owned and operated by a political subdivision of the state, none of whose utilities is in competition with any other utility, are exempt from the provisions of this chapter, other than the provisions of AS 42.05.221 - 42.05.281, unless the owner and operator elects to be subject to all provisions of this chapter.

* Sec. 2. AS 44.33.620(a) is amended to read:

(a) A loan from the fund shall [MUST] be repaid in accordance with the terms that the department determines to be appropriate. In establishing the terms, including provision for a return to the state of an amount in excess of the principal amount of the loan, the department shall consider the revenue that the authority could reasonably derive from the sale of power from the projects based upon

(1) [THE MARKET RATE OF INTEREST FOR A LOAN OF COMPARABLE SIZE AND DURATION AT THE TIME THE LOAN IS MADE; AND
(2)] the [ESTIMATED] costs, at the time the ^{power sales agreement} [loan] is ini-

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or
tially negotiated ~~[and at the time it]~~ is renegotiated, of alternative sources of energy generation for utilities purchasing power from a project financed with a loan from the fund;

(2) the effect of the loan terms on the wholesale power costs to all utilities purchasing power from the initial project;

(3) the long-term benefits to consumers and communities of stable wholesale power costs;

(4) the affordability of initial wholesale power costs that result from the loan terms with utilities purchasing power from the initial project;

(5) increasing repayment, not to exceed five years, of debt service payment per kilowatt hour gradually over the initial period of a loan repayment schedule to the extent necessary to avoid significant rate increases to the consumer;

(6) the existing excess capacity of power projects; and

(7) the effects of increased capacity utilization, inflation, and alternative energy production costs over the life of the initial project.

* Sec. 3. AS 44.33.620 is amended by adding a new subsection to read:

(d) In (a) of this section "initial project" means the project described in AS 44.83.398(a).

* Sec. 4. AS 44.33 is amended by adding a new section to read:

Sec. 44.33.625. PRICE REOPENERS. A power sales agreement for the sale of power from a power project financed with a loan under AS 44.33.610 must include a provision for periodic price reopeners.

* Sec. 5. AS 44.83.425(5) is amended to read:

(5) "qualified utility" means an electric utility or a regional electric authority established as an instrumentality of two or more electric utilities [THAT IS] certified by the Alaska Public

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2 Utilities Commission to serve all or part of a market area that is
3 served or will be served by the power project, [AND] that the author-
4 ity determines is capable of operating and maintaining the power
5 project.
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The initial project offers a unique opportunity to share the infrastructure development in a sensible and equitable manner. The state or Federal Government has traditionally taken the responsibility for the infrastructure necessary to encourage statewide and/or regional economic development. The initial project has an excess capacity of approximately 59% at the present time. Of that 59% excess, approximately 49% is to be found in the Tyee project. The Tyee project, as an example, was built with excess capability because it is geographically well placed to aid regional and statewide energy and economic development. However, the interest on the excess capacity should be carried at state expense until such time as it is needed.

The current situation offers a unique opportunity for the communities and the state to share the burden of infrastructure development in a sensible and equitable manner. The provisions of HB 219 provide for the complete repayment of the principal and the maximum affordable interest rate which can be repaid under current conditions.

Repayment of the APA loan is computed at a fixed interest rate over a set term in order to yield a levelized debt service payment per kilowatt hour. Actual debt service is, in each year, the result of the payment of that portion of the levelized debt service amount corresponding to the fraction of the initial project's total capability which is actually sold in that year. The portion of the debt service amount not paid that year would have a principal component and an interest component. The principal component would be deferred to the end of the amortization period, to be repaid over the contract term remaining thereafter. The interest component is cancelled or treated as simply

unearned. The effect of this structure would be to establish a debt service rate which assumes the initial project is fully utilized and which remains level throughout the period of the loan.

ESSENTIAL LOAN CONDITIONS:

1. Interest rate of 4% on the fraction of the principal which corresponds to the fraction of initial project which is utilized in each contract year.
2. Principal amount of approximately \$196 million.
3. Term of the loan is 50 years with a 40 year amortization period.
4. Annual debt service during the amortization period to be computed payment amount multiplied by a fraction, the numerator of which is the actual amount of energy sold that year, and the denominator of which is the total 378,607,000 kwh capability of the initial project.
5. Principal amounts of the loan not paid during the amortization period because of unsold capability shall be deferred until the fortieth year, and then repaid in equal installments without interest over the remaining ten years.

DISCUSSION DRAFT CSHB 219 (Finance)

Pourchot

at the time of entering into the contract

Section 1. AS 42.05.711(b) is amended to read: ... (same)

Sec. 2. AS 44.33.620(a) is amended to read:

(a) A loan from the fund must be repaid in accordance with the terms that the department determines to be appropriate. In establishing the terms, including provision for a return to the state of an amount in excess of the principal amount of the loan, the department shall consider the revenue that the authority could reasonably derive from the sale of power from the projects based upon

(1) the market rate of interest for loan of comparable size and duration at the time the loan is made; and

(1) the current [estimated] costs of alternative sources of energy generation for utilities purchasing power from a project financed with a loan from the fund . ;

(2) the effect of the loan terms on the wholesale power costs to all utilities purchasing power from the initial project;

(3) the affordability of initial wholesale power costs resulting from the loan terms on utilities purchasing power from the initial project;

(4) the benefits to consumers and communities of stable, certain wholesale power costs;

(5) existing or anticipated wholesale power prices for other state hydroelectric projects;

(6) increasing repayment of debt service payment per kilowatt hour gradually over the initial period of a loan repayment schedule to avoid significant rates increases to consumers above existing levels;

(7) the current existing excess capacity of projects;

* (8) the long-term benefits to utilities and consumers of stable hydroelectric power costs;

* (9) the effects of increased capacity utilization, inflation, and alternative energy production costs over the life of the initial project;

* (10) power sale contracts no more than 35 years in duration with periodic price reopeners;

Sec. 3. AS 44.83.425(5) is amended to read:(same)

=> purchase of power

key = affordable

how do you calculate ramp =

revenue

clarify

100 para

DISCUSSION DRAFT CSHB 219 (Finance)

Section 1. AS 42.05.711(b) is amended to read: ...(same)

Sec. 2. AS 44.33.620(a) is amended to read:

(a) A loan from the fund must be repaid in accordance with the terms that the department determines to be appropriate. In establishing the terms, including provision for a return to the state of an amount in excess of the principal amount of the loan, the department shall consider the revenue that the authority could reasonably derive from the sale of power from the projects based upon

[(1) the market rate of interest for loan of comparable size and duration at the time the loan is made; and

(1) the current [estimated] costs of alternative sources of energy generation for utilities purchasing power from a project financed with a loan from the fund . ;

(2) the effect of the loan terms on the wholesale power costs to all utilities purchasing power from the initial project;

(3) the affordability of initial wholesale power costs resulting from the loan terms on utilities purchasing power from the initial project;

(4) the benefits to consumers and communities of stable, certain wholesale power costs;

(5) existing or anticipated wholesale power prices for other state hydroelectric projects;

(6) increasing repayment of debt service payment per kilowatt hour gradually over the initial period of a loan repayment schedule to avoid significant rates increases to consumers above existing levels;

(7) the current existing excess capacity of projects;

* (8) the long-term benefits to utilities and consumers of stable hydroelectric power costs;

* (9) the effects of increased capacity utilization, inflation, and alternative energy production costs over the life of the initial project.

* (10) power sale contracts no more than 35 years in duration with periodic price reopeners;

Sec. 3. AS 44.83.425(5) is amended to read:(same)

E. C. PHILLIPS & SON, INC.
Box 8235
KETCHIKAN, ALASKA 99901

A3219
Sumed

March 28, 1985

Mayor Charles Freeman
City of Ketchikan, Alaska

Dear Chuck,

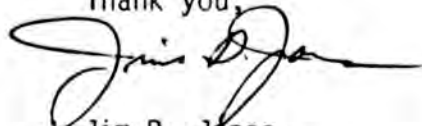
I am writing this letter to inform you that we are strongly considering buying diesel generators due to the high cost of K.P.U. power. We have done considerable research and found that we can generate for less than 6½¢ per kilowatt hour.

We feel that since Swan Lake is being utilized less than 50%, we should not have to pay a demand charge since there is a surplus of power. I am enclosing a copy of a proposal on diesel power which clearly shows that by using their option 3 plan at 6½¢ per kilowatt hour, we could save close to \$40,000 a year. This is based on \$1.25 per gallon for fuel and we are only paying \$.94 per gallon at the present time.

We also have another option which would be to ship all of our product South during the season and close the plant at the end of the season. We normally keep a crew employed in the Winter to pack the fish and fill our orders directly from Ketchikan.

We would like to keep the plant open all year round, utilizing K.P.U.'s power, but the continuing high cost may prohibit us from doing this.

Thank you,



Jim D. Jones
Chief Engineer

JDJ:cw

February 9, 1985

E.C. Phillips & Son
P.O. Box 8235
Ketchikan, Alaska 99901
Attn: Jim Jones

Re: Diesel electric power conversion for your Ketchikan plant

Jim,

For your electric power requirements, I am pleased to offer you the following quote.

Option #1

2 (two) each NTA 495 G1, 1800 R.P.M. 110 KW prime, (125 KW w/o fan) diesel electric generators for the price of\$39,025.00

Which includes the following:

- * Skid mounted w/pad type vibration isolation
- * Radiator cooled
- * Unit mounted manual start control panel with complete instrumentation and manual paralleling capability
- * Unit mounted circuit breaker
- * Stainless steel exhaust flex and Nelson "critical level" exhaust silencers
- * Vernier throttles
- * Batteries, rack and cables
- * Custom Registry
- * F.O.B. your plant, Ketchikan, Alaska - delivered

Alternates:

- A. Wall mounted control panel for both units w/complete instrumentation for manual paralleling\$9,528.00
- B. Heat exchanger cooling (skid mounted) for both units...\$1,267.00
- C. Motor operated circuit breakers for both units\$1,425.00

Option #2

2 (two) each Cummins N 855 G, 1800 R.P.M., 135 KW prime (140 KW w/o fan) diesel electric generators for the price of \$47,335.00
Which includes the same equipment as in option #1.

Alternates:

- A. Same as option #1 alternate A.....\$9,528.00
- B. " " B.....\$2,156.00
- C. " " C.....\$1,425.00

Option #3

2 (two) each Cummins NT 855 G3 1200 R.P.M., 160 KW prime (170 KW w/o fan) diesel electric generators for the price of\$57,200.00

Alternates:

A. Same as option #1 alternate A	\$9,528.00
B. " " B	\$1,625.00
C. " " C	\$1,425.00

Summarization:

Initial investment cost per KW (includes wall mounted panel, heat exchanger cooling, and motor operated breakers).

- Option #1 \$232.93
- Option #2 \$223.87
- Option #3 \$218.06

KW cost per hour, based on both units (set up heat exchanger cooled, w/wall panel, & motor operated breakers), operating continuously at 3/4 rated load each for 5 years. Include the following:

- (1) The investment cost amortized over 5 years
- (2) Fuel @ rated consumption based on \$1.25 per gallon
- (3) \$3.00 per hour for lube oil, filters, maintenance and 1 major overhaul in the 5 year period

Option #1..... Less than 8c per KW/hr.
 (1) per KW/hr.....\$0.0070907
 (2) " "..... 0.0533333
 (3) " "..... 0.0160000
\$0.0764240

Option #2..... Less than 7c per KW/hr.
 (1) per KW/hr.....\$0.0065714
 (2) " "..... 0.0465686
 (3) " "..... 0.0142857
\$0.0684761

Option #3..... Less than 6½c per KW/hr.
 (1) per KW/hr.....\$0.0062474
 (2) " "..... 0.0465686
 (3) " "..... 0.0117647
\$0.0645807

As you can see the larger the unit, the lower the cost, if you can utilize the power. Remember while one unit is not being used your KW/hr. cost would ~~increase~~ *increase by the amortized factor, decrease by fuel & maintenance factors.*

I hope that this has been some help to you. The prices quoted are firm for 60 days and subject to change thereafter. Availability on these units is 60 days. I look forward to doing business with you.

MEMORANDUM

TO: House Special Committee on State Loans

FROM: Richard D. Newland, Utilities Manager
Ketchikan Public Utilities *RNL*

RE: Wholesale Power Cost Comparison

DATE: March 5, 1985

Attached you will find a tabulation, accompanied by a graphic presentation, showing projected wholesale power costs for the City of Ketchikan under three alternative scenarios. The generation of power from the Swan Lake Hydroelectric Project is compared under HB 219 and the package proposed by the Alaska Power Authority (APA); we also project the costs of a like amount of power generated by diesel.

Several points should be emphasized regarding these numbers. First, these are wholesale rates. Rates to the customer would be considerably greater than what is presented here. Second, these are "marginal" rates, i.e., rates for power generated by the Swan Lake Project or by diesel generation used in lieu of Swan Lake. Their effect on Ketchikan's retail rates, up or down, is mitigated by Ketchikan's other sources of power, including other hydroelectric generation. Third, these rates do not account for needed generation in the future. Swan Lake is projected to meet Ketchikan's needs for approximately the next ten years, after which we will need to rely on new generation. Our future rates will therefore continue to be affected by changes in the energy program for Alaska.

In constructing these projections, we have relied on the following sources:

1. Load forecasts were developed by the APA.
2. Swan Lake operation and maintenance costs are from our current budget. They are inflated annually at the assumed inflation rate.
3. Diesel operation and maintenance costs are from the studies used to develop our most recent proposed rate ordinance. They are also inflated annually.
4. Diesel operation and maintenance costs are divided into fixed and variable costs. The fixed costs have been included under the Swan Lake projections because the diesels will be used as reserves.

5. APA debt service costs are from their projection of February 12, 1985.
6. Diesel fuel projections are from the Alaska Department of Revenue Mean Forecast of World Oil Price (Saudi Medium), calculated in 1983 dollars and then inflated at the assumed inflation rate.
7. Each of our cases uses different assumptions about 1985 diesel costs and about the rate of inflation. These assumptions are printed on the tables. The base case (Case 1), uses a 1985 diesel cost of 71¢ per gallon, computed from information provided by Chuck Logsden, Petroleum Economist for the Department of Revenue. The base inflation rate is 5% per year.

I would like to thank the Committee for the opportunity to present this information.

WHOLESALE POWER COST COMPARISON
 Swan Lake Hydroelectric Project
 Ketchikan Public Utilities Diesel Generation
 March 5, 1985
 CASE 1

	1985	1986	1987	1988	1989	1990	1991	1992
Generation in MWH	28,880	37,764	41,423	44,140	46,872	49,663	52,516	55,430
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,155,000	1,212,750	1,273,388	1,337,057	1,403,910	1,474,105	1,547,810
Diesel Reserve Cost (Dollars)	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.00	2.12	2.25	2.39	2.53	2.68	2.68	2.68
Principal (Dollars)	0	19,250	76,048	145,561	229,132	329,246	363,052	399,759
Interest (Dollars)	577,600	781,347	855,969	909,385	956,730	1,001,723	1,044,376	1,085,765
TOTAL - HB 219 ALTERNATIVE	2,064,592	2,361,938	2,571,426	2,776,325	2,993,310	3,228,789	3,400,140	3,577,971
HB 219 ALTERNATIVE (Cents/KWH)	7.15	6.25	6.21	6.29	6.39	6.50	6.47	6.45
APA ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,155,000	1,212,750	1,273,388	1,337,057	1,403,910	1,474,105	1,547,810
Diesel Reserve Cost (Dollars)	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	2.19	2.39	4.40	5.41	6.30	7.28	7.66	7.40
Debt Service (Dollars)	632,000	1,281,000	1,824,000	2,386,000	2,951,000	3,613,000	4,024,000	4,101,000
TOTAL - APA ALTERNATIVE	2,118,992	2,842,342	3,463,409	4,107,379	4,758,448	5,510,820	6,016,711	6,193,347
APA ALTERNATIVE (Cents/KWH)	7.34	7.53	8.36	9.31	10.15	11.10	11.46	11.17
DIESEL ALTERNATIVE:								
O & M:								
Variable	291,688	400,487	461,255	516,085	575,429	640,178	710,802	787,755
Fixed	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
Fuel	1,428,906	1,859,808	2,042,655	2,232,376	2,520,082	2,816,192	3,116,427	3,473,113
Lube Oil	43,320	59,478	68,503	76,646	85,460	95,076	105,565	116,993
TOTAL - DIESEL ALTERNATIVE	2,150,906	2,726,175	2,999,072	3,273,100	3,651,362	4,045,357	4,451,400	4,922,398
DIESEL ALTERNATIVE (Cents/KWH)	7.45	7.22	7.24	7.42	7.79	8.15	8.48	8.88

ASSUMPTIONS:

Inflation:	1.0500
Diesel (1985 Values):	
Variable O & M (Cents/KWH)	1.0100
Fuel (Cents/Gallon)	71.0000
KWH per Gallon of Diesel	14.3500

SOURCES:

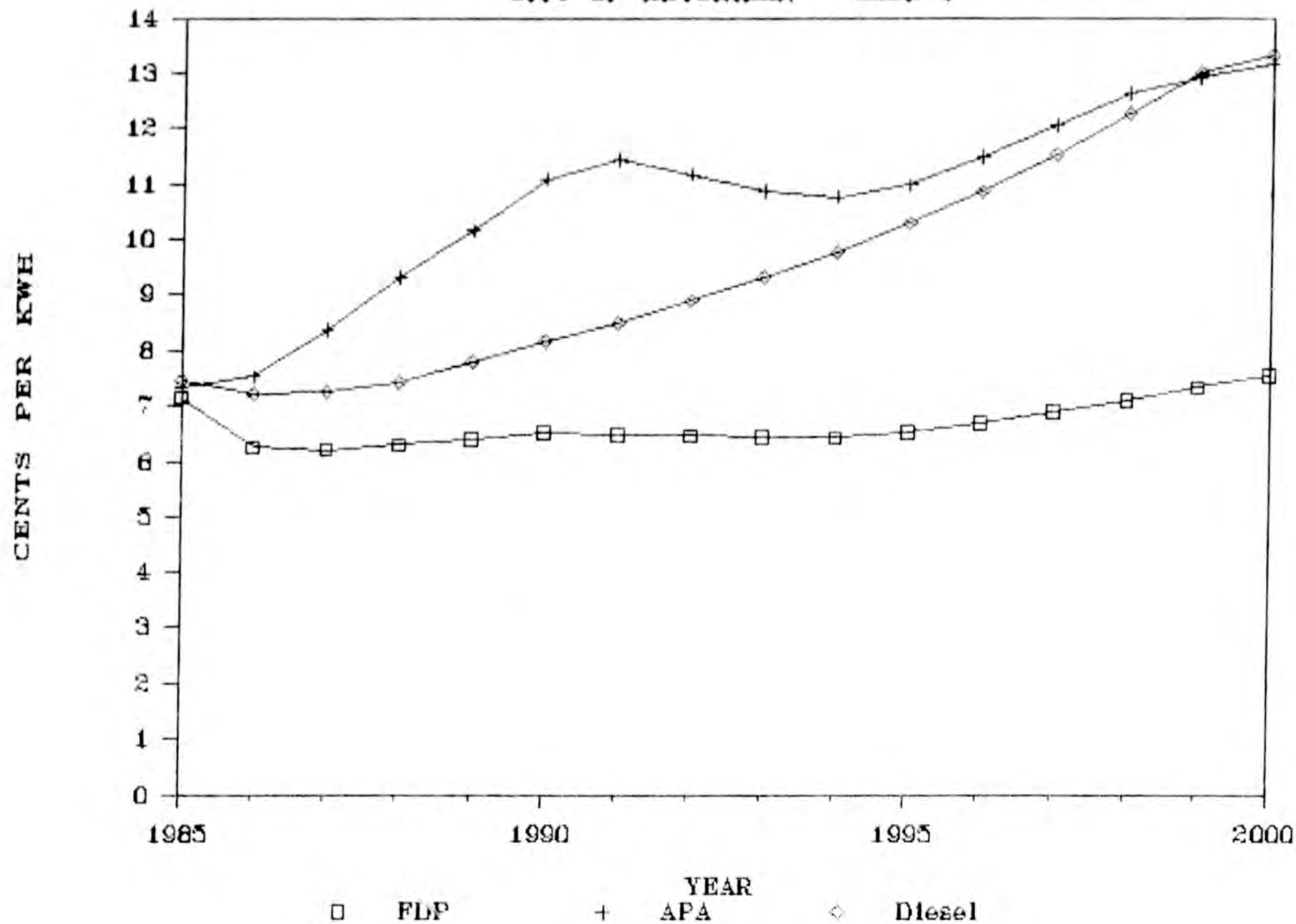
Diesel Fuel Cost Projections: DREV
 Generation Requirements: APA
 O & M Cost Projections: Based on KPU Historical Data

WHOLESALE POWER COST COMPARISON
Swan Lake Hydroelectric Project
Ketchikan Public Utilities Diesel Generation
March 5, 1985
CASE 1

	1993	1994	1995	1996	1997	1998	1999	2000
Generation in MWH	58,418	61,682	63,365	63,365	63,365	63,365	63,365	63,365
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,625,201	1,706,461	1,791,784	1,801,373	1,975,442	2,074,214	2,177,925	2,286,821
Diesel Reserve Cost (Dollars)	571,763	600,352	630,369	661,888	694,982	729,731	766,218	804,529
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
Principal (Dollars)	439,582	484,152	518,594	540,010	562,273	585,423	609,493	634,518
Interest (Dollars)	1,126,020	1,168,925	1,179,588	1,158,172	1,135,909	1,112,759	1,098,689	1,063,664
TOTAL - HB 219 ALTERNATIVE	3,762,567	3,959,890	4,120,335	4,241,443	4,368,606	4,502,127	4,642,324	4,789,532
HB 219 ALTERNATIVE (Cents/KWH)	6.44	6.42	6.50	6.69	6.89	7.11	7.33	7.56
APA ALTERNATIVE:								
O & M Cost (Dollars)	1,625,201	1,706,461	1,791,784	1,881,373	1,975,442	2,074,214	2,177,925	2,286,821
Diesel Reserve Cost (Dollars)	571,763	600,352	630,369	661,888	694,982	729,731	766,218	804,529
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	7.11	7.03	7.16	7.48	7.84	8.21	8.29	8.29
Debt Service (Dollars)	4,152,000	4,337,000	4,535,000	4,742,000	4,965,000	5,205,000	5,253,000	5,251,000
TOTAL - APA ALTERNATIVE	6,348,964	6,643,813	6,957,153	7,285,261	7,635,424	8,008,945	8,197,142	8,342,350
APA ALTERNATIVE (Cents/KWH)	10.87	10.77	10.98	11.50	12.05	12.64	12.94	13.17
DIESEL ALTERNATIVE:								
O & M:								
Variable	871,731	966,459	1,042,471	1,094,594	1,149,324	1,206,790	1,267,129	1,330,486
Fixed	571,763	600,352	630,369	661,888	694,982	729,731	766,218	804,529
Fuel	3,868,973	4,317,809	4,688,043	4,959,980	5,292,433	5,651,642	6,033,542	6,120,134
Lube Oil	129,465	143,534	154,822	162,563	170,692	179,226	188,188	197,597
TOTAL - DIESEL ALTERNATIVE	5,441,933	6,028,153	6,515,705	6,879,025	7,307,430	7,767,390	8,255,077	8,452,746
DIESEL ALTERNATIVE (Cents/KWH)	9.32	9.77	10.28	10.86	11.53	12.26	13.03	13.34

WHOLESALE POWER COST ALTERNATIVES

CITY OF KETCHIKAN - CASE 1



WHOLESALE POWER COST COMPARISON
 Swan Lake Hydroelectric Project
 Ketchikan Public Utilities Diesel Generation
 March 5, 1985
 CASE 2

	1985	1986	1987	1988	1989	1990	1991	1992
Generation in MWH	28,880	37,764	41,423	44,140	46,872	49,663	52,516	55,430
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,133,000	1,166,990	1,202,000	1,238,060	1,275,201	1,313,458	1,352,861
Diesel Reserve Cost (Dollars)	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.00	2.12	2.25	2.39	2.53	2.68	2.68	2.68
Principal (Dollars)	0	19,250	76,048	145,561	229,132	329,246	363,052	399,759
Interest (Dollars)	577,600	781,347	855,969	909,385	956,730	1,001,723	1,044,376	1,085,765
TOTAL - HB 219 ALTERNATIVE	2,064,592	2,332,199	2,509,567	2,679,822	2,859,484	3,054,800	3,182,975	3,314,337
HB 219 ALTERNATIVE (Cents/KWH)	7.15	6.18	6.06	6.07	6.10	6.15	6.06	5.98

APA ALTERNATIVE:

O & M Cost (Dollars)	1,100,000	1,133,000	1,166,990	1,202,000	1,238,060	1,275,201	1,313,458	1,352,861
Diesel Reserve Cost (Dollars)	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	2.19	3.39	4.40	5.41	6.30	7.28	7.66	7.40
Debt Service (Dollars)	632,000	1,281,000	1,824,000	2,386,000	2,951,000	3,613,000	4,024,000	4,101,000
TOTAL - APA ALTERNATIVE	2,118,992	2,812,602	3,401,550	4,010,876	4,624,623	5,336,831	5,799,546	5,929,813
APA ALTERNATIVE (Cents/KWH)	7.34	7.45	8.21	9.09	9.87	10.75	11.04	10.70

DIESEL ALTERNATIVE:

O & M:								
Variable	291,688	392,859	443,851	487,153	532,824	581,488	633,339	688,536
Fixed	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
Fuel	1,428,906	1,824,442	1,965,581	2,107,226	2,333,492	2,558,008	2,776,799	3,035,669
Lube Oil	43,320	58,345	65,918	72,349	79,132	86,360	94,060	102,258
TOTAL - DIESEL ALTERNATIVE	2,150,906	2,674,248	2,885,910	3,089,605	3,381,011	3,674,485	3,966,287	4,302,414
DIESEL ALTERNATIVE (Cents/KWH)	7.45	7.08	6.97	7.00	7.21	7.40	7.55	7.76

ASSUMPTIONS:

Inflation:	1.0300
Diesel (1985 Values):	
Variable O & M (Cents/KWH)	1.0100
Fuel (Cents/Gallon)	71.0000
KWH per Gallon of Diesel	14.3500

SOURCES:

Diesel Fuel Cost Projections: DREV
 Generation Requirements: APA
 O & M Cost Projections: Based on KPU Historical Data

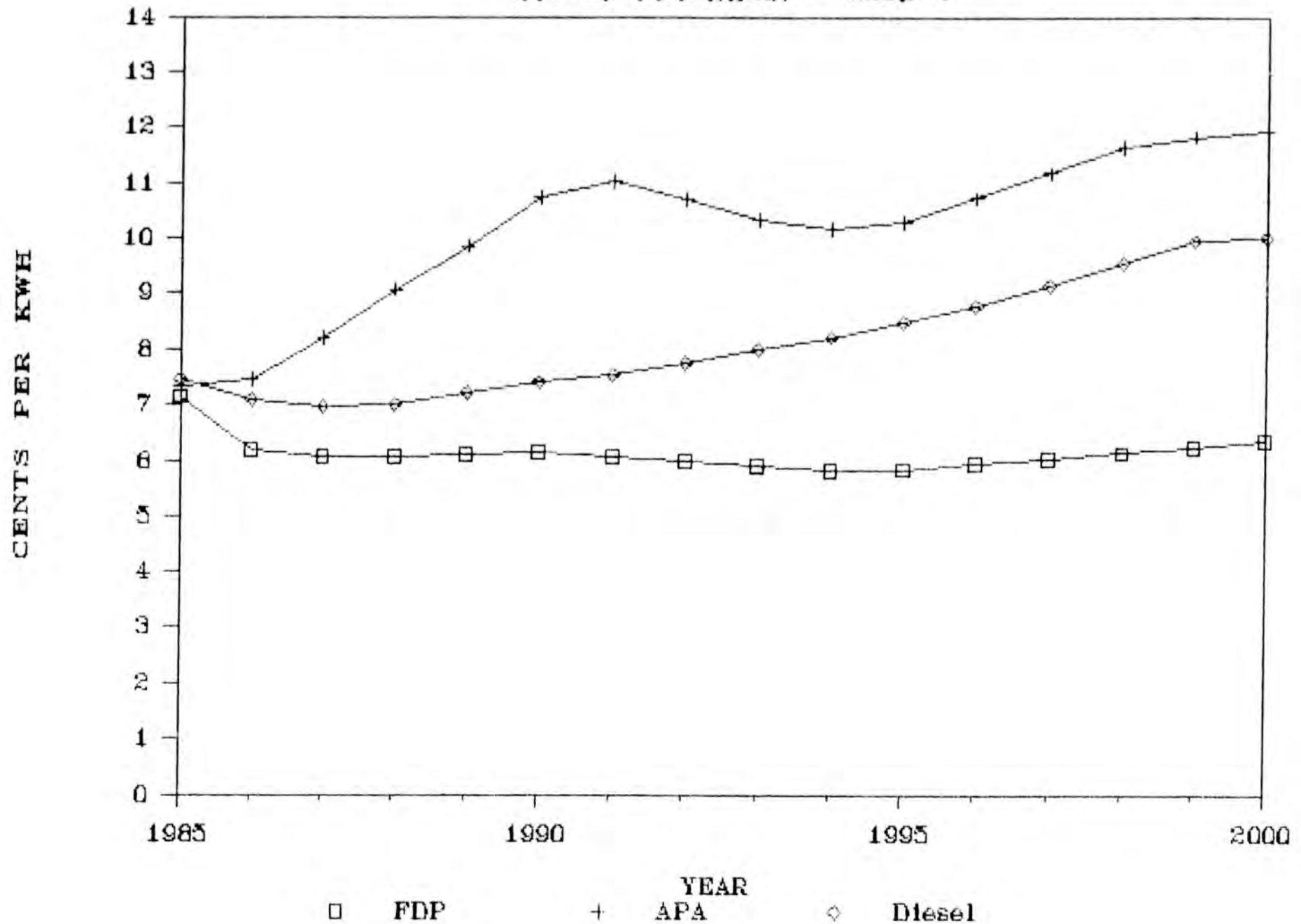
WHOLESALE POWER COST COMPARISON
 Swan Lake Hydroelectric Project
 Ketchikan Public Utilities Diesel Generation
 March 5, 1985
 CASE 2

PAGE 2 OF 2

	1993	1994	1995	1996	1997	1998	1999	2000
Generation in MWH	58,418	61,682	63,365	63,365	63,365	63,365	63,365	63,365
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,393,447	1,435,251	1,478,308	1,522,657	1,568,337	1,615,387	1,663,849	1,713,764
Diesel Reserve Cost (Dollars)	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
Principal (Dollars)	439,582	484,152	518,594	540,010	562,273	585,423	609,493	634,518
Interest (Dollars)	1,126,020	1,168,925	1,179,588	1,158,172	1,135,909	1,112,759	1,088,689	1,063,664
TOTAL - HB 219 ALTERNATIVE	3,449,279	3,593,265	3,696,575	3,756,527	3,818,277	3,881,880	3,947,391	4,014,867
HB 219 ALTERNATIVE (Cents/KWH)	5.90	5.83	5.83	5.93	6.03	6.13	6.23	6.34
APA ALTERNATIVE:								
O & M Cost (Dollars)	1,393,447	1,435,251	1,478,308	1,522,657	1,568,337	1,615,387	1,663,849	1,713,764
Diesel Reserve Cost (Dollars)	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	7.11	7.03	7.16	7.48	7.84	8.21	8.29	8.29
Debt Service (Dollars)	4,152,000	4,337,000	4,535,000	4,742,000	4,965,000	5,205,000	5,253,000	5,251,000
TOTAL - APA ALTERNATIVE	6,035,677	6,277,187	6,533,393	6,800,345	7,085,095	7,388,698	7,502,209	7,567,685
APA ALTERNATIVE (Cents/KWH)	10.33	10.18	10.31	10.73	11.18	11.66	11.84	11.94
DIESEL ALTERNATIVE:								
O & M:								
Variable	747,422	812,858	860,088	885,891	912,768	939,842	968,037	997,078
Fixed	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
Fuel	3,317,257	3,631,573	3,867,861	4,014,275	4,201,752	4,401,470	4,609,388	4,586,484
Lube Oil	111,003	120,722	127,736	131,568	135,515	139,580	143,768	148,081
TOTAL - DIESEL ALTERNATIVE	4,665,912	5,070,089	5,375,770	5,567,421	5,801,493	6,049,203	6,306,553	6,334,564
DIESEL ALTERNATIVE (Cents/KWH)	7.99	8.22	8.48	8.79	9.16	9.55	9.95	10.00

WHOLESALE POWER COST ALTERNATIVES

CITY OF KETCHIKAN - CASE 2



WHOLESALE POWER COST COMPARISON
 Swan Lake Hydroelectric Project
 Ketchikan Public Utilities Diesel Generation
 March 5, 1985
 CASE 3

	1985	1986	1987	1988	1989	1990	1991	1992
Generation in MWH	28,880	37,764	41,423	44,140	46,872	49,663	52,516	55,430
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,155,000	1,212,750	1,273,388	1,337,057	1,403,910	1,474,105	1,547,810
Diesel Reserve Cost (Dollars)	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.00	2.12	2.25	2.39	2.53	2.68	2.68	2.68
Principal (Dollars)	0	19,250	76,048	145,561	229,132	329,246	363,052	399,759
Interest (Dollars)	577,600	781,347	855,969	909,385	956,730	1,001,723	1,044,376	1,085,765
TOTAL - HB 219 ALTERNATIVE	2,064,592	2,361,938	2,571,426	2,776,325	2,993,310	3,228,789	3,400,140	3,577,871
HB 219 ALTERNATIVE (Cents/KWH)	7.15	6.25	6.21	6.29	6.39	6.50	6.47	6.45

APA ALTERNATIVE:

O & M Cost (Dollars)	1,100,000	1,155,000	1,212,750	1,273,388	1,337,057	1,403,910	1,474,105	1,547,810
Diesel Reserve Cost (Dollars)	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	2.19	3.39	4.40	5.41	6.30	7.28	7.66	7.40
Debt Service (Dollars)	632,000	1,281,000	1,324,000	2,386,000	2,951,000	3,613,000	4,024,000	4,101,000
TOTAL - APA ALTERNATIVE	2,118,992	2,842,342	3,463,409	4,107,379	4,758,448	5,510,820	6,016,711	6,193,347
APA ALTERNATIVE (Cents/KWH)	7.34	7.53	8.36	9.31	10.15	11.10	11.46	11.17

DIESEL ALTERNATIVE:

O & M:								
Variable	291,688	400,487	461,255	516,085	575,429	640,178	710,902	787,755
Fixed	386,992	406,342	426,659	447,992	470,391	493,911	518,606	544,537
Fuel	1,690,537	2,200,407	2,416,662	2,641,121	2,981,505	3,331,833	3,687,040	4,109,035
Lube Oil	43,320	59,478	68,503	76,646	85,460	95,076	105,565	116,993
TOTAL - DIESEL ALTERNATIVE	2,412,537	3,066,714	3,373,080	3,681,844	4,112,786	4,560,997	5,022,013	5,558,321
DIESEL ALTERNATIVE (Cents/KWH)	8.35	8.12	8.14	8.34	8.77	9.18	9.56	10.03

ASSUMPTIONS:

Inflation:	1.0500
Diesel (1985 Values):	
Variable O & M (Cents/KWH)	1.0100
Fuel (Cents/Gallon)	84.0000
KWH per Gallon of Diesel	14.3500

SOURCES:

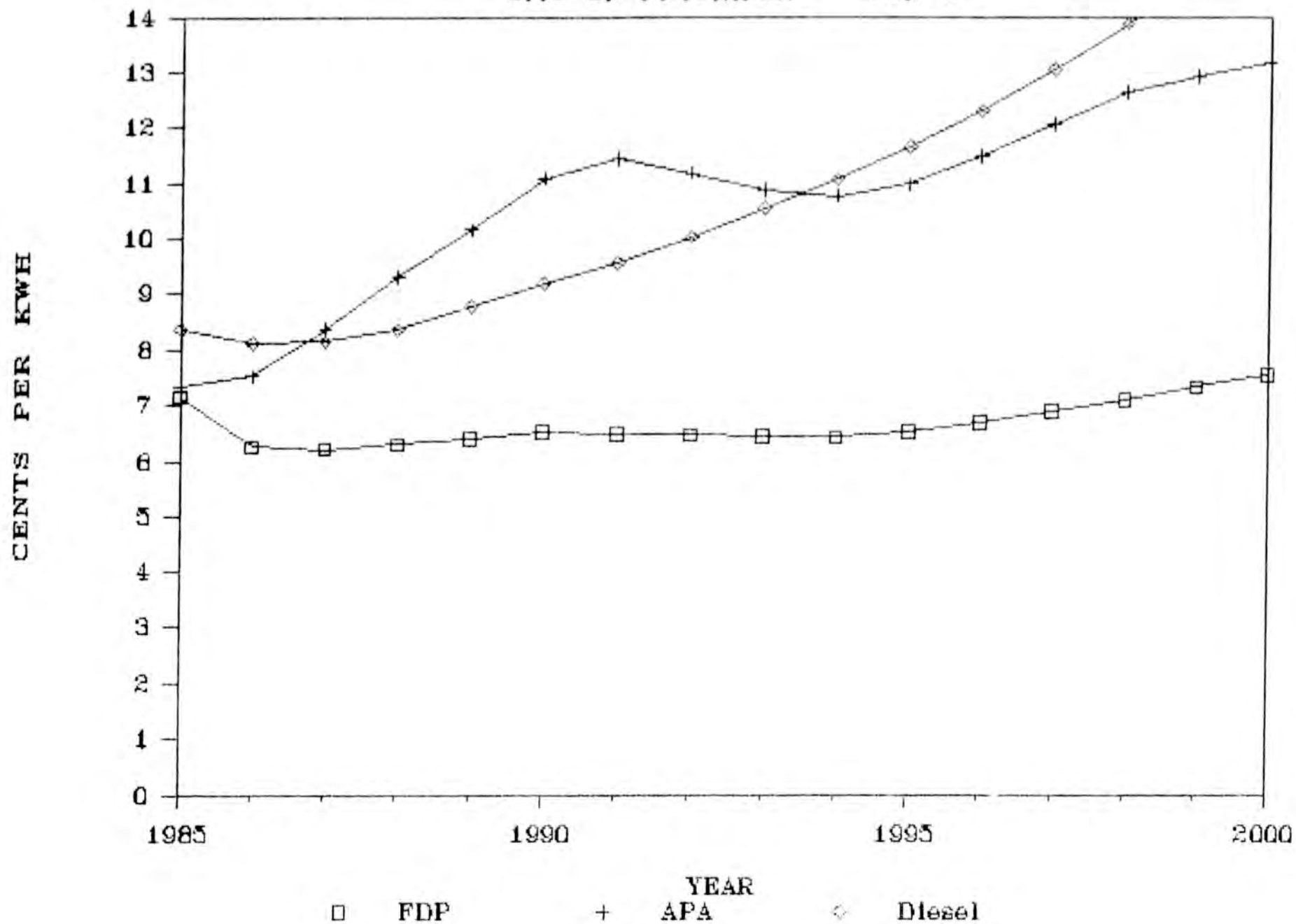
Diesel Fuel Cost Projections: DREV
 Generation Requirements: APA
 O & M Cost Projections: Based on KPU Historical Data

WHOLESALE POWER COST COMPARISON
 Swan Lake Hydroelectric Project
 Ketchikan Public Utilities Diesel Generation
 March 5, 1985
 CASE 3

	1993	1994	1995	1996	1997	1998	1999	2000
Generation in MWH	58,418	61,682	63,365	63,365	63,365	63,365	63,365	63,365
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,625,201	1,706,461	1,791,784	1,881,373	1,975,442	2,074,214	2,177,925	2,286,821
Diesel Reserve Cost (Dollars)	571,763	600,352	630,369	661,888	694,982	729,731	766,218	804,529
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
Principal (Dollars)	439,582	484,152	518,594	540,010	562,273	585,423	609,493	634,518
Interest (Dollars)	1,126,020	1,168,925	1,179,588	1,158,172	1,135,909	1,112,759	1,088,689	1,063,664
TOTAL - HB 219 ALTERNATIVE	3,762,567	3,959,890	4,120,335	4,241,443	4,368,606	4,502,127	4,642,324	4,789,532
HB 219 ALTERNATIVE (Cents/KWH)	6.44	6.42	6.50	6.69	6.89	7.11	7.33	7.56
APA ALTERNATIVE:								
O & M Cost (Dollars)	1,625,201	1,706,461	1,791,784	1,881,373	1,975,442	2,074,214	2,177,925	2,286,821
Diesel Reserve Cost (Dollars)	571,763	600,352	630,369	661,888	694,982	729,731	766,218	804,529
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	7.11	7.03	7.16	7.48	7.84	8.21	8.29	8.29
Debt Service (Dollars)	4,152,000	4,337,000	4,535,000	4,742,000	4,965,000	5,205,000	5,253,000	5,251,000
TOTAL - APA ALTERNATIVE	6,348,964	6,643,813	6,957,153	7,285,261	7,635,424	8,008,945	8,197,142	8,342,350
APA ALTERNATIVE (Cents/KWH)	10.87	10.77	10.98	11.50	12.05	12.64	12.94	13.17
DIESEL ALTERNATIVE:								
O & M:								
Variable	871,731	966,459	1,042,471	1,094,594	1,149,324	1,206,790	1,267,129	1,330,486
Fixed	571,763	600,352	630,369	661,888	694,982	729,731	766,218	804,529
Fuel	4,577,377	5,108,394	5,546,417	5,868,145	6,261,469	6,686,450	7,138,275	7,240,722
Lube Oil	129,465	143,534	154,822	162,563	170,692	179,226	188,188	197,597
TOTAL - DIESEL ALTERNATIVE	6,150,336	6,818,738	7,374,079	7,787,190	8,276,467	8,802,197	9,359,810	9,573,334
DIESEL ALTERNATIVE (Cents/KWH)	10.53	11.05	11.64	12.29	13.06	13.89	14.77	15.11

WHOLESALE POWER COST ALTERNATIVES

CITY OF KETCHIKAN - CASE 3



WHOLESALE POWER COST COMPARISON
Swan Lake Hydroelectric Project
Ketchikan Public Utilities Diesel Generation
March 5, 1985
CASE 4

PAGE 1 OF 2

	1985	1986	1987	1988	1989	1990	1991	1992
Generation in MWH	28,980	37,764	41,423	44,140	46,872	49,663	52,516	55,430
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,133,000	1,166,990	1,202,000	1,238,060	1,275,201	1,313,458	1,352,861
Diesel Reserve Cost (Dollars)	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.00	2.12	2.25	2.39	2.53	2.68	2.68	2.68
Principal (Dollars)	0	19,250	76,048	145,561	229,132	329,246	363,052	399,759
Interest (Dollars)	577,600	781,347	855,969	909,385	956,730	1,001,723	1,044,376	1,085,765
TOTAL - HB 219 ALTERNATIVE	2,064,592	2,332,199	2,509,567	2,679,822	2,859,484	3,054,800	3,182,975	3,314,337
HB 219 ALTERNATIVE (Cents/KWH)	7.15	6.18	6.06	6.07	6.10	6.15	6.06	5.98
APA ALTERNATIVE:								
O & M Cost (Dollars)	1,100,000	1,133,000	1,166,990	1,202,000	1,238,060	1,275,201	1,313,458	1,352,861
Diesel Reserve Cost (Dollars)	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	2.19	3.39	4.40	5.41	6.30	7.28	7.66	7.40
Debt Service (Dollars)	632,000	1,281,000	1,824,000	2,386,000	2,951,000	3,613,000	4,024,000	4,101,000
TOTAL - APA ALTERNATIVE	2,118,992	2,812,602	3,401,550	4,010,876	4,624,623	5,336,831	5,799,546	5,929,813
APA ALTERNATIVE (Cents/KWH)	7.34	7.45	8.21	9.09	9.87	10.75	11.04	10.70
DIESEL ALTERNATIVE:								
O & M:								
Variable	291,688	392,859	443,851	487,153	532,824	581,488	633,339	688,536
Fixed	386,992	398,602	410,560	422,877	435,563	448,630	462,089	475,951
Fuel	1,690,537	2,158,494	2,325,476	2,493,056	2,760,751	3,026,375	3,285,227	3,591,496
Lube Oil	43,320	58,345	65,918	72,349	79,132	86,360	94,060	102,258
TOTAL - DIESEL ALTERNATIVE	2,412,537	3,008,300	3,245,805	3,475,435	3,808,270	4,142,852	4,474,715	4,858,241
DIESEL ALTERNATIVE (Cents/KWH)	8.35	7.97	7.84	7.87	8.12	8.34	8.52	8.76

ASSUMPTIONS:

Inflation:	1.0300
Diesel (1985 Values):	
Variable O & M (Cents/KWH)	1.0100
Fuel (Cents/Gallon)	84.0000
KWH per Gallon of Diesel	14.3500

SOURCES:

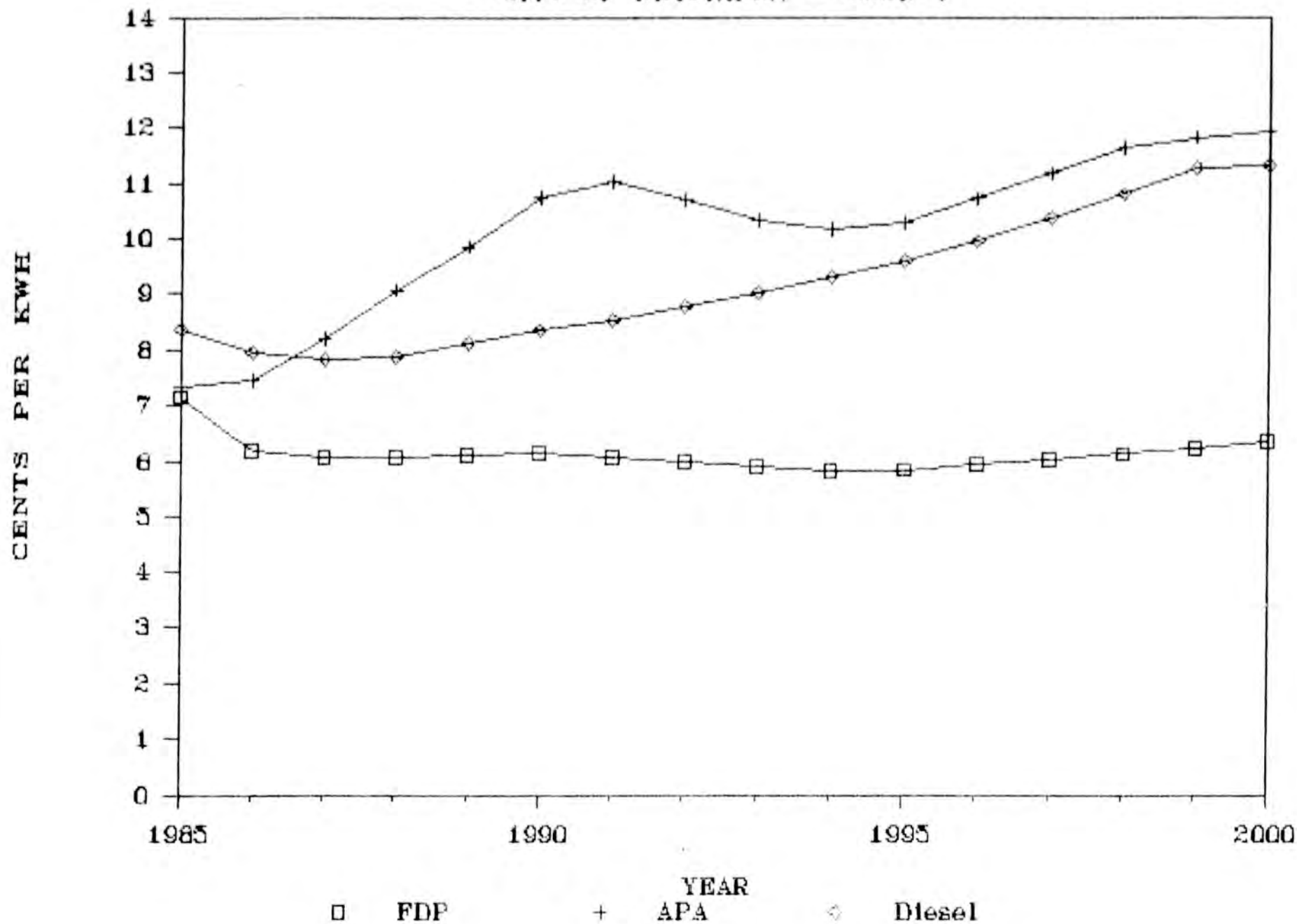
Diesel Fuel Cost Projections: DREV
Generation Requirements: APA
O & M Cost Projections: Based on KPU Historical Data

WHOLESALE POWER COST COMPARISON
 Swan Lake Hydroelectric Project
 Ketchikan Public Utilities Diesel Generation
 March 5, 1985
 CASE 4

	1993	1994	1995	1996	1997	1998	1999	2000
Generation in MWH	58,418	61,682	63,365	63,365	63,365	63,365	63,365	63,365
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,393,447	1,435,251	1,478,308	1,522,657	1,568,337	1,615,387	1,663,849	1,713,764
Diesel Reserve Cost (Dollars)	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
HB 219 DEBT SERVICE:								
Debt Service (Cents/KWH)	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
Principal (Dollars)	439,582	484,152	518,594	540,010	562,273	585,423	609,493	634,518
Interest (Dollars)	1,126,020	1,168,925	1,179,588	1,158,172	1,135,909	1,112,759	1,088,689	1,063,664
TOTAL - HB 219 ALTERNATIVE	3,449,279	3,593,265	3,696,575	3,756,527	3,818,277	3,881,880	3,947,391	4,014,867
HB 219 ALTERNATIVE (Cents/KWH)	5.90	5.83	5.83	5.93	6.03	6.13	6.23	6.34
APA ALTERNATIVE:								
O & M Cost (Dollars)	1,393,447	1,435,251	1,478,308	1,522,657	1,568,337	1,615,387	1,663,849	1,713,764
Diesel Reserve Cost (Dollars)	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
APA DEBT SERVICE:								
Debt Service (Cents/KWH)	7.11	7.03	7.16	7.48	7.84	8.21	8.29	8.29
Debt Service (Dollars)	4,152,000	4,337,000	4,535,000	4,742,000	4,965,000	5,205,000	5,253,000	5,251,000
TOTAL - APA ALTERNATIVE	6,035,677	6,277,187	6,533,393	6,800,345	7,085,095	7,388,698	7,502,209	7,567,685
APA ALTERNATIVE (Cents/KWH)	10.33	10.18	10.31	10.73	11.18	11.66	11.84	11.94
DIESEL ALTERNATIVE:								
O & M:								
Variable	747,422	812,858	860,088	885,891	912,468	939,842	968,037	997,078
Fixed	490,230	504,937	520,085	535,687	551,758	568,311	585,360	602,921
Fuel	3,924,642	4,296,509	4,576,060	4,749,283	4,971,087	5,207,372	5,453,361	5,426,262
Lube Oil	111,003	120,722	127,736	131,568	135,515	139,580	143,768	148,081
TOTAL - DIESEL ALTERNATIVE	5,273,297	5,735,025	6,083,970	6,302,429	6,570,828	6,855,105	7,150,526	7,174,342
DIESEL ALTERNATIVE (Cents/KWH)	9.03	9.30	9.60	9.95	10.37	10.82	11.28	11.32

WHOLESALE POWER COST ALTERNATIVES

CITY OF KETCHIKAN - CASE 4



ALASKA POWER AUTHORITY
FOUR DAM POOL
OBJECTIVES IN NEGOTIATIONS

- 1) Form the foundation for a statewide energy program for Alaska;
- 2) Establish debt service so that rate shock is not experienced by the communities;
- 3) Establish entry rates for the communities at no higher than their avoided cost; and
- 4) Establish long-term rates which benefit the communities as well as provide a return to the state.

LETTER OF UNDERSTANDING

The negotiating team representing APA, Ketchikan, Copper Valley Electric Association, Kodiak Electric Association, Petersburg and Wrangell have agreed on the terms and conditions of a power sales agreement incorporating the following:

1. The written and oral understandings of the parties heretofore reached shall be placed in writing in agreed final form, and remaining comments of the parties will be mutually and expeditiously resolved and also incorporated in the agreement.
2. A rate stabilization fund shall be established as proposed in the communities' 17 point proposal funded in part by a State appropriation of \$49,000,000.
3. The system increment proposal of the communities shall also be incorporated in such agreement.

We mutually recognize that certain statutory amendments are required to implement the agreements reached to date.

We expect to conclude draft O & M agreements and interconnection agreements following a mutual review of proposed contract revisions.

We will recommend to our respective boards and councils that the agreements be adopted and that we be authorized to execute them and to assist in the steps necessary to complete the financing.

DATED March 20, 1984

ALASKA POWER AUTHORITY

By: Larry R Crawford

CITY OF KETCHIKAN

By: Tom Newland

COPPER VALLEY ELECTRIC ASSOCIATION

By: J. A. Tillin

CITY OF WRANGELL

By: James Rusk

KODIAK ELECTRIC ASSOCIATION

By: David H. Nease

CITY OF PETERSBURG

By: Don Koenigs

SENATE FINANCE COMMITTEE

MAY 26, 1984

9:20 A.M.

CALL TO ORDER

CO-CHAIRMAN DON BENNETT CONVENED THE MEETING AT APPROXIMATELY 9:20 A.M.

PRESENT

MEMBERS PRESENT: SENATORS BENNETT, FERGUSON, MULCAHY, SACKETT, AND V. FISCHER. SENATORS JOSEPHSON AND FAIKS CAME IN LATER.
OTHERS PRESENT: MIKE GREANY, DIRECTOR, LEGISLATIVE FINANCE; P.S. DHILLON, REVENUE ANALYST, LEGISLATIVE FINANCE; MILT BARKER, DEPUTY COMMISSIONER, DEPARTMENT OF REVENUE; COMMISSIONER HEATH, DEPARTMENT OF REVENUE; COMMISSIONER LYON, DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT; REPRESENTATIVE HURLBERT; SENATOR KERTTULA; RICH UNDERKOFER, CITY MANAGER, CITY OF PETERSBURG; DON KOENIGS, MAYOR, CITY OF PETERSBURG; KURT DZINICH, SENIOR ADVISOR, SENATOR ADVISORY COUNCIL; SUSAN WHITE, EXECUTIVE ASSISTANT, ALASKA POWER AUTHORITY; MARTHA FOX, ASSISTANT ATTORNEY GENERAL, DEPARTMENT OF LAW; TERRY ELDER, DEPUTY COMMISSIONER, DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT; AND STAFF FROM STATE OFFICES AND LEGISLATIVE OFFICES.

SUMMARY INFO

CSHB 684(FIN) AM AN ACT MAKING SPECIAL APPROPRIATIONS TO THE ALASKA POWER AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE. DISCUSSION AND HELD IN COMMITTEE.

SENATOR FERGUSON WALKED THE COMMITTEE THROUGH THE PROPOSED SCS FOR CS FOR HB 684(FINANCE). HE THEN ASKED MR. LARRY CRAWFORD AND BILL BATT TO COME FORWARD AND DISCUSS THE PROPOSAL WITH THE COMMITTEE.

LARRY CRAWFORD

MR. LARRY CRAWFORD, EXECUTIVE DIRECTOR OF THE ALASKA POWER AUTHORITY CAME FORWARD TO TESTIFY AND INTRODUCED MR. BILL BATT, DIRECTOR OF FINANCE. SENATOR MULCAHY ASKED WHAT THE INTENT WAS OF THE ALASKA POWER AUTHORITY WITH REGARD TO SECTION 1, THE \$210,000,000 AND THE POWER CONTRACTS. MR. CRAWFORD SAID THE INTENT OF THE POWER AUTHORITY WAS TO USE THE RENEGOTIATED AGREEMENTS AS THE BASIS FOR THE LOAN AND THE COMMUNITIES WOULD HAVE RATES BASED ON THOSE RENEGOTIATED AGREEMENTS. HE SAID THE ONLY TIME THEY WOULD ENFORCE THE EXISTING AGREEMENT WOULD BE WHERE THEY DID NOT HAVE A NEW RENEGOTIATED AGREEMENT.

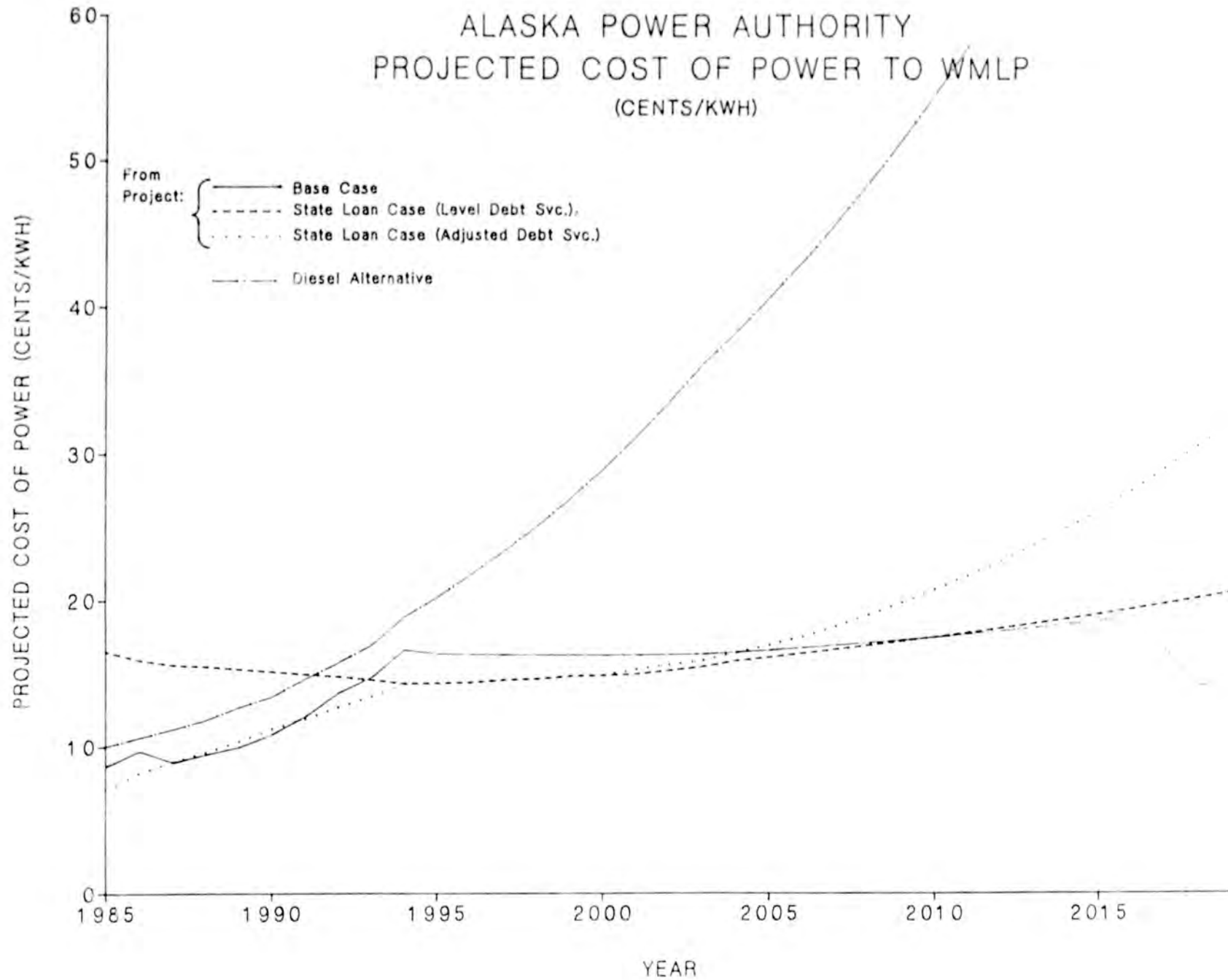
SENATOR MULCAHY ASKED ABOUT CLARIFICATION ON SECTION 1. HE FELT THE APPROACH BEING TAKEN WOULD DO AWAY WITH THE RATE STABILIZATION APPROPRIATION THAT HAD BEEN LOOKED AT BEFORE WHEN GOING OUT TO THE BOND MARKET. HE SAID IT WAS HIS UNDERSTANDING THAT THE RATE STABILIZATION APPROPRIATION WOULD NOT BE NEEDED BECAUSE OF THE USE OF GENERAL FUNDS AND BECAUSE THE LANGUAGE IN THE AUTHORIZING BILL IS SUCH THAT THE INTEREST RATE CAN BE "BACKED IN."

MR. CRAWFORD SAID THIS WAS CORRECT, THAT THEY ARE LOOKING AT WHAT THE DEBT SERVICE PAYMENTS WOULD HAVE BEEN UNDER THE RENEGOTIATED AGREEMENT AND THEN THEY WILL BE RETURNING THE MONEY TO THE STATE IN ACCORDANCE WITH THOSE DEBT SERVICE PAYMENTS. THE INTEREST RATE IS THE DERIVED NUMBER AND LOOKS TO BE ABOUT AN 8% YIELD TO THE STATE ON THE \$210,000,000 OVER THE LIFE OF THE LOAN. HE SAID THE PAYMENTS IN THE EARLY YEARS WILL BE LESS THAN IN THE LATER YEARS AND THEY CAN DO AWAY WITH THE RATE STABILIZATION FUND.

SCS FOR CSHB 589(FINANCE)

SENATOR FERGUSON WALKED THE COMMITTEE THROUGH THIS LEGISLATION. SECTIONS 1 THROUGH 3, CREATE THE POWER DEVELOPMENT REVOLVING FUND FOR THE PURPOSE OF IMPLEMENTING THE \$210,000,000 LOAN FOR THE FOUR-DAM POOL PAY OUT. SECTION 4 ALLOWS THE CREATION FOR THE FOUR-DAM POOL.

ALASKA POWER AUTHORITY PROJECTED COST OF POWER TO WMLP (CENTS/KWH)

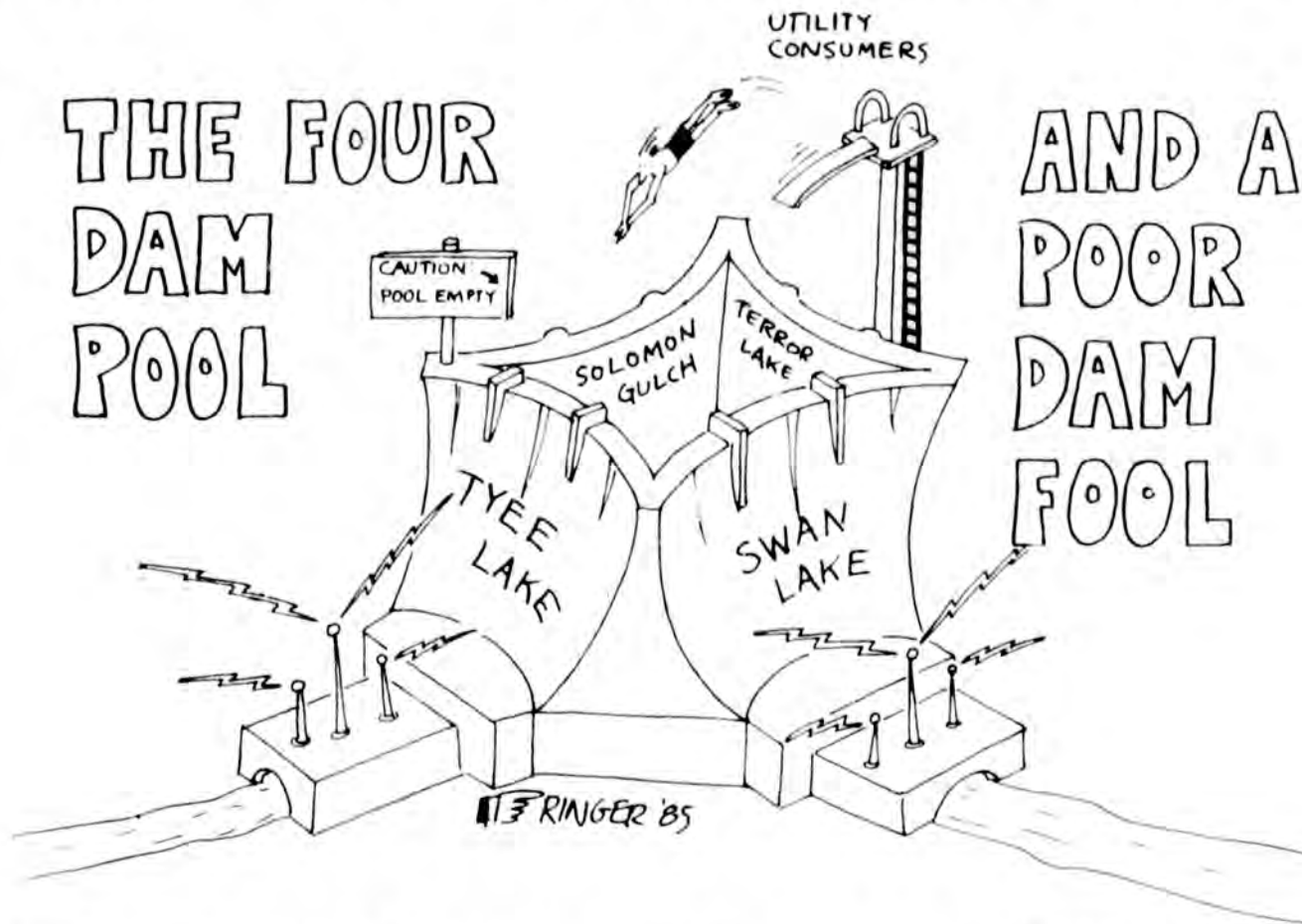


The Capital REPORTER

A Journal of Alaskan Political News and Opinion

Volume 1, No. 13

Four Dam Pool: Round & Round We Go



Three meetings were held this week between legislators, the administration officials and representatives of the four-dam pool communities to discuss Rep. John Sund's House Bill 219. The bill represents the four-dam pool communities' latest attempt to come to an agreement with the Alaska Power Authority and the administration for

long-term power rates that the communities can afford, and that offer the state a reasonable rate of return on its investment.

Negotiations began on an amicable, hopeful note, but by week's end, when House Bill 219 failed to move from a House Finance subcommittee, the pre-Easter talks

ended on a hostile, confrontational note. The turn in events was termed "frustrating, but not surprising," by some of the players who have worked for two and a half years to reach the ever-elusive, long-term power cost agreement with the state.

In spite of the negative end to

(Continued on page 8)

Wunnicke Defends DNR Action on Royalty Gas Increase

Controversy erupted last week over a decision by the Department of Natural Resources (DNR) to increase state royalties on Cook Inlet natural gas. The action could result in significant increases for Anchorage utility consumers, and some lawmakers are concerned over the effect that would have on the rural power cost equalization program which provides power subsidies for rural consumers.

DNR announced on March 19 that it had notified five Cook Inlet gas producers (ARCO, Chevron, Marathon, Shell and Union Oil of California) that, effective April 1, it would no longer accept royalty valuation based on long-term contract prices that are significantly below current market value. A higher royalty valuation on the state's portion of Cook Inlet gas translates into about \$8 million per year in additional revenues to the state.

It also means that the producers, under the terms of their contracts with purchasers, will pass the costs on, in this case to Chugach Electric Association and Enstar Natural Gas in Anchorage. Those utilities would probably seek APUC approval to pass the costs on to their customers.

Estimates vary as to the magnitude of the increases, but according to DNR Commissioner Esther Wunnicke, press accounts of a 20 percent jump are overstated. She feels prices would rise by no more than about ten percent for Chugach Electric Association, the utility that will be the most severely affected, and by about one percent for Enstar who relies less heavily on Cook Inlet gas. Chugach estimates utility rates will rise about four percent as a result of the action.

Wunnicke said recent negotiations by Enstar and Marathon set the market rate for natural gas at around \$2.05 per thousand cubic feet (mcf), significantly higher than the rates established under long-term contracts the some producers are operating under. Chugach, under its present contract with Chevron, ARCO and Shell for Beluga gas, pays only \$.21 per mcf. Wunnicke pointed out that

although Chugach's gas purchase costs will increase by almost 50 percent, the gas represents only 30 percent of the utility's fuel requirement.

According to Wunnicke, who gave an overview on the subject to the Senate Resources Committee on April 1, DNR is merely exercising the state's right to obtain royalties on the higher "market value" of its natural gas. Wunnicke labeled the action a "lease enforcement action" and not an optional or arbitrary decision.

Wunnicke also stressed the importance of strict, yet even-handed enforcement of the state's leases. "If we hope to prevail in the North Slope royalty litigation, it is our view that we must act across the board to collect full value for the state's resources. It would be improper to have one standard of enforcement where oil companies bear the burden and a different more lenient standard where some of that burden is passed on to Alaska consumers," she said.

The effect on bush power subsidies is not clear. Some fear that an increase in Anchorage power rates will adversely affect the Power Cost Equalization program established last year which provides power cost subsidies to rural consumers. Some of the impetus to establish the program came from recognition of the fact that Anchorage enjoyed what amounted to a state subsidy in the form of low gas prices to the utilities, and that rural consumers should be afforded the same benefits. On March 25 Rep. Virginia Collins (R-Anchorage) circulated a letter to Sheffield claiming that rates established under the Power Cost Equalization program "are premised, in large part, on per kilowatt hour costs in the Anchorage area."

Wunnicke disagreed. "The marker for rural subsidies is set by statute at 8.5 cents per kilowatt hour, and this rate is unaffected by changes that might occur in urban power rates," she told the Senate Resources Committee. She also said that the lower gas prices have never been openly labeled a subsidy, and that if the Legislature decides to subsidize Anchorage then it

The Hyder Connection

The House Finance Committee gave a favorable recommendation to Rep. Robin Taylor's bill to link Hyder, Alaska with the rest of the state via marine highway service. Taylor (R-Wrangell) introduced the bill in mid-February to appropriate \$22,000 to initiate trial summer service into the long-neglected Southeastern Alaska community. Taylor said he hopes to see the bill on the floor of the House for a vote early next week, and he hopes that the bill's minimal fiscal impact will help it in its journey through the Senate.

Hyder is a community of approximately 100 residents located at the head of Portland Canal, a long, scenic fjord that runs 90 miles along the U.S. - Canadian border just north of Prince Rupert, British Columbia. Hyder is directly across the canal from Stewart, a British Columbia mining town. Children from Hyder are bused to Stewart to attend school, and the currency used in town is Canadian. The State of Alaska provides very little in the way of services to Hyder, the town that calls itself "The Friendliest Ghost Town in Alaska."

The Stewart-Cassiar Highway opened last year, connecting the two towns to the Alaska/Yukon Highway 37, and Hyder asked the Legislature that it be designated as "Mile 0" of the Alaska/Yukon Highway. Proponents point out that Hyder is 141 miles closer to the Seattle than Prince Rupert, and that the road is superior to the Prince Rupert-Terrace portion of the Yellowhead Highway. Rep. Taylor testified that over 25,000 cars made the trip into Stewart and Hyder last year. Taylor would like to see the State help out one of its own, and he sees Hyder as a possibility for a future southern terminus of the Alaska Marine Highway. A companion measure, House Bill 202, that is also in House Finance, appropriates \$2.1 million for construction of a ferry dock and terminal facilities at Hyder.

Chances of HB 202 passing this session are slim, however Rep. Taylor intends to keep pushing for a ferry terminal at Hyder. Joe Camp from the Marine Highway System claims that the northeast end of Portland Canal can be extremely windy, and that the twice-weekly summertime runs would give them some experience in navigating the canal.

(Continued on page 6)

Subsistence and Tlingit Culture

by Robert Willard

Let me allay any fear that the culture of the Tlingit nation is dying. There are those among you who preach the notion that the culture of the Tlingit is either dead or dying on the vine.

There are even some among the Tlingit people who express that fear. It may well be that these people, on their own or through their upbringing, write off the customary ways and the heritage of the Tlingit. But I can assure you, the culture of the Tlingit nation is alive and well.

To our younger people: do not believe that the culture is dying. It is there because you are there.

We thank and acknowledge our elders - our mothers and fathers who brought us here, and our aunts, uncles, grandmothers and grandfathers for teaching us to respect the culture and to respect our fathers, mothers, brothers, sisters, and our children. Respect is the cultural trait of the Tlingit people.

We acknowledge, too, those among us who have a culture to identify with. We applaud the Irish, the Filipinos, the Vietnamese, the African nations, the Russians - and others from around the world who are among us. We are pleased when we observe their folklore dances in our presence. They too have not lost the cultural identity and the inherited traits of their cultural beginnings. Likewise, they must respect the Tlingit when we act in our customary and traditional ways.

In order to understand this business of culture, you need first to identify what you claim is lost. These things may not be understood even by our own people.

You must understand the king's language on the terms "culture" or "cultural," "custom" or "customary," "tradition" or "traditional," and "heritage," "hereditary," or "inherited."

You should know the difference between these terms before you charge me, or my Tlingit people with having lost our cultural ties.

Permit me to explain certain aspects of culture, custom, tradition and heritage.

Tlingit is the culture of the land and waters around us. Likewise, the land and water are the culture of the Tlingit.

My five Tlingit names are part of the Tlingit culture, in fact my very existence is living proof of that culture. The honor we give to the Tlingit name is customary practice. The method that I use, perform and

"Subsistence is the very culture of the Tlingit Nation. . . . To take away subsistence . . . would constitute cultural genocide."

speak at ceremonial activities is the tradition of our people. All of the above is the heritage, because I inherited all from my mother and father.

I belong to the Decitan, or clan of the beaver. That too is the culture. My Tlingit name is that of the beaver, and the headgear, the blanket, leg wear and make-up I wear at official Tlingit activity are all aspects of culture.

Occasionally you will hear of a "40-Day Party" being held for a deceased member of the Tlingit. This has become a tradition, although it is not of the true culture because this practice came with the advent of Christianity. The churches take credit for having "brought Christianity to the Tlingit people." Not true. Long before the Christians came to our shores, the Tlingit had a word for "God." The Tlingit accommodated the Christians' religion though, and instituted the 40-Day Party. In that event the favorite food of the decedent was served in the traditional way, usually our subsistence foods - the fish, the deer, the berries, the water plants, and other wildlife.

Subsistence is the very culture of the Tlingit Nation. It is of the land and the water around us. The methods we use to prepare and preserve our foods are the customary ways that we have used since life began. The manner in which we serve our foods is in the traditional way of the Tlingit nation, and the implements derived from the resources represent the Tlingit culture. All of these uses and methods are the heritage of the Tlingit nation. Thus, the subsistence use of the resources is more than traditional and customary.

Any effort to take subsistence away will be met with the full resistance of the Tlingit nation. The same is true of the Haida nation. To take away subsistence would constitute cultural genocide, by any interpretation.

Because we respect other cultures, we would never deny the Chinese his rice or the Norwegian his lutefisk.

We have never imposed our culture, customary or traditional ways upon others. They are reserved and revered by the Tlingit nation. All we ask is that you understand our ways, we do not ask that you respect them or observe our rites when they are occurring. Only to understand.

Our present generation, and the generations to come, will observe the cultural traits and customary way of life of the Tlingit nation. They will enjoy the fruits of our labors in the traditional way. That is our heritage and it will never be surrendered or lost. For that is the culture of the Tlingit nation. I have spoken.

Ed. Note: Robert Willard is the Chairman of the Alaska Native Brotherhood Legislative Affairs Committee.

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Graphics by Tony Armlin

1985

Ann Gardiner Metcalfe and

Kimberly Metcalfe-Helmar

Vern's Version

Presiding Officers I Have Known

By Vern Metcalfe



For those who are into Alaska Trivial Pursuit, it should be known that the first speaker of the House in 1913, was Earnest B. Collins. He was named aptly and from then on referred to as "Fox." His counterpart, from Seward, was L. V. Ray and no, he was not related to another present day senator, who has yet to be prey of the Senate and is not included in the coalition ruling the Senate body this session.

E. B. Collins later moved to Fairbanks and last served as a senator in the 1949 Territorial Legislature. He was a delegate to the Constitutional Convention of 1955. No one else, to my knowledge, had a greater time span in legislative office than the Fairbanks attorney, who was born in 1873 and had resided in Alaska since 1904.

Collins was the only speaker to serve two consecutive terms until another Fairbanksan, Warren A. Taylor did so for the first two sessions of the State House. Taylor was a good friend of the writer (we served together in 1951 and again in 1955) and he was also the only member to be elected from three different towns — Cordova, Kodiak, and Fairbanks. Taylor read law under Anthony J. Dimond, who had served eight years in the Territorial Senate before becoming a delegate to Congress, from 1933 to 1945, after which he became a federal judge for the Third Division.

One of the most colorful of all presiding officers, Taylor was once accused during a debate in the 1955 session of "defending more criminals than any other Alaskan attorney." Speaker Wendell P. Kay could have taken exception but agreed with Taylor when he replied, "you have that wrong, sir, I have defended more people accused of crime than any other attorney."

My acquaintance with speakers began with Stanley J. McCutcheon of Anchorage who served in 1949 and was perhaps the ablest I've seen in the chair. He could move more legislation off the calendar faster than anyone I've seen. He was often placed in the chair during the 1951 session, when William A. Egan was speaker, to do just that, move things. The Democrats had only a four vote margin (14 to 10) with two of these being prone to vote with the GOP unless sufficiently prodded to do otherwise.

Egan was a no-nonsense man in the chair although reduced to laughter on occasion -- once when Mike Stepovich, later a Territorial governor, got carried away with his fiery oratory. Seems that Mike was seated directly behind Alden Wilbur, a Fairbanks plumber and businessman, who got tired of dogging that Stepovich windmill approach to debate. Each time Mike stepped forward, Alden put out his arm and pushed him back, without Stepovich missing a word or Wilbur changing expressions.

"... Taylor was once accused ... of 'defending more criminals than any other Alaskan attorney.' Then Speaker Wendell P. Kay could have taken exception, but agreed when Taylor replied, 'you have that wrong, sir, I have defended more people accused of crime than any other attorney.'"

George Miscovich followed Egan and presided over the Republican-controlled 1953 House. Miscovich was non-plussed at being in the majority but handled the chores well. In 1951 there was a saying that went, "23 and Miscovich" since he

never liked having a unanimous vote on anything. He also figured in a last night epic that is still spoken of when such matters are discussed. Seems he was presented with a painting he much admired (all presiding officers get gifts for surviving) and overcome with emotion, reared back in his chair which rolled off the podium with a horrendous crash. Miscovich recovered enough to crawl back up on his dais, slam down the gavel and call a recess.

Wendell Kay was given a solid majority in 1955, 21 to 3, where Miscovich had like numbers, 20 to 4, which was the fastest party turn around in legislative history. Kay had quite a crew to herd, consisting of 12 attorneys, plus 12 laymen. His session saw the passage of the "Unified Bar" which gave the Alaska Bar Association the ruling of the legal roost but only after a trick brought about by Rep. Dora Sweeney (D-Juneau).

The House was expected to pass the bill without any nays but each lawyer had to rise to explain the benefits of the passage. Rep. Sweeney determined that the laymen should upset various applecarts and when the vote was called Wendell Kay very nearly emulated Miscovich's upsy-daisy. He was busy scanning a newspaper, feet on his desk as the roll call was made, and suddenly dropped his feet, paper, and almost himself and yelled, "What in the hell is going on here?"

Seaborn J. Buckalew, Jr. also was on his feet in a panic but all was well when the lay people allowed that another vote be taken. There have also been instances wherein a speaker had a pet bill which he left the chair to champion and then heard the House roundly vote it down. All in fun, of course.

There have been some Senate presidents I've known, although when covering the legislature as a reporter I've always preferred the House. Where else could you have seen such a maverick as Bruce Kendall presiding? Bruce was the winner in a 20-20 contest. Kendall was later to become a Democrat after not gaining the Republican nomination, he lost to Walter J. Hickel in the 1966 primary for governor. Kendall was one of the shrewdest operators I've seen.

He once told the reporter following a stirring speech he made, before he became speaker, that his

(Continued on page 6)

Legislature . . .

(Continued from page 5)

proponents to be "freedom of choice" legislation, was sponsored by Sen. Bettye Fahrenkamp, and would exempt midwives from State Medical Board regulation, and instead grant the Department of Health and Social Services power to adopt regulations for educating and training persons engaged in the practice of midwifery.

Kay Connelly, a midwife who is licensed through the state of New Mexico and practices in Juneau, told members of the HESS committee that because midwives are not regulated they cannot get insurance. Connelly was one of five Juneau residents testifying in favor of the bill. Most midwives in Alaska are licensed through New Mexico, which is one of more than 10 states that has sanctioned the practice of midwifery.

One Anchorage doctor, who spoke on behalf of the Anchorage medical society, and said that they are "adamantly opposed" to this bill. Another doctor in Anchorage also voiced his objection to the bill, by stating that he doesn't "want to see the state legitimize a second class of care."

The bill defines the practice of midwifery as "giving education and advice concerning pregnancy; supervising, caring for, and advising women during pregnancy, labor, and the postpartum period; conducting deliveries without supervision; and caring for newborns and infants."

A student midwife in Fairbanks, Diane Fuller, said women have a "right to be attended by the person of our choice, and a right to alternative health care. And it is our constitutional right to choose where and when we give birth."

—The Senate postponed action on a bill that would allow a terminally ill patient to decide whether life-sustaining devices are used. Under the "living will" bill, CSSB 140(HESS) by Sen. Ellason, a patient would have the right to make treatment decisions "as long as the patient is able to do so." When a patient is no longer able to make decisions, his sworn statement regarding withdrawal of life-support systems becomes effective. Sen.

Josephson (D-Anchorage) felt the circumstances constituting "not being able to make a decision" should be clearly defined in the legislation, and Sen. Ray (D-Juneau) expressed concern over a provision requiring doctors who will not honor the wishes of a patient to transfer the patient to another doctor. The Senate will take the bill up again on Tuesday, April 9.

—A bill creating the Alaska State Fire Commission to promote fire safety was passed out of Senate State Affairs on Tuesday, but with only one favorable recommendation. Sen. Bob Ziegler's Sb 209, and the companion funding measure, SB 210, prompted criticism from Anchorage Republican Tim Kelly who questioned a section in the bill granting the Commission power to adopt regulations. "What we're talking about here is a statewide, super-regulatory agency," Kelly said. "Frankly, I don't think that's necessary." Sen. Bill Ray of Juneau was the lone "do pass."

—Sen. Bettye Fahrenkamp (D-Fairbanks) testified before Senate State Affairs on Tuesday in support of her bill to continue the Administrative Journal, the bi-weekly compilation of state solicitations to bid and notices of changes in regulations. The journal was started on an experimental basis last year.

Four Dam Pool . . .

(Continued from page 8)

Pourchot until the Alaska Power Authority and the four-dam communities reach a compromise somewhere between 8 and 4 percent, and until a formula for figuring out avoided cost is settled on.

No one is saying what the final figures will be, but they are talking, and most of the parties agree that Bob Heath, the most recent in a chain of Alaska Power Authority executive directors, is the most reasonable person they have had to deal with so far. Heath is confident of reaching an agreement and said, "we're getting close and are working toward a conceptual framework," and he hopes that in another two or three meetings the factions can agree on a methodology. Heath said all of the ideas are on the table, and stated "nothing is sacred here - until we reach some agreement I'm refusing to recognize any boundaries..."

Vern's Version . . .

(Continued from page 4)

remarks might have been on the wrong bill — they were — but the mistake was a natural one for him. "I've never read a bill en toto yet, why start now?" he told me. He was extremely partisan prior to becoming the speaker but acquitted himself well once he gained the throne. It should also be noted that as House minority leader in 1959, the 1st State Legislature, he persuaded Jay Hammond, who was elected as an Independent, to join the five-man Republican force.

He explained to Hammond that he would be able to choose what committees he wished since the majority had to allow at least one GOP member on each. Hammond confessed that when he ran he didn't know which party appealed to him the most, thus his classification as an Independent.

More than one Republican later indicated that he was still a bit foggy as far as party affiliation went but that would be another column all in itself. Hammond was to preside from 1971 to 1973 as Senate President, then retired from the fray to his home in Bristol Bay only to be persuaded by Sen. Lowell Thomas, Jr. to run for governor with Thomas as his Lt. Gov. candidate.

Others that I came to know and admire included Frank Peratrovich of Klawock who holds distinction in leadership roles and service in both houses, which has never been attained and never will be attained by any other legislator. There was Bill Boardman, a Ketchikan Republican, who like Kendall surprised a lot of people, including me, by being an extremely effective speaker.

Gas . . .

(Continued from page 2)

should do so directly, not through slack enforcement of its leasing program.

Collins' letter to Sheffield urges the governor to suspend DNR's decision until the Legislature has a chance to study its impact on both rural and urban consumers. Wunnicke said that in response to these concerns the effective date of the decision has been postponed until April 15 to give lawmakers a chance to study the problem.

Sheffield's Budget "Revelation" Anti-Climactic At Best



Commentary

by Joe LaRocca

Several weeks ago, when I discussed here the ease with which Alaska's government and political establishment are able to manipulate Alaska's gullible press corps, I didn't anticipate the prompt confirmation they would obligingly proffer.

The case in point was the Sheffield administration's recent "revelation" that first quarter state revenue projections foretold a half billion dollar shortfall from earlier budget expectations.

The local rag, for example, carried this Page One banner headline: "New forecast: State revenue falls \$463 million."

In fact, there was nothing at all new about the projections. They were, at best, an anti-climactic, after-the-fact reaffirmation of months' old projections which could be altered only by dramatic events which would have been obvious if and when they occurred.

If ever there was a non-news story, it was the one to which Alaska's naive news media over-reacted on April 1 when they announced, with drum rolls and fanfare, the "new" state revenue projections. April fools, indeed.

My news media colleagues compounded their folly when they

erroneously attributed the \$463 million shortfall announced by the administration exclusively to eroding oil prices.

In fact, only half that total is directly attributable to the softening world oil market. The other half is due to shortfalls from three general revenue sources: state investment yields (\$75 million); property taxes (\$60 million); and corporate income taxes (\$95 million).

The distinction is subtle, but significant. There is little, if anything, the state can do to make up shortfalls directly attributable to declining world oil prices.

But there's much it can do to compensate for shortfalls from two of the other three revenue sources: to wit, raise taxation levels.

While I'm not necessarily advocating that option, it's clearly one over which state decision makers exercise significant control.

By hyper-dramatizing a non-news event, the news media played right

"By hyper-dramatizing a non-news event, the news media played right into the hands of sly politicians, underscoring the myth that Alaska is going broke."

into the hands of sly politicians, underscoring the myth that Alaska is going broke.

That's precisely the perception which certain politicians are anxious to foster among rank and file Alaskans. The reality, which the politicians prefer to mask, is that Alaska is, relatively speaking, awash in money.

But by poor-mouthing their constituents, the politicians are more easily able to deflect constituent demands in favor of their own pet projects, which they continue to promote and fund behind the scenes

(Continued on page 7)

Legislature

--A proposal to guarantee the state Ombudsman access to confidential records of state agencies drew fire from Department of Health & Social Services representatives at a Senate State Affairs meeting on Tuesday. SB 9 by Senator Ray would grant the Ombudsman access "at all times to records of every state agency, including confidential records." Deputy Commissioner of the Department of Health & Social Services Connie Sipe objected to the language as being too broad. "Some federal statutes and regulations flatly prohibit public disclosure of client records, except for internal audits. Other federal laws condition receipt of federal funds by the state upon the state's agreement to honor client confidentiality requirements," she said. DH&SS recommended a substitute version with more restrictive language relating to confidential information. The bill will be brought before the committee again when the Ombudsman's Office and bill drafters have reached agreement on a proposed substitute.

--Senate Resources unanimously approved a bill which would remove a possible legal obstacle to development of Barrick Petroleum, Ltd.'s treadwell mine development in Juneau. The bill, SCS CSHB 273 (Res), grants extralateral mining rights to owners of mining claims located before statehood under federal mining laws. Extralateral rights enable the claim holder to follow a slanting vein of ore even if it slants out of the boundaries of the claim.

--A bill requiring the Department of Revenue to make public the list of candidates and groups to which campaign contributions were made and political campaign contribution credits granted was piloted through House State Affairs by its sponsor, Rep. Terry Martin (R-Anchorage). Martin requested this information earlier this year, but was not successful in obtaining the list until DOR was ordered by the Supreme Court to release it.

--Proponents and opponents of a bill that would legalize the practice of midwifery testified in force Tuesday during a Senate HESS Committee teleconference with Anchorage and Fairbanks. SB 239, termed by many

(Continued on page 6)

LaRocca . . .

(Continued from page 5)

with cash surpluses obscured by political pettifoggery.

For example, legislators can use the state's misperceived impecunty as a pretext to roll-back state employees' salaries (while greedily pocketing their own extravagant paychecks).

The half billion dollar shortfall, which anyone could have computed with a dime store calculator, has prompted a re-examination by some legislators of the state's corporate income tax law. That's the likeliest target for a tax rate increase, because of lingering resentment among some legislators over 1981 changes in the 1978 law which they say have cost the state literally hundreds of millions of dollars in revenues foregone.

The 1981 amendments were sold to the legislature, based upon assurances from the Hammond administration and

other industry supporters that they would not result in a significant decrease in state revenues over time.

But subsequent events revealed that an egregious error by the Department of Revenue had led to a gross miscalculation of future revenues which, according to figures developed in 1983, will reduce the state's corporate income tax revenues by more than two billion dollars over the next five years.

During a House Finance Committee meeting last week at which the director of the Revenue Department's research section testified, one member, Rep. Sam Cotten, drew from him an admission that the 1981 miscalculation has already cost the state incalculable millions of dollars in revenues foregone. Cotten estimates the losses "in hundreds of millions of dollars."

After the enactment of the new corporate income tax law in 1978, the major oil companies operating in

Alaska took the state into court, contending that the statute was unconstitutional.

Later, they said they would settle the lawsuit out of court if the state would amend the law to satisfy their objections to it. It was an unwritten agreement to that effect which led to the 1981 amendments.

But the oil companies subsequently decided that the amendments did not go far enough in their favor, and they continued the lawsuit. A decision in State Superior Court upheld the state's position, and an appeal to the State Supreme Court is still pending.

A news report last week that the House Finance Committee was quietly drafting legislation to re-institute the 1978 law brought oil industry lobbyists scurrying to Juneau in their corporate jets to try to forestall that threat. The proposed legislation was introduced in the House on Wednesday, April 3, precipitating one of this legislature's potentially most explosive issues.

Helmar's Politicians Past



Sen. W.E. "Brad" Bradley (R-Anchorage) and the late Sen. John Huber (D-Fairbanks), 1978 Session.

Four Dam Pool . . .

(Continued from page 1)

the meetings, negotiations will continue, and representatives of the four-dam communities hope to iron out the loan repayment terms so they can finally sign power sales agreements that will assure their communities of stable electrical rates into the next century.

Rep. Pat Pourchot (D-Anchorage) headed the House Finance subcommittee where the bill is mired. When Pourchot refused to move the bill out of his subcommittee Rep. Robin Taylor (R-Wrangell) and Rep. David Thompson (R-Kodiak) badgered Pourchot about a time schedule for moving the bill. Taylor and Thompson represent a constituency who harbor a growing resentment over failure to reach an agreement between their city governments and the state on long-term electric rates.

Cities in Taylor's district have refused to accept agreements until they are put before the voters, and Taylor stated that he is afraid of a "consumer revolt" if something is not resolved soon. Rep. Thompson accused Pourchot of not appreciating the amount of time spent negotiating, and Taylor said four-dam communities desperately need to see the bill move.

Pourchot told Taylor and Thompson that they could have their pick of a final resting place for the bill, the subcommittee, the full Finance Committee, the Rules Committee, the House floor, or the Senate, and he indicated that persistence on their part would not change his mind.

Pourchot was more hopeful about continued negotiations between the state and the communities the day after the heated meeting. As chairman of the subcommittee he feels he must try to fashion a rate structure that will benefit the state as a whole. He thinks it would be presumptuous of the committee to move the bill before the Power Authority comes in with its offer, and Pourchot said "one or two points means literally millions of dollars." He wants to take the time to study the proposals, and he thinks it is important that all factions talk.

The four-dam pool communities are Ketchikan (Swan Lake), Wrangell and Petersburg (Tyee Lake), Valdez and

Glenallen (Solomon Gulch), and Kodiak (Terror Lake). What they have in common are hydroelectric projects that have been financed by the state. The projects are very different, the communities are very different, but in order to finance the state's first petro-dollar dams, a pool was formed, now known as "the four-dam pool," or "the poor, damned fool," depending on who you talk to.

What is at stake is repayment of \$196 million in loans from the state. The dams were built at a total cost of \$490 million, and except for the \$196 million owed, the projects were funded by state grants. The repayment terms are seen by some, including Pourchot, as precedent-setting, in terms of the "Energy Program for Alaska." The energy program is the statutory vehicle by which the Alaska Power Authority has authority to acquire or construct power projects in the state with approval of the legislature. One faction fears the long-term loss to the state if this legislature were to give up too much on the four-dam contracts, with so many unmet energy needs in the state.

According to House Bill 219, the communities would commit to an annual interest rate not to exceed four percent, a loan term not to exceed 50 years, and a 40-year amortization period. The communities would loan payments adjusted so the payment per kilowatt hour increases gradually over the first five years of the loan and remains fixed over the next 35 years. The deferred principal would be repaid with interest in equal annual installments during the last 10 years of the loan.

Last summer the Power Authority's offer was an eight percent average yield over 35 years. The four-dam communities made a counter proposal in September, that is basically what HB 219 calls for, four percent over 40 years. The four percent sounds good, but in reality does not equate to a four percent average total yield, said Kurt Dzinich, the senior advisor to the Senate Advisory Council. Dzinich has been following the four-dam issue for over three years during his tenure with the Senate. He figures the interest rate equates to 2.2 percent because the communities will only agree to pay a lower interest rate on the unused capacity of the dams. They also want to defer payment of the principal, interest free, until the last 10 years of

the loan. Community representatives claim some of the dams were grossly overbuilt, and they refuse to pay the high costs now for future power capacity.

Dzinich blames the longevity of negotiations on passage of a \$210 million loan made by the Legislature to the communities last year. The loan is administered by the Department of Commerce and Economic Development, and paid off short-term bonds that financed the original projects. Payment of the short-term bonds changed the whole negotiating scenario that had gone on between the communities and the Alaska Power Authority.

Dzinich said that the APA, by law, must charge debt service on a loan, and the Dept. of Commerce must set the terms. The state agencies have to take into consideration the current market rate and the cost of alternative avoided cost. Avoided cost, Dzinich explained, is determined by figuring what a community like Ketchikan, for example, would pay for power should the Swan Lake hydro project not come on line - what they would pay if they had to buy a diesel generator, install it and operate it.

Figuring a formula for avoided cost gets confusing, too. The price of diesel fuel has dropped, and the communities are arguing against paying premium prices for hydro power when over the next five years they could be getting bargain electrical rates burning diesel fuel. Charles Freeman, mayor of Ketchikan, said that HB 219 puts his city over the amount they would pay for diesel, but would give them predictable rates in the long term.

Ketchikan has commercial customers who need predictability, and Freeman is afraid they will opt for buying their own diesel generators which they can operate cheaper in the short run. In addition to short-term lower rates, private businesses can take advantage of investment tax credits, Freeman stated.

In spite of the brief confrontation between Taylor and Thompson, who represent communities with real problems, and Pourchot, who sees his job as fashioning a rate structure that is in the state's best interest, it seems as though negotiations will proceed. House Bill 219 will not move out of the Finance subcommittee headed by

(Continued on page 6)

COMMITTEE REPORT

HOUSE

(11)

FURTHER:

3/15/85

Date: 4-13-85

The Committee on FINANCE has had HB 219

"An Act relating to the applicability of the Alaska Public Utilities Commission Act to certain electric utilities; power development loans; and the energy program for Alaska."

under consideration and recommends:

- do pass do not pass
- do pass with attached amendments(s)
- replace with CS for HB 219 (Fin) same title
 new title
- and recommends do pass
- AND attaches a "Letter of Intent" New Fiscal Note
- reports it back without recommendation Zero Fiscal Note Attached
- referred to the _____ Committee

MEMBERS SIGNING DO PASS

Albert M. Adams
John Bergstedt
John W. King
Ronald J. Jarmy
Earl Farnsworth
Sam Carter
John [unclear]
[unclear]

MEMBERS HAVING OTHER RECOMMENDATIONS:

Alfred [unclear]
Steve [unclear]
[unclear]

Albert M. Adams
CHAIRMAN

Alaska State Legislature



House of Representatives

REPRESENTATIVE
JOHN L. SUNO

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KETCHIKAN, ALASKA 99901
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WHILE IN JUNEAU
POUCH V
JUNEAU, ALASKA 99811
(907) 465-4919

CHAIR, HOUSE SPECIAL COMMITTEE ON LOANS
VICE-CHAIR, JUDICIARY COMMITTEE
MEMBER, SPECIAL COMMITTEE ON OIL AND GAS
MEMBER, RESOURCES COMMITTEE

4/22/85

MEMORANDUM

TO: Sen. Arliss Sturgulewski, Chair,
Senate Resources Committee

FROM: Rep. John Suno *JS*

RE: HB 219 "An act relating to the applicability of the Alaska Public Utilities Commission Act to certain electric utilities; power development loans; and the energy program for Alaska."

The purpose of this bill is to resolve the problems holding up four-dam-pool power sales agreements and to provide for payback of the \$196 million appropriation made last year to complete the hydroelectric projects. The Alaska Power Authority and the six communities served by the four dams have been negotiating power sales agreements for 2½ years without success. The goal is a long-term power sales agreement that provides affordable electricity for the communities and a maximum return on the state's investment.

\$210 million was appropriated last year; \$196 million has been spent to complete the dams and pay off short-term construction financing issued by the APA. This appropriation was structured as a loan from the Department of Commerce and Economic Development to the APA to be paid off through power sales from the project. AS 44.33.620 sets terms for the loan.

As in existing law, the Finance Committee Substitute does not set in law exact terms for the loan, nor does it set power rates. These are left open for further negotiation. The bill provides specific guidelines for resolving the issue under a plan developed by Gordon Harrison of the APA board.

The APA and the six communities report recent significant progress in power sales agreement negotiations; the plan they are now working with requires the passage of CSHB 219 (Fin). Action is required this session to permit sales agreements which will capture additional loads for the under-utilized hydroelectric capacity.

The bill is supported by both the APA and the four-dam-pool communities. Bob Heath, Executive Director of the APA and representatives of the communities are expected to testify before the Resources Committee.

Sectional analysis:

Section 1:

Sections 1 and 5, propose a change in law to allow two communities to get together for joint operation of a dam. The main purpose is to allow the Thomas Bay Power Authority to operate the Tyee Dam. Tyee serves two communities (Wrangell and Petersburg); Current law requires one or the other to operate the dam. This section corrects that by adding "electric operating entities established as an instrumentality of two or more public utilities owned and operated by a political subdivision of the state" to the APUC statutes. Like the communities, the 'joint operating entity' would not be subject to APUC regulation.

Section 2:

This section amends the loan terms for the Power Development Revolving Loan Fund (AS 44.33.620). This fund was created last session and the statutory loan terms give little direction to the APA. The added language sets clear guidelines for the agencies to work with. Deleted is the requirement that the loan terms be set considering market rates of interest.

Section 3 adds a definition: "initial project" means the four dams.

Section 4 adds a provision for power sales contract rate reopeners. This protects the state in times of inflation when the power sales rate could not provide sufficient loan repayment in real terms and protects the communities should the price of alternate power generation drop significantly. An important provision is added allowing an agreed schedule of wholesale power rates to be included in the contracts. This allows a contract to be reached through negotiation which will provide for certainty in power rates as needed by utility planners. This also will provide for a greater return to the state in debt service from the project.

Section 5 adds joint operating entities to the definition of "qualified utilities" which may purchase power from the APA. (See explanation of Section 1)

RETAIL RATES
(cents per kwh)

<u>Community</u>	<u>@ 200 kwh/month</u>	<u>@ 500 kwh/month</u>	<u>@ 700 kwh/month</u>
Copper Valley			
-Glenallen	23.5	20.1	18.8
-Valdez	21.3	16.0	14.7
Kodiak	19.0	18.1	17.5
Wrangell	19.1	16.3	15.7
Petersburg	13.9	11.7	11.2
Ketchikan	14.3	10.8	10.2

COMPONENTS OF THE RATES
(cents per kwh)

<u>Community</u>	<u>APA O&M</u>	<u>APA Debt Service</u>	<u>Other^{*/}</u>	<u>Total (@ 700 kwh/month)</u>
Copper Valley				
-Glenallen	2.76	2.64	13.4	18.8
-Valdez	2.76	2.64	9.3	14.7
Kodiak	2.00	2.64	12.86	17.5
Wrangell	4.59	2.64	8.47	15.7
Petersburg	4.59	2.64	3.97	11.2
Ketchikan	2.26	2.64	5.3	10.2

^{*/} "Other" includes distribution, administrative and general, reserve generation, and other generation (other hydro as well as diesel in the case of Ketchikan and Petersburg.)

Draft: April 23, 1985

SHORTCOMINGS OF PRICING APA POWER AS A PERCENTAGE OF AVOIDED COST

A. Problems for the purchasing utility (in the Alaskan context)^{*/}

1. Loss of potential loads: Some or all potential large new loads that could increase project utilization will be lost, because such loads demand a higher degree of certainty over longer periods. Many such loads will either be met with private generation or cogeneration (e.g., Wrangell Forest Products) or will be lost entirely (e.g., Phillips). In the cogeneration case, the utility may be required by law to purchase excess cogenerated power from the private party, thus reducing the utility's own purchases from the APA project. In the case of loads lost because the economic activity is relocated (e.g., to the Lower 48), the community loses not only employment and taxes, but also the "induced" loads, i.e., increases in other community loads resulting from the economic activity represented by the primary load.

2. Ratemaking and billing problems: The utility must make its retail rates prospectively, yet its power costs will become known only retrospectively. Matching costs to rates during each rate period (and keeping rates fairly predictable for consumers), always a chore, becomes significantly more difficult.

3. Added administrative costs: A fairly sophisticated formula is needed to calculate true avoided cost, and the values for each variable in the formula must be recalculated at frequent (e.g., monthly) intervals. This would create some administrative burden even if (a) diesel were the only alternative, and (b) disputes with APA over the proper value for each variable never arose. (It is also difficult to continue getting realistic quotes for a large volume of diesel once the utility begins buying reduced volumes.) In practice, the difficulties are even greater because (a) the formula must accommodate other alternatives (e.g., cogeneration) as such alternatives become available, and (b) disputes with the APA over the value of individual variables are likely.

*/ Such pricing works well in power "pools" in which a sophisticated computer controls the generators of many producers on an instantaneous central-dispatch basis. The computer is programed to minimize total generation costs at all times, based on each generator's fuel cost, efficiency, and maximum/minimum operating guides. Cost savings made possible by using Utility A's generator rather than Utility B's to serve a portion of Utility B's load are "split" (usually on a 50/50 basis) through use of a share-the-savings rate the computer charges to Utility B and credits to Utility A. The actual rate for each transaction, and each utility's costs and savings for any given period, are known at once, facilitating utility ratemaking and billing. Nothing similar exists in Alaska, nor could it exist in the Four Dam Pool context where (a) the communities are not electrically interconnected, and (b) APA power is intended to displace thermal generation completely for most days of the year.

4. Regulatory costs: For the cooperatives (Kodiak and Copper Valley), whose retail rates are regulated by the Alaska PUC, rate filings and rate cases will become more frequent, more complex, and more costly. If the past is a guide, the APUC may also require the co-ops to raise/lower retail rates to "track" the fluctuating wholesale cost of power to the co-op, thus producing fluctuating retail rates.

5. Planning problems: The search for alternative sources of power supply with more predictable long-term costs would be intensified and simultaneously complicated. Presumably the planning process would be biased (rationally) toward predictability, even if the price of predictability were that somewhat higher retail rates might result from the more predictable alternatives.

6. Uncertain impact on utility financing: It is not clear that a utility would be able to finance additions to its distribution system and/or its generating plant as easily or inexpensively as would otherwise be the case, since the utility's revenue stream and its ability to maintain required coverage ratios and reserves would be somewhat unpredictable.

B. Problems for the State of Alaska as the seller of power

1. Reduced revenue: Compared with long-term contracts under the terms of HB 219 pricing method, power sold on a percentage-of-avoided-cost basis is likely to produce less total revenue for the State, even if one assumes that loads are equal in both cases. But loads will actually be less (see ¶ A.1. above). The loss of potential large new loads that would have produced more revenue for the State would make the comparative revenue disadvantage to the State worse.

2. Increased revenue risk: This would take two forms. First, the State would take the entire risk of further downward movement in the price of diesel and the cost of alternative resources, whereas under HB 219 the communities would bear that risk entirely. Second, because the utilities would be free, over time, to switch wholly or partially to other sources of supply, and because the utilities would have an incentive to investigate and pursue such other sources, the State would face some risk of losing even the existing loads of the utilities, as well as utility load growth.

3. Risk of negative rate of return (failure to cover current costs): This simply indicates the extreme to which the State's additional risk could take it. Under HB 219, the State is assured that (a) O&M costs will be completely paid by the utilities, and (b) some positive return, in addition to return of the principal, will be earned on the State's loan. If wholesale rates are tied to actual avoided costs of the utilities, however, a sufficiently great drop in actual avoided costs would result in the APA failing to cover even its O&M costs. In less extreme cases, APA might cover its O&M costs but fail to earn sufficient revenue to repay the principal and/or interest on the loan.

4. Added administrative costs: Administering such a pricing system would be just as complex and labor-intensive for the APA as it would be for the utilities.

4/12/85

MEMORANUDM

TO: Rep. John Sund
FROM: J. Hartle, PA

RE: Amendment to Subcommittee draft of HB 219

Here are some reasons for adding the section:

*Sec. 4. AS 44.33 is amended by adding a new section to read:

Sec. 44.33.625. RATE REOPENERS. A power sales agreement for the sale of power from the initial project financed under AS 44.33.610 may include among its provisions an agreed schedule of wholesale power rates notwithstanding the provisions of AS 44.83.398 but must include a provision for a rate reopener.

1. Will allow the present negotiations to continue.

Negotiations are presently moving forward under a plan from Gordon Harrison. His plan is to offer a wholesale power rate which combines debt service and O & M. The plan would offer the purchasers of power a certain rate per kwh, O&M would be taken out of that rate and whatever is left above O&M would go to debt service. This is not allowed under AS 44.83.398 which specifies that O&M and Debt service must be separated and debt service must be the same for all projects.

2. Will return more debt service to the state.

Per KWH, Tyee has the highest O&M rate; this rate is by itself almost equal to the cost of alternative sources of power. Therefore, if the "Harrison plan" is implemented, very little would be left over for debt service thus limiting the debt service rate that can be paid by the other projects as well (under 398). Other projects with lower O&M are, with this amendment, allowed to provide a greater return to the state for debt service.

3. It still leaves the rate open to negotiations.

The amendment only provides for an agreed schedule, it is silent as to what that rate will be. Under AS 44.83.398 there is no way to agree on a schedule - the rates must fluctuate with loads - if loads go down, rates go up, if loads go up, rates go down. This is the exact problem the communities are trying to get away from - certainty is more important than the actual rate itself; the amendment allows for agreement.

Bill may facilitate power sales dealings

The Associated Press

JUNEAU — House lawmakers passed a bill Tuesday that supporters say offers new hope to officials trying to negotiate power sales agreements between the Alaska Power Authority and the so-called "Four-Dam Pool" communities.

The measure, first sponsored by Rep. John Sund, D-Ketchikan, was sent to the Senate after a 33-to-4 vote in the House.

The communities — Ketchikan, Wrangell and Petersburg, Kodiak, and Valdez and Glennallen — are all served

by hydroelectric projects recently built in their back yards.

But municipal officials in those areas have been unable to reach long-term power agreements with the APA, fearing it will cost more to pay for hydroelectric power than to generate diesel-fueled power.

Officials from the communities currently are negotiating with the APA, trying to work out repayment schedules on a \$210 million loan set aside last year by lawmakers to offset part of the cost of the four projects.

Sund said his bill outlines "general policy direction" for both sides involved in the power-sales negotiations.

A key provision in the measure would release the APA from offering repayment agreements at current market rates. By setting lower interest rates on the loan, APA officials hope to offer the communities power at more affordable rates.

State lawmakers in the late 1970s put together a \$462.5 million, four-part hydroelectric project designed to make the state energy self-sufficient.

Alc. Daily News 4/17/85

Draft: April 23, 1985

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Alaska State Legislature

Blue Copy

CO-CHAIRMAN
FINANCE COMMITTEE
907-465-3740

IAN FAIKS
POUCH V
CAPITOL BUILDING
TUNEAU, ALASKA 99811

Senate

April 11, 1985

MEMORANDUM

TO: Senator Bettye Fahrenkamp, Chairman
FROM: Senator Jan Faiks *Jan Faiks*
SUBJECT: Background on Senate Bill 263, an Act relating to disqualification for certain state loan programs for failure to pay child support.

This bill will disqualify persons who have an overdue child support obligation from participating in certain state loan programs. Persons who are delinquent in their payments to the Child Support Enforcement Division of the Department of Revenue (CSED) will be prevented from receiving loans from any of the following programs:

<u>Section of Bill</u>	<u>Loan Program</u>
Section 1	Agricultural Loan Program
Sections 2 & 3	Alaska Student Loan Program
Section 4	Commercial Fishing Loan Program
Section 5	Alaska Housing Finance Corporation
Section 6	Veteran's Loan Assumption

Section 7	Mining Loan Program
Section 8	Housing Assistance Loan Program
Section 9	Alternative Technology and Energy Loan Program
Section 10	Residential Energy Conservation Loan Program

Delinquent child support is a monumental problem in Alaska. As of April 2 of this year, CSED has 7198 cases having a total arrearage balance of over \$30,000,000. The Division is now determining what portion of this debt is owed by loan recipients. Once this information is available, I will forward it to the committee.

The Division's files are computerized, and it can share information with loan agencies in three ways. Upon receiving a call from an agency, CSED can respond within minutes with a status report on a particular loan applicant. The Division can match computer tapes with any agency which has a system which is compatible with its IBM equipment. Finally, CSED sends a monthly statement to all absent parents which verifies their current obligation status. The parents can provide a copy of this statement to the lending agency when they file their loan applications, or upon request, CSED can verify their obligations in writing.

Support payments are a debt that is owed to the children of Alaska. When payments are not made, our public assistance programs must often pick up the cost of maintaining our children's health, safety, and comfort. To alleviate hardship and reduce our public welfare costs, I ask you to act favorably on this bill.

Initial Loan Principal \$196,000,000
 Loan Interest Rate 4.00%
 Loan Term (Years) 40
 Total Energy Capability (GW.h/yr) 378,607

Repo Period (Years) 5
 D. S. Entry Rate (c/kW.h) 2.00
 Entry Rate Annual Escalation 6.05%
 D. S. Rate Ceiling (c/kW.h) 2.682940

4-DAM POOL
 LOAN REPAYMENT SCHEDULE
 CASE 4-A

Year	DEBT SERV COMPONENT (c/kW.h)	PAYMENT FROM ELEC REVENUE	ENERGY SALES (GW.h)	UTILIZ- ATION	CURRENT PRINCIPAL BALANCE	INTEREST DUE FROM 4-DAM POOL	ACTUAL PAY- MENT LESS INT. DUE	PRINCIPAL REPAYMENT DEFERRED	DEFERRED PRINCIPAL BALANCE
1985	2.00	3,104,120	155,286	40.99%	196,000,000	3,213,926	(109,806)	1,217,061	1,217,061
1986	2.12	3,849,550	181,496	47.94%	194,892,746	3,756,990	92,561	1,116,790	2,333,851
1987	2.25	4,306,077	191,437	50.56%	193,683,395	3,954,721	351,356	1,102,885	3,436,735
1988	2.39	4,751,347	199,181	52.61%	192,229,154	4,095,758	655,589	1,099,544	4,535,279
1989	2.53	5,212,398	206,042	54.42%	190,474,021	4,205,259	1,007,139	1,099,799	5,636,078
1990	2.68	5,714,288	212,994	56.25%	188,367,083	4,300,727	1,413,561	1,097,712	6,733,790
1991	2.68	5,877,217	219,067	57.86%	185,855,810	4,361,163	1,516,054	1,099,757	7,833,547
1992	2.68	6,087,552	226,907	59.93%	183,239,999	4,449,374	1,638,178	1,087,542	8,921,089
1993	2.68	6,336,412	236,183	62.38%	180,514,278	4,557,384	1,779,108	1,061,884	9,982,973
1994	2.68	6,596,916	245,893	64.55%	177,673,286	4,664,816	1,932,100	1,029,868	11,012,841
1995	2.68	6,853,020	255,439	67.47%	174,712,118	4,760,231	2,092,789	993,250	12,005,291
1996	2.68	6,990,569	260,566	68.32%	171,625,080	4,767,619	2,222,950	989,981	12,995,272
1997	2.68	7,133,591	265,897	70.23%	168,413,149	4,771,637	2,361,954	983,082	13,978,354
1998	2.68	7,283,428	271,482	71.71%	165,068,112	4,772,574	2,510,854	971,743	14,950,097
1999	2.68	7,440,669	277,343	73.25%	161,585,516	4,770,144	2,670,525	955,320	15,905,417
2000	2.68	7,605,529	283,488	74.28%	157,959,571	4,763,757	2,841,772	933,243	16,838,660
2001	2.68	7,732,481	288,220	76.13%	154,184,656	4,725,569	3,006,912	922,268	17,760,948
2002	2.68	7,781,398	290,043	76.61%	150,255,456	4,633,629	3,147,761	939,834	18,700,782
2003	2.68	7,831,907	291,926	77.11%	146,167,861	4,536,187	3,295,720	956,646	19,657,428
2004	2.68	7,884,572	293,889	77.62%	141,915,495	4,433,170	3,451,401	972,381	20,629,809
2005	2.68	7,939,463	295,935	78.16%	137,491,713	4,324,205	3,615,257	986,853	21,616,662
2006	2.68	7,996,661	298,067	78.73%	132,889,602	4,208,891	3,787,770	999,859	22,616,521
2007	2.68	8,056,300	300,290	79.31%	128,101,973	4,086,822	3,969,478	1,011,153	23,627,674
2008	2.68	8,118,488	302,608	79.93%	123,121,342	3,957,546	4,160,942	1,020,474	24,648,147
2009	2.68	8,183,279	305,023	80.56%	117,939,925	3,820,549	4,362,730	1,027,568	25,675,716
2010	2.68	8,250,833	307,541	81.23%	112,549,627	3,675,330	4,575,503	1,032,102	26,707,818
2011	2.68	8,321,231	310,165	81.92%	106,942,022	3,521,308	4,799,922	1,033,753	27,741,570
2012	2.68	8,394,633	312,901	82.55%	101,108,347	3,357,895	5,036,738	1,032,125	28,773,696
2013	2.68	8,471,148	315,753	83.40%	95,039,483	3,184,428	5,286,719	1,026,818	29,800,514
2014	2.68	8,550,882	318,725	84.18%	88,725,946	3,000,199	5,550,683	1,017,397	30,817,911
2015	2.68	8,634,023	321,824	85.00%	82,157,866	2,804,469	5,829,554	1,003,334	31,821,245
2016	2.68	8,720,652	325,053	85.85%	75,324,978	2,596,405	6,124,247	984,130	32,805,376
2017	2.68	8,810,983	328,420	86.74%	68,216,601	2,375,152	6,435,831	959,147	33,764,523
2018	2.68	8,905,124	331,929	87.67%	60,821,622	2,139,753	6,765,371	927,769	34,692,291
2019	2.68	9,003,262	335,587	88.64%	53,128,483	1,889,200	7,114,062	889,265	35,581,556
2020	2.68	9,105,559	339,400	89.64%	45,125,156	1,622,397	7,483,162	842,864	36,424,421
2021	2.68	9,212,202	343,375	90.69%	36,799,130	1,338,166	7,874,035	787,707	37,212,128
2022	2.68	9,323,352	347,518	91.79%	28,137,388	1,035,234	8,288,118	722,882	37,935,010
2023	2.68	9,439,197	351,836	92.93%	19,126,387	712,229	8,726,968	647,379	38,582,389
2024	2.68	9,559,978	356,338	94.12%	9,752,841	367,680	9,192,299	560,052	39,142,441
2025	1.34	4,825,870	361,030	95.36%	(310)	1,565,665	3,260,185		35,881,945
2026	1.32	4,825,870	365,921	96.65%		1,435,278	3,390,592		32,491,353
2027	1.30	4,825,870	371,019	98.00%		1,299,654	3,526,216		28,965,137
2028	1.28	4,825,870	376,334	99.40%		1,158,605	3,667,265		25,297,872
2029	1.27	4,825,870	378,607	100.00%		1,011,915	3,813,955		21,483,917
2030	1.27	4,825,870	378,607	100.00%		859,357	3,966,514		17,517,403
2031	1.27	4,825,870	378,607	100.00%		700,696	4,125,174		13,391,229
2032	1.27	4,825,870	378,607	100.00%		535,689	4,290,181		9,102,048
2033	1.27	4,825,870	378,607	100.00%		364,082	4,461,788		4,640,260
2034	1.27	4,825,870	378,607	100.00%		185,610	4,640,260		(0)
TOTALS		347,620,986	15,046,933			151,628,986	196,000,000	39,142,441	

1984 SHCA NSD Forecast*
World Oil Price -- "Marker Crude"
(1983/bbl)

<u>Year</u>	<u>Forecast</u>
1985	\$ 26.30
1986	26.30
1987	26.30
1988	26.30
1989	27.09
1990	27.90
1995	32.50
2000	40.00
2005	50.00
2010	60.00
2020	80.00
2030	90.00
2040	100.00
2050	110.00

* Sherman H. Clark Associates "no supply disruption" forecast. Extracted from "Alaska Power Authority Comments on the Federal Energy Regulatory Commission Draft Environmental Impact Statement of May 1984, Volume 3, Appendix I"; August 1984; p. 2-6.

Alaska Department of Revenue Mean Forecast
World Oil Price -- Saudi Medium
(1983/bbl)

<u>Fiscal Year</u>	<u>December 1984 Forecast</u>
1985	\$25.70
1986	24.36
1987	23.24
1988	22.81
1989	22.71
1990	23.08
1991	22.99
1992	23.13
1993	23.28
1994	23.43
1995	23.60
1996	23.76
1997	24.16
1998	24.56
1999	24.99
2000	25.42
2001	25.86

COMPARISON OF HB 219 AND "DIESEL ALTERNATIVE"

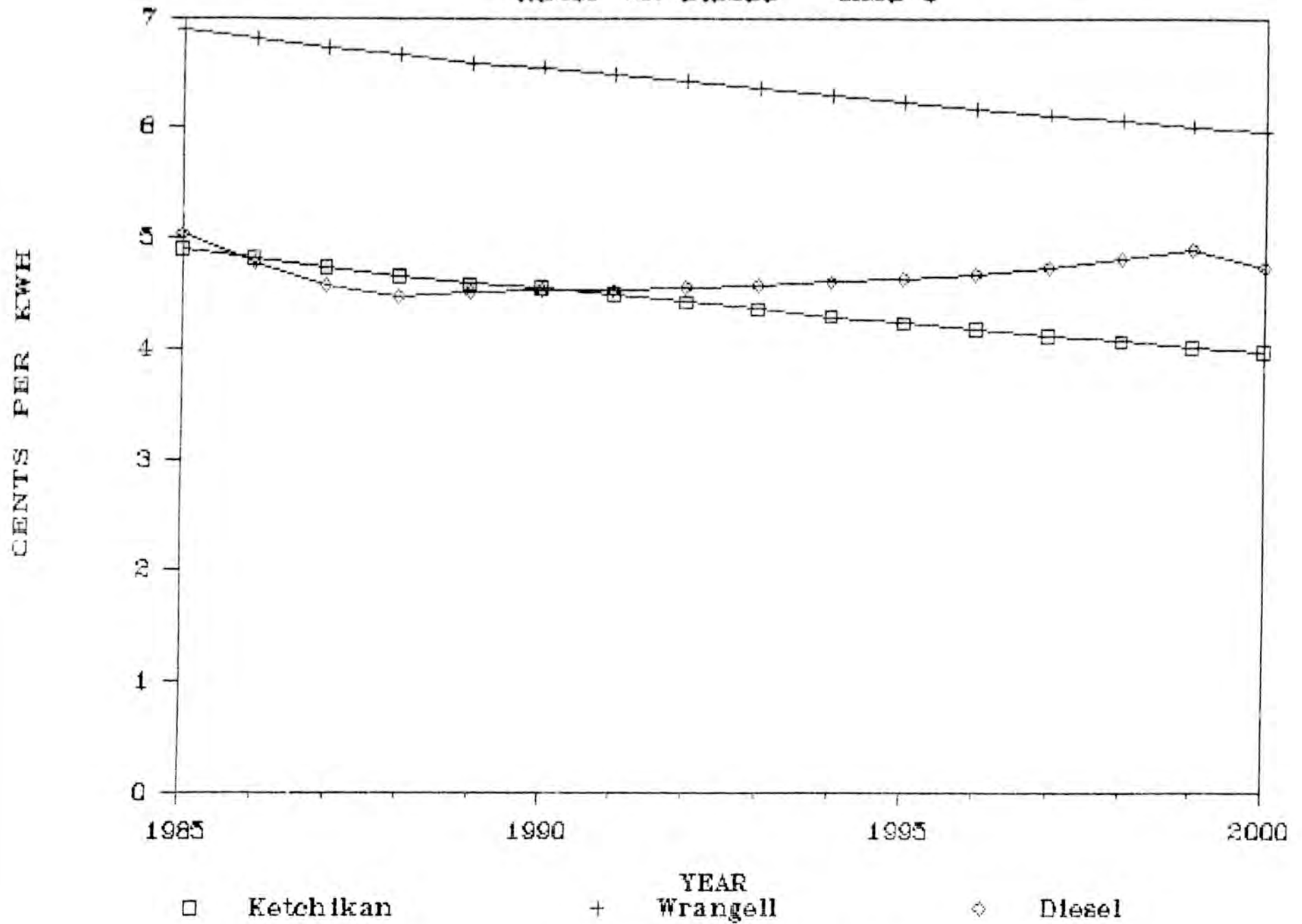
The attached tables and graphs present a rough calculation of projected wholesale power rates and amounts returned to the state by the City of Ketchikan under two alternative arrangements for purchasing power out of the Swan Lake Hydroelectric Project. The first is the result obtained under HB 219, now pending in the House. The second assumes that power from the Project is priced according to what the City would save by not burning diesel fuel.

Several assumptions need to be clarified. First, these are wholesale power costs from the Project. The City has other costs and other resources which bring its current retail rates up over 10¢ per kWh. Future resources will need to be acquired under circumstances far different from those of the past. Second, it is not certain that diesel generation will be the only alternative open to the City in the future. Cogeneration, alternative fuels and technologies, and imported power could all play a role. Thus the diesel alternative analyzed here may not be the lowest cost alternative. Third, we have computed the avoided cost of diesel generation -- i.e., only the savings that would actually be realized by taking power from the Project. Because the City's diesel generators would need to be maintained in reserve, only fuel and lubrication costs would be saved. Finally, we have simplified the "ramp" that is authorized but not required by HB 219. This reflects a recognition that the wholesale power rate under the Interim Power Sales Agreement is currently close to the fixed rate under HB 219.

The numbers presented here are highly sensitive to inflation, changes in the cost of fuel, and changes in load. Case 1 assumes no inflation and modest load growth. It shows that HB 219 would produce insignificant savings over diesel in 1985, and would result in slightly higher costs in the years 1986-1990. Savings from HB 219 would largely be realized in the years from 1990 and later. Case 2 shows what happens if load growth does not materialize. In this case, the diesel alternative remains less expensive throughout the entire 15 year period. This reflects the fact that under HB 219, the City bears the risk of operations and maintenance. If loads, fuel prices, and other prices fall steeply over this period, HB 219 would become relatively more burdensome to the City, whereas if these components rise, the bill becomes more attractive.

WHOLESALE POWER COST ALTERNATIVES

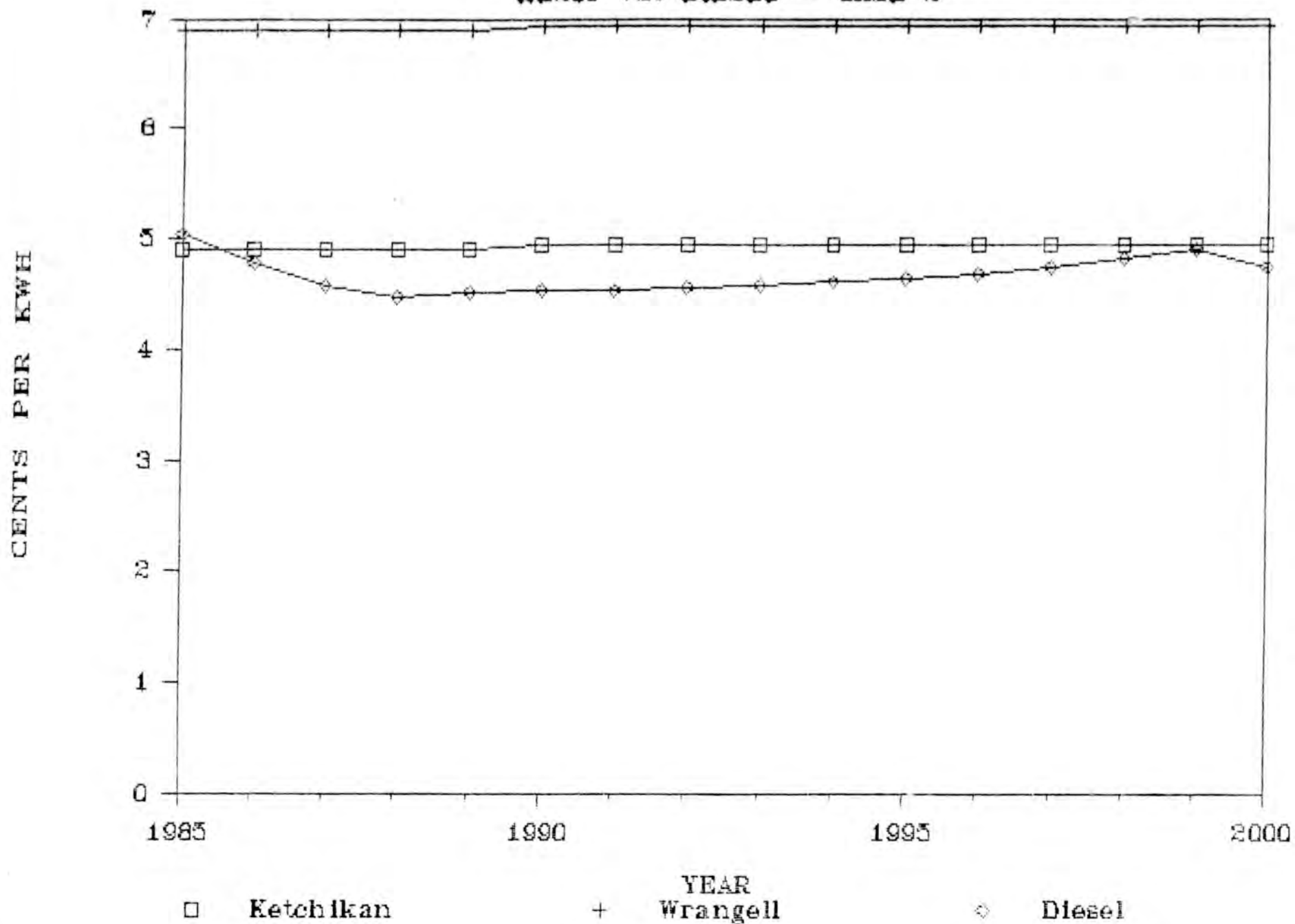
HB219 VS. DIESEL - CASE 1



71¢ Diesel
 14.53 kWh/gallon diesel
 NO Inflation
 Load growth "Normal" (APA)

WHOLESALE POWER COST ALTERNATIVES

HB219 VS. DIESEL - CASE 2



no load growth

WHOLESALE POWER COST COMPARISON
 Swan Lake Hydroelectric Project
 Ketchikan Public Utilities Diesel Generation
 March 5, 1985

C A S E 2

	1985	1986	1987	1988	1989	1990	1991	1992
Swan Lake Generation MWH	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400
Debt Service (Cents/KWH)	2.64	2.64	2.64	2.64	2.64	2.68	2.68	2.68
Debt Service (Dollars)	1,293,600	1,293,600	1,293,600	1,293,600	1,293,600	1,313,200	1,313,200	1,313,200
TOTAL - HB 219 ALTERNATIVE	2,401,000	2,401,000	2,401,000	2,401,000	2,401,000	2,420,600	2,420,600	2,420,600
HB 219 ALTERNATIVE (Cents/KWH)	4.90	4.90	4.90	4.90	4.90	4.94	4.94	4.94
DIESEL ALTERNATIVE:								
Fuel	2,394,357	2,269,850	2,164,498	2,114,217	2,140,555	2,150,132	2,142,949	2,154,921
Lube Oil	73,500	73,500	73,500	73,500	73,500	73,500	73,500	73,500
TOTAL - DIESEL ALTERNATIVE	2,467,857	2,343,350	2,237,998	2,187,717	2,214,055	2,223,632	2,216,449	2,228,421
DIESEL ALTERNATIVE (Cents/KWH)	5.04	4.78	4.57	4.46	4.52	4.54	4.52	4.55
TOTAL DOLLARS RETURNED TO STATE	1,360,457	1,235,950	1,130,598	1,080,317	1,106,555	1,116,232	1,109,049	1,121,021

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ASSUMPTIONS:

(CASE 2)

Inflation:	1.0000
Diesel (1985 Values):	
Fuel (Cents/Gallon)	71.0000
KWH per Gallon of Diesel	14.5300

WHOLESALE POWER COST COMPARISON
 Swan Lake Hydroelectric Project
 Ketchikan Public Utilities Diesel Generation
 March 5, 1985

C A S E 2

	1993	1994	1995	1996	1997	1998	1999	2000
Swan Lake Generation MWH	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400
Debt Service (Cents/KWH)	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
Debt Service (Dollars)	1,313,200	1,313,200	1,313,200	1,313,200	1,313,200	1,313,200	1,313,200	1,313,200
TOTAL - HB 219 ALTERNATIVE	2,420,600	2,420,600	2,420,600	2,420,600	2,420,600	2,420,600	2,420,600	2,420,600
HB 219 ALTERNATIVE (Cents/KWH)	4.94	4.94	4.94	4.94	4.94	4.94	4.94	4.94
DIESEL ALTERNATIVE:								
Fuel	2,169,287	2,183,653	2,198,019	2,214,780	2,250,695	2,289,005	2,327,315	2,248,301
Lube Oil	73,500	73,500	73,500	73,500	73,500	73,500	73,500	73,500
TOTAL - DIESEL ALTERNATIVE	2,242,787	2,257,153	2,271,519	2,288,280	2,324,195	2,362,505	2,400,815	2,321,801
DIESEL ALTERNATIVE (Cents/KWH)	4.58	4.61	4.64	4.67	4.74	4.82	4.90	4.74
TOTAL DOLLARS RETURNED TO STATE	1,135,387	1,149,753	1,164,119	1,180,880	1,216,795	1,255,105	1,293,415	1,214,401

WHOLESALE POWER COST COMPARISON
 Swan Lake Hydroelectric Project
 Ketchikan Public Utilities Diesel Generation
 March 5, 1985
 C A S E 1

PAGE 1 OF 5

	1985	1986	1987	1988	1989	1990	1991	1992
Swan Lake Generation MWH	49,000	50,862	52,795	54,801	56,883	59,045	61,289	63,618
HB 219 ALTERNATIVE:								
D & M Cost (Dollars)	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400
Debt Service (Cents/KWH)	2.64	2.64	2.64	2.64	2.64	2.68	2.68	2.68
Debt Service (Dollars)	1,293,600	1,342,757	1,393,782	1,446,745	1,501,722	1,582,405	1,642,536	1,704,953
TOTAL - HB 219 ALTERNATIVE	2,401,000	2,450,157	2,501,182	2,554,145	2,609,122	2,689,805	2,749,936	2,812,353
HB 219 ALTERNATIVE (Cents/KWh)	4.90	4.82	4.74	4.66	4.59	4.56	4.49	4.42
DIESEL ALTERNATIVE:								
Fuel	2,394,357	2,356,104	2,332,126	2,364,512	2,484,939	2,590,908	2,680,378	2,797,775
Lube Oil	73,500	76,293	79,192	82,201	85,325	88,567	91,933	95,426
TOTAL - DIESEL ALTERNATIVE	2,467,857	2,432,397	2,411,318	2,446,714	2,570,264	2,679,475	2,772,311	2,893,202
DIESEL ALTERNATIVE (Cents/KWH)	5.04	4.78	4.57	4.46	4.52	4.54	4.52	4.55
TOTAL DOLLARS RETURNED TO STATE	1,360,457	1,324,997	1,303,918	1,339,314	1,462,864	1,572,075	1,664,911	1,785,802

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ASSUMPTIONS: (CASE 1)

Inflation:	1.0000
Diesel (1985 Values):	
Fuel (Cents/Gallon)	71.0000
KWH per Gallon of Diesel	14.5300

WHOLESALE POWER COST COMPARISON
 Swan Lake Hydroelectric Project
 Ketchikan Public Utilities Diesel Generation
 March 5, 1985

C A S E 1

	1993	1994	1995	1996	1997	1998	1999	2000
Swan Lake Generation MWH	66,035	68,544	71,149	73,853	76,659	79,572	82,596	85,735
HB 219 ALTERNATIVE:								
O & M Cost (Dollars)	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400	1,107,400
Debt Service (Cents/KWH)	2.68	2.68	2.68	2.68	2.68	2.68	2.68	2.68
Debt Service (Dollars)	1,769,741	1,836,991	1,906,797	1,979,255	2,054,467	2,132,536	2,213,573	2,297,689
TOTAL - HB 219 ALTERNATIVE	2,877,141	2,944,391	3,014,197	3,086,655	3,161,867	3,239,936	3,320,973	3,405,089
HB 219 ALTERNATIVE (Cents/KWh)	4.36	4.30	4.24	4.18	4.12	4.07	4.02	3.97
DIESEL ALTERNATIVE:								
Fuel	2,923,451	3,054,639	3,191,575	3,338,116	3,521,153	3,717,169	3,922,997	3,933,822
Lube Oil	99,053	102,817	106,724	110,779	114,989	119,358	123,894	128,602
TOTAL - DIESEL ALTERNATIVE	3,022,504	3,157,455	3,298,299	3,448,895	3,636,142	3,836,527	4,046,891	4,062,424
DIESEL ALTERNATIVE (Cents/KWH)	4.58	4.61	4.64	4.67	4.74	4.82	4.90	4.74
TOTAL DOLLARS RETURNED TO STATE	1,915,104	2,050,055	2,190,899	2,341,495	2,528,742	2,729,127	2,939,491	2,955,024

RETAIL RATES
(cents per kwh)

<u>Community</u>	<u>@ 200 kwh/month</u>	<u>@ 500 kwh/month</u>	<u>@ 700 kwh/month</u>
Copper Valley			
-Glenallen	23.5	20.1	18.8
-Valdez	21.3	16.0	14.7
Kodiak	19.0	18.1	17.5
Wrangell	19.1	16.3	15.7
Petersburg	13.9	11.7	11.2
Ketchikan	14.3	10.8	10.2

COMPONENTS OF THE RATES
(cents per kwh)

<u>Community</u>	<u>APA O&M</u>	<u>APA Debt Service</u>	<u>Other^{*/}</u>	<u>Total (@ 700 kwh/month)</u>
Copper Valley				
-Glenallen	2.76	2.64	13.4	18.8
-Valdez	2.76	2.64	9.3	14.7
Kodiak	2.00	2.64	12.86	17.5
Wrangell	4.59	2.64	8.47	15.7
Petersburg	4.59	2.64	3.97	11.2
Ketchikan	2.26	2.64	5.3	10.2

^{*/} "Other" includes distribution, administrative and general, reserve generation, and other generation (other hydro as well as diesel in the case of Ketchikan and Petersburg.)

SHORTCOMINGS OF PRICING APA POWER AS A PERCENTAGE OF AVOIDED COSTA. Problems for the purchasing utility (in the Alaskan context)^{*/}

1. Loss of potential loads: Some or all potential large new loads that could increase project utilization will be lost, because such loads demand a higher degree of certainty over longer periods. Many such loads will either be met with private generation or cogeneration (e.g., Wrangell Forest Products) or will be lost entirely (e.g., Phillips). In the cogeneration case, the utility may be required by law to purchase excess cogenerated power from the private party, thus reducing the utility's own purchases from the APA project. In the case of loads lost because the economic activity is relocated (e.g., to the Lower 48), the community loses not only employment and taxes, but also the "induced" loads, i.e., increases in other community loads resulting from the economic activity represented by the primary load.

2. Ratemaking and billing problems: The utility must make its retail rates prospectively, yet its power costs will become known only retrospectively. Matching costs to rates during each rate period (and keeping rates fairly predictable for consumers), always a chore, becomes significantly more difficult.

3. Added administrative costs: A fairly sophisticated formula is needed to calculate true avoided cost, and the values for each variable in the formula must be recalculated at frequent (e.g., monthly) intervals. This would create some administrative burden even if (a) diesel were the only alternative, and (b) disputes with APA over the proper value for each variable never arose. (It is also difficult to continue getting realistic quotes for a large volume of diesel once the utility begins buying reduced volumes.) In practice, the difficulties are even greater because (a) the formula must accommodate other alternatives (e.g., cogeneration) as such alternatives become available, and (b) disputes with the APA over the value of individual variables are likely.

^{*/} Such pricing works well in power "pools" in which a sophisticated computer controls the generators of many producers on an instantaneous central-dispatch basis. The computer is programed to minimize total generation costs at all times, based on each generator's fuel cost, efficiency, and maximum/minimum operating guides. Cost savings made possible by using Utility A's generator rather than Utility B's to serve a portion of Utility B's load are "split" (usually on a 50/50 basis) through use of a share-the-savings rate the computer charges to Utility B and credits to Utility A. The actual rate for each transaction, and each utility's costs and savings for any given period, are known at once, facilitating utility ratemaking and billing. Nothing similar exists in Alaska, nor could it exist in the Four Dam Pool context where (a) the communities are not electrically interconnected, and (b) APA power is intended to displace thermal generation completely for most days of the year.

4. Regulatory costs: For the cooperatives (Kodiak and Copper Valley), whose retail rates are regulated by the Alaska PUC, rate filings and rate cases will become more frequent, more complex, and more costly. If the past is a guide, the APUC may also require the co-ops to raise/lower retail rates to "track" the fluctuating wholesale cost of power to the co-op, thus producing fluctuating retail rates.

5. Planning problems: The search for alternative sources of power supply with more predictable long-term costs would be intensified and simultaneously complicated. Presumably the planning process would be biased (rationally) toward predictability, even if the price of predictability were that somewhat higher retail rates might result from the more predictable alternatives.

6. Uncertain impact on utility financing: It is not clear that a utility would be able to finance additions to its distribution system and/or its generating plant as easily or inexpensively as would otherwise be the case, since the utility's revenue stream and its ability to maintain required coverage ratios and reserves would be somewhat unpredictable.

B. Problems for the State of Alaska as the seller of power

1. Reduced revenue: Compared with long-term contracts under the terms of HB 219 pricing method, power sold on a percentage-of-avoided-cost basis is likely to produce less total revenue for the State, even if one assumes that loads are equal in both cases. But loads will actually be less (see ¶ A.1. above). The loss of potential large new loads that would have produced more revenue for the State would make the comparative revenue disadvantage to the State worse.

2. Increased revenue risk: This would take two forms. First, the State would take the entire risk of further downward movement in the price of diesel and the cost of alternative resources, whereas under HB 219 the communities would bear that risk entirely. Second, because the utilities would be free, over time, to switch wholly or partially to other sources of supply, and because the utilities would have an incentive to investigate and pursue such other sources, the State would face some risk of losing even the existing loads of the utilities, as well as utility load growth.

3. Risk of negative rate of return (failure to cover current costs): This simply indicates the extreme to which the State's additional risk could take it. Under HB 219, the State is assured that (a) O&M costs will be completely paid by the utilities, and (b) some positive return, in addition to return of the principal, will be earned on the State's loan. If wholesale rates are tied to actual avoided costs of the utilities, however, a sufficiently great drop in actual avoided costs would result in the APA failing to cover even its O&M costs. In less extreme cases, APA might cover its O&M costs but fail to earn sufficient revenue to repay the principal and/or interest on the loan.

4. Added administrative costs: Administering such a pricing system would be just as complex and labor-intensive for the APA as it would be for the utilities.

May 11, 1985

The Honorable Jan Faiks, Chair
Senate Finance Committee
Pouch V
Juneau, Alaska 99811

Dear Madam Chair:

My name is Jim Franzel. I am a member of the Petersburg City Council and it is my signature that appears on the Four Dam Pool/APA memorandum of understanding, dated May 8, 1985. I would like to briefly comment on several items, mostly related to the M.O.U., for the record.

(1) I believe that Petersburg would have preferred not to have a rate reopener, but if we must have one, we will be negotiating for some tight limitations.

(2) The mention of Bradley Lake in the M.O.U. has been difficult to assess in the limited time we have had to work with it. Comparing the APA forecast loads and projected project construction costs for Bradley Lake versus the Four Dam Pool projects, it looks like the Four Dam Pool will have higher electric rates. I want to emphasize that, since Bradley Lake has not been constructed, it is my understanding that if there are construction cost overruns (as there were with Tyee,) the Petersburg rate payers will not eventually be penalized for something that isn't their fault.

(3) If HB 219 becomes law, the Four Dam Pool communities will have among the most expensive residential electrical rates in Alaska at present. I think this will be a concern to the voters of Petersburg.

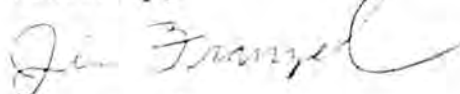
(4) The Petersburg City Council intends to put the negotiated contract to a vote of the people.

I would like to express that I feel we have made significant progress with the M.O.U. agreement. However, we still have a long way to go.

I pledge that I will support the M.O.U. to my governing body.

Finally, I think that it is to everyone's advantage to settle this issue. Thank You.

Sincerely,



Jim Franzel
Petersburg City Council

Alaska State Legislature



House of Representatives

REPRESENTATIVE
JOHN L. SUND

Box 6440
KETCHIKAN, ALASKA 99901
(907) 225-5552


WHILE IN JUNEAU
POUCH V
JUNEAU, ALASKA 99811
(907) 465-4919

CHAIR, HOUSE SPECIAL COMMITTEE ON LOANS
VICE-CHAIR, JUDICIARY COMMITTEE
MEMBER, SPECIAL COMMITTEE ON OIL AND GAS
MEMBER, RESOURCES COMMITTEE

5/10/85

MEMORANDUM

TO: Sen. Jan Faiks, Co-Chair
Sen. John Sackett, Co-Chair
Senate Finance Committee
Sen Dick Eliason
Sen. Frank Ferguson
Sen. Paul Fischer
Sen. Rick Halford
Sen. Jay Kerttula

FROM: Rep. John Sund 

RE: HB 219 "An act relating to the applicability of the Alaska Public Utilities Commission Act to certain electric utilities; power development loans; and the energy program for Alaska."

Attached please find a package of backup information on HB 219, the four-dam-pool bill. Please let me know if there is any further information I can provide you.

The package contains:

- The Finance Committee Substitute for the bill
- A Memorandum of Understanding dated May 8, 1985
- Schedule of debt service charges for the project
- Schedule of retail electric rates
- Memo to Senate Resources with sectional analysis HB 219
- Spreadsheet of debt repayment

Offered: 4/14/85
Referred: Rules

Original sponsor: House Special Committee
on State Loans

1 IN THE HOUSE

BY THE FINANCE COMMITTEE

2

CS FOR HOUSE BILL NO. 219 (Finance)

3

IN THE LEGISLATURE OF THE STATE OF ALASKA

4

FOURTEENTH LEGISLATURE - FIRST SESSION

5

A BILL

6

For an Act entitled: "An Act relating to the applicability of the Alaska
Public Utilities Commission Act to certain electric
utilities; power development loans; and the energy
program for Alaska."

7

8

9

10 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

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* Section 1. AS 42.05.711(b) is amended to read:

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(b) Public utilities owned and operated by a political subdivi-
sion of the state and electric operating entities established as an
instrumentality of two or more public utilities owned and operated by
a political subdivision of the state, none of whose utilities is in
competition with any other utility, are exempt from the provisions of
this chapter, other than the provisions of AS 42.05.221 - 42.05.281,
unless the owner and operator elects to be subject to all provisions
of this chapter.

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* Sec. 2. AS 44.33.620(a) is amended to read:

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(a) A loan from the fund shall [MUST] be repaid in accordance
with the terms that the department determines to be appropriate. In
establishing the terms, including provision for a return to the state
of an amount in excess of the principal amount of the loan, the de-
partment shall consider the revenue that the authority could reason-
ably derive from the sale of power from the projects based upon

27

(1) [THE MARKET RATE OF INTEREST FOR A LOAN OF COMPARABLE
SIZE AND DURATION AT THE TIME THE LOAN IS MADE; AND

28

29

(2)] the [ESTIMATED] costs, at the time the power sales

1 agreement is initially negotiated or renegotiated, of alternative
2 sources of energy generation for utilities purchasing power from a
3 project financed with a loan from the fund;

4 (2) the effect of the loan terms on the wholesale power
5 costs to all utilities purchasing power from the initial project;

6 (3) the long-term benefits to consumers and communities of
7 stable wholesale power costs;

8 (4) the affordability of initial wholesale power costs that
9 result from the loan terms with utilities purchasing power from the
10 initial project;

11 (5) increasing repayment, not to exceed five years, of debt
12 service payment per kilowatt hour gradually over the initial period of
13 a loan repayment schedule to the extent necessary to avoid significant
14 rate increases to the consumer;

15 (6) the existing excess capacity of power projects; and

16 (7) the effects of increased capacity utilization, infla-
17 tion, and alternative energy production costs over the life of the
18 initial project.

19 * Sec. 3. AS 44.33.620 is amended by adding a new subsection to read:

20 (d) In (a) of this section "initial project" means the project
21 described in AS 44.83.398(a).

22 * Sec. 4. AS 44.33 is amended by adding a new section to read:

23 Sec. 44.33.625. RATE REOPENERS. A power sales agreement for the
24 sale of power from the initial project, as described in AS 44.83.-
25 398(a), financed with a loan under AS 44.33.610 may include among its
26 provisions an agreed schedule of wholesale power rates notwithstanding
27 the provisions of AS 44.83.398, but must include a provision for a
28 rate reopener.

29 * Sec. 5. AS 44.83.425(5) is amended to read:

1 (5) "qualified utility" means an electric utility or an
2 electric operating entity established as an instrumentality of two or
3 more electric utilities [THAT IS] certified by the Alaska Public
4 Utilities Commission to serve all or part of a market area that is
5 served or will be served by the power project, [AND] that the author-
6 ity determines is capable of operating and maintaining the power
7 project.

MEMORANDUM OF UNDERSTANDING

Between the Alaska Power Authority
and
Representatives of the Four Dam Pool Communities
governing
Power Sales Contracts for the Four Dam Pool

Representatives of the APA and the Four Dam Pool utilities (Ketchikan, Kodiak, Copper Valley, Wrangell, and Petersburg) have reached agreement in principle on the terms and conditions of a power sales contract for the sale of power from the Solomon Gulch, Swan Lake, Lake Tyee, and Terror Lake hydroelectric projects (the "Initial Project"). Although the specific details of such a contract must still be resolved and drafted, the undersigned representatives hereby agree to recommend to their governing bodies the approval of power sales contracts embodying, among other things, the principles set forth in this Memorandum.

1. The Alaska Power Authority ("APA") and the purchasing utilities of the Four-Dam Pool communities ("Purchasing Utilities") agree to enter into a power sales agreement that will run for 50 years, subject to periodic renegotiations and other conditions set forth below.
2. At the end of the contract period, there will be no debt service component of the wholesale rate charged by the APA for power from the four projects. Debt service payments that may be required to pay for additions and expansions of the four projects that are made subsequent to the execution of these agreements will be governed by future agreements.
3. The Purchasing Utilities agree to pay a wholesale rate for energy purchased from the APA that is generated by the four projects that has a debt service component, and a component relevant to all other annual costs.
4. The annual costs exclusive of the debt service component shall include costs of on-site operations and maintenance, safety inspections and investigations, insurance, project-specific administrative and general expenses, and renewals and replacements.
5. Annual costs referred to in Section 4 will be based on prudent utility practice, and will be subject to mutual agreement arrived at through an annual process that establishes an operating budget for the coming year. An O&M

oversight committee composed of all parties to the agreement will be established. In the event disputes over these annual costs cannot be resolved by the parties, the matter will be referred to arbitration by a certified engineer mutually agreeable to the parties.

6. All annual costs referred to in Section 4 will be pooled and divided by the total annual sales from the four projects, so that all Purchasing Utilities pay the same annual cost component of the wholesale rate.
7. The debt service component of the wholesale rate has two elements: an element paid for energy shown in Schedule A as "forecast sales," and an element paid for energy in addition to the "forecast sales," which is referred to as "additional sales."
8. The "additional sales" debt service element in Schedule A will be charged only after the total annual sales from all four projects exceed the "forecast sales" for that year; that is, the distinction between "forecast sales" and "additional sales" applies to the entire four dam system (as configured at the time this agreement is executed).
9. The purchasing utilities will schedule the energy produced by the projects into their load ahead of energy from other sources, except from existing hydroelectric projects.
10. Upon the initiation of either party, the debt service rates shown in Schedule A may be renegotiated after 15 years. The contract shall require reasonable notice of intent to renegotiate rates, and the contract may direct the parties to consider certain factors and conditions in establishing a new rate schedule.
11. The parties to this agreement do not expect that the composite wholesale rate that results from this agreement will be less than the composite wholesale rate charged by the APA for energy produced from the Bradley Lake hydroelectric project.
12. The APA shall bear the risk of uninsured project failures, substandard project performance, and failure of any Purchasing Utility to make payments required by the contract.

DATED May 8, 1985

ALASKA POWER AUTHORITY

By: [Signature]

CITY OF KETCHIKAN

By: [Signature]

COPPER VALLEY ELECTRIC ASSOCIATION

By: Andrew E. Hoze

KODIAK ELECTRIC ASSOCIATION

By: William E. Eberhard

CITY OF WRANGELL

By: James F. ...

CITY OF PETERSBURG

By: Jim ...

SCHEDULE A

<u>YEAR</u>	<u>FORECAST SALES (MWH)</u>	<u>DEBT SERVICE RATE FOR FORECAST SALES (CENTS/KWH)</u>	<u>DEBT SERVICE RATE FOR ADDITIONAL SALES (CENTS/HWH)</u>
1986	181,496	2.6	1.6
1987	191,437	2.8	1.8
1988	199,181	3.2	2.2
1989	206,042	3.5	2.5
1990	212,994	4.0	3.0
1991	219,067	4.0	3.0
1992	226,907	4.0	3.0
1993	236,183	4.0	3.0
1994	245,893	4.0	3.0
1995	255,439	4.0	3.0
1996	260,533	4.0	3.0
1997	265,897	4.0	3.0
1998	271,482	4.0	3.0
1999	277,343	4.0	3.0
2000	283,488	4.0	3.0
2001	288,220	4.0	3.0
2002	290,043	4.0	3.0
2003	291,926	4.0	3.0
2004	293,889	4.0	3.0
2005	295,935	4.0	3.0
2006	298,067	4.0	3.0
2007	300,290	4.0	3.0
2008	302,608	4.0	3.0
2009	305,123	4.0	3.0
2010	307,541	4.0	3.0
2011	310,165	4.0	3.0
2012	312,901	4.0	3.0
2013	315,753	4.0	3.0
2014	318,725	4.0	3.0
2015	321,824	4.0	3.0
2016	325,053	4.0	3.0
2017	328,420	4.0	3.0
2018	331,929	4.0	3.0
2019	335,587	4.0	3.0
2020	339,400	4.0	3.0
2021	343,375	4.0	3.0
2022	347,518	4.0	3.0
2023	351,836	4.0	3.0
2024	356,338	4.0	3.0
2025	361,030	4.0	3.0
2026	365,921	4.0	3.0
2027	371,019	4.0	3.0

<u>YEAR</u>	<u>FORECAST SALES (MWH)</u>	<u>DEBT SERVICE RATE FOR FORECAST SALES (¢1 KWH)</u>	<u>DEBT SERVICE RATE FOR ADDITIONAL SALES (¢1 KWH)</u>
2028	376,334	4.0	3.0
2029	378,607	4.0	3.0
2030	378,607	4.0	3.0
2031	378,607	4.0	3.0
2032	378,607	4.0	3.0
2033	378,607	4.0	3.0
2034	378,607	4.0	3.0
2035	378,607	4.0	3.0
2036	378,607	4.0	3.0
2037	378,607	4.0	3.0

RETAIL RATES
(cents per kwh)

<u>Community</u>	<u>@ 200 kwh/month</u>	<u>@ 500 kwh/month</u>	<u>@ 700 kwh/month</u>
Copper Valley			
-Glenallen	23.5	20.1	18.8
-Valdez	21.3	16.0	14.7
Kodiak	19.0	18.1	17.5
Wrangell	19.1	16.3	15.7
Petersburg	13.9	11.7	11.2
Ketchikan	14.3	10.8	10.2

COMPONENTS OF THE RATES
(cents per kwh)

<u>Community</u>	<u>APA O&M</u>	<u>APA Debt Service</u>	<u>Other^{*/}</u>	<u>Total (@ 700 kwh/month)</u>
Copper Valley				
-Glenallen	2.76	2.64	13.4	18.8
-Valdez	2.76	2.64	9.3	14.7
Kodiak	2.00	2.64	12.86	17.5
Wrangell	4.59	2.64	8.47	15.7
Petersburg	4.59	2.64	3.97	11.2
Ketchikan	2.26	2.64	5.3	10.2

^{*/} "Other" includes distribution, administrative and general, reserve generation, and other generation (other hydro as well as diesel in the case of Ketchikan and Petersburg.)

Alaska State Legislature



House of Representatives

REPRESENTATIVE
JOHN L. SUND

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WHILE IN JUNEAU
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CHAIR, HOUSE SPECIAL COMMITTEE ON LOANS
VICE-CHAIR, JUDICIARY COMMITTEE
MEMBER, SPECIAL COMMITTEE ON OIL AND GAS
MEMBER, RESOURCES COMMITTEE

4/22/85

MEMORANDUM

TO: Sen. Arliss Sturgulewski, Chair,
Senate Resources Committee

FROM: Rep. John Sund

RE: HB 219 "An act relating to the applicability of the Alaska Public Utilities Commission Act to certain electric utilities; power development loans; and the energy program for Alaska."

The purpose of this bill is to resolve the problems holding up four-dam-pool power sales agreements and to provide for payback of the \$196 million appropriation made last year to complete the hydroelectric projects. The Alaska Power Authority and the six communities served by the four dams have been negotiating power sales agreements for 2½ years without success. The goal is a long-term power sales agreement that provides affordable electricity for the communities and a maximum return on the state's investment.

\$210 million was appropriated last year; \$196 million has been spent to complete the dams and pay off short-term construction financing issued by the APA. This appropriation was structured as a loan from the Department of Commerce and Economic Development to the APA to be paid off through power sales from the project. AS 44.33.620 sets terms for the loan.

As in existing law, the Finance Committee Substitute does not set in law exact terms for the loan, nor does it set power rates. These are left open for further negotiation. The bill provides specific guidelines for resolving the issue under a plan developed by Gordon Harrison of the APA board.

The APA and the six communities report recent significant progress in power sales agreement negotiations; the plan they are now working with requires the passage of CSHB 219 (Fin). Action is required this session to permit sales agreements which will capture additional loads for the under-utilized hydroelectric capacity.

The bill is supported by both the APA and the four-dam-pool communities. Bob Heath, Executive Director of the APA and representatives of the communities are expected to testify before the Resources Committee.

Sectional analysis:

Section 1:

Sections 1 and 5, propose a change in law to allow two communities to get together for joint operation of a dam. The main purpose is to allow the Thomas Bay Power Authority to operate the Tyee Dam. Tyee serves two communities (Wrangell and Petersburg); Current law requires one or the other to operate the dam. This section corrects that by adding "electric operating entities established as an instrumentality of two or more public utilities owned and operated by a political subdivision of the state" to the APUC statutes. Like the communities, the 'joint operating entity' would not be subject to APUC regulation.

Section 2:

This section amends the loan terms for the Power Development Revolving Loan Fund (AS 44.33.620). This fund was created last session and the statutory loan terms give little direction to the APA. The added language sets clear guidelines for the agencies to work with. Deleted is the requirement that the loan terms be set considering market rates of interest.

Section 3 adds a definition: "initial project" means the four dams.

Section 4 adds a provision for power sales contract rate reopeners. This protects the state in times of inflation when the power sales rate could not provide sufficient loan repayment in real terms and protects the communities should the price of alternate power generation drop significantly. An important provision is added allowing an agreed schedule of wholesale power rates to be included in the contracts. This allows a contract to be reached through negotiation which will provide for certainty in power rates as needed by utility planners. This also will provide for a greater return to the state in debt service from the project.

Section 5 adds joint operating entities to the definition of "qualified utilities" which may purchase power from the APA. (See explanation of Section 1)

EXHIBIT A: WHOLESALE POWER RATE SCHEDULE
 Alaska Power Authority--Four Dam Pool
 Memorandum of Understanding

YEAR	SCHEDULED DEBT SERVICE (CENTS/KWH)	ESTIMATED O & M COST (CENTS/KWH)	PROJECTED WHOLESALE POWER RATE (CENTS/KWH)
--A--	---B---	---C---	---D---
1986	2.60	2.72	5.32
1987	2.80	2.72	5.52
1988	3.20	2.76	5.96
1989	3.50	2.81	6.31
1990	4.00	2.87	6.87
1991	4.00	2.94	6.94
1992	4.00	3.00	7.00
1993	4.00	3.04	7.04
1994	4.00	3.08	7.08
1995	4.00	3.13	7.13
1996	4.00	3.24	7.24
1997	4.00	3.36	7.36
1998	4.00	3.47	7.47
1999	4.00	3.59	7.59
2000	4.00	3.72	7.72
2001	4.00	3.86	7.86
2002	4.00	4.06	8.06
2003	4.00	4.27	8.27
2004	4.00	4.48	8.48
2005	4.00	4.71	8.71
2006	4.00	4.94	8.94
2007	4.00	5.19	9.19
2008	4.00	5.45	9.45
2009	4.00	5.72	9.72
2010	4.00	6.01	10.01
2011	4.00	6.30	10.30
2012	4.00	6.61	10.61
2013	4.00	6.94	10.94
2014	4.00	7.28	11.28
2015	4.00	7.63	11.63
2016	4.00	8.00	12.00
2017	4.00	8.38	12.38
2018	4.00	8.78	12.78
2019	4.00	9.20	13.20
2020	4.00	9.63	13.63
2021	4.00	10.08	14.08
2022	4.00	10.55	14.55
2023	4.00	11.04	15.04
2024	4.00	11.54	15.54
2025	4.00	12.07	16.07
2026	4.00	12.61	16.61
2027	4.00	13.18	17.18
2028	4.00	13.76	17.76
2029	4.00	14.50	18.50
2030	4.00	15.36	19.36
2031	4.00	16.27	20.27
2032	4.00	17.24	21.24
2033	4.00	18.27	22.27
2034	4.00	19.35	23.35
2035	4.00	20.51	24.51

Notes:

1. O & M based on forecast loads without Additional Sales.
2. O & M includes \$500,000 per year capital cost for Renewals and Replacements.
3. O & M inflation assumed to be 6% per year.
4. Additional Sales to be charged for Debt Service at 1 Cent/kWh less than Scheduled Debt Service.

Case Number 2
 Loan Principal (\$=000's) \$196,000
 O&M Cost Inflation Rate 6.00%

EXHIBIT B: PROJECTED OPERATING RESULTS AND RATES OF RETURN
 Alaska Power Authority--Four Dam Pool
 Memorandum of Understanding

Average Rate of Return:
 Without Additional Sales 5.47%
 With Additional Sales 6.10%

YEAR	PROJECTED			OPERATIONS & MAINTENANCE						
	SCHEDULED DEBT SVC. (CENTS/KWH)	O & M COST (CENTS/KWH)	WMLS. POWER RATE (CENTS/KWH)	SALES (MMH)	GROSS REVENUES (\$=000's)	NET REVENUES (\$=000's)	ADMIN (\$=000's)	ON-SITE (\$=000's)	R & R (\$=000's)	TOTAL O & M (\$=000's)
A	B	C	D	E	F	G	H	I	J	K
1986	2.60	2.72	5.32	181,496	9,658	5,219	863	3,576	500	4,939
1987	2.80	2.72	5.52	191,437	10,566	5,860	915	3,791	500	5,205
1988	3.20	2.76	5.96	199,181	11,861	6,874	970	4,018	500	5,488
1989	3.50	2.81	6.31	206,042	12,998	7,711	1,028	4,259	500	5,787
1990	4.00	2.87	6.87	212,994	14,624	9,020	1,090	4,515	500	6,104
1991	4.00	2.94	6.94	219,067	15,203	9,263	1,155	4,785	500	6,440
1992	4.00	3.00	7.00	226,907	15,873	9,576	1,224	5,073	500	6,797
1993	4.00	3.04	7.04	236,183	16,622	9,947	1,298	5,377	500	7,175
1994	4.00	3.08	7.08	245,893	17,411	10,336	1,375	5,700	500	7,575
1995	4.00	3.13	7.13	255,439	18,217	10,718	1,458	6,042	500	8,000
1996	4.00	3.24	7.24	260,533	18,871	10,921	1,546	6,404	500	8,450
1997	4.00	3.36	7.36	265,897	19,562	11,136	1,638	6,788	500	8,927
1998	4.00	3.47	7.47	271,482	20,291	11,359	1,737	7,196	500	9,432
1999	4.00	3.59	7.59	277,343	21,062	11,594	1,841	7,627	500	9,968
2000	4.00	3.72	7.72	283,488	21,876	11,840	1,951	8,085	500	10,536
2001	4.00	3.86	7.86	288,220	22,667	12,029	2,068	8,570	500	11,138
2002	4.00	4.06	8.06	290,043	23,378	12,102	2,192	9,084	500	11,777
2003	4.00	4.27	8.27	291,926	24,130	12,177	2,324	9,629	500	12,453
2004	4.00	4.48	8.48	293,889	24,926	12,256	2,463	10,207	500	13,170
2005	4.00	4.71	8.71	295,935	25,768	12,337	2,611	10,820	500	13,931
2006	4.00	4.94	8.94	298,067	26,659	12,423	2,768	11,469	500	14,736
2007	4.00	5.19	9.19	300,290	27,602	12,512	2,934	12,157	500	15,591
2008	4.00	5.45	9.45	302,608	28,600	12,604	3,110	12,886	500	16,496
2009	4.00	5.72	9.72	305,023	29,657	12,701	3,296	13,659	500	17,456
2010	4.00	6.01	10.01	307,541	30,775	12,802	3,494	14,479	500	18,473
2011	4.00	6.30	10.30	310,165	31,958	12,907	3,704	15,348	500	19,552
2012	4.00	6.61	10.61	312,901	33,211	13,016	3,926	16,269	500	20,695
2013	4.00	6.94	10.94	315,753	34,537	13,130	4,162	17,245	500	21,906
2014	4.00	7.28	11.28	318,725	35,940	13,249	4,411	18,279	500	23,191
2015	4.00	7.63	11.63	321,824	37,425	13,373	4,676	19,376	500	24,552
2016	4.00	8.00	12.00	325,053	38,997	13,502	4,957	20,539	500	25,995
2017	4.00	8.38	12.38	328,420	40,662	13,637	5,254	21,771	500	27,525
2018	4.00	8.78	12.78	331,929	42,424	13,777	5,569	23,077	500	29,147
2019	4.00	9.20	13.20	335,587	44,289	13,923	5,903	24,462	500	30,865
2020	4.00	9.63	13.63	339,400	46,263	14,076	6,258	25,930	500	32,687
2021	4.00	10.08	14.08	343,375	48,354	14,235	6,633	27,485	500	34,619
2022	4.00	10.55	14.55	347,518	50,566	14,401	7,031	29,135	500	36,666
2023	4.00	11.04	15.04	351,836	52,909	14,573	7,453	30,883	500	38,836
2024	4.00	11.54	15.54	356,338	55,389	14,754	7,900	32,736	500	41,136
2025	4.00	12.07	16.07	361,030	58,015	14,941	8,374	34,700	500	43,574
2026	4.00	12.61	16.61	365,921	60,795	15,137	8,877	36,782	500	46,158
2027	4.00	13.18	17.18	371,019	63,739	15,341	9,409	38,989	500	48,898
2028	4.00	13.76	17.76	376,334	66,855	15,553	9,974	41,328	500	51,802
2029	4.00	14.30	18.50	378,607	70,024	15,644	10,572	43,808	500	54,880
2030	4.00	15.36	19.36	378,607	73,287	15,644	11,206	46,436	500	58,143
2031	4.00	16.27	20.27	378,607	76,745	15,644	11,879	49,222	500	61,601
2032	4.00	17.24	21.24	378,607	80,411	15,644	12,592	52,176	500	65,267
2033	4.00	18.27	22.27	378,607	84,297	15,644	13,347	55,306	500	69,153
2034	4.00	19.35	23.35	378,607	88,417	15,644	14,148	58,624	500	73,272
2035	4.00	20.51	24.51	378,607	92,783	15,644	14,997	62,142	500	77,639

-----ADDITIONAL SALES TRUE-UP CALCULATION-----

YEAR	ADDITIONAL SALES (MWH)	GROSS REVENUE (\$=000'S)	DEBT SVC. TRUE-UP (\$=000'S)	D & N TRUE-UP (\$=000'S)	NET REVENUE (\$=000'S)	MELDED RATE (CENTS/KWH)	YEAR
A	L	M	N	O	P	Q	R
1986	10,828	10,234	108	295	5,392	5.11	1986
1987	21,656	11,761	217	589	6,250	5.11	1987
1988	32,484	13,796	325	895	7,588	5.43	1988
1989	42,312	15,668	423	1,188	8,769	5.66	1989
1990	54,140	18,341	541	1,552	10,644	6.08	1990
1991	54,140	18,960	541	1,592	10,887	6.16	1991
1992	54,140	19,660	541	1,622	11,200	6.23	1992
1993	54,140	20,432	541	1,645	11,572	6.28	1993
1994	54,140	21,244	541	1,668	11,960	6.34	1994
1995	54,140	22,078	541	1,696	12,342	6.41	1995
1996	54,140	22,792	541	1,756	12,546	6.51	1996
1997	54,140	23,546	541	1,818	12,760	6.62	1997
1998	54,140	24,338	541	1,881	12,983	6.73	1998
1999	54,140	25,173	541	1,946	13,218	6.84	1999
2000	54,140	26,053	541	2,012	13,464	6.96	2000
2001	54,140	26,925	541	2,092	13,653	7.10	2001
2002	54,140	27,742	541	2,198	13,726	7.26	2002
2003	54,140	28,605	541	2,310	13,801	7.44	2003
2004	54,140	29,518	541	2,426	13,880	7.63	2004
2005	54,140	30,482	541	2,549	13,962	7.82	2005
2006	54,140	31,501	541	2,677	14,047	8.03	2006
2007	54,140	32,579	541	2,811	14,136	8.25	2007
2008	54,140	33,717	541	2,951	14,229	8.47	2008
2009	54,140	34,921	541	3,098	14,325	8.71	2009
2010	54,140	36,193	541	3,252	14,426	8.96	2010
2011	54,140	37,537	541	3,413	14,531	9.22	2011
2012	54,140	38,957	541	3,581	14,640	9.49	2012
2013	54,140	40,458	541	3,756	14,754	9.78	2013
2014	54,140	42,045	541	3,939	14,873	10.07	2014
2015	54,140	43,721	541	4,130	14,997	10.39	2015
2016	53,554	45,422	536	4,283	15,109	10.72	2016
2017	50,187	46,876	502	4,206	15,142	11.14	2017
2018	46,678	48,390	467	4,099	15,177	11.58	2018
2019	43,020	49,966	430	3,957	15,214	12.04	2019
2020	39,207	51,608	392	3,776	15,252	12.53	2020
2021	35,232	53,315	352	3,552	15,292	13.05	2021
2022	31,089	55,090	311	3,280	15,333	13.60	2022
2023	26,771	56,935	268	2,955	15,377	14.19	2023
2024	22,269	58,851	223	2,571	15,422	14.81	2024
2025	17,577	60,840	176	2,121	15,469	15.46	2025
2026	12,686	62,903	127	1,600	15,517	16.16	2026
2027	7,588	65,042	76	1,000	15,568	16.90	2027
2028	2,273	67,259	23	313	15,622	17.68	2028
2029	0	70,024	0	0	15,644	18.50	2029
2030	0	73,287	0	0	15,644	19.36	2030
2031	0	76,745	0	0	15,644	20.27	2031
2032	0	80,411	0	0	15,644	21.24	2032
2033	0	84,297	0	0	15,644	22.27	2033
2034	0	88,417	0	0	15,644	23.35	2034
2035	0	92,783	0	0	15,644	24.51	2035

Note: Rates of Return are based upon Net Revenues (columns G and P), which include Debt Service payments and capital contributions to the Renewals and Replacements Fund, plus interest on reserves.

MEMORANDUM

RECEIVED State of Alaska

APR 5 1985

TO: William H. Batt
Assoc. Executive Director
Finance/Administration
Alaska Power Authority

ALASKA POWER AUTHORITY
DATE
FILE NO

April 3, 1985

TELEPHONE NO 276-3550

FROM: Norman C. Gorsuch
Attorney General

SUBJECT: Swan Lake Project,
City of Ketchikan

By:


Carolyn E. Jones
Assistant Attorney General

I have reviewed the materials you sent with me with regard to the transfer of leftover construction moneys. I can find nowhere in this packet a written request for the funds with directions as to how the funds are to be transferred or a refusal by KPU to transfer the funds. The September, 1984 Crawford letter is more advisory than directory and suggests that several more steps still needed to be taken, e.g., "We will be in touch with you tomorrow regarding transactional details."

What is needed now is a letter from the APA to Ketchikan Public Utilities requesting that the Utility turn over the money, and setting out the procedural steps relating to the transfer. That is an administrative matter which I leave you to draft as you wish the request and process to take place.

If you wish to discuss in this letter the informal signals you have received regarding KPU's demand that its legal fees be paid, then I offer the following paragraph to be included in your demand letter: [Note to typist: the following paragraph should be inserted in the letter immediately following the text requesting transfer and setting out the procedure for the transfer.]

We have learned informally that Ketchikan Public Utilities believes that moneys from the construction fund and reserve account should be used to pay for KPU's legal costs in negotiating the power sales agreement. We believe that any legal fees related to negotiating KPU's negotiations in the context of purchasing energy from the project are not covered by the terms of the acquisition agreement.

Section 10 of the acquisition agreement provides that the Alaska Power Authority will reimburse the City of Ketchikan for its project costs including legal fees related to the cost of management and construction. The section reads,

Compensation for Management and Construction Services. The City shall be compensated for

William H. Batt
Alaska Power Authority
Swan Lake Project

April 3, 1985
Page 2

management of the project and for work performed by the city personnel in relation to the project, by payment of the following cost on a monthly basis:

(b) the cost and expenses of attorneys, consultants, engineers or other consultants, whether or not such persons are employees of the city, and any and all other out-of-pocket expenses incurred by the city in administration or management of, or in connection with the project;

We believe that the intent of the acquisition agreement was to cover KPU's costs vis-a-vis construction and management of the project on the APA's behalf. When KPU negotiated with the APA for the right to purchase power from the project, KPU stood in an arms-length relationship with the APA-- as any buyer and seller do. In those circumstances, KPU's activities and legal fees were not covered by the contract. Indeed, the APA is not paying comparable legal expenses to the other communities that are negotiating with us to buy power from the Four Dam Pool project.
(end of letter)

CEJ:cmh

Alaska State Legislature



House of Representatives

REPRESENTATIVE
JOHN L. SUND

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KETCHIKAN, ALASKA 99901
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WHILE IN JUNEAU
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CHAIR, HOUSE SPECIAL COMMITTEE ON LOANS
VICE-CHAIR, JUDICIARY COMMITTEE
MEMBER, SPECIAL COMMITTEE ON OIL AND GAS
MEMBER, RESOURCES COMMITTEE

5/10/85

MEMORANDUM

TO: Sen. Jan Faiks, Co-Chair
Sen. John Sackett, Co-Chair
Senate Finance Committee
Sen Dick Eliason
Sen. Frank Ferguson
Sen. Paul Fischer
Sen. Rick Halford
Sen. Jay Kerttula

FROM: Rep. John Sund 

RE: HB 219 "An act relating to the applicability of the Alaska Public Utilities Commission Act to certain electric utilities; power development loans; and the energy program for Alaska."

Attached please find a package of backup information on HB 219, the four-dam-pool bill. Please let me know if there is any further information I can provide you.

The package contains:

- The Finance Committee Substitute for the bill
- A Memorandum of Understanding dated May 8, 1985
- Schedule of debt service charges for the project
- Schedule of retail electric rates
- Memo to Senate Resources with sectional analysis HB 219
- Spreadsheet of debt repayment

Offered: 4/14/85
Referred: Rules

Original sponsor: House Special Committee
on State Loans

1 IN THE HOUSE BY THE FINANCE COMMITTEE
2 CS FOR HOUSE BILL NO. 219 (Finance)
3 IN THE LEGISLATURE OF THE STATE OF ALASKA
4 FOURTEENTH LEGISLATURE - FIRST SESSION
5 A BILL

6 For an Act entitled: "An Act relating to the applicability of the Alaska
7 Public Utilities Commission Act to certain electric
8 utilities; power development loans; and the energy
9 program for Alaska."

10 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

11 * Section 1. AS 42.05.711(b) is amended to read:

12 (b) Public utilities owned and operated by a political subdivi-
13 sion of the state and electric operating entities established as an
14 instrumentality of two or more public utilities owned and operated by
15 a political subdivision of the state, none of whose utilities is in
16 competition with any other utility, are exempt from the provisions of
17 this chapter, other than the provisions of AS 42.05.221 - 42.05.281,
18 unless the owner and operator elects to be subject to all provisions
19 of this chapter.

20 * Sec. 2. AS 44.33.620(a) is amended to read:

21 (a) A loan from the fund shall [MUST] be repaid in accordance
22 with the terms that the department determines to be appropriate. In
23 establishing the terms, including provision for a return to the state
24 of an amount in excess of the principal amount of the loan, the de-
25 partment shall consider the revenue that the authority could reason-
26 ably derive from the sale of power from the projects based upon

27 (1) [THE MARKET RATE OF INTEREST FOR A LOAN OF COMPARABLE
28 SIZE AND DURATION AT THE TIME THE LOAN IS MADE; AND

29 (2)] the [ESTIMATED] costs, at the time the power sales

1 agreement is initially negotiated or renegotiated, of alternative
2 sources of energy generation for utilities purchasing power from a
3 project financed with a loan from the fund;

4 (2) the effect of the loan terms on the wholesale power
5 costs to all utilities purchasing power from the initial project;

6 (3) the long-term benefits to consumers and communities of
7 stable wholesale power costs;

8 (4) the affordability of initial wholesale power costs that
9 result from the loan terms with utilities purchasing power from the
10 initial project;

11 (5) increasing repayment, not to exceed five years, of debt
12 service payment per kilowatt hour gradually over the initial period of
13 a loan repayment schedule to the extent necessary to avoid significant
14 rate increases to the consumer;

15 (6) the existing excess capacity of power projects; and

16 (7) the effects of increased capacity utilization, infla-
17 tion, and alternative energy production costs over the life of the
18 initial project.

19 * Sec. 3. AS 44.33.620 is amended by adding a new subsection to read:

20 (d) In (a) of this section "initial project" means the project
21 described in AS 44.83.398(a).

22 * Sec. 4. AS 44.33 is amended by adding a new section to read:

23 Sec. 44.33.625. RATE REOPENERS. A power sales agreement for the
24 sale of power from the initial project, as described in AS 44.83.-
25 398(a), financed with a loan under AS 44.33.610 may include among its
26 provisions an agreed schedule of wholesale power rates notwithstanding
27 the provisions of AS 44.83.398, but must include a provision for a
28 rate reopener.

29 * Sec. 5. AS 44.83.425(5) is amended to read:

1 (5) "qualified utility" means an electric utility or an
2 electric operating entity established as an instrumentality of two or
3 more electric utilities [THAT IS] certified by the Alaska Public
4 Utilities Commission to serve all or part of a market area that is
5 served or will be served by the power project, [AND] that the author-
6 ity determines is capable of operating and maintaining the power
7 project.

MEMORANDUM OF UNDERSTANDING

Between the Alaska Power Authority
and
Representatives of the Four Dam Pool Communities
governing
Power Sales Contracts for the Four Dam Pool

Representatives of the APA and the Four Dam Pool utilities (Ketchikan, Kodiak, Copper Valley, Wrangell, and Petersburg) have reached agreement in principle on the terms and conditions of a power sales contract for the sale of power from the Solomon Gulch, Swan Lake, Lake Tyee, and Terror Lake hydroelectric projects (the "Initial Project"). Although the specific details of such a contract must still be resolved and drafted, the undersigned representatives hereby agree to recommend to their governing bodies the approval of power sales contracts embodying, among other things, the principles set forth in this Memorandum.

1. The Alaska Power Authority ("APA") and the purchasing utilities of the Four-Dam Pool communities ("Purchasing Utilities") agree to enter into a power sales agreement that will run for 50 years, subject to periodic renegotiations and other conditions set forth below.
2. At the end of the contract period, there will be no debt service component of the wholesale rate charged by the APA for power from the four projects. Debt service payments that may be required to pay for additions and expansions of the four projects that are made subsequent to the execution of these agreements will be governed by future agreements.
3. The Purchasing Utilities agree to pay a wholesale rate for energy purchased from the APA that is generated by the four projects that has a debt service component, and a component relevant to all other annual costs.
4. The annual costs exclusive of the debt service component shall include costs of on-site operations and maintenance, safety inspections and investigations, insurance, project-specific administrative and general expenses, and renewals and replacements.
5. Annual costs referred to in Section 4 will be based on prudent utility practice, and will be subject to mutual agreement arrived at through an annual process that establishes an operating budget for the coming year. An O&M

oversight committee composed of all parties to the agreement will be established. In the event disputes over these annual costs cannot be resolved by the parties, the matter will be referred to arbitration by a certified engineer mutually agreeable to the parties.

6. All annual costs referred to in Section 4 will be pooled and divided by the total annual sales from the four projects, so that all Purchasing Utilities pay the same annual cost component of the wholesale rate.
7. The debt service component of the wholesale rate has two elements: an element paid for energy shown in Schedule A as "forecast sales," and an element paid for energy in addition to the "forecast sales," which is referred to as "additional sales."
8. The "additional sales" debt service element in Schedule A will be charged only after the total annual sales from all four projects exceed the "forecast sales" for that year; that is, the distinction between "forecast sales" and "additional sales" applies to the entire four dam system (as configured at the time this agreement is executed).
9. The purchasing utilities will schedule the energy produced by the projects into their load ahead of energy from other sources, except from existing hydroelectric projects.
10. Upon the initiation of either party, the debt service rates shown in Schedule A may be renegotiated after 15 years. The contract shall require reasonable notice of intent to renegotiate rates, and the contract may direct the parties to consider certain factors and conditions in establishing a new rate schedule.
11. The parties to this agreement do not expect that the composite wholesale rate that results from this agreement will be less than the composite wholesale rate charged by the APA for energy produced from the Bradley Lake hydroelectric project.
12. The APA shall bear the risk of uninsured project failures, substandard project performance, and failure of any Purchasing Utility to make payments required by the contract.

DATED May 8, 1985

ALASKA POWER AUTHORITY

By: [Signature]

CITY OF KETCHIKAN

By: [Signature]

COPPER VALLEY ELECTRIC ASSOCIATION

By: Andrew Hoze

KODIAK ELECTRIC ASSOCIATION

By: William Erickson

CITY OF WRANGELL

By: Charles Smith

CITY OF PETERSBURG

By: John F. ...

SCHEDULE A

<u>YEAR</u>	<u>FORECAST SALES (MWH)</u>	<u>DEBT SERVICE RATE FOR FORECAST SALES (CENTS/KWH)</u>	<u>DEBT SERVICE RATE FOR ADDITIONAL SALES (CENTS/KWH)</u>
1986	181,496	2.6	1.6
1987	191,437	2.8	1.8
1988	199,181	3.2	2.2
1989	206,042	3.5	2.5
1990	212,994	4.0	3.0
1991	219,067	4.0	3.0
1992	226,907	4.0	3.0
1993	236,183	4.0	3.0
1994	245,893	4.0	3.0
1995	255,439	4.0	3.0
1996	260,533	4.0	3.0
1997	265,897	4.0	3.0
1998	271,482	4.0	3.0
1999	277,343	4.0	3.0
2000	283,488	4.0	3.0
2001	288,220	4.0	3.0
2002	290,043	4.0	3.0
2003	291,926	4.0	3.0
2004	293,889	4.0	3.0
2005	295,935	4.0	3.0
2006	298,067	4.0	3.0
2007	300,290	4.0	3.0
2008	302,608	4.0	3.0
2009	305,023	4.0	3.0
2010	307,541	4.0	3.0
2011	310,165	4.0	3.0
2012	312,901	4.0	3.0
2013	315,753	4.0	3.0
2014	318,725	4.0	3.0
2015	321,824	4.0	3.0
2016	325,053	4.0	3.0
2017	328,420	4.0	3.0
2018	331,929	4.0	3.0
2019	335,587	4.0	3.0
2020	339,400	4.0	3.0
2021	343,375	4.0	3.0
2022	347,518	4.0	3.0
2023	351,836	4.0	3.0
2024	356,338	4.0	3.0
2025	361,030	4.0	3.0
2026	365,921	4.0	3.0
2027	371,019	4.0	3.0

<u>YEAR</u>	<u>FORECAST SALES (MWH)</u>	<u>DEBT SERVICE RATE FOR FORECAST SALES (¢1 KWH)</u>	<u>DEBT SERVICE RATE FOR ADDITIONAL SALES (¢1 KWH)</u>
2028	376,334	4.0	3.0
2029	378,607	4.0	3.0
2030	378,607	4.0	3.0
2031	378,607	4.0	3.0
2032	378,607	4.0	3.0
2033	378,607	4.0	3.0
2034	378,607	4.0	3.0
2035	378,607	4.0	3.0
2036	378,607	4.0	3.0
2037	378,607	4.0	3.0

RETAIL RATES
(cents per kwh)

<u>Community</u>	<u>@ 200 kwh/month</u>	<u>@ 500 kwh/month</u>	<u>@ 700 kwh/month</u>
Copper Valley			
-Glenallen	23.5	20.1	18.8
-Valdez	21.3	16.0	14.7
Kodiak	19.0	18.1	17.5
Wrangell	19.1	16.3	15.7
Petersburg	13.9	11.7	11.2
Ketchikan	14.3	10.8	10.2

COMPONENTS OF THE RATES
(cents per kwh)

<u>Community</u>	<u>APA O&M</u>	<u>APA Debt Service</u>	<u>Other^{*/}</u>	<u>Total (@ 700 kwh/month)</u>
Copper Valley				
-Glenallen	2.76	2.64	13.4	18.8
-Valdez	2.76	2.64	9.3	14.7
Kodiak	2.00	2.64	12.86	17.5
Wrangell	4.59	2.64	8.47	15.7
Petersburg	4.59	2.64	3.97	11.2
Ketchikan	2.26	2.64	5.3	10.2

^{*/} "Other" includes distribution, administrative and general, reserve generation, and other generation (other hydro as well as diesel in the case of Ketchikan and Petersburg.)

Alaska State Legislature



House of Representatives

REPRESENTATIVE
JOHN L. SUNO

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WHALE IN JUNEAU
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CHAIR HOUSE SPECIAL COMMITTEE ON LOANS
VICE CHAIR JUDICIARY COMMITTEE
MEMBER SPECIAL COMMITTEE ON OIL AND GAS
MEMBER RESOURCES COMMITTEE

4/22/85

MEMORANDUM

TO: Sen. Arliss Sturgulewski, Chair,
Senate Resources Committee

FROM: Rep. John Suno *[Signature]*

RE: HB 219 "An act relating to the applicability of the Alaska Public Utilities Commission Act to certain electric utilities; power development loans; and the energy program for Alaska."

The purpose of this bill is to resolve the problems holding up four-dam-pool power sales agreements and to provide for payback of the \$196 million appropriation made last year to complete the hydroelectric projects. The Alaska Power Authority and the six communities served by the four dams have been negotiating power sales agreements for 2½ years without success. The goal is a long-term power sales agreement that provides affordable electricity for the communities and a maximum return on the state's investment.

\$210 million was appropriated last year; \$196 million has been spent to complete the dams and pay off short-term construction financing issued by the APA. This appropriation was structured as a loan from the Department of Commerce and Economic Development to the APA to be paid off through power sales from the project. AS 44.33.620 sets terms for the loan.

As in existing law, the Finance Committee Substitute does not set in law exact terms for the loan, nor does it set power rates. These are left open for further negotiation. The bill provides specific guidelines for resolving the issue under a plan developed by Gordon Harrison of the APA board.

The APA and the six communities report recent significant progress in power sales agreement negotiations; the plan they are now working with requires the passage of CSHB 219 (Fin). Action is required this session to permit sales agreements which will capture additional loads for the under-utilized hydroelectric capacity.

The bill is supported by both the APA and the four-dam-pool communities. Bob Heath, Executive Director of the APA and representatives of the communities are expected to testify before the Resources Committee.

Sectional analysis:

Section 1:

Sections 1 and 5, propose a change in law to allow two communities to get together for joint operation of a dam. The main purpose is to allow the Thomas Bay Power Authority to operate the Tyee Dam. Tyee serves two communities (Wrangell and Petersburg); Current law requires one or the other to operate the dam. This section corrects that by adding "electric operating entities established as an instrumentality of two or more public utilities owned and operated by a political subdivision of the state" to the APUC statutes. Like the communities, the 'joint operating entity' would not be subject to APUC regulation.

Section 2:

This section amends the loan terms for the Power Development Revolving Loan Fund (AS 44.33.620). This fund was created last session and the statutory loan terms give little direction to the APA. The added language sets clear guidelines for the agencies to work with. Deleted is the requirement that the loan terms be set considering market rates of interest.

Section 3 adds a definition: "initial project" means the four dams.

Section 4 adds a provision for power sales contract rate reopeners. This protects the state in times of inflation when the power sales rate could not provide sufficient loan repayment in real terms and protects the communities should the price of alternate power generation drop significantly. An important provision is added allowing an agreed schedule of wholesale power rates to be included in the contracts. This allows a contract to be reached through negotiation which will provide for certainty in power rates as needed by utility planners. This also will provide for a greater return to the state in debt service from the project.

Section 5 adds joint operating entities to the definition of "qualified utilities" which may purchase power from the APA. (See explanation of Section 1)

EXHIBIT A: WHOLESALE POWER RATE SCHEDULE
 Alaska Power Authority--Four Dam Pool
 Memorandum of Understanding

YEAR	SCHEDULED DEBT SERVICE (CENTS/KWH)	ESTIMATED O & M COST (CENTS/KWH)	PROJECTED WHOLESALE POWER RATE (CENTS/KWH)
A	B	C	D
1986	2.50	2.72	5.32
1987	2.80	2.72	5.52
1988	3.20	2.76	5.96
1989	3.50	2.81	6.31
1990	4.00	2.87	6.87
1991	4.00	2.94	6.94
1992	4.00	3.00	7.00
1993	4.00	3.04	7.04
1994	4.00	3.08	7.08
1995	4.00	3.13	7.13
1996	4.00	3.24	7.24
1997	4.00	3.36	7.36
1998	4.00	3.47	7.47
1999	4.00	3.59	7.59
2000	4.00	3.72	7.72
2001	4.00	3.86	7.86
2002	4.00	4.06	8.06
2003	4.00	4.27	8.27
2004	4.00	4.48	8.48
2005	4.00	4.71	8.71
2006	4.00	4.94	8.94
2007	4.00	5.19	9.19
2008	4.00	5.45	9.45
2009	4.00	5.72	9.72
2010	4.00	6.01	10.01
2011	4.00	6.30	10.30
2012	4.00	6.61	10.61
2013	4.00	6.94	10.94
2014	4.00	7.28	11.28
2015	4.00	7.63	11.63
2016	4.00	8.00	12.00
2017	4.00	8.38	12.38
2018	4.00	8.78	12.78
2019	4.00	9.20	13.20
2020	4.00	9.63	13.63
2021	4.00	10.08	14.08
2022	4.00	10.55	14.55
2023	4.00	11.04	15.04
2024	4.00	11.54	15.54
2025	4.00	12.07	16.07
2026	4.00	12.61	16.61
2027	4.00	13.18	17.18
2028	4.00	13.76	17.76
2029	4.00	14.50	18.50
2030	4.00	15.36	19.36
2031	4.00	16.27	20.27
2032	4.00	17.24	21.24
2033	4.00	18.27	22.27
2034	4.00	19.35	23.35
2035	4.00	20.51	24.51

Notes:

1. O & M based on forecast loads without Additional Sales.
2. O & M includes \$500,000 per year capital cost for Renewals and Replacements.
3. O & M inflation assumed to be 0% per year.
4. Additional Sales to be charged for Debt Service at 1 Cent/kWh less than Scheduled Debt Service.

Case Number 2
 Loan Principal (\$=000's) \$196,000
 O&M Cost Inflation Rate 6.00%

EXHIBIT B: PROJECTED OPERATING RESULTS AND RATES OF RETURN
 Alaska Power Authority--Four Dam Pool
 Memorandum of Understanding

Average Rate of Return:
 Without Additional Sales 5.47%
 With Additional Sales 6.10%

YEAR	PROJECTED			OPERATIONS & MAINTENANCE						
	SCHEDULED DEBT SVC. (CENTS/KWH)	O & M COST (CENTS/KWH)	WHL'S. POWER RATE (CENTS/KWH)	SALES (MMH)	GROSS REVENUES (\$=000's)	NET REVENUES (\$=000's)	ADMIN (\$=000's)	ON-SITE (\$=(00's)	R & R (\$=000's)	TOTAL O & M (\$=000's)
A	B	C	D	E	F	G	H	I	J	K
1986	2.60	2.72	5.32	181,496	9,658	5,219	863	3,576	500	4,939
1987	2.80	2.72	5.52	191,437	10,566	5,860	915	3,791	500	5,205
1988	3.20	2.76	5.96	199,181	11,861	6,874	970	4,018	500	5,488
1989	3.50	2.81	6.31	206,042	12,998	7,711	1,028	4,259	500	5,787
1990	4.00	2.87	6.87	212,994	14,624	9,020	1,090	4,515	500	6,104
1991	4.00	2.94	6.94	219,067	15,203	9,263	1,155	4,785	500	6,440
1992	4.00	3.00	7.00	226,907	15,873	9,576	1,224	5,073	500	6,797
1993	4.00	3.04	7.04	236,183	16,622	9,947	1,298	5,377	500	7,175
1994	4.00	3.08	7.08	245,893	17,411	10,336	1,375	5,700	500	7,575
1995	4.00	3.13	7.13	255,439	18,217	10,718	1,458	6,042	500	8,000
1996	4.00	3.24	7.24	260,533	18,871	10,921	1,546	6,404	500	8,450
1997	4.00	3.36	7.36	265,897	19,562	11,136	1,638	6,788	500	8,927
1998	4.00	3.47	7.47	271,482	20,291	11,359	1,737	7,196	500	9,432
1999	4.00	3.59	7.59	277,343	21,062	11,594	1,841	7,627	500	9,968
2000	4.00	3.72	7.72	283,488	21,876	11,840	1,951	8,085	500	10,536
2001	4.00	3.86	7.86	288,220	22,667	12,029	2,068	8,570	500	11,138
2002	4.00	4.06	8.06	290,043	23,378	12,102	2,192	9,084	500	11,777
2003	4.00	4.27	8.27	291,926	24,130	12,177	2,324	9,629	500	12,453
2004	4.00	4.48	8.48	293,889	24,926	12,256	2,463	10,207	500	13,170
2005	4.00	4.71	8.71	295,935	25,768	12,337	2,611	10,820	500	13,931
2006	4.00	4.94	8.94	298,067	26,659	12,423	2,768	11,469	500	14,736
2007	4.00	5.19	9.19	300,290	27,602	12,512	2,934	12,157	500	15,591
2008	4.00	5.45	9.45	302,608	28,600	12,604	3,110	12,886	500	16,496
2009	4.00	5.72	9.72	305,023	29,657	12,701	3,296	13,659	500	17,456
2010	4.00	6.01	10.01	307,541	30,775	12,802	3,494	14,479	500	18,473
2011	4.00	6.30	10.30	310,165	31,958	12,907	3,704	15,348	500	19,552
2012	4.00	6.61	10.61	312,901	33,211	13,016	3,926	16,269	500	20,695
2013	4.00	6.94	10.94	315,753	34,537	13,130	4,162	17,245	500	21,906
2014	4.00	7.28	11.28	318,725	35,940	13,249	4,411	18,279	500	23,191
2015	4.00	7.63	11.63	321,824	37,425	13,373	4,676	19,376	500	24,552
2016	4.00	8.00	12.00	325,053	38,997	13,502	4,957	20,539	500	25,995
2017	4.00	8.38	12.38	328,420	40,662	13,637	5,254	21,771	500	27,525
2018	4.00	8.78	12.78	331,929	42,424	13,777	5,569	23,077	500	29,147
2019	4.00	9.20	13.20	335,587	44,289	13,923	5,903	24,462	500	30,865
2020	4.00	9.63	13.63	339,400	46,263	14,076	6,258	25,930	500	32,687
2021	4.00	10.08	14.08	343,375	48,354	14,235	6,633	27,485	500	34,619
2022	4.00	10.55	14.55	347,518	50,566	14,401	7,031	29,135	500	36,666
2023	4.00	11.04	15.04	351,836	52,909	14,573	7,453	30,883	500	38,836
2024	4.00	11.54	15.54	356,338	55,389	14,754	7,900	32,736	500	41,136
2025	4.00	12.07	16.07	361,030	58,015	14,941	8,374	34,700	500	43,574
2026	4.00	12.61	16.61	365,921	60,795	15,137	8,877	36,782	500	46,158
2027	4.00	13.18	17.18	371,019	63,739	15,341	9,409	38,989	500	48,898
2028	4.00	13.76	17.76	376,334	66,855	15,553	9,974	41,328	500	51,802
2029	4.00	14.50	18.50	378,607	70,024	15,644	10,572	43,808	500	54,880
2030	4.00	15.36	19.36	378,607	73,287	15,644	11,206	46,436	500	58,143
2031	4.00	16.27	20.27	378,607	76,745	15,644	11,879	49,222	500	61,601
2032	4.00	17.24	21.24	378,607	80,411	15,644	12,592	52,176	500	65,267
2033	4.00	18.27	22.27	378,607	84,297	15,644	13,347	55,306	500	69,153
2034	4.00	19.35	23.35	378,607	88,417	15,644	14,148	58,624	500	73,272
2035	4.00	20.51	24.51	378,607	92,783	15,644	14,997	62,142	500	77,639

-----ADDITIONAL SALES TRUE-UP CALCULATION-----

YEAR	ADDITIONAL SALES (MWH)	GROSS REVENUE (\$=000'S)	DEBT SVC. TRUE-UP (\$=000'S)	O & M TRUE-UP (\$=000'S)	NET REVENUE (\$=000'S)	MELDED RATE (CENTS/KWH)	YEAR
A	L	M	N	O	P	Q	R
1986	10,828	10,234	108	295	5,392	5.11	1986
1987	21,656	11,761	217	589	6,250	5.14	1987
1988	32,484	13,796	325	895	7,588	5.43	1988
1989	42,312	15,668	423	1,188	8,769	5.66	1989
1990	54,140	18,341	541	1,552	10,644	6.08	1990
1991	54,140	18,960	541	1,592	10,887	6.16	1991
1992	54,140	19,660	541	1,622	11,200	6.23	1992
1993	54,140	20,432	541	1,645	11,572	6.28	1993
1994	54,140	21,244	541	1,668	11,960	6.34	1994
1995	54,140	22,078	541	1,696	12,342	6.41	1995
1996	54,140	22,792	541	1,756	12,546	6.51	1996
1997	54,140	23,546	541	1,818	12,760	6.62	1997
1998	54,140	24,338	541	1,881	12,983	6.73	1998
1999	54,140	25,173	541	1,946	13,218	6.84	1999
2000	54,140	26,053	541	2,012	13,464	6.96	2000
2001	54,140	26,925	541	2,092	13,653	7.10	2001
2002	54,140	27,742	541	2,198	13,726	7.26	2002
2003	54,140	28,605	541	2,310	13,801	7.44	2003
2004	54,140	29,518	541	2,426	13,880	7.63	2004
2005	54,140	30,482	541	2,549	13,962	7.82	2005
2006	54,140	31,501	541	2,677	14,047	8.03	2006
2007	54,140	32,579	541	2,811	14,136	8.25	2007
2008	54,140	33,717	541	2,951	14,229	8.47	2008
2009	54,140	34,921	541	3,098	14,325	8.71	2009
2010	54,140	36,193	541	3,252	14,426	8.96	2010
2011	54,140	37,537	541	3,413	14,531	9.22	2011
2012	54,140	38,957	541	3,581	14,640	9.49	2012
2013	54,140	40,458	541	3,756	14,754	9.78	2013
2014	54,140	42,045	541	3,939	14,873	10.07	2014
2015	54,140	43,721	541	4,130	14,997	10.39	2015
2016	53,554	45,422	536	4,283	15,109	10.72	2016
2017	50,187	46,876	502	4,206	15,142	11.14	2017
2018	46,678	48,390	467	4,099	15,177	11.58	2018
2019	43,020	49,966	430	3,957	15,214	12.04	2019
2020	39,207	51,608	392	3,776	15,252	12.53	2020
2021	35,232	53,315	352	3,552	15,292	13.05	2021
2022	31,089	55,090	311	3,280	15,333	13.60	2022
2023	26,771	56,935	268	2,955	15,377	14.19	2023
2024	22,269	58,851	223	2,571	15,422	14.81	2024
2025	17,577	60,840	176	2,121	15,469	15.46	2025
2026	12,686	62,903	127	1,600	15,517	16.16	2026
2027	7,588	65,042	76	1,000	15,568	16.90	2027
2028	2,273	67,259	23	313	15,622	17.68	2028
2029	0	70,024	0	0	15,644	18.50	2029
2030	0	73,287	0	0	15,644	19.36	2030
2031	0	76,745	0	0	15,644	20.27	2031
2032	0	80,411	0	0	15,644	21.24	2032
2033	0	84,297	0	0	15,644	22.27	2033
2034	0	88,417	0	0	15,644	23.35	2034
2035	0	92,783	0	0	15,644	24.51	2035

Note: Rates of Return are based upon Net Revenues (columns G and P), which include Debt Service payments and capital contributions to the Renewals and Replacements Fund, plus interest on reserves.

- (3) access for the line that would be installed with loan proceeds;
- (4) availability of other utility service in the area; and
- (5) the economic feasibility of the extension of electric service with the proceeds of the loan. (§ 1 ch 118 SLA 1981)

Article 9. Energy Program for Alaska.

Section	Section
380. Program established	400. Energy conservation
382. Power development fund established	410. Continuing appropriation for Susitna River hydroelectric project [Repealed effective June 30, 1991]
384. Use of fund balance	420. Continuing appropriation for Bradley Lake hydroelectric project [Repealed effective June 30, 1988]
386. Investment of fund	425. Definitions
388. Allotment to projects	
390. Reappropriation of fund balance	
392. Lapse of excess appropriations	
396. Operation of power project	
398. Sale of power from power project	

Sec. 44.83.380. Program established. (a) The energy program for Alaska is established. The program shall be administered by the Alaska Power Authority.

(b) The energy program for Alaska is a program by which the authority may acquire or construct power projects with money appropriated by the legislature to the power development fund established in AS 44.83.382. A power project may be acquired or constructed as part of the energy program for Alaska only if the project is submitted to and approved by the legislature in accordance with procedures set out in AS 44.83.177 — 44.83.187.

(c) The provisions of AS 36.10.010 — 36.10.125 apply to power projects constructed by the authority under AS 44.83.380 — 44.83.425. (§ 1 ch 118 SLA 1981)

Revisor's notes. — Enacted as AS 44.83.400. Renumbered in 1981.

Sec. 44.83.382. Power development fund established. (a) A power development fund is established in the Alaska Power Authority to carry out the purposes of the energy program for Alaska (AS 44.83.380 — 44.83.425).

(b) The fund includes

- (1) money appropriated to it by the legislature; and
- (2) [Repealed, § 27 ch 89 SLA 1983.] (§ 1 ch 118 SLA 1981; am § 27 ch 89 SLA 1983)

Revisor's notes. — Enacted as AS 44.83.410. Renumbered in 1981. amendment, repealed paragraph (2) of subsection (b).

Effect of amendments. — The 1983

§ 44.83.382

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§ 44.83.384

STATE GOVERNMENT

§ 44.83.384

Sec. 44.83.384. Use of fund balance. (a) The fund may be used by the authority to provide money for

(1) reconnaissance and feasibility studies and power project finance plans prepared under AS 44.83.177 — 44.83.181;

(2) the cost of a power project, including but not limited to costs of acquiring necessary licenses, preparing engineering designs, obtaining land, and constructing the power project;

(3) the defeasance of bonds, or the payment of debt service on loans for or on an issue of bonds sold in connection with a power project;

(4) the cost of operating and maintaining power projects; and

(5) debt service on power projects.

(b) Money in the fund may be used under (a) of this section only for a power project that

(1) is economically feasible; and

(2) provides the lowest reasonable power cost to utility customers in the market area for the estimated life of the power project, whether operated by itself or in conjunction with other power projects in the market area, and that operates or will operate on one or more of the following:

(A) renewable energy resources, including but not limited to hydroelectric power, wind, biomass, geothermal, tidal or solar energy, or a method that uses temperature differentials or other physical properties of the ocean;

(B) coal or peat;

(C) energy derived from waste heat; or

(D) fossil fuel, including oil or natural gas.

(c) Notwithstanding (b)(1) of this section and AS 44.83.396 — 44.83.398, the fund may be used by the authority to provide money for the cost of a power project that is or was either constructed or owned by the United States government if the requirements of this subsection are met. The provisions of AS 44.83.177 — 44.83.187 do not apply to a power project financed under this subsection. The authority may use money in the fund for the cost of a power project under this subsection if

(1) the legislature enacts a law approving the project;

(2) the office of management and budget in the Office of the Governor reviews a feasibility study and a plan of finance for the project and determines that the feasibility study complies with the requirements for a feasibility study submitted under AS 44.83.181(b) and that the plan of finance complies with the requirements for a plan of finance submitted under AS 44.83.181(c); and

(3) the project meets the other requirements of this chapter. (§ 1 ch 118 SLA 1981; am § 12 ch 133 SLA 1982; am § 28 ch 63 SLA 1983; am §§ 14, 15 ch 89 SLA 1983)

Revisor's notes. — Enacted as AS 44.83.420. Renumbered in 1981.

Effect of amendments. — The 1982 amendment added subsection (c).

The first 1983 amendment, substituted "office of management and budget" for "division of budget and management" in paragraph (c)(2).

The second 1983 amendment, rewrote paragraph (1) of subsection (b) and substituted "AS 44.83.396 — 44.83.398" for "AS 44.83.394 — 44.83.398" and "or was either constructed or owned" for "constructed and owned" in the first sentence of subsection (c).

Sec. 44.83.386. Investment of fund. The Department of Revenue shall invest the money in the fund in accordance with AS 37.10.070 and 37.10.075. The Department of Revenue shall provide money in the fund to the authority only after costs have been incurred or amounts in the fund have been otherwise obligated under contracts for the acquisition and construction of a project. Amounts that have been obligated, but for which costs have not yet been incurred, may be segregated by the Department of Revenue or transferred to the authority only with the prior approval or agreement of the commissioner of revenue. Interest received on money that is segregated or transferred under this section must be deposited in the general fund. (§ 1 ch 118 SLA 1981; am § 16 ch 89 SLA 1983)

Revisor's notes. — Enacted as AS 44.83.430. Renumbered in 1981.

Effect of amendments. — The 1983 amendment, substituted the language

beginning "costs have been incurred" for "a cost for a project is incurred" at the end of the second sentence and added the third and fourth sentences.

Sec. 44.83.388. Allotment to projects. (a) The authority shall maintain records of power project allocations from the fund for each power project

- (1) approved in accordance with AS 44.83.185; and
- (2) for which an allocation is made from an appropriation made by the legislature without specifying an appropriation to a project.

(b) Income earned from investment of money appropriated to the fund shall be deposited in the general fund and may be appropriated to the fund by the legislature. (§ 1 ch 118 SLA 1981)

Revisor's notes. — Enacted as AS 44.83.440. Renumbered in 1981.

Sec. 44.83.390. Reappropriation of fund balance. (a) If a power project designated by the legislature by law is not constructed, the amount appropriated to it may be reappropriated to other power projects by the legislature.

(b) The legislature may reappropriate money under (a) of this section only for a power project that is economically feasible under AS 44.83.181(b) and only if the project will serve the market area that would have been served by the power project designated by the legislature and not constructed. (§ 1 ch 118 SLA 1981)

§ 44.83.390

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§ 44.83.392

STATE GOVERNMENT

§ 44.83.396

Revisor's notes. — Enacted as AS
44.83.450. Renumbered in 1981.

Sec. 44.83.392. Lapse of excess appropriations. If at the end of construction of a power project appropriations for the power project exceed the amount required for construction of it, the excess lapses into the general fund. (§ 1 ch 118 SLA 1981)

Revisor's notes. — Enacted as AS
44.83.460. Renumbered in 1981.

Sec. 44.83.394. Revenue requirements. [Repealed, § 27 ch 89 SLA 1983.]

Sec. 44.83.396. Operation of power project. (a) A power project that is acquired or constructed as part of the energy program for Alaska is owned, and shall be administered, by the authority.

(b) When a power project has been acquired or constructed by the authority, the project may be operated for the authority under a contract or lease entered into by a qualified utility and the authority.

(c) The authority shall enter into a contract or lease under reasonable terms and conditions to permit the applicant utility to operate the power project when the applicant utility is the only wholesale power customer to be served directly by the power project unless the authority determines a utility making application for a contract or lease to operate a power project is not a qualified utility or is not capable of operating that power project efficiently and in a manner that is consistent with national standards for the industry and with agreements with bondholders.

(d) The authority shall adopt regulations to determine the manner of selecting a qualified utility to operate a power project under a contract or lease when there is more than one wholesale power customer to be served directly by the power project.

(e) When the authority permits a power project to be operated by a qualified utility under a contract or lease, the authority shall

(1) review and approve the annual budget for the operation and maintenance of the power project; and

(2) assure that the project is being operated efficiently and in a manner that is consistent with national standards for the industry and agreements with bondholders. (§ 1 ch 118 SLA 1981; am §§ 17 — 19 ch 89 SLA 1983)

Revisor's notes. — Enacted as AS
44.83.480. Renumbered in 1981.

Effect of amendments. — The 1983 amendment, deleted "by the state" following "is owned" in subsection (a), inserted "a qualified utility or is not" near the end of subsection (c), added the lan-

guage beginning "efficiently and in a manner that is consistent" to the end of subsection (c), added "and" to the end of paragraph (1) of subsection (e), and added "and agreements with bondholders" to the end of paragraph (2) of subsection (e).

Sec. 44.83.398. Sale of power from power project. (a) The authority shall sell power produced from power projects acquired or constructed under the energy program for Alaska. For purposes of this section, Lake Tyee, Swan Lake, Solomon Gulch, and Terror Lake hydroelectric facilities are considered to be one power project. This power project is referred to as the initial project.

(b) The authority shall establish a wholesale power rate structure applicable to sales of power to the customers of a power project as follows:

(1) The authority shall establish and maintain a separate wholesale power rate applicable to each power project that it has acquired or constructed under the energy program for Alaska, other than a project described in (f) of this section. The wholesale power rate established by the authority for the initial project shall be a rate calculated under this paragraph except that the portion of the rate applicable to (A) and (C) of this paragraph shall be adjusted for the hydroelectric facilities in the initial project as set out in (3) of this subsection. The wholesale power rate shall be computed by the authority annually, or more frequently as may be necessary, and shall equal the rate that the authority estimates is necessary to produce revenue that is sufficient to pay

(A) operation, maintenance, and equipment replacement costs of the power project;

(B) the power project's proportionate share of the debt service on state loans and bonds for all power projects in the energy program for Alaska, determined in accordance with (g) of this section;

(C) safety inspections and investigations of the power project by the authority.

(2) *[Repealed, § 7 ch 169 SLA 1984.]*

(3) For the purposes of determining amounts to be allocated to each hydroelectric facility in the initial project under (1)(A) and (1)(C) of this subsection, the authority shall determine for each hydroelectric facility its individual operation, maintenance, equipment replacement, safety inspection, and investigation costs.

(c) The authority shall transmit all the money that it receives under (a) of this section to the commissioner of revenue for deposit in the state general fund except for money it has pledged or otherwise covenanted to secure bonds.

(d) *[Repealed, § 8 ch 169 SLA 1984.]*

(e) After determining the wholesale power rate for a power project under the provisions of this section, the authority may adjust the rate or change the rate provisions to insure that the revenue derived from that power project and the aggregate revenues of the authority will be adequate to comply with the rate covenants and other agreements contained in any trust indenture or trust agreement entered into by the authority for the security of the holders of bonds issued to finance power projects in the energy program for Alaska. The authority may agree with a purchaser of power to limit rate increases caused by debt service payable by the authority on subsequent projects.

§ 44.83.398

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(f) The provisions of (b) of this section do not apply to an intertie that is authorized as a separate project under AS 44.83.380. The authority shall establish and maintain separate power rate schedules applicable to each intertie that it has acquired or constructed as a separate power project under the energy program for Alaska. The power rate schedules shall produce sufficient revenue from utilities connected by the intertie to pay (1) operation, maintenance, and equipment replacement costs of the intertie; (2) debt service of the intertie; and (3) safety inspections and investigations of the intertie by the authority. If the authority determines that an intertie has ceased to function as a separate project and has become a part of one or more other power projects and has become a part of one or more other power projects as a transmission line, the power rate schedules established under this subsection shall be terminated and a wholesale power rate applicable to the former intertie shall be calculated under (b) of this section for the project or projects of which it has become a part.

(g) For the purposes of (b)(1)(B) of this section, a power project's proportionate share of debt service on state loans and bonds for all power projects in the energy program for Alaska is equal to the state's investment in the power project divided by the state's investment in all power projects in the energy program for Alaska and multiplied by the debt service on state loans and bonds for all power projects in the energy program for Alaska. In this subsection

(1) "state's investment in the power project" includes all state money invested in a power project, including loans, grants, and proceeds from bonds, less the principal repayments on the project's proportionate share of debt service on state loans and bonds;

(2) "state's investment in all power projects in the energy program for Alaska" includes all state money invested in the power projects, other than interties, in the energy program for Alaska, including loans, grants, and proceeds from bonds, less the principal repayments on bonds and state loans issued for the power projects.

(h) Notwithstanding (g) of this section, in the 1983 state fiscal year the proportionate share of debt service under (b) of this section, expressed as a rate, for a power project for which a construction contract has been awarded before June 25, 1982 may not exceed the average debt service component of the wholesale power rate for all power projects in the energy program for Alaska. The limit imposed by this subsection shall be increased in the 1984 state fiscal year to four percent above the average debt service component of the wholesale power rate for all power projects in the energy program for Alaska and by an additional four percent above that average in each succeeding state fiscal year. If application of this subsection results in the production of insufficient revenue to pay the total debt service for all projects in the energy program for Alaska, a project that does not have its share of debt service limited under this subsection shall be subject to a rate

in addition to the rate established under (b) of this section. The additional rate is the rate that the authority estimates is necessary to produce revenue that is sufficient to pay the difference between the total debt service for all projects in the energy program for Alaska and the revenue actually produced to pay that debt service, multiplied by a fraction whose numerator is the total cost of the project and whose denominator is the total cost of all of the projects that are subject to the additional rate. In this subsection, "projects in the energy program for Alaska" does not include an intertie that is authorized as a separate project as described in (f) of this section.

(i) The authority may place in a separate interest bearing account money appropriated to the authority as a loan for the purpose of meeting the operating expenses of a facility in the initial project. The money may be used to replace amounts which were expected to be paid by a utility potentially served by a facility in the initial project, which has not entered into a power sales agreement with the authority. Repayment of the amount loaned must be made from revenues attributable to power sales from that facility, as limited by the terms of power sales agreements with power purchasers from that facility. A loan made in accordance with this subsection is not a state loan for purposes of calculating the wholesale power rate under (b)(1) of this section. (§ 1 ch 118 SLA 1981; am §§ 13 — 16 ch 133 SLA 1982; am §§ 20 — 23 ch 89 SLA 1983; am § 125 ch 6 SLA 1984; am §§ 2-8 ch 169 SLA 1984)

Revisor's notes. — Enacted as AS 44.83.490. Renumbered in 1981.

Effect of amendments. — The 1982 amendment, in subsection (b), substituted "a power project" for "the power project" in the introductory language, substituted "separate" for "single" and "each power project" for "all power projects" in the first sentence of paragraph (1), added "other than a project described in (f) of this section" to the end of the first sentence of paragraph (1), inserted "or more frequently as may be necessary" in the introductory language of the second sentence of paragraph (1), substituted "power project" for "power projects" in subparagraph (1)(A) and (C), added "the power project's proportionate share of the" to the beginning of subparagraph (1)(B), substituted the language beginning "on state loans and bonds" for "of the power projects" in subparagraph (1)(B), substituted "separate" for "single" and "each power project that is" for "all power projects that it has" in the first sentence of paragraph (2), inserted "or more frequently as may be necessary" in the introductory language of the second sen-

tence of paragraph (2), substituted "power project" for "power projects" in subparagraph (2)(A) and (2)(B)(iii), and substituted the present provisions of subparagraph (2)(B)(ii) for the former provisions, which read: "debt service of power projects by the authority and." In subsection (c), the amendment substituted "under (a) of this section" for "under (b) of this section" and "money it has pledged to secure bonds in accordance with contracts with bondholders" for "the money it receives under (b)(1)(A) and (B) and (b)(2)(B)(i) and (ii), or the money it would have received under (b)(1)(A) and (B) and (b)(2)(B)(i) and (ii) of this section if those items had been used in part to establish the wholesale power rate in effect at the time the money is received by the authority." In subsection (e), the amendment substituted "a wholesale" for "the wholesale" and "or (f)" in the first sentence and added the second sentence. The amendment also added subsections (f) — (h).

The 1983 amendment, substituted "July 1, 1991" for "July 1, 1986" near the beginning of paragraph (2) of subsection (b), substituted "or otherwise covenanted

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to secure bonds" for "to secure bonds in accordance with contracts with bondholders" at the end of subsection (c), rewrote subsection (e), and added the last sentence of subsection (h).

The first 1984 amendment made a technical change in the last sentence in subsection (f).

The second 1984 amendment added subsection (i), repealed former paragraph (2) of subsection (b), relating to a separate wholesale power rate beginning July 1, 1991, and repealed former subsection (d), relating to industrial consumer rates. The 1984 amendment also, in subsection (a), deleted former paragraphs (1) and (2) and the former last sentence in the

introductory paragraph, relating to a utility that purchases power produced by a power project of the authority, and, in the remaining language, added the last two sentences; in subsection (b), substituted "the customers" for "its customers at the busbar" in the introductory language, inserted the second sentence in the introductory paragraph of paragraph (1), and added paragraph (3); in subsection (e), added the second sentence and substituted "energy program" for "Energy Program" in the first sentence; and changed the internal reference in the first sentence in the introductory paragraph of subsection (g).

Sec. 44.83.400. Energy conservation. The authority shall ensure

(1) that communities that benefit from the energy program for Alaska implement cost-effective energy conservation measures for residences, commercial and public buildings, and industries; and

(2) that communities shall fulfill their responsibilities under (1) of this section by cooperating with state agencies concerned with development and conservation of energy, including but not limited to

(A) the Alaska Public Utilities Commission;

(B) the Department of Community and Regional Affairs; and

(C) the division of business loans, Department of Commerce and Economic Development. (§ 1 ch 118 SLA 1981; am § 5 ch 79 SLA 1983)

Revisor's notes. — Enacted as AS 44.83.500. Renumbered in 1981.

Effect of amendments. — The 1983 amendment, substituted "Department of Community and Regional Affairs" for

"division of energy and power development, Department of Commerce and Economic Development" in paragraph (2)(B).

Sec. 44.83.410. Continuing appropriation for Susitna River Hydroelectric project. [Repealed effective June 30, 1991] The sum of \$100,000,000 is appropriated on July 1, 1984 and the sum of \$200,000,000 is appropriated on July 1 of each subsequent fiscal year from the general fund to the authority for deposit in the power development fund (AS 44.83.382) for the purpose of equity investment in, and rate stabilization for, the Susitna River hydroelectric project. (§ 314 ch 171 SLA 1984; r § 317 ch 171 SLA 1984)

Postponed repeal. — This section is repealed effective June 30, 1991.

Editor's notes. — Section 316, ch. 171, SLA 1984, provides that the appropria-

tions made in §§ 313—315 and 319 of ch. 171, SLA 1984, which enacted this section, are not one-year appropriations and do not lapse under AS 37.25.010.

Sec. 44.83.420. Continuing appropriation for Bradley Lake hydroelectric project. [Repealed effective June 30, 1988.] The sum

of \$50,000,000 is appropriated on July 1, of each fiscal year from the general fund to the authority for deposit in the power development fund (AS 44.83.382) for the purpose of equity investment in, and rate stabilization for, the Bradley Lake hydroelectric project. (§ 314 ch 171 SLA 1984; r § 318 ch 171 SLA 1984)

Postponed repeal. — This section is repealed effective June 30, 1988.

Editor's notes. — Section 316, ch. 171, SLA 1984, provides that the appropriations made in §§ 313—315 and 319 of ch. 171, SLA 1984, which enacted this section, are not one-year appropriations and do not lapse under AS 37.25.010.

Sec. 44.83.425. Definitions. In AS 44.83.380 — 44.83.425,

(1) "bus bar" means the substation that serves as the delivery point from the generation and transmission system of the authority to the transmission and distribution system of the utility;

(2) "debt service" means the amounts covenanted with respect to, or pledged to pay, bonds under a trust agreement securing bonds;

(3) "fund" means the power development fund established by AS 44.83.382;

(4) "industrial consumer" means a customer of a utility which customer has a peak power demand in excess of 500 kilowatts and uses the power principally for

- (A) manufacturing;
- (B) pipeline transportation;
- (C) the recovery or processing of minerals;
- (D) the processing of timber, agricultural, or seafood products or their by-products; or
- (E) the operation of facilities owned by the federal government;

(5) "qualified utility" means an electric utility that is certified by the Alaska Public Utilities Commission to serve all or part of a market area that is served or will be served by the power project, and that the authority determines is capable of operating and maintaining the power project. (§ 1 ch 118 SLA 1981; am § 24 ch 89 SLA 1983)

Revisor's notes. — Enacted as AS 44.83.510. Renumbered in 1981. amendment, rewrote the definition of "debt service" in paragraph (2).

Effect of amendments. — The 1983

Chapter 85. Alaska Municipal Bond Bank Authority.

Section	Section
05. Legislative findings	70. Staff
10. Legislative policy	80. Powers of bond bank authority
20. Municipal Bond Bank Authority	90. Limitations
30. Membership and vacancies	95. Regulations
40. Officers, quorum, and meetings	100. Annual report and audit
50. Bonding of members	110. Annual budget
60. Compensation and expenses	120. Care and custody of bonds

Article 9. Power Development Revolving Loan Fund.

Section	Section
600. Creation of fund	620. Loan terms
610. Powers and duties of department in administering the fund	630. Definitions

Sec. 44.33.600. Creation of fund. (a) There is established in the Department of Commerce and Economic Development the power development revolving loan fund to carry out the purpose of AS 44.33.600 — 44.33.630. The fund may be used for no other purpose.

(b) The fund consists of

- (1) appropriations to the fund by the legislature;
- (2) repayments of principal to the fund; and
- (3) income from investment of money in the fund and from loans made from the fund. (§ 1 ch 169 SLA 1984)

Sec. 44.33.610. Powers and duties of department in administering the fund. (a) The department may make a loan from the power development revolving loan fund to the Alaska Power Authority for the purpose of financing a power project acquired or constructed by the authority under the energy program for Alaska (AS 44.83.380 — 44.83.425). Repayment of a loan from the fund must be made with the proceeds from the sale of power from projects in the energy program for Alaska. Except as provided in AS 44.83.398(i), the payments required to be made by the authority on a loan from the fund constitute debt service for the purpose of calculating the wholesale power rate in AS 44.83.398(b)(1).

(b) After completion of a final plan of finance and approval of a project under AS 44.83.185(c), a loan may be made from the fund for

- (1) the cost or a portion of the cost of final design, acquisition, and construction of a power project;
- (2) defeasance or payment of bonds or notes of the authority issued for a power project;
- (3) the establishment of a reserve fund for renewals and replacements for the operation of a completed power project; and
- (4) any other project related expenses including those described in AS 44.83.398(i). (§ 1 ch 169 SLA 1984)

Sec. 44.33.620. Loan terms. (a) A loan from the fund must be repaid in accordance with the terms that the department determines to be appropriate. In establishing the terms, including provision for a return to the state of an amount in excess of the principal amount of the loan, the department shall consider the revenue that the authority could reasonably derive from the sale of power from the projects based upon

- (1) the market rate of interest for a loan of comparable size and duration at the time the loan is made; and

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(2) the estimated costs of alternative sources of energy generation for utilities purchasing power from a project financed with a loan from the fund.

(b) The department may agree with the authority to defer repayment of a loan. However, the loan must be repaid in full during the period of the loan agreement.

(c) A loan to the authority from the fund may not exceed 50 years. (§ 1 ch 169 SLA 1984)

Sec. 44.33.630. Definitions. In AS 44.33.600 — 44.33.630

(1) "authority" means the Alaska Power Authority;

(2) "department" means the Department of Commerce and Economic Development;

(3) "fund" means the power development revolving loan fund;

(4) "power project" means a project acquired or constructed under the energy program for Alaska, AS 44.83.380 — 44.83.425. (§ 1 ch 169 SLA 1984)

Chapter 35. Department of Military and Veterans' Affairs.

Section

- 10. Adjutant general
- 20. Duties of department

Section

- 30. Construction of memorials to Alaska veterans

Sec. 44.35.010. Adjutant general. The principal executive officer of the Department of Military and Veterans' Affairs is the adjutant general. (§ 15 ch 64 SLA 1959; am E.O. No. 58, § 20 (1984))

Effect of amendments. — The 1984 amendment inserted "and Veterans'". 2d. Military, and Civil Defense, § 4. 30. 33, 37.

Collateral references. — 53 Am. Jur. 57 C.J.S., Militia, § 11.

Sec. 44.35.020. Duties of department. The Department of Military and Veterans' Affairs shall

(1) conduct the military affairs of the state as prescribed by the Military Code; and

(2) cooperate with the federal government in matters of mutual concern pertaining to the welfare of Alaskan veterans, including establishing, extending, or strengthening services for veterans in Alaska. (§ 15 ch 64 SLA 1959; am E.O. No. 58, § 21 (1984))

Effect of amendments. — The 1984 amendment rewrote and restructured this section, which formerly read "The Department of Military Affairs shall conduct the military affairs of the state as prescribed

by the Military Code."

Editor's notes. — For the Military Code of Alaska, see AS 26.05.

Collateral references. — 53 Am. Jur. 2d, Military, and Civil Defense, § 1 et seq.

§ 42.05.671

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§ 42.05.681

PUBLIC UTILITIES AND CARRIERS

§ 42.05.711

(d) In this section, "record" means a report, file, book, account, paper, or application, and the facts and information contained in it. (§ 6 ch 113 SLA 1970; am § 8 ch 110 SLA 1981)

Effect of amendments. — The 1981 amendment rewrote this section.

NOTES TO DECISIONS

Narrow construction. — The privilege reflected by this section should be construed narrowly so that it does not conflict with the constitutional requirements of due process. *City of Fairbanks v. Alaska Pub. Utils. Comm'n & Wire Communications, Inc.*, Sup. Ct. Op. No. 2079 (File No. 3977), 611 P.2d 493 (1980).

Due process controls over section. — The requirement of this section that infor-

mation not be withheld if "required in the interests of the public" will normally prevent a conflict with due process requirements. If a conflict nevertheless occurs, due process must control. *City of Fairbanks v. Alaska Pub. Utils. Comm'n & Wire Communications, Inc.*, Sup. Ct. Op. No. 2079 (File No. 3977), 611 P.2d 493 (1980).

Sec. 42.05.681. Validity of certain certificates. A certificate issued before July 29, 1968, to a public utility for the generation, transmission, or distribution of electric energy and power, or for the furnishing of telecommunications may not be considered as terminated, or voided, for the sole reason that the utility did not or would not produce an annual gross income in excess of \$25,000. (§ 6 ch 113 SLA 1970)

Sec. 42.05.691. Utility classes. The commission may by regulation provide for the classification of public utilities based upon differences in annual revenue, assets, nature of ownership and other appropriate distinctions and as between these classifications, by regulation, provide for different reporting, accounting and other regulatory requirements. (§ 6 ch 113 SLA 1970)

Article 10. General Provisions.

Section	Section
711. Exemptions	720. Definitions
712. Deregulation ballot	721. Short title

Sec. 42.05.701. [Renumbered as AS 42.05.720.]

Sec. 42.05.711. Exemptions. (a) The provisions of this chapter do not apply to a person who furnishes water, gas or petroleum or petroleum products by tank, wagon, or similar conveyance, unless the person is thereby supplying water, gas, petroleum or petroleum products to a public utility in which the person has an "affiliated interest."

(b) Public utilities owned and operated by a political subdivision of the state and none of whose utilities is in competition with any other utility are exempt from the provisions of this chapter, other than the provisions of AS 42.05.221 — 42.05.281, unless the owner and operator elects to be subject to all provisions of this chapter.

(c) The ownership in whole or part, of the corporate stock of a public utility does not make the owner a public utility.

(d) The commission, on a finding that no legitimate public interest will be served, may exempt a utility from all or any portion of this chapter.

(e) Notwithstanding any other provisions of this chapter, any electric or telephone utility that does not gross \$50,000 annually is exempt from regulation under this chapter unless 25 percent of the subscribers petition the commission for regulation.

(f) Notwithstanding any other provisions of this chapter, an electric or telephone utility that does not gross \$325,000 annually may elect to be exempt from the provisions of this chapter other than AS 42.05.221 — 42.05.281 under the procedure described in AS 42.05.712.

(g) A utility, other than a telephone or electric utility, that does not gross \$100,000 annually may elect to be exempt from the provisions of this chapter other than AS 42.05.221 — 42.05.281 under the procedure described in AS 42.05.712.

(h) A cooperative organized under AS 10.25 may elect to be exempt from the provisions of this chapter, other than AS 42.05.221 — 42.05.281, under the procedure described in AS 42.05.712.

(i) A utility which furnishes collection and disposal service of garbage, refuse, trash, or other waste material and has annual gross revenues of \$200,000 or less is exempt from the provisions of this chapter, other than the certification provisions of AS 42.05.221 — 42.05.281, unless 25 percent of the subscribers or subscribers representing 25 percent of the gross revenue of the utility petition the commission for regulation.

(j) The provisions of this chapter do not apply to sales, exchanges or gifts of energy to an electric utility certificated under this chapter when the energy which is the subject of the sale, exchange or gift is waste heat, electricity, or other energy which is surplus or the by-product of an industrial process. In an area in which no electric utility is certificated for service, energy provided by sale, exchange or gift may be provided to any utility which is certificated for service to that area. A contract for the sale, exchange or gift of energy exempt under this subsection does not make the supplier a public utility, and does not transfer the responsibility to provide utility services from a certificated utility to any other person.

(k) A utility which furnishes cable television service is exempt from the provisions of this chapter other than AS 42.05.221 — 42.05.281 unless 25 percent of the subscribers petition the commission for regulation.

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§ 42.05.712

(l) A person, utility, or cooperative that is exempt from regulation under AS 42.05.711(a) or (d) — (k) is not subject to regulation by a municipality under AS 29.48.060 — 29.48.090. (§ 6 ch 113 SLA 1970; am § 3 ch 76 SLA 1973; am § 8 ch 83 SLA 1980; am §§ 7-9 ch 136 SLA 1980; am § 89 ch 59 SLA 1982; am § 1 ch 30 SLA 1983)

Cross references. — For limitations on these exemptions, see AS 42.05.321(b) and AS 42.05.381(c).

Effect of amendments. — The first 1980 amendment added subsection (j).

The second 1980 amendment deleted "excepting the furnishing of collection and disposal service of garbage, refuse, trash or other waste material" following "none of whose utilities" near the beginning of subsection (b), deleted the former second sentence in subsection (b), which read: "Notwithstanding any other provisions of this chapter, municipalities providing collection and disposal service of garbage, refuse, trash or other waste material within their corporate boundaries are not subject to regulation by the Alaska Public Utilities Commission unless the municipality elects to be subject to the provisions of this chapter," substituted "\$50,000" for "\$25,000" following "does not gross" near the middle of subsection (e), substituted

"under this chapter" for "hereunder" following "exempt from regulation" near the middle of subsection (e), and added subsections (f) through (i).

The 1982 amendment, effective May 28, 1982, deleted "on June 30, 1980" preceding "a utility," and inserted "annual" preceding "gross revenue" in subsection (i).

The 1983 amendment added subsections (k) and (l).

Opinions of attorney general. — An electrical utility owned and operated by a regional electrical authority would continue to qualify for the broad exemption from this chapter, available to political subdivisions under subsection (b) of this section once the regional electrical authority had completed its proposed organization as a nonprofit corporation pursuant to AS 10.20.005 et seq. June 7, 1976. Op. Atty Gen.

NOTES TO DECISIONS

Municipally owned utilities in competition with other utilities subjected to full gamut of regulation pertaining to other utilities, with exception

relating to bond covenants. — See Alaska Pub. Utils. Comm'n v. Municipality of Anchorage, Sup. Ct. Op. No. 1326 (File No. 2940), 555 P.2d 262 (1976).

Sec. 42.05.712. Deregulation ballot. (a) A utility or cooperative which may elect to be exempt from the provisions of this chapter shall poll its subscribers or members in the manner described in this section.

(b) The votes of a majority of those voting in an election in which at least 15 percent of the eligible subscribers or members return ballots are required for a utility or cooperative to elect exemption under (a) of this section.

(c) Each subscriber or member of the utility or cooperative shall receive notice of an election under this section with the subscriber's or member's regular bill for service at least 60 days before the date set for the election. The notice shall contain impartial language informing the subscribers or members that an election on the option of deregulation or regulation by the Alaska Public Utilities Commission will be held within 60 days and that a ballot to participate in that election will be mailed or delivered to each subscriber or member of the utility or cooperative with the regular bill for service. The notice shall also state

Article 9. Power Development Revolving Loan Fund.

Section	Section
600. Creation of fund	620. Loan terms
610. Powers and duties of department in administering the fund	630. Definitions

Sec. 44.33.600. Creation of fund. (a) There is established in the Department of Commerce and Economic Development the power development revolving loan fund to carry out the purpose of AS 44.33.600 — 44.33.630. The fund may be used for no other purpose.

(b) The fund consists of

- (1) appropriations to the fund by the legislature;
- (2) repayments of principal to the fund; and
- (3) income from investment of money in the fund and from loans made from the fund. (§ 1 ch 169 SLA 1984)

Sec. 44.33.610. Powers and duties of department in administering the fund. (a) The department may make a loan from the power development revolving loan fund to the Alaska Power Authority for the purpose of financing a power project acquired or constructed by the authority under the energy program for Alaska (AS 44.83.380 — 44.83.425). Repayment of a loan from the fund must be made with the proceeds from the sale of power from projects in the energy program for Alaska. Except as provided in AS 44.83.398(i), the payments required to be made by the authority on a loan from the fund constitute debt service for the purpose of calculating the wholesale power rate in AS 44.83.398(b)(1).

(b) After completion of a final plan of finance and approval of a project under AS 44.83.185(c), a loan may be made from the fund for

- (1) the cost or a portion of the cost of final design, acquisition, and construction of a power project;
- (2) defeasance or payment of bonds or notes of the authority issued for a power project;
- (3) the establishment of a reserve fund for renewals and replacements for the operation of a completed power project; and
- (4) any other project related expenses including those described in AS 44.83.398(i). (§ 1 ch 169 SLA 1984)

Sec. 44.33.620. Loan terms. (a) A loan from the fund must be repaid in accordance with the terms that the department determines to be appropriate. In establishing the terms, including provision for a return to the state of an amount in excess of the principal amount of the loan, the department shall consider the revenue that the authority could reasonably derive from the sale of power from the projects based upon

- (1) the market rate of interest for a loan of comparable size and duration at the time the loan is made; and

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(2) the estimated costs of alternative sources of energy generation for utilities purchasing power from a project financed with a loan from the fund.

(b) The department may agree with the authority to defer repayment of a loan. However, the loan must be repaid in full during the period of the loan agreement.

(c) A loan to the authority from the fund may not exceed 50 years. (§ 1 ch 169 SLA 1984)

Sec. 44.33.630. Definitions. In AS 44.33.600 — 44.33.630

(1) "authority" means the Alaska Power Authority;

(2) "department" means the Department of Commerce and Economic Development;

(3) "fund" means the power development revolving loan fund;

(4) "power project" means a project acquired or constructed under the energy program for Alaska, AS 44.83.380 — 44.83.425. (§ 1 ch 169 SLA 1984)

Chapter 35. Department of Military and Veterans' Affairs.

Section

10. Adjutant general
20. Duties of department

Section

30. Construction of memorials to Alaska veterans

Sec. 44.35.010. Adjutant general. The principal executive officer of the Department of Military and Veterans' Affairs is the adjutant general. (§ 15 ch 64 SLA 1959; am E.O. No. 58, § 20 (1984))

Effect of amendments. — The 1984 amendment inserted "and Veterans'." 2d, Military, and Civil Defense, §§ 4, 30, 33, 37.

Collateral references. — 53 Am. Jur. 57 C.J.S., Militia, § 11.

Sec. 44.35.020. Duties of department. The Department of Military and Veterans' Affairs shall

(1) conduct the military affairs of the state as prescribed by the Military Code; and

(2) cooperate with the federal government in matters of mutual concern pertaining to the welfare of Alaskan veterans, including establishing, extending, or strengthening services for veterans in Alaska. (§ 15 ch 64 SLA 1959; am E.O. No. 58, § 21 (1984))

Effect of amendments. — The 1984 amendment rewrote and restructured this section, which formerly read "The Department of Military Affairs shall conduct the military affairs of the state as prescribed

by the Military Code."

Editor's notes. — For the Military Code of Alaska, see AS 26.05.

Collateral references. — 53 Am. Jur. 2d, Military, and Civil Defense, § 1 et seq.

Sec. 44.83.398. Sale of power from power project. (a) The authority shall sell power produced from power projects acquired or constructed under the energy program for Alaska. For purposes of this section, Lake Tyee, Swan Lake, Solomon Gulch, and Terror Lake hydroelectric facilities are considered to be one power project. This power project is referred to as the initial project

(b) The authority shall establish a wholesale power rate structure applicable to sales of power to the customers of a power project as follows:

(1) The authority shall establish and maintain a separate wholesale power rate applicable to each power project that it has acquired or constructed under the energy program for Alaska, other than a project described in (f) of this section. The wholesale power rate established by the authority for the initial project shall be a rate calculated under this paragraph except that the portion of the rate applicable to (A) and (C) of this paragraph shall be adjusted for the hydroelectric facilities in the initial project as set out in (3) of this subsection. The wholesale power rate shall be computed by the authority annually, or more frequently as may be necessary, and shall equal the rate that the authority estimates is necessary to produce revenue that is sufficient to pay

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am (A) operation, maintenance, and equipment replacement costs of the power project;

(B) the power project's proportionate share of the debt service on state loans and bonds for all power projects in the energy program for Alaska, determined in accordance with (g) of this section;

Safety (C) safety inspections and investigations of the power project by the authority.

(2) *[Repealed, § 7 ch 169 SLA 1984.] Similar Provisions clause.*

(3) For the purposes of determining amounts to be allocated to each hydroelectric facility in the initial project under (1)(A) and (1)(C) of this subsection, the authority shall determine for each hydroelectric facility its individual operation, maintenance, equipment replacement, safety inspection, and investigation costs.

(c) The authority shall transmit all the money that it receives under (a) of this section to the commissioner of revenue for deposit in the state general fund except for money it has pledged or otherwise covenanted to secure bonds.

[Repealed, § 8 ch 169 SLA 1984.]

(e) After determining the wholesale power rate for a power project under the provisions of this section, the authority may adjust the rate of change the rate provisions to insure that the revenue derived from that power project and the aggregate revenues of the authority will be adequate to comply with the rate covenants and other agreements contained in any trust indenture or trust agreement entered into by the authority for the security of the holders of bonds issued to finance power projects in the energy program for Alaska. The authority may agree with a purchaser of power to limit rate increases caused by debt service payable by the authority on subsequent projects.

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(i) The provisions of (b) of this section do not apply to an intertie that is authorized as a separate project under AS 44.83.380. The authority shall establish and maintain separate power rate schedules applicable to each intertie that it has acquired or constructed as a separate power project under the energy program for Alaska. The power rate schedules shall produce sufficient revenue from utilities connected by the intertie to pay (1) operation, maintenance, and equipment replacement costs of the intertie; (2) debt service of the intertie; and (3) safety inspections and investigations of the intertie by the authority. If the authority determines that an intertie has ceased to function as a separate project and has become a part of one or more other power projects and has become a part of one or more other power projects as a transmission line, the power rate schedules established under this subsection shall be terminated and a wholesale power rate applicable to the former intertie shall be calculated under (b) of this section for the project or projects of which it has become a part.

(g) For the purposes of (b)(1)(B) of this section, a power project's proportionate share of debt service on state loans and bonds for all power projects in the energy program for Alaska is equal to the state's investment in the power project divided by the state's investment in all power projects in the energy program for Alaska and multiplied by the debt service on state loans and bonds for all power projects in the energy program for Alaska. In this subsection

(1) "state's investment in the power project" includes all state money invested in a power project, including loans, grants, and proceeds from bonds, less the principal repayments on the project's proportionate share of debt service on state loans and bonds;

(2) "state's investment in all power projects in the energy program for Alaska" includes all state money invested in the power projects, other than interties, in the energy program for Alaska, including loans, grants, and proceeds from bonds, less the principal repayments on bonds and state loans issued for the power projects.

(h) Notwithstanding (g) of this section, in the 1983 state fiscal year the proportionate share of debt service under (b) of this section, expressed as a rate, for a power project for which a construction contract has been awarded before June 25, 1982 may not exceed the average debt service component of the wholesale power rate for all power projects in the energy program for Alaska. The limit imposed by this subsection shall be increased in the 1984 state fiscal year to four percent above the average debt service component of the wholesale power rate for all power projects in the energy program for Alaska and by an additional four percent above that average in each succeeding state fiscal year. If application of this subsection results in the production of insufficient revenue to pay the total debt service for all projects in the energy program for Alaska, a project that does not have its share of debt service limited under this subsection shall be subject to a rate

in addition to the rate established under (b) of this section. The additional rate is the rate that the authority estimates is necessary to produce revenue that is sufficient to pay the difference between the total debt service for all projects in the energy program for Alaska and the revenue actually produced to pay that debt service, multiplied by a fraction whose numerator is the total cost of the project and whose denominator is the total cost of all of the projects that are subject to the additional rate. In this subsection, "projects in the energy program for Alaska" does not include an intertie that is authorized as a separate project as described in (f) of this section.

(i) The authority may place in a separate interest bearing account money appropriated to the authority as a loan for the purpose of meeting the operating expenses of a facility in the initial project. The money may be used to replace amounts which were expected to be paid by a utility potentially served by a facility in the initial project, which has not entered into a power sales agreement with the authority. Repayment of the amount loaned must be made from revenues attributable to power sales from that facility, as limited by the terms of power sales agreements with power purchasers from that facility. A loan made in accordance with this subsection is not a state loan for purposes of calculating the wholesale power rate under (b)(1) of this section. (§ 1 ch 118 SLA 1981; am §§ 13 — 16 ch 133 SLA 1982; am §§ 20 — 23 ch 89 SLA 1983; am § 125 ch 6 SLA 1984; am §§ 2-8 ch 169 SLA 1984)

Revisor's notes. — Enacted as AS 44.83.490. Renumbered in 1981.

Effect of amendments. — The 1982 amendment, in subsection (b), substituted "a power project" for "the power project" in the introductory language, substituted "separate" for "single" and "each power project" for "all power projects" in the first sentence of paragraph (1), added "other than a project described in (f) of this section" to the end of the first sentence of paragraph (1), inserted "or more frequently as may be necessary" in the introductory language of the second sentence of paragraph (1), substituted "power project" for "power projects" in subparagraph (1)(A) and (C), added "the power project's proportionate share of the" to the beginning of subparagraph (1)(B), substituted the language beginning "on state loans and bonds" for "of the power projects" in subparagraph (1)(B), substituted "separate" for "single" and "each power project that is" for "all power projects that it has" in the first sentence of paragraph (2), inserted "or more frequently as may be necessary" in the introductory language of the second sen-

tence of paragraph (2), substituted "power project" for "power projects" in subparagraph (2)(A) and (2)(B)(iii), and substituted the present provisions of subparagraph (2)(B)(ii) for the former provisions, which read: "debt service of power projects by the authority; and." In subsection (c), the amendment substituted "under (a) of this section" for "under (b) of this section" and "money it has pledged to secure bonds in accordance with contracts with bondholders" for "the money it receives under (b)(1)(A) and (B) and (b)(2)(B)(i) and (ii), or the money it would have received under (b)(1)(A) and (B) and (b)(2)(B)(i) and (ii) of this section if those items had been used in part to establish the wholesale power rate in effect at the time the money is received by the authority." In subsection (e), the amendment substituted "a wholesale" for "the wholesale" and "or (f)" in the first sentence and added the second sentence. The amendment also added subsections (f) — (h).

The 1983 amendment, substituted "July 1, 1991" for "July 1, 1986" near the beginning of paragraph (2) of subsection (b), substituted "or otherwise covenanted

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to secure bonds" for "to secure bonds in
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bondholders" at the end of subsection (c),
rewrote subsection (e), and added the last
sentence of subsection (h).

The first 1984 amendment made a tech-
nical change in the last sentence in subsec-
tion (f).

The second 1984 amendment added sub-
section (i), repealed former paragraph (2)
of subsection (b), relating to a separate
wholesale power rate beginning July 1,
1991, and repealed former subsection (d),
relating to industrial consumer rates. The
1984 amendment also, in subsection (a),
deleted former paragraphs (1) and (2) and
the former last sentence in the

introductory paragraph, relating to a utili-
ty that purchases power produced by a
power project of the authority, and, in the
remaining language, added the last two
sentences; in subsection (b), substituted
"the customers" for "its customers at the
busbar" in the introductory language,
inserted the second sentence in the
introductory paragraph of paragraph (1),
and added paragraph (3); in subsection (e),
added the second sentence and substituted
"energy program" for "Energy Program"
in the first sentence; and changed the
internal reference in the first sentence in
the introductory paragraph of subsection
(g).

Sec. 44.83.400. Energy conservation. The authority shall ensure

(1) that communities that benefit from the energy program for
Alaska implement cost-effective energy conservation measures for
residences, commercial and public buildings, and industries; and

(2) that communities shall fulfill their responsibilities under (1) of
this section by cooperating with state agencies concerned with
development and conservation of energy, including but not limited to

- (A) the Alaska Public Utilities Commission;
- (B) the Department of Community and Regional Affairs; and
- (C) the division of business loans, Department of Commerce and
Economic Development. (§ 1 ch 118 SLA 1981; am § 5 ch 79 SLA 1983)

Revisor's notes. — Enacted as AS
44.83.500. Renumbered in 1981.

Effect of amendments. — The 1983
amendment, substituted "Department of
Community and Regional Affairs" for

"division of energy and power
development, Department of Commerce
and Economic Development" in paragraph
(2)(B).

**Sec. 44.83.410. Continuing appropriation for Susitna River
Hydroelectric project. [Repealed effective June 30, 1991]** The sum
of \$100,000,000 is appropriated on July 1, 1984 and the sum of
\$200,000,000 is appropriated on July 1 of each subsequent fiscal year
from the general fund to the authority for deposit in the power
development fund (AS 44.83.382) for the purpose of equity investment
in, and rate stabilization for, the Susitna River hydroelectric project.
(§ 314 ch 171 SLA 1984; r § 317 ch 171 SLA 1984)

Postponed repeal. — This section is
repealed effective June 30, 1991.

Editor's notes. — Section 316, ch. 171,
SLA 1984, provides that the appropria-

tions made in §§ 313-315 and 319 of ch.
171, SLA 1984, which enacted this section,
are not one-year appropriations and do not
lapse under AS 37.25.010.

**Sec. 44.83.420. Continuing appropriation for Bradley Lake
hydroelectric project. [Repealed effective June 30, 1988.]** The sum

of \$50,000,000 is appropriated on July 1, of each fiscal year from the general fund to the authority for deposit in the power development fund (AS 44.83.382) for the purpose of equity investment in, and rate stabilization for, the Bradley Lake hydroelectric project. (§ 314 ch 171 SLA 1984; r § 318 ch 171 SLA 1984)

Postponed repeal. — This section is repealed effective June 30, 1988.

Editor's notes. — Section 316, ch. 171, SLA 1984, provides that the appropriations made in §§ 313—315 and 319 of ch. 171, SLA 1984, which enacted this section, are not one-year appropriations and do not lapse under AS 37.25.010.

Sec. 44.83.425. Definitions. In AS 44.83.380 — 44.83.425,

(1) "bus bar" means the substation that serves as the delivery point from the generation and transmission system of the authority to the transmission and distribution system of the utility;

(2) "debt service" means the amounts covenanted with respect to, or pledged to pay, bonds under a trust agreement securing bonds;

(3) "fund" means the power development fund established by AS 44.83.382;

(4) "industrial consumer" means a customer of a utility which customer has a peak power demand in excess of 500 kilowatts and uses the power principally for

- (A) manufacturing;
- (B) pipeline transportation;
- (C) the recovery or processing of minerals;

(D) the processing of timber, agricultural, or seafood products or their by-products; or

(E) the operation of facilities owned by the federal government;

(5) "qualified utility" means an electric utility that is certified by the Alaska Public Utilities Commission to serve all or part of a market area that is served or will be served by the power project, and that the authority determines is capable of operating and maintaining the power project. (§ 1 ch 118 SLA 1981; am § 24 ch 89 SLA 1983)

Revisor's notes. — Enacted as AS 44.83.510, Renumbered in 1981. amendment, rewrote the definition of "debt service" in paragraph (2).

Effect of amendments. — The 1983

Chapter 85. Alaska Municipal Bond Bank Authority.

Section	Section
05. Legislative findings	70. Staff
10. Legislative policy	80. Powers of bond bank authority
20. Municipal Bond Bank Authority	90. Limitations
30. Membership and vacancies	95. Regulations
40. Officers, quorum, and meetings	100. Annual report and audit
50. Bonding of members	110. Annual budget
60. Compensation and expenses	120. Care and custody of bonds

- (3) access for the line that would be installed with loan proceeds;
- (4) availability of other utility service in the area; and
- (5) the economic feasibility of the extension of electric service with the proceeds of the loan. (§ 1 ch 118 SLA 1981)

Article 9. Energy Program for Alaska.

Section	Section
380. Program established	400. Energy conservation
382. Power development fund established	410. Continuing appropriation for Susitna River hydroelectric project [Repealed effective June 30, 1991]
384. Use of fund balance	420. Continuing appropriation for Bradley Lake hydroelectric project [Repealed effective June 30, 1988]
386. Investment of fund	425. Definitions
388. Allotment to projects	
390. Reappropriation of fund balance	
392. Lapse of excess appropriations	
396. Operation of power project	
398. Sale of power from power project	

Sec. 44.83.380. Program established. (a) The energy program for Alaska is established. The program shall be administered by the Alaska Power Authority.

(b) The energy program for Alaska is a program by which the authority ~~may acquire or construct~~ power projects with money appropriated by the legislature to the power development fund established in AS 44.83.382. A power project may be acquired or constructed as part of the energy program for Alaska only if the project is submitted to and approved by the legislature in accordance with procedures set out in ~~AS 44.83.177 — 44.83.187~~.

(c) The provisions of AS 36.10.010 — 36.10.125 apply to power projects constructed by the authority under AS 44.83.380 — 44.83.425. (§ 1 ch 118 SLA 1981)

Revisor's notes. -- Enacted as AS 44.83.400. Renumbered in 1981.

Sec. 44.83.382. Power development fund established. (a) A power development fund is established in the Alaska Power Authority to carry out the purposes of the energy program for Alaska (AS 44.83.380 — 44.83.425).

(b) The fund includes

(1) money appropriated to it by the legislature; and

(2) ~~[Repealed, § 27 ch 89 SLA 1983.]~~ (§ 1 ch 118 SLA 1981; am § 27 ch 89 SLA 1983)

Revisor's notes. — Enacted as AS 44.83.410. Renumbered in 1981. amendment, repealed paragraph (2) of subsection (b).

Effect of amendments. — The 1983

§ 44.83.382

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STATE GOVERNMENT

§ 44.83.384

Sec. 44.83.384. Use of fund balance. (a) The fund may be used by the authority to provide money for

(1) reconnaissance and feasibility studies and power project finance plans prepared under AS 44.83.177 — 44.83.181;

(2) the cost of a power project, including but not limited to costs of acquiring necessary licenses, preparing engineering designs, obtaining land, and constructing the power project;

(3) the defeasance of bonds, or the payment of debt service on loans for or on an issue of bonds sold in connection with a power project;

(4) the cost of operating and maintaining power projects; and

(5) debt service on power projects.

(b) Money in the fund may be used under (a) of this section only for a power project that

(1) is economically feasible; and

(2) provides the lowest reasonable power cost to utility customers in the market area for the estimated life of the power project, whether operated by itself or in conjunction with other power projects in the market area, and that operates or will operate on one or more of the following:

(A) renewable energy resources, including but not limited to hydroelectric power, wind, biomass, geothermal, tidal or solar energy, or a method that uses temperature differentials or other physical properties of the ocean;

(B) coal or peat;

(C) energy derived from waste heat; or

(D) fossil fuel, including oil or natural gas.

(c) Notwithstanding (b)(1) of this section and AS 44.83.396 — 44.83.398, the fund may be used by the authority to provide money for the cost of a power project that is or was either constructed or owned by the United States government if the requirements of this subsection are met. The provisions of AS 44.83.177 — 44.83.187 do not apply to a power project financed under this subsection. The authority may use money in the fund for the cost of a power project under this subsection if

(1) the legislature enacts a law approving the project;

(2) the office of management and budget in the Office of the Governor reviews a feasibility study and a plan of finance for the project and determines that the feasibility study complies with the requirements for a feasibility study submitted under AS 44.83.181(b) and that the plan of finance complies with the requirements for a plan of finance submitted under AS 44.83.181(c); and

(3) the project meets the other requirements of this chapter. (§ 1 ch 118 SLA 1981; am § 12 ch 133 SLA 1982; am § 28 ch 63 SLA 1983; am §§ 14, 15 ch 89 SLA 1983)

Revisor's notes. — Enacted as AS 44.83.420. Renumbered in 1981.

Effect of amendments. — The 1982 amendment added subsection (c).

The first 1983 amendment, substituted "office of management and budget" for "division of budget and management" in paragraph (c)(2).

The second 1983 amendment, rewrote paragraph (1) of subsection (b) and substituted "AS 44.83.396 — 44.83.398" for "AS 44.83.394 — 44.83.398" and "or was either constructed or owned" for "constructed and owned" in the first sentence of subsection (c).

Sec. 44.83.386. Investment of fund. The Department of Revenue shall invest the money in the fund in accordance with AS 37.10.070 and 37.10.075. The Department of Revenue shall provide money in the fund to the authority only after costs have been incurred or amounts in the fund have been otherwise obligated under contracts for the acquisition and construction of a project. Amounts that have been obligated, but for which costs have not yet been incurred, may be segregated by the Department of Revenue or transferred to the authority only with the prior approval or agreement of the commissioner of revenue. Interest received on money that is segregated or transferred under this section must be deposited in the general fund. (§ 1 ch 118 SLA 1981; am § 16 ch 89 SLA 1983)

Revisor's notes. — Enacted as AS 44.83.430. Renumbered in 1981.

Effect of amendments. — The 1983 amendment, substituted the language

beginning "costs have been incurred" for "a cost for a project is incurred" at the end of the second sentence and added the third and fourth sentences.

Sec. 44.83.388. Allotment to projects. (a) The authority shall maintain records of power project allocations from the fund for each power project

(1) approved in accordance with AS 44.83.185; and

(2) for which an allocation is made from an appropriation made by the legislature without specifying an appropriation to a project.

(b) Income earned from investment of money appropriated to the fund shall be deposited in the general fund and may be appropriated to the fund by the legislature. (§ 1 ch 118 SLA 1981)

Revisor's notes. — Enacted as AS 44.83.440. Renumbered in 1981.

Sec. 44.83.390. Reappropriation of fund balance. (a) If a power project designated by the legislature by law is not constructed, the amount appropriated to it may be reappropriated to other power projects by the legislature.

(b) The legislature may reappropriate money under (a) of this section only for a power project that is economically feasible under AS 44.83.181(b) and only if the project will serve the market area that would have been served by the power project designated by the legislature and not constructed. (§ 1 ch 118 SLA 1981)

§ 44.83.390

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STATE GOVERNMENT

§ 44.83.396

Revisor's notes. — Enacted as AS
44.83.450. Renumbered in 1981.

Sec. 44.83.392. Lapse of excess appropriations. If at the end of construction of a power project appropriations for the power project exceed the amount required for construction of it, the excess lapses into the general fund. (§ 1 ch 118 SLA 1981)

Revisor's notes. — Enacted as AS
44.83.460. Renumbered in 1981.

Sec. 44.83.394. Revenue requirements. [Repealed, § 27 ch 89 SLA 1983.]

Sec. 44.83.396. Operation of power project. (a) A power project that is acquired or constructed as part of the energy program for Alaska is owned, and shall be administered, by the authority.

(b) When a power project has been acquired or constructed by the authority, the project may be operated for the authority under a contract or lease entered into by a qualified utility and the authority.

(c) The authority shall enter into a contract or lease under reasonable terms and conditions to permit the applicant utility to operate the power project when the applicant utility is the only wholesale power customer to be served directly by the power project unless the authority determines a utility making application for a contract or lease to operate a power project is not a qualified utility or is not capable of operating that power project efficiently and in a manner that is consistent with national standards for the industry and with agreements with bondholders.

(d) The authority shall adopt regulations to determine the manner of selecting a qualified utility to operate a power project under a contract or lease when there is more than one wholesale power customer to be served directly by the power project.

(e) When the authority permits a power project to be operated by a qualified utility under a contract or lease, the authority shall

(1) review and approve the annual budget for the operation and maintenance of the power project; and

(2) assure that the project is being operated efficiently and in a manner that is consistent with national standards for the industry and agreements with bondholders. (§ 1 ch 118 SLA 1981; am §§ 17 — 19 ch 89 SLA 1983)

Revisor's notes. — Enacted as AS
44.83.480. Renumbered in 1981.

Effect of amendments. — The 1983 amendment, deleted "by the state" following "is owned" in subsection (a), inserted "a qualified utility or is not" near the end of subsection (c), added the lan-

guage beginning "efficiently and in a manner that is consistent" to the end of subsection (c), added "and" to the end of paragraph (1) of subsection (e), and added "and agreements with bondholders" to the end of paragraph (2) of subsection (e).

Article 9. Power Development Revolving Loan Fund.

Section	Section
600. Creation of fund	620. Loan terms
610. Powers and duties of department in administering the fund	630. Definitions

Sec. 44.33.600. Creation of fund. (a) There is established in the Department of Commerce and Economic Development the power development revolving loan fund to carry out the purpose of AS 44.33.600 — 44.33.630. The fund may be used for no other purpose.

(b) The fund consists of

- (1) appropriations to the fund by the legislature;
- (2) repayments of principal to the fund; and
- (3) income from investment of money in the fund and from loans made from the fund. (§ 1 ch 169 SLA 1984)

Sec. 44.33.610. Powers and duties of department in administering the fund. (a) The department may make a loan from the power development revolving loan fund to the Alaska Power Authority for the purpose of financing a power project acquired or constructed by the authority under the energy program for Alaska (AS 44.83.380 — 44.83.425). Repayment of a loan from the fund must be made with the proceeds from the sale of power from projects in the energy program for Alaska. Except as provided in AS 44.83.398(i), the payments required to be made by the authority on a loan from the fund constitute debt service for the purpose of calculating the wholesale power rate in AS 44.83.398(b)(1).

(b) After completion of a final plan of finance and approval of a project under AS 44.83.185(c), a loan may be made from the fund for

- (1) the cost or a portion of the cost of final design, acquisition, and construction of a power project;
- (2) defeasance or payment of bonds or notes of the authority issued for a power project;
- (3) the establishment of a reserve fund for renewals and replacements for the operation of a completed power project; and
- (4) any other project related expenses including those described in AS 44.83.398(i). (§ 1 ch 169 SLA 1984)

Sec. 44.33.620. Loan terms. (a) A loan from the fund must be repaid in accordance with the terms that the department determines to be appropriate. In establishing the terms, including provision for a return to the state of an amount in excess of the principal amount of the loan, the department shall consider the revenue that the authority could reasonably derive from the sale of power from the projects based upon

- (1) the market rate of interest for a loan of comparable size and duration at the time the loan is made; and

Title 44
State Government

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percentage of the principal amount of
the revenue that the authority
receives from the projects based

loan of comparable size and
amount.

(2) the estimated costs of alternative sources of energy generation
for utilities purchasing power from a project financed with a loan from
the fund.

(b) The department may agree with the authority to defer
repayment of a loan. However, the loan must be repaid in full during
the period of the loan agreement.

(c) A loan to the authority from the fund may not exceed 50 years.
(§ 1 ch 169 SLA 1984)

Sec. 44.33.630. Definitions. In AS 44.33.600 — 44.33.630

- (1) "authority" means the Alaska Power Authority;
- (2) "department" means the Department of Commerce and Eco-
nomic Development;
- (3) "fund" means the power development revolving loan fund;
- (4) "power project" means a project acquired or constructed under
the energy program for Alaska, AS 44.83.380 — 44.83.425. (§ 1 ch 169
SLA 1984)

Chapter 35. Department of Military and Veterans' Affairs.

Section	Section
19. Adjutant general	30. Construction of memorials to Alaska veterans
20. Duties of department	

Sec. 44.35.010. Adjutant general. The principal executive officer
of the Department of Military and Veterans' Affairs is the adjutant
general. (§ 15 ch 64 SLA 1959; am E.O. No. 58, § 20 (1984))

Effect of amendments. — The 1984 2d, Military, and Civil Defense, §§ 4, 30,
amendment inserted "and Veterans'" 33, 37.
Collateral references. — 53 Am. Jur. 57 C.J.S., Militia, § 11.

Sec. 44.35.020. Duties of department. The Department of Mili-
tary and Veterans' Affairs shall

- (1) conduct the military affairs of the state as prescribed by the
Military Code; and
- (2) cooperate with the federal government in matters of mutual con-
cern pertaining to the welfare of Alaskan veterans, including estab-
lishing, extending, or strengthening services for veterans in Alaska.
(§ 15 ch 64 SLA 1959; am E.O. No. 58, § 21 (1984))

Effect of amendments. — The 1984 by the Military Code."
amendment rewrote and restructured this Editor's notes. — For the Military
section, which formerly read "The Depart- Code of Alaska, see AS 26.05.
ment of Military Affairs shall conduct the Collateral references. — 53 Am. Jur.
military affairs of the state as prescribed 2d, Military, and Civil Defense, § 1 et seq.

Original sponsor: House Special Committee
on State Loans

1
2 IN THE HOUSE

3 CS FOR HOUSE BILL NO. 219 ()
4 IN THE LEGISLATURE OF THE STATE OF ALASKA
5 FOURTEENTH LEGISLATURE - FIRST SESSION

6 A BILL

7 For an Act entitled: "An Act relating to the applicability of the Alaska
8 Public Utilities Commission Act to certain electric
9 utilities; power development loans; and the energy
10 program for Alaska."

11 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

12 * Section 1. AS 42.05.711(b) is amended to read:

13 (b) Public utilities owned and operated by a political subdivi-
14 sion of the state and electric operating entities established as an
15 instrumentality of two or more public utilities owned and operated by
16 a political subdivision of the state, none of whose utilities is in
17 competition with any other utility, are exempt from the provisions of
18 this chapter, other than the provisions of AS 42.05.221 - 42.05.281,
19 unless the owner and operator elects to be subject to all provisions
20 of this chapter.

21 * Sec. 2. AS 44.33.620(a) is amended to read:

22 (a) A loan from the fund shall [MUST] be repaid in accordance
23 with the terms that the department determines to be appropriate. In
24 establishing the terms, including provision for a return to the state
25 of an amount in excess of the principal amount of the loan, the de-
26 partment shall consider the revenue that the authority could reason-
27 ably derive from the sale of power from the projects based upon

28 (1) [THE MARKET RATE OF INTEREST FOR A LOAN OF COMPARABLE
29 SIZE AND DURATION AT THE TIME THE LOAN IS MADE; AND

(2)] the [ESTIMATED] costs, at the time the power sales

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2 agreement is initially negotiated or renegotiated, of alternative
3 sources of energy generation for utilities purchasing power from a
4 project financed with a loan from the fund;

5 (2) the effect of the loan terms on the wholesale power
6 costs to all utilities purchasing power from the initial project;

7 (3) the long-term benefits to consumers and communities of
8 stable wholesale power costs;

9 (4) the affordability of initial wholesale power costs that
10 result from the loan terms with utilities purchasing power from the
11 initial project;

12 (5) increasing repayment, not to exceed five years, of debt
13 service payment per kilowatt hour gradually over the initial period of
14 a loan repayment schedule to the extent necessary to avoid significant
15 rate increases to the consumer;

16 (6) the existing excess capacity of power projects; and

17 (7) the effects of increased capacity utilization, infla-
18 tion, and alternative energy production costs over the life of the
19 initial project.

20 * Sec. 3. AS 44.33.620 is amended by adding a new subsection to read:

21 (d) In (a) of this section "initial project" means the project
22 described in AS 44.83.398(a).

23 * Sec. 4. AS 44.33 is amended by adding a new section to read:

24 Sec. 44.33.625. PRICE REOPENERS. A power sales agreement for
25 the sale of power from a power project financed with a loan under
26 AS 44.33.610 must include a provision for periodic price reopeners.

27 * Sec. 5. AS 44.83.425(5) is amended to read:

28 (5) "qualified utility" means an electric utility or an
29 electric operating entity established as an instrumentality of two or
more electric utilities [THAT IS] certified by the Alaska Public

1
2 Utilities Commission to serve all or part of a market area that is
3 served or will be served by the power project, [AND] that the author-
4 ity determines is capable of operating and maintaining the power
5 project.
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Sen. Zeigler
5/10/85 comments
For Sen. France

HB219

THE COMMUNITIES OF PETERSBURG, WRANGELL AND KETCHIKAN, ALONG WITH THE COPPER VALLEY AND KODIAK ELECTRIC COOPERATIVES, HAVE BEEN WORKING WITH THE STATE FOR THREE YEARS TO SECURE WORKABLE LONG TERM POWER SALES AGREEMENTS FOR THE STATE'S FIRST FOUR HYDROELECTRIC PROJECTS. TODAY YOU HAVE BEFORE YOU A BILL AND A MEMORANDUM OF UNDERSTANDING THAT REPRESENT A SOLUTION TO THIS PROBLEM.

NEGOTIATORS REPRESENTING FOUR OF THE COMMUNITIES HAVE SIGNED A MEMORANDUM OF UNDERSTANDING WHICH YOU SEE BEFORE YOU TODAY. THE CITY COUNCIL OF PETERSBURG HAS ALSO AUTHORIZED THE SIGNING OF THIS DOCUMENT THRU CONSULTATION WITH THEIR REPRESENTATIVE, PETERSBURG CITY COUNCILMAN, JIM FRENZELL. THE MEMORANDUM OF UNDERSTANDING PROVIDES THE FRAMEWORK ABOUT WHICH LONG TERM POWER SALES AGREEMENTS CAN BE CONSTRUCTED.

THE FOUR DAM POOL REPRESENTATIVES REPORT TO ME THAT AN EXCELLENT WORKING RELATIONSHIP WITH BOB HEATH HAS DEVELOPED SINCE HIS RECENT APPOINTMENT TO THE APA'S TOP POST. THIS RELATIONSHIP WILL ASSIST IN BRINGING THESE NEGOTIATIONS TO A CLOSE WITH A MUTUALLY ACCEPTABLE AND MUTUALLY BENEFICIAL CONTRACT FOR THE SALE OF HYDROELECTRIC POWER IN THESE SOUTH CENTRAL AND SOUTHEASTERN COMMUNITIES.

HB219 REPRESENTS GUIDING AND ENABLING LEGISLATION THAT MAKES IT POSSIBLE TO NEGOTIATE A CONTRACT USING THE GUIDELINES FOUND IN THE MEMORANDUM OF UNDERSTANDING. HB219 ALLOWS FOR THE ARBITRATION OF THE PRINCIPALS OF REASONABLE AND PREDICTABLE RATES TO THE COMMUNITIES AND A FAIR RETURN TO THE STATE. WITHOUT PASSAGE OF HB219 IT IS VERY UNLIKELY THAT LONG TERM POWER SALES AGREEMENTS CAN BE NEGOTIATED.

WITHOUT LONG TERM CONTRACTS IT IS CERTAIN THAT SIGNIFICANT POWER SALES TO THE COMMUNITIES' COMMERCIAL AND INDUSTRIAL CUSTOMERS WILL BE LOST TO THE DETRIMENT OF THE STATE, THE CUSTOMERS AND THE COMMUNITIES. IF THIS ISSUE IS NOT SETTLED THIS SESSION, IT IS ALSO LIKELY THAT THE PRICE THE COMMUNITIES ARE WILLING TO PAY FOR POWER WILL DROP WITH FALLING OIL PRICES AND MAKE THE NEGOTIATION OF POWER SALES CONTRACTS EVEN MORE DIFFICULT.

THE UNDERSTANDING BOB HEATH AND THE COMMUNITIES HAVE AGREED TO IN THE MEMORANDUM OF UNDERSTANDING HAS THE VIRTUE OF SIMPLICITY. EACH COMMUNITY WOULD PAY FOR OPERATIONS AND MAINTENANCE AT THE ACTUAL POOLED AVERAGE RATE FOR ALL FOUR PROJECTS, AND THUS BEAR MUCH OF THE RISK AND BENEFIT OF FLUCTUATIONS IN LOAD AND COST. AN AMOUNT FOR DEBT SERVICE WOULD BE CHARGED AT 2.6¢ PER KWH IN 1986, RISING TO 4.0¢ PER KWH BY 1990 FOR ALL SALES UP TO A PARTICULAR COMBINED FORECAST LOAD. THESE AMOUNTS FOR DEBT SERVICE WOULD BE IN ADDITION TO OPERATIONS AND MAINTENANCE COSTS. SALES ABOVE THE FORECAST WOULD BE DEEMED "INCENTIVE SALES" AND WOULD BE CHARGED AT 1.0¢ PER KWH LESS THAN THE REGULAR DEBT SERVICE AMOUNT. THIS LOWER RATE WOULD MAKE IT POSSIBLE TO ATTRACT LARGE INDUSTRIAL LOADS, AND WOULD GIVE THE COMMUNITIES AN ADDITIONAL INCENTIVE TO INCREASE PROJECT UTILIZATION. FINALLY, THE COMMUNITIES WOULD CONTRIBUTE A TOTAL OF \$500,000 PER YEAR IN ADDITION TO OPERATIONS AND MAINTENANCE TO BUILD A FUND FOR RENEWALS AND REPLACEMENTS.

BECAUSE BOTH OPERATIONS AND MAINTENANCE AND DEBT SERVICE WOULD BE POOLED, THE WHOLESALE POWER RATE WOULD BE IDENTICAL FOR ALL COMMUNITIES. THIS MAKES IT POSSIBLE TO MARKET THE POWER FROM PROJECTS WITH HIGH UNIT COSTS OF OPERATIONS AND MAINTENANCE. THE POOLING OF OPERATIONS AND MAINTENANCE IS ONE REASON THAT A STATUTORY CHANGE IS REQUIRED IN ORDER TO IMPLEMENT THIS PROPOSAL. BY PASSING ON THE BENEFITS OF AN INCENTIVE RATE, THE COMMUNITIES CAN MARKET SUBSTANTIAL AMOUNTS OF POWER TO LARGE COMMERCIAL AND INDUSTRIAL LOADS THAT WOULD OTHERWISE DEVELOP THEIR OWN DIESEL GENERATION. THE INCENTIVE SALES INCREASE THE RATE OF RETURN TO THE STATE FROM 5+% TO OVER 6%. INCENTIVE SALES ALSO LOWER THE EFFECTIVE MELDED WHOLESALE POWER RATE TO THE COMMUNITIES. WITHOUT INCENTIVE SALES, THE FORECAST WHOLESALE POWER RATE WOULD FACE STIFF COMPETITION FROM ALTERNATIVE FORMS OF GENERATION , AND THE RETURN TO THE STATE WOULD BE SUBSTANTIALLY LOWER.

THEREFORE, I REQUEST THE FINANCE COMMITTEE GIVE THIS BILL FAVORABLE CONSIDERATION TODAY AND SUPPORT IT ON THE FLOOR IN THE NEXT FEW DAYS. IF YOU HAVE ANY TECHNICAL QUESTIONS BOB HEATH AND REPRESENTATIVES FROM THE COMMUNITIES ARE HERE TO ANSWER THEM.

SENATE FINANCE COMMITTEE

MAY 26, 1984

9:20 A.M.

CALL TO ORDER

CO-CHAIRMAN DON BENNETT CONVENED THE MEETING AT APPROXIMATELY 9:20 A.M.

PRESENT

MEMBERS PRESENT: SENATORS BENNETT, FERGUSON, MULCAHY, SACKETT, AND V. FISCHER. SENATORS JOSEPHSON AND FAIKS CAME IN LATER.
OTHERS PRESENT: MIKE GREANY, DIRECTOR, LEGISLATIVE FINANCE; P.S. DHILLON, REVENUE ANALYST, LEGISLATIVE FINANCE; MILT BARKER, DEPUTY COMMISSIONER, DEPARTMENT OF REVENUE; COMMISSIONER HEATH, DEPARTMENT OF REVENUE; COMMISSIONER LYON, DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT; REPRESENTATIVE HURLBERT; SENATOR KERTTULA; RICH UNDERKOFER, CITY MANAGER, CITY OF PETERSBURG; DON KOENIGS, MAYOR, CITY OF PETERSBURG; KURT DZINICH, SENIOR ADVISOR, SENATOR ADVISORY COUNCIL; SUSAN WHITE, EXECUTIVE ASSISTANT, ALASKA POWER AUTHORITY; MARTHA FOX, ASSISTANT ATTORNEY GENERAL, DEPARTMENT OF LAW; TERRY ELDER, DEPUTY COMMISSIONER, DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT; AND STAFF FROM STATE OFFICES AND LEGISLATIVE OFFICES.

SUMMARY INFO

CSHB 684(FIN) AM AN ACT MAKING SPECIAL APPROPRIATIONS TO THE ALASKA POWER AUTHORITY; AND PROVIDING FOR AN EFFECTIVE DATE. DISCUSSION AND HELD IN COMMITTEE.

SENATOR FERGUSON WALKED THE COMMITTEE THROUGH THE PROPOSED SCS FOR CS FOR HB 684(FINANCE). HE THEN ASKED MR. LARRY CRAWFORD AND BILL BATT TO COME FORWARD AND DISCUSS THE PROPOSAL WITH THE COMMITTEE.

LARRY CRAWFORD

MR. LARRY CRAWFORD, EXECUTIVE DIRECTOR OF THE ALASKA POWER AUTHORITY CAME FORWARD TO TESTIFY AND INTRODUCED MR. BILL BATT, DIRECTOR OF FINANCE. SENATOR MULCAHY ASKED WHAT THE INTENT WAS OF THE ALASKA POWER AUTHORITY WITH REGARD TO SECTION 1, THE \$210,000,000 AND THE POWER CONTRACTS. MR. CRAWFORD SAID THE INTENT OF THE POWER AUTHORITY WAS TO USE THE RENEGOTIATED AGREEMENTS AS THE BASIS FOR THE LOAN AND THE COMMUNITIES WOULD HAVE RATES BASED ON THOSE RENEGOTIATED AGREEMENTS. HE SAID THE ONLY TIME THEY WOULD ENFORCE THE EXISTING AGREEMENT WOULD BE WHERE THEY DID NOT HAVE A NEW RENEGOTIATED AGREEMENT.

SENATOR MULCAHY ASKED ABOUT CLARIFICATION ON SECTION 1. HE FELT THE APPROACH BEING TAKEN WOULD DO AWAY WITH THE RATE STABILIZATION APPROPRIATION THAT HAD BEEN LOOKED AT BEFORE WHEN GOING OUT TO THE BOND MARKET. HE SAID IT WAS HIS UNDERSTANDING THAT THE RATE STABILIZATION APPROPRIATION WOULD NOT BE NEEDED BECAUSE OF THE USE OF GENERAL FUNDS AND BECAUSE THE LANGUAGE IN THE AUTHORIZING BILL IS SUCH THAT THE INTEREST RATE CAN BE "BACKED IN."

MR. CRAWFORD SAID THIS WAS CORRECT, THAT THEY ARE LOOKING AT WHAT THE DEBT SERVICE PAYMENTS WOULD HAVE BEEN UNDER THE RENEGOTIATED AGREEMENT AND THEN THEY WILL BE RETURNING THE MONEY TO THE STATE IN ACCORDANCE WITH THOSE DEBT SERVICE PAYMENTS. THE INTEREST RATE IS THE DERIVED NUMBER AND LOOKS TO BE ABOUT AN 8% YIELD TO THE STATE ON THE \$210,000,000 OVER THE LIFE OF THE LOAN. HE SAID THE PAYMENTS IN THE EARLY YEARS WILL BE LESS THAN IN THE LATER YEARS AND THEY CAN DO AWAY WITH THE RATE STABILIZATION FUND.

SCS FOR CSHB 589(FINANCE)

SENATOR FERGUSON WALKED THE COMMITTEE THROUGH THIS LEGISLATION. SECTIONS 1 THROUGH 3, CREATE THE POWER DEVELOPMENT REVOLVING FUND FOR THE PURPOSE OF IMPLEMENTING THE \$210,000,000 LOAN FOR THE FOUR-DAM POOL PAY OUT. SECTION 4 ALLOWS THE CREATION FOR THE FOUR-DAM POOL.

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MEMORANDUM

State of Alaska

TO: Jay Hogan, Associate Director
Division of Budget Review
Office of Management and Budget

DATE: May 1, 1985

FILE NO:

THRU: Lois Cook, Director *LC*
Division of Administrative Services
XXXX^{OM} Department of Commerce and Economic
Development

TELEPHONE NO:

SUBJECT: CSHB 195 (Fin.) Section 120
(page 29) Power Development
Revolving Loan Fund

FROM: Margaret I. Hamley, Director *MH*
Division of Accounting and Collections
Department of Commerce and Economic
Development

The Alaska Power Authority (APA) has identified \$9,036,000 in reserves for claims as available for lapse in the Power Development RLF; See CSHB 195 (Fin.) Section 120.

The \$9,036,000 identified by the APA is not currently on deposit in the PDRLF, nor does the APA have control over the entire sum. I am told that up to \$7,194,803 will be available to the APA on May 15, 1985 when the variable rate demand notes mature for Terror Lake. That amount less any claims or expenses incurred from March 29, 1985 through May 15, 1985 is to be transferred back to the PDRLF by the APA and then would be available for reappropriation to the General Fund.

However, \$1,841,197 in reserves for claims is on deposit with the Ketchikan Power Utility (KPU) as agent for the APA on the Swan Lake Project. The APA has requested those funds be returned and KPU has refused to do so.

I am not at all confident that this \$9,036,000 will be available for reappropriation to the General Fund by July 1, 1985.

We understand that the Governor can veto a portion of the line item reappropriation, if necessary, but he would have to veto a corresponding project then as well to balance this bill. This could be avoided by correcting CSHB 195 before it is sent to the Governor.

LC/MIH/me0210
050185B

OFFICE OF
MANAGEMENT & BUDGET

~~APR 29 1985~~
BUDGET REVIEW

OFFICE OF
MANAGEMENT & BUDGET

MAY 1 1985

BUDGET REVIEW

Initial Loan Principal \$196,000,000
 Loan Interest Rate 4.00%
 Loan Term (Years) 40
 Total Energy Capability (GW.h/yr) 378,607

Ramp Period (Years) 5
 D. S. Entry Rate (c/kW.h) 2.00
 Entry Rate Annual Escalation 6.05%
 D. S. Rate Ceiling (c/kW.h) 2.682840

4-DAM POOL
 LOAN REPAYMENT SCHEDULE
 CASE 4-A

Year	DEBT SERV COMPONENT (c/kW.h)	PAYMENT FROM ELEC REVENUE	ENERGY SALES (GW.h)	UTILIZ- ATION	CURRENT PRINCIPAL BALANCE	INTEREST DUE FROM 4-DAM POOL	ACTUAL PAY- MENT LESS INT. DUE	PRINCIPAL REPAYMENT DEFERRED	DEFERRED PRINCIPAL BALANCE
1965	2.00	3,104,120	155,206	40.99%	196,000,000	3,213,926	(109,806)	1,217,061	1,217,061
1966	2.12	3,849,550	181,496	47.94%	194,892,746	3,756,990	92,561	1,116,790	2,333,851
1967	2.25	4,306,077	191,437	50.56%	193,683,395	3,954,721	351,356	1,102,885	3,436,735
1968	2.39	4,751,347	199,181	52.61%	192,229,154	4,095,758	655,589	1,099,544	4,536,279
1969	2.53	5,212,358	206,042	54.42%	190,474,021	4,205,259	1,007,139	1,099,799	5,636,078
1970	2.68	5,714,288	212,994	56.25%	188,367,883	4,300,727	1,413,561	1,097,712	6,733,790
1971	2.68	5,877,217	219,067	57.86%	185,855,810	4,361,163	1,516,054	1,099,757	7,833,547
1972	2.68	6,087,552	226,987	59.93%	183,239,999	4,449,374	1,638,178	1,087,542	8,921,089
1973	2.68	6,336,412	236,183	62.38%	180,514,278	4,557,324	1,779,108	1,061,884	9,982,973
1974	2.68	6,596,916	245,893	64.55%	177,673,286	4,664,816	1,932,100	1,029,868	11,012,041
1975	2.68	6,853,020	255,439	67.47%	174,712,118	4,760,231	2,092,789	993,250	12,005,291
1976	2.68	6,990,569	260,566	68.82%	171,626,080	4,767,619	2,222,950	989,981	12,995,272
1977	2.68	7,133,591	265,897	70.23%	168,413,149	4,771,637	2,361,954	983,082	13,978,354
1978	2.68	7,283,428	271,482	71.71%	165,068,112	4,772,574	2,510,854	971,743	14,950,097
1979	2.68	7,440,669	277,343	73.25%	161,585,516	4,770,144	2,670,525	955,320	15,905,417
2000	2.68	7,605,529	283,488	74.88%	157,959,671	4,763,757	2,841,772	933,243	16,838,660
2001	2.68	7,732,481	288,220	76.13%	154,184,656	4,725,569	3,006,912	922,288	17,760,948
2002	2.68	7,781,390	290,043	76.61%	150,255,456	4,633,629	3,147,761	939,834	18,700,782
2003	2.68	7,831,907	291,926	77.11%	146,167,861	4,536,197	3,295,720	956,646	19,657,428
2004	2.68	7,884,572	293,889	77.62%	141,915,495	4,433,170	3,451,401	972,381	20,629,809
2005	2.68	7,939,463	295,935	78.16%	137,491,713	4,324,205	3,615,257	986,853	21,616,662
2006	2.68	7,996,661	298,067	78.73%	132,889,602	4,208,891	3,787,770	999,859	22,616,521
2007	2.68	8,056,300	300,290	79.31%	128,101,973	4,086,822	3,969,478	1,011,153	23,627,674
2008	2.68	8,118,488	302,608	79.93%	123,121,342	3,957,546	4,160,942	1,020,474	24,648,147
2009	2.68	8,183,279	305,023	80.56%	117,939,925	3,820,549	4,362,730	1,027,568	25,675,716
2010	2.68	8,250,833	307,541	81.23%	112,549,627	3,675,330	4,575,503	1,032,102	26,707,818
2011	2.68	8,321,231	310,165	81.92%	106,942,022	3,521,308	4,799,922	1,033,753	27,741,570
2012	2.68	8,394,633	312,901	82.55%	101,108,347	3,357,895	5,036,738	1,032,125	28,773,696
2013	2.68	8,471,148	315,753	83.40%	95,039,483	3,184,428	5,286,719	1,026,818	29,800,514
2014	2.68	8,550,882	318,725	84.18%	88,725,946	3,000,199	5,550,683	1,017,397	30,817,311
2015	2.68	8,634,023	321,824	85.00%	82,157,866	2,804,469	5,829,554	1,003,334	31,821,245
2016	2.68	8,720,652	325,053	85.85%	75,324,978	2,596,405	6,124,247	984,130	32,805,376
2017	2.68	8,810,983	328,420	86.74%	68,216,601	2,375,152	6,435,831	959,147	33,764,523
2018	2.68	8,905,124	331,929	87.67%	60,821,622	2,139,753	6,765,371	927,769	34,692,291
2019	2.68	9,003,262	335,587	88.64%	53,128,483	1,889,200	7,114,062	889,265	35,581,556
2020	2.68	9,105,559	339,400	89.64%	45,125,156	1,622,397	7,483,162	842,864	36,424,421
2021	2.68	9,212,202	343,375	90.69%	36,799,130	1,338,166	7,874,035	787,707	37,212,128
2022	2.68	9,323,352	347,518	91.79%	28,137,388	1,035,234	8,288,118	722,882	37,935,010
2023	2.68	9,439,197	351,836	92.93%	19,126,387	712,229	8,726,968	647,379	38,582,389
2024	2.68	9,559,978	356,338	94.12%	9,752,841	367,680	9,192,299	560,052	39,142,441
2025	1.34	4,825,870	361,030	95.36%	(310)	1,565,665	3,260,185		35,881,945
2026	1.32	4,825,870	365,921	96.65%		1,435,278	3,390,592		32,491,353
2027	1.30	4,825,870	371,019	98.00%		1,299,654	3,526,216		28,965,137
2028	1.28	4,825,870	376,334	99.40%		1,158,605	3,667,265		25,297,872
2029	1.27	4,825,870	378,607	100.00%		1,011,915	3,813,955		21,483,917
2030	1.27	4,825,870	378,607	100.00%		859,357	3,966,514		17,517,403
2031	1.27	4,825,870	378,607	100.00%		700,696	4,125,174		13,391,207
2032	1.27	4,825,870	378,607	100.00%		535,689	4,290,181		9,102,048
2033	1.27	4,825,870	378,607	100.00%		364,082	4,461,788		4,640,260
2034	1.27	4,825,870	378,607	100.00%		185,610	4,640,260		(0)
TOTALS		347,628,986	15,046,933			151,628,986	196,000,000	39,142,441	



COPPER VALLEY ELECTRIC ASSOCIATION, INC.

SERVING VALDEZ AND THE COPPER RIVER BASIN

HEADQUARTERS:
P.O. BOX 45
GLENNALLEN, AK 99588
(907) 822-3211

DISTRICT OFFICE:
P.O. BOX 927
VALDEZ, AK 99686
(907) 835-4301

April 12, 1985

Telecopied to John Hartle,
Legislative Aide to
Representative Sund and
also mailed

Representative John L. Sund
Room 411-C
Juneau, AK 99802

Dear Representative Sund:

The purpose of this letter is to explain the status of the unappropriated funds for the Solomon Gulch Project. These funds were appropriated to complete the acquisition and construction for the Solomon Gulch Hydroelectric Project. I understand that as of March 31, 1985, there is \$1,153,594 committed for expenditures remaining yet to be expended. A justification on an item-by-item basis for this money is as indicated below:

(nearest \$100)

1. ASC (Contractors) claim by Powerhouse Contractor including consultants fees, costs, attorneys fees: \$ 200,000
This claim and related costs are expected to be settled at or under this amount. Both CVEA and APA have committed to a settlement in the amount of \$205,000; the remaining funds are for completion of the settlement agreement, necessary close-out documents, final payment of consultants costs and attorney's fees. \$50,000 of the claim will be reimbursed to APA by other parties to the litigation. This reimbursement is included in the above figure.
2. Claim for access to mine: \$ 50,000
There is presently pending a lawsuit regarding alleged denial of access to mine. The claim involves the use of an old trail or road which has, as far as we can tell, not been used for several years. Since it is unknown what, if any claim claimant has, we have set this figure as an estimate for litigation and related expenses.
3. Condemnation action: \$ 5,000
As part of the completion of the transmission line between the Solomon Gulch Power House and

Glennallen, Alaska, there needs to be removed, certain "danger trees". In one area, two persons have been unwilling to allow us to cut these trees and thus a condemnation action has been necessitated before those trees can be cut.

4. Miscellaneous attorneys fees and costs: \$ 10,000
From time to time APA and/or CVEA must meet various regulatory requirements on the project. This is an estimate for legal fees associated with those requirements.

5. Reactor installation: \$ 245,300
As part of the original construction project there remains a reactor to be installed at a location near Pumpstation No. 12 of the Trans-Alaska Pipeline. This reactor will improve the efficiency and produce more net useable generation from the Solomon Gulch Hydroelectric Project. The reactor has been ordered and paid for, except for \$15,300 retainage included above, however, these funds are needed to install the reactor which is planned for this summer.

6. SCADA-System for remote operation: \$ 10,000
In order to efficiently operate the project a SCADA system was contemplated. This figure represents the study funds needed for this years operation and it is part of the original construction. Once a final system has been selected, a request will be made for an appropriate capital expenditure.

7. Feeder relocation design: \$ 4,000
This is the estimated remaining design cost needed to pay the outstanding feeder relocation design bill.

8. Reactor design: \$ 10,000
This is the estimated design cost for the reactor (see item 5 above).

9. Penstock flow monitoring, final dam inspection, final drawings and studies necessary to close project: \$ 150,000
As you are probably aware, the Federal Energy Regulatory Commission (FERC) project, requires a board of consultants to review the construction and then completion of each dam. We have reached the point now where the final completion meeting should occur. Additionally, it has been

determined that there are a number of studies and projects that need to be completed to finally close out the project.

10. APA administration costs: \$ 70,000
Most of this amount is for APA administration costs relating to the projects listed in this letter and it has been estimated to be \$70,000.

11. As-built survey and right-of-way for transmission line: \$ 240,000
The transmission line needs an as-built survey completion of some minor right-of-way items. This estimate was received from Landfield Services who has been retained to do this work since they were involved with the original land acquisition on the project. An additional \$2,000 has been added for other costs that may be incurred with regard to this work.

12. Transmission line and generator spare parts: \$ 20,000
Most of the spare parts needed to operate the project have been acquired, however, it is estimated by CVEA and APA that in order to finally complete the necessary spare parts inventory, funds in this amount will have to be expended within the next year.

13. Metering: \$ 10,000
To coordinate all metering on the project, a new meter needs to be installed which is considered part of the original construction; which is estimated to cost \$10,000.

14. Pumpstation 11 reactor: \$ 10,000
This represents the deductible on the insurance proceeds necessary to repair the Pumpstation 11 reactor. Repair is presently taking place.

15. Pumpstation 11 reactor protection scheme: \$ 50,000
This upgrades the protection system for the Pumpstation 11 reactor which helps prevent future damage similar to what was experienced.

16. Oil for Pumpstation 11 reactor: \$ 16,000
Oil is needed for the repaired reactor.

17. Miscellaneous: \$ 1,200
Snow survey equipment.

18. Other Items

Study to raise level of dam and spillway: \$ 50,000

Various studies were done by consultants regarding construction claims and studies contemplated during the acquisition phase regarding the efficiency of the project. It has been determined that it is possible to raise the level of the spillway, thus creating a greater impoundment of water for a longer period of time resulting in more useable energy from the project. Initial studies indicated that an additional one million kwh per year of sellable energy could be obtained for what is believed to be a relatively small investment. The amount requested is an amount for study in order to determine how best to accomplish this. If the study proves that the initial reviews of this project were as indicated, it could well be the most economical investment by the state for additional generation. This item is not directly part of the correct original acquisition and construction cost, however, it is an outgrowth of studies done to close out the acquisition and completion of the construction of the project and is accordingly related thereto.

Total Expenditures: \$1,151,500

I wish to stress that despite the controversy surrounding the Four Dam Pool Power Sale Agreement and Negotiations, both APA and CVEA have tried to operate, maintain and complete both the acquisition and construction phase of the project in the most economical means possible.

Both APA and CVEA believe the hydroelectric projects should be operated and maintained in the best possible manner so that the maximum energy, with due regard for safety and efficiency are realized. At least from the standpoint of CVEA when the project was acquired by APA, these items generally were recognized as items that needed to be completed or finalized to bring the project in compliance with FERC standards and obtain the maximum energy and efficiency out of this project. CVEA had loan funds committed to perform this work. When the APA acquired these projects, it was understood this work would be completed by APA.

Accordingly, CVEA relinquished these loan commitments. Both CVEA and I believe APA have relied upon these appropriations

Representative John Sund
April 12, 1985
Page 5

and made commitments in one form or another for each of the items noted above.

I have tried to coordinate our budget with the State budget's format. Unfortunately, that is not possible because of the manner in which the state classifies its amounts. However, this letter should clearly indicate the requirements necessary to complete the budget, based on the best information available to me today. Thank you for your attention to this very important matter. Please call me if you have any questions.

Very truly yours,

David L. Highers 1/94

David L. Highers
General Manager
Copper Valley Electric Assoc. Inc.

DH/jy/AEHIV61

cc: Mr. Bill Batt, APA Finance Director

CURRENT YEAR AUTHORIZATION BALANCES

FISCAL YEAR TO DATE 03/31/85

	AUTHORIZATION	DISBURSEMENTS	TRANSFERS OUT	EXPENDITURES	RESTRICTIONS	BALANCE
OMMERCE						
5-73-4-581 ENERGY DEVELOPMENT	COMMERCE & EC DEVLMT				SOLOMON GULCH	
	FUND 100 ACCOUNT 7200	BUDGET COMPONENT 07.73.04.58.01	AK POWER AUTHORITY	SOLOMON GULCH	SLA81 CH92 FY82	
00 PERSONAL SERVICES	15,000.58					
TOTAL PERSONAL SERVICES	15,000.58					15,000.58
00 TRAVEL AND MOVING	11,771.43					
211 INSTATE TRANSPORTATN		1,736.25		1,736.25		
212 INSTATE PER DIEM		1,343.00		1,343.00		
213 OUTSIDE TRANSPORTATN		84.00		84.00		
214 OUTSIDE PER DIEM		45.00		45.00		
221 INSTATE TRANSPORTATN		75.00		75.00		
TOTAL TRAVEL AND MOVING	11,771.43	3,283.25		3,283.25		8,488.18
00 CONTRACTUAL SERVICES	1,983,674.57					
311 LONG DISTANCE TELE		80.16		80.16		
312 LOCAL SERVICE TELE		8.67		8.67		
316 MESSENGER SERVICE		37.50		37.50		
321 PHOTO PROCESSING		220.53		220.53		
322 PRINTING & BINDING		291.28		291.28		
325 ADVERTISING		210.93		210.93		
382 DATA PROCESSING SVC		1,137.35		1,137.35		
389 PROFESSIONAL SVC NCE		853,010.93	13,340.15	866,351.08	281,170.46	
391 INSURANCE & BONDS			1,491.82	1,491.82		
TOTAL CONTRACTUAL SERVICES	1,983,674.57	854,997.35	14,831.97	869,829.32	281,170.46	832,674.79
00 SUPPLIES & MATERIALS	6,023.92					
484 PHOTOGRAPHIC SUPPLYS		31.11		31.11		
TOTAL SUPPLIES & MATERIALS	6,023.92	31.11		31.11		5,992.81
00 MACHINERY/EQUIPMENT	11,013.29					
517 CONSTRUCTION/MAINT					1,192.49	
521 COMMUNICATIONS		744.60		744.60		
TOTAL MACHINERY/EQUIPMENT	11,013.29	744.60		744.60	1,192.49	9,076.20
UBF TOTAL SOLOMON GULCH	2,027,483.79	859,056.31	14,831.97	873,888.28	282,362.95	871,232.56
LEMENT						
GROUP 100	15,000.58					15,000.58
GROUP 200	11,771.43	3,283.25		3,283.25		8,488.18
GROUP 300	1,983,674.57	854,997.35	14,831.97	869,829.32	281,170.46	832,674.79
GROUP 400	6,023.92	31.11		31.11		5,992.81
GROUP 500	11,013.29	744.60		744.60	1,192.49	9,076.20
LEM TOTAL SOLOMON GULCH	2,027,483.79	859,056.31	14,831.97	873,888.28	282,362.95	871,232.56

Original sponsor: House Special Committee
on State Loans

1
2 IN THE HOUSE

3 CS FOR HOUSE BILL NO. 219 ()
4 IN THE LEGISLATURE OF THE STATE OF ALASKA
5 FOURTEENTH LEGISLATURE - FIRST SESSION

6 A BILL

7 For an Act entitled: "An Act relating to the applicability of the Alaska
8 Public Utilities Commission Act to certain electric
9 utilities; power development loans; and the energy
10 program for Alaska."

11 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

12 * Section 1. AS 42.05.711(b) is amended to read:

13 (b) Public utilities owned and operated by a political subdivi-
14 sion of the state and electric operating entities established as an
15 instrumentality of two or more public utilities owned and operated by
16 a political subdivision of the state, none of whose utilities is in
17 competition with any other utility, are exempt from the provisions of
18 this chapter, other than the provisions of AS 42.05.221 - 42.05.281,
19 unless the owner and operator elects to be subject to all provisions
20 of this chapter.

21 * Sec. 2. AS 44.33.620(a) is amended to read:

22 (a) A loan from the fund shall [MUST] be repaid in accordance
23 with the terms that the department determines to be appropriate. In
24 establishing the terms, including provision for a return to the state
25 of an amount in excess of the principal amount of the loan, the de-
26 partment shall consider the revenue that the authority could reason-
27 ably derive from the sale of power from the projects based upon

28 (1) [THE MARKET RATE OF INTEREST FOR A LOAN OF COMPARABLE

1
2 agreement is initially negotiated or renegotiated, of alternative
3 sources of energy generation for utilities purchasing power from a
4 project financed with a loan from the fund;

5 (2) the effect of the loan terms on the wholesale power
6 costs to all utilities purchasing power from the initial project;

7 (3) the long-term benefits to consumers and communities of
8 stable wholesale power costs;

9 (4) the affordability of initial wholesale power costs that
10 result from the loan terms with utilities purchasing power from the
11 initial project;

12 (5) increasing repayment, not to exceed five years, of debt
13 service payment per kilowatt hour gradually over the initial period of
14 a loan repayment schedule to the extent necessary to avoid significant
15 rate increases to the consumer;

16 (6) the existing excess capacity of power projects; and

17 (7) the effects of increased capacity utilization, infla-
18 tion, and alternative energy production costs over the life of the
19 initial project.

20 * Sec. 3. AS 44.33.620 is amended by adding a new subsection to read:

21 (d) In (a) of this section "initial project" means the project
22 described in AS 44.83.398(a).

23 * Sec. 4. AS 44.33 is amended by adding a new section to read:

24 Sec. 44.33.625. PRICE REOPENERS. A power sales agreement for
25 the sale of power from a power project financed with a loan under
26 AS 44.33.610 must include a provision for periodic price reopeners.

27 * Sec. 5. AS 44.83.425(5) is amended to read:

28 (5) "qualified utility" means an electric utility or an

1
2 Utilities Commission to serve all or part of a market area that is
3 served or will be served by the power project, [AND] that the author-
4 ity determines is capable of operating and maintaining the power
5 project.
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Original sponsor: House Special Committee
on State Loans

1
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3 CS FOR HOUSE BILL NO. 219 ()
4 IN THE LEGISLATURE OF THE STATE OF ALASKA
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15 instrumentality of two or more public utilities owned and operated by
16 a political subdivision of the state, none of whose utilities is in
17 competition with any other utility, are exempt from the provisions of
18 this chapter, other than the provisions of AS 42.05.221 - 42.05.281,
19 unless the owner and operator elects to be subject to all provisions
20 of this chapter.

21 * Sec. 2. AS 44.33.620(a) is amended to read:

22 (a) Except as provided in (d) of this section, a [A] loan from
23 the fund must be repaid in accordance with the terms that the depart-
24 ment determines to be appropriate. In establishing the terms, includ-
25 ing provision for a return to the state of an amount in excess of the
26 principal amount of the loan, the department shall consider the reve-
27 nue that the authority could reasonably derive from the sale of power
28 from the projects based upon

1
2 (2) the estimated costs of alternative sources of energy
3 generation for utilities purchasing power from a project financed with
4 a loan from the fund.

5 * Sec. 3. AS 44.33.620 is amended by adding a new subsection to read:

6 (d) A loan from the fund to finance the initial project, as
7 described in AS 44.83.398(a), shall be subject to the following terms:

8 (1) the loan must be amortized based on an annual interest
9 rate not to exceed four percent, a term not to exceed 50 years, and a
10 40-year amortization period;

11 (2) the annual debt service payment per kilowatt hour for
12 energy purchased by utilities from the initial project equals the
13 total annual payment needed to amortize the loan on the terms set out
14 in (1) of this subsection divided by the long-term average annual
15 kilowatt hour capability of the initial project;

16 (3) repayment may be adjusted so that the debt service
17 payment per kilowatt hour, as determined under (2) of this subsection,
18 increases gradually over the first five years of the loan and remains
19 fixed over the next 35 years; and

20 (4) deferred principal shall be repaid with interest in
21 equal annual installments during the last 10 years of the loan.

22 * Sec. 4. AS 44.33 is amended by adding a new section to read:

23 Sec. 44.33.625. PRICE REOPENERS. A power sales agreement for
24 the sale of power from a power project financed with a loan under
25 AS 44.33.610 must include a provision for a price opener after 15
26 years.

27 * Sec. 5. AS 44.83.425(5) is amended to read:

28 (5) "qualified utility" means an electric utility or an

1
2 Utilities Commission to serve all or part of a market area that is
3 served or will be served by the power project, [AND] that the author-
4 ity determines is capable of operating and maintaining the power
5 project.
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50 percent

Alaska Department of Revenue Mean Forecast
World Oil Price -- Saudi Medium
(1983/bbl)

<u>Fiscal</u> <u>Year</u>	<u>December 1984</u> <u>Forecast</u>
1985	\$25.70
1986	24.36
1987	23.24
1988	22.81
1989	22.71
1990	23.08
1991	22.99
1992	23.13
1993	23.28
1994	23.43
1995	23.60
1996	23.76
1997	24.16
1998	24.56
1999	24.99
2000	25.42
2001	25.86

AMENDMENT

TO: "Discussion Draft" HB 219

Page 2, Line 23:

Replace Section 4 with:

* Sec. 4. AS 44.33 is amended by adding a new section to read:

Sec. 44.33.33. PRICE REOPENERS. A power sales agreement for the sale of power from a power project financed with a loan under AS 44.33.610 may include among its provisions an agreed schedule of wholesale power rates notwithstanding any other provisions of law and must include a provision for a price reopener after the first 15 years.

AMENDMENT

TO: HB 219

Page 2, Line 21:

Add a new section:

* Sec. 4. AS 44.33 is amended by adding a new section to read:

Sec. 44.33.33. PRICE REOPENERS. A power sales agreement for the sale of power from a power project financed with a loan under AS 44.33.610 may include among its provisions an agreed schedule of wholesale power rates notwithstanding any other provisions of law and must include a provision for a price reopener after the first 15 years.

Re-number following sections accordingly

Original sponsor: House Special Committee
on State Loans

DISCUSSION DRAFT

1
2 IN THE HOUSE

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4 IN THE LEGISLATURE OF THE STATE OF ALASKA

5 FOURTEENTH LEGISLATURE - FIRST SESSION

6 A BILL

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8 Public Utilities Commission Act to certain electric
9 utilities; power development loans; and the energy
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11 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

12 * Section 1. AS 42.05.11(b) is amended to read:

13 (b) Public utilities owned and operated by a political subdivi-
14 sion of the state and regional electric authorities established as an
15 instrumentality of two or more public utilities owned and operated by
16 a political subdivision of the state, none of whose utilities is in
17 competition with any other utility, are exempt from the provisions of
18 this chapter, other than the provisions of AS 42.05.221 - 42.05.281,
19 unless the owner and operator elects to be subject to all provisions
20 of this chapter.

21 * Sec. 2. AS 44.33.620(a) is amended to read:

22 (a) A loan from the fund shall [MUST] be repaid in accordance
23 with the terms that the department determines to be appropriate. In
24 establishing the terms, including provision for a return to the state
25 of an amount in excess of the principal amount of the loan, the
26 department shall consider the revenue that the authority could reason-
27 ably derive from the sale of power from the projects based upon

28 (1) [THE MARKET RATE OF INTEREST FOR A LOAN OF COMPARABLE
29 SIZE AND DURATION AT THE TIME THE LOAN IS MADE; AND

(2)] the [ESTIMATED] costs, at the time the ^{power sales agreement} [loan] is ini-

1
2 tially negotiated ^{or} [~~and at the time it~~] is renegotiated, of alternative
3 sources of energy generation for utilities purchasing power from a
4 project financed with a loan from the fund;

5 (2) the effect of the loan terms on the wholesale power
6 costs to all utilities purchasing power from the initial project;

7 (3) the long-term benefits to consumers and communities of
8 stable wholesale power costs;

9 (4) the affordability of initial wholesale power costs that
10 result from the loan terms with utilities purchasing power from the
11 initial project;

12 (5) increasing repayment, not to exceed five years, of debt
13 service payment per kilowatt hour gradually over the initial period of
14 a loan repayment schedule to the extent necessary to avoid significant
15 rate increases to the consumer;

16 (6) the existing excess capacity of power projects; and

17 (7) the effects of increased capacity utilization, infla-
18 tion, and alternative energy production costs over the life of the
19 initial project.

20 * Sec. 3. AS 44.33.620 is amended by adding a new subsection to read:

21 (d) In (a) of this section "initial project" means the project
22 described in AS 44.83.398(a).

23 * Sec. 4. AS 44.33 is amended by adding a new section to read:

24 Sec. 44.33.625. PRICE REOPENERS. A power sales agreement for
25 the sale of power from a power project financed with a loan under
26 AS 44.33.610 ^{Sec. 620} must include a provision for periodic price reopeners.

27 * Sec. 5. AS 44.83.425(5) is amended to read: *after the first 15 years.*

28 (5) "qualified utility" means an electric utility or a
29 regional electric authority established as an instrumentality of two
or more electric utilities [THAT IS] certified by the Alaska Public

1
2 Utilities Commission to serve all or part of a market area that is
3 served or will be served by the power project, [AND] that the author-
4 ity determines is capable of operating and maintaining the power
5 project.
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The initial project offers a unique opportunity to share the infrastructure development in a sensible and equitable manner. The state or Federal Government has traditionally taken the responsibility for the infrastructure necessary to encourage statewide and/or regional economic development. The initial project has an excess capacity of approximately 59% at the present time. Of that 59% excess, approximately 49% is to be found in the Tyee project. The Tyee project, as an example, was built with excess capability because it is geographically well placed to aid regional and statewide energy and economic development. However, the interest on the excess capacity should be carried at state expense until such time as it is needed.

The current situation offers a unique opportunity for the communities and the state to share the burden of infrastructure development in a sensible and equitable manner. The provisions of HB 219 provide for the complete repayment of the principal and the maximum affordable interest rate which can be repaid under current conditions.

Repayment of the APA loan is computed at a fixed interest rate over a set term in order to yield a levelized debt service payment per kilowatt hour. Actual debt service is, in each year, the result of the payment of that portion of the levelized debt service amount corresponding to the fraction of the initial project's total capability which is actually sold in that year. The portion of the debt service amount not paid that year would have a principal component and an interest component. The principal component would be deferred to the end of the amortization period, to be repaid over the contract term remaining thereafter. The interest component is cancelled or treated as simply

unearned. The effect of this structure would be to establish a debt service rate which assumes the initial project is fully utilized and which remains level throughout the period of the loan.

ESSENTIAL LOAN CONDITIONS:

1. Interest rate of 4% on the fraction of the principal which corresponds to the fraction of initial project which is utilized in each contract year.
2. Principal amount of approximately \$196 million.
3. Term of the loan is 50 years with a 40 year amortization period.
4. Annual debt service during the amortization period to be computed payment amount multiplied by a fraction, the numerator of which is the actual amount of energy sold that year, and the denominator of which is the total 378,607,000 kwh capability of the initial project.
5. Principal amounts of the loan not paid during the amortization period because of unsold capability shall be deferred until the fortieth year, and then repaid in equal installments without interest over the remaining ten years.

DISCUSSION DRAFT CSHB 219 (Finance)

Section 1. AS 42.05.711(b) is amended to read: ...(same)

Sec. 2. AS 44.33.620(a) is amended to read:

(a) A loan from the fund must be repaid in accordance with the terms that the department determines to be appropriate. In establishing the terms, including provision for a return to the state of an amount in excess of the principal amount of the loan, the department shall consider the revenue that the authority could reasonably derive from the sale of power from the projects based upon

at the time of entering into a contract + renegotiations

(1) the market rate of interest for loan of comparable size and duration at the time the loan is made; and

(1) the ~~current~~ ^{change to mean current at time of making loan} [estimated] costs of alternative sources of energy generation for utilities purchasing power from a project financed with a loan from the fund . ;

(2) the effect of the loan terms on the wholesale power costs to all utilities purchasing power from the initial project;

(3) the affordability of initial wholesale power costs resulting from the loan terms on utilities purchasing power from the initial project;

(4) the benefits to consumers and communities of stable, certain wholesale power costs;

(5) existing or anticipated wholesale power prices for other state hydroelectric projects;

(6) increasing repayment of debt service payment per kilowatt hour gradually over the initial period of a loan repayment schedule to avoid significant rates increases to consumers ~~(above existing levels);~~ - 1/2 the cost of 5 yrs

(7) the current existing excess capacity of projects;

* (8) the long-term benefits to utilities and consumers of stable hydroelectric power costs;

* (9) the effects of increased capacity utilization, inflation, and alternative energy production costs over the life of the initial project;

* (10) power sale contracts no more than 35 years in duration with periodic price reopeners;

Sec. 3. AS 44.83.425(5) is amended to read:(same)

1 (2) the estimated costs of alternative sources of energy
2 generation for utilities purchasing power from a project financed with
3 a loan from the fund.

4 * Sec. 3. AS 44.33.620 is amended by adding a new subsection to read:

5 (d) A loan from the fund to finance the initial project, as
6 described in AS 44.83.398(a), shall be subject to the following terms:

7 (1) the loan must be amortized based on an annual interest
8 rate not to exceed four percent, a term not to exceed 50 years, and a
9 40-year amortization period;

10 (2) the annual debt service payment per kilowatt hour for
11 energy purchased by utilities from the initial project equals the
12 total annual payment needed to amortize the loan on the terms set out
13 in (1) of this subsection divided by the long-term average annual
14 kilowatt hour capability of the initial project;

15 (3) repayment may be adjusted so that the debt service
16 payment per kilowatt hour as determined under (2) of this subsection,
17 increases gradually over the first five years of the loan and remains
18 fixed over the next 35 years; and

19 (4) deferred principal shall be repaid with interest in
20 equal annual installments during the last 10 years of the loan.

21 * Sec. 4. AS 44.83.425(5) is amended to read:

22 (5) "qualified utility" means an electric utility or a
23 ~~regional electric authority~~ ^{an electric operating entity} established as an instrumentality of two
24 or more electric utilities [THAT IS] certified by the Alaska Public
25 Utilities Commission to serve all or part of a market area that is
26 served or will be served by the power project, [AND] that the author-
27 ity determines is capable of operating and maintaining the power
28 project.

*add Price Responsiveness
New section*

Introduced: 2/20/85
Referred: House Special Committee
on State Loans, Resources and
Finance

BY THE HOUSE SPECIAL
COMMITTEE ON STATE LOANS

1 IN THE HOUSE

2 HOUSE BILL NO. 219

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 FOURTEENTH LEGISLATURE - FIRST SESSION

5 A BILL

6 For an Act entitled: "An Act relating to the applicability of the Alaska
7 Public Utilities Commission Act to certain electric
8 utilities; power development loans; and the energy
9 program for Alaska."

10 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

11 * Section 1. AS 42.05.711(b) is amended to read:

12 (b) Public utilities owned and operated by a political subdivi-
13 sion of the state and regional electric authorities established as an
14 instrumentality of two or more public utilities owned and operated by
15 a political subdivision of the state, none of whose utilities is in
16 competition with any other utility, are exempt from the provisions of
17 this chapter, other than the provisions of AS 42.05.221 - 42.05.281,
18 unless the owner and operator elects to be subject to all provisions
19 of this chapter.

20 * Sec. 2. AS 44.33.620(a) is amended to read:

21 (a) Except as provided in (d) of this section, a [A] loan from
22 the fund must be repaid in accordance with the terms that the depart-
23 ment determines to be appropriate. In establishing the terms, includ-
24 ing provision for a return to the state of an amount in excess of the
25 principal amount of the loan, the department shall consider the reve-
26 nue that the authority could reasonably derive from the sale of power
27 from the projects based upon

28 (1) the market rate of interest for a loan of comparable
29 size and duration at the time the loan is made; and

1 (2) the estimated costs of alternative sources of energy
2 generation for utilities purchasing power from a project financed with
3 a loan from the fund.

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8 rate not to exceed four percent, a term not to exceed 50 years, and a
9 40-year amortization period;

10 (2) the annual debt service payment per kilowatt hour for
11 energy purchased by utilities from the initial project equals the
12 total annual payment needed to amortize the loan on the terms set out
13 in (1) of this subsection divided by the long-term average annual
14 kilowatt hour capability of the initial project;

15 (3) repayment may be adjusted so that the debt service
16 payment per kilowatt hour, as determined under (2) of this subsection,
17 increases gradually over the first five years of the loan and remains
18 fixed over the next 35 years; and

19 (4) deferred principal shall be repaid with interest in
20 equal annual installments during the last 10 years of the loan.

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23 electric operating entity ~~regional electric authority~~ established as an instrumentality of two
24 or more electric utilities [THAT IS] certified by the Alaska Public
25 Utilities Commission to serve all or part of a market area that is
26 served or will be served by the power project, [AND] that the author-
27 ity determines is capable of operating and maintaining the power
28 project.

Introduced: 2/20/85
Referred: House Special Committee
on State Loans, Resources and
Finance

BY THE HOUSE SPECIAL
COMMITTEE ON STATE LOANS

1 IN THE HOUSE

2 HOUSE BILL NO. 219

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 FOURTEENTH LEGISLATURE - FIRST SESSION

5 A BILL

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13 sion of the state and ^{electric operating entities} ~~regional electric authorities~~ established as an
14 instrumentality of two or more public utilities owned and operated by
15 a political subdivision of the state, none of whose utilities is in
16 competition with any other utility, are exempt from the provisions of
17 this chapter, other than the provisions of AS 42.05.221 - 42.05.281,
18 unless the owner and operator elects to be subject to all provisions
19 of this chapter.

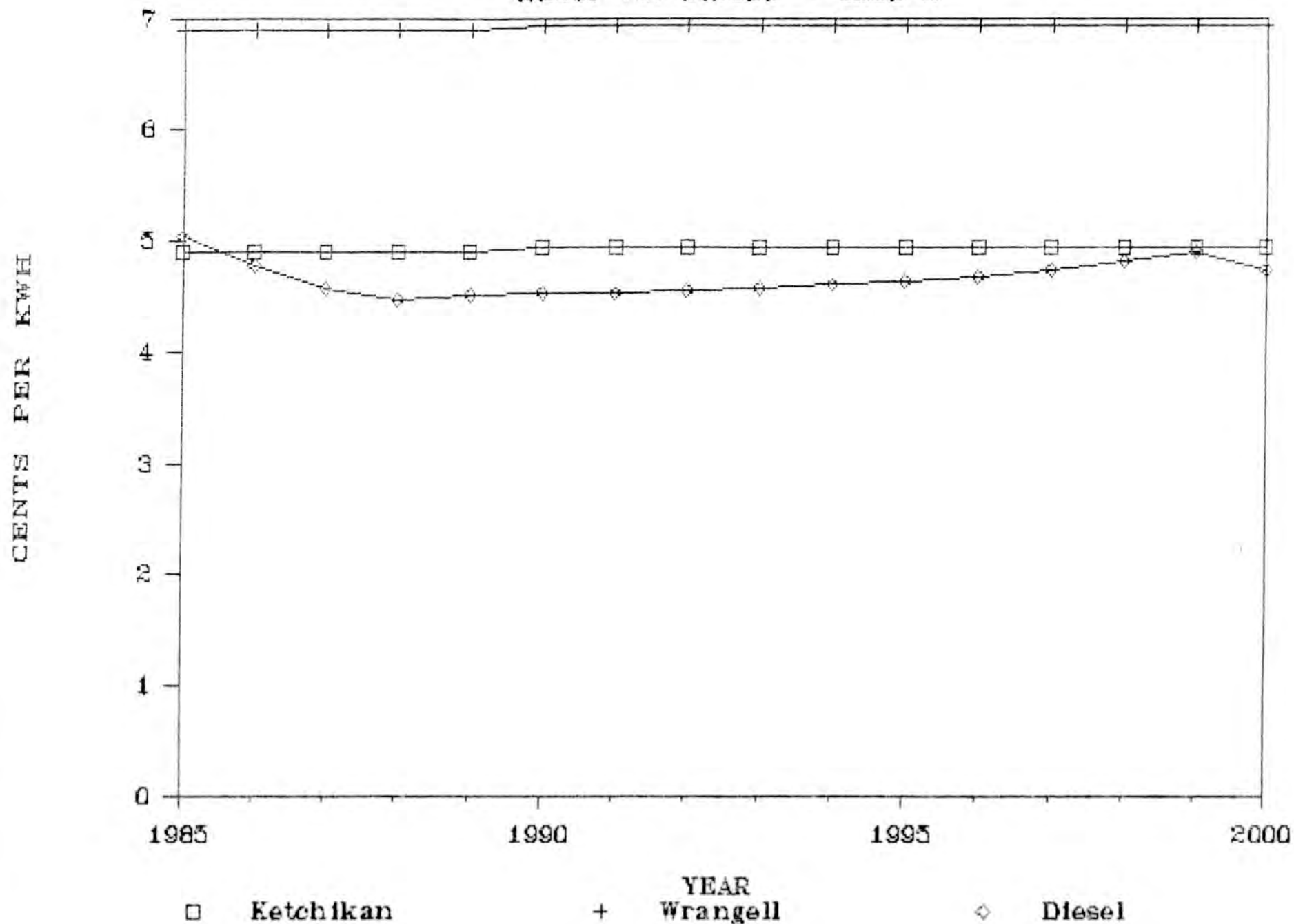
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22 the fund must be repaid in accordance with the terms that the depart-
23 ment determines to be appropriate. In establishing the terms, includ-
24 ing provision for a return to the state of an amount in excess of the
25 principal amount of the loan, the department shall consider the reve-
26 nue that the authority could reasonably derive from the sale of power
27 from the projects based upon

28 (1) the market rate of interest for a loan of comparable
29 size and duration at the time the loan is made; and

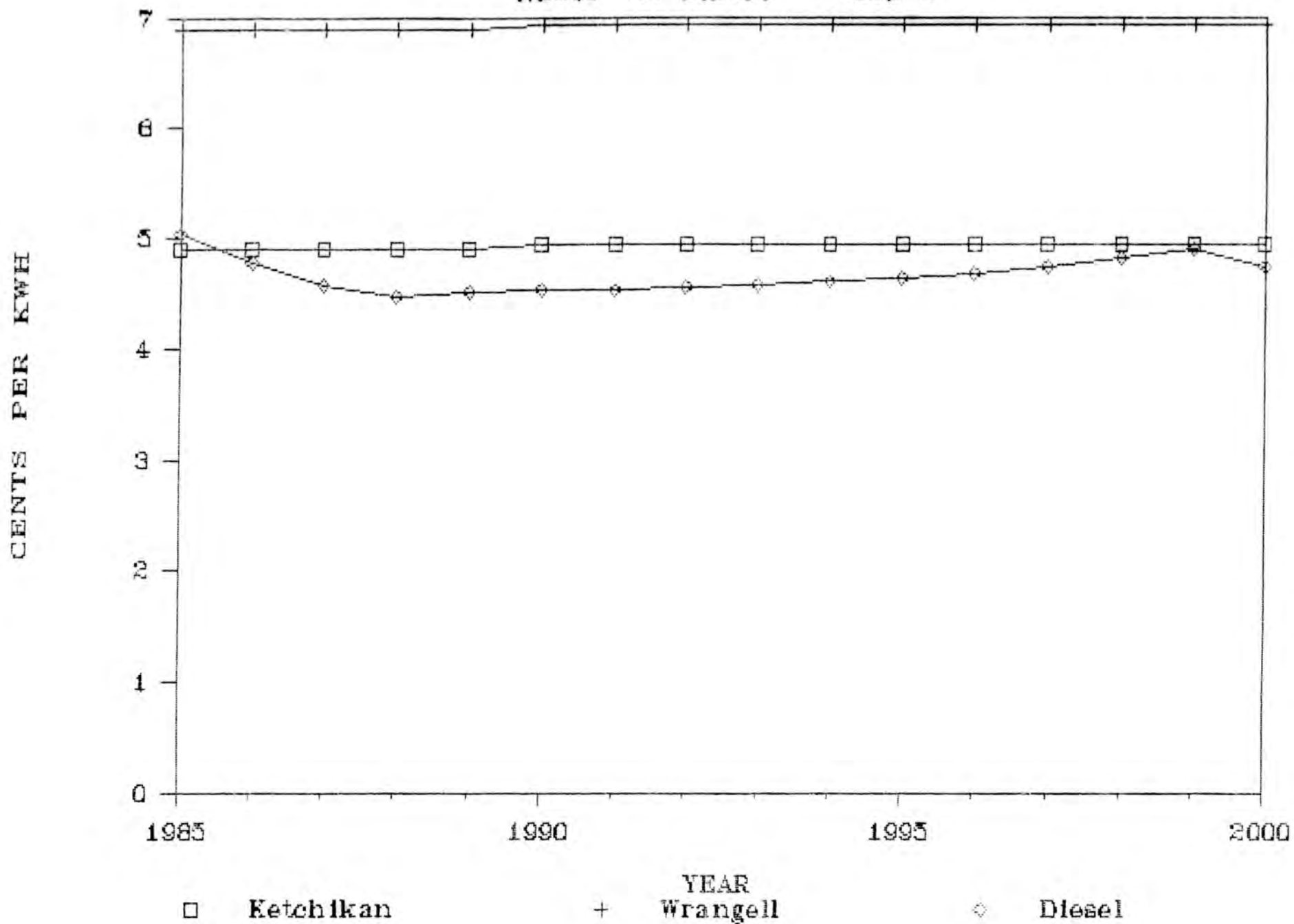
WHOLESALE POWER COST ALTERNATIVES

HB219 VS. DIESEL - CASE 2



WHOLESALE POWER COST ALTERNATIVES

HB219 VS. DIESEL - CASE 2



1984 SHCA NSD Forecast*
World Oil Price -- "Marker Crude"
(1983/bbl)

<u>Year</u>	<u>Forecast</u>
1985	\$ 26.30
1986	26.30
1987	26.30
1988	26.30
1989	27.09
1990	27.90
1995	32.50
2000	40.00
2005	50.00
2010	60.00
2020	80.00
2030	90.00
2040	100.00
2050	110.00

* Sherman H. Clark Associates "no supply disruption" forecast. Extracted from "Alaska Power Authority Comments on the Federal Energy Regulatory Commission Draft Environmental Impact Statement of May 1984, Volume 3, Appendix 1"; August 1984; p. 2-6.

Alaska Department of Revenue Mean Forecast
World Oil Price -- Saudi Medium
(1983/bbl)

<u>Fiscal Year</u>	<u>December 1984 Forecast</u>
1985	\$25.70
1986	24.36
1987	23.24
1988	22.81
1989	22.71
1990	23.08
1991	22.99
1992	23.13
1993	23.28
1994	23.43
1995	23.60
1996	23.76
1997	24.16
1998	24.56
1999	24.99
2000	25.42
2001	25.86



KETCHIKAN PUBLIC UTILITIES

334 FRONT STREET

KETCHIKAN, ALASKA 99901

TELEPHONE 907-226-3111

MUNICIPALLY OWNED
ELECTRIC WATER PHONE

April 26, 1985

Representative John Sund
Alaska State Legislature
Pouch V (MS 3100)
Juneau, Alaska 99811

Subject: HB219

Dear John:

I just wanted to take this opportunity to formally thank you for efforts in creating a solution to the long term contract problems on the Swan Lake Project. Without the hard work of you and your staff in creating HB219, it is my firm conviction that we would not have progressed to the point where we can see the end of this overlong process.

If I can be of any assistance to you in the future you know you have only to contact me.

Thank you again to you and your staff.

Sincerely,

Charles E. Freeman
Mayor

RDN:CEF:LLM

007/D1

1 to the Department of Community and Regional Affairs for payment as a grant
 2 under AS 37.05.317 to the unincorporated community of Portage Creek for
 3 completion of the electrification and bulk fuel project.

4 * Sec. 118. The sum of \$89,325,584 is appropriated to the general fund
 5 from the following enterprise funds:

6	Historical District Loan Fund (AS 45.98)	\$ 500,000
7	Residential Energy Conservation Loan Fund	
8	(AS 45.89)	7,312,533
9	Power Development Revolving Loan Fund	
10	(AS 44.33.600)	14,000,000
11	World War II Veterans' Revolving Loan Fund	
12	(AS 26.15)	8,824,933
13	Mining Revolving Loan Fund (AS 27.09)	19,931,080
14	Fishery Product Revolving Loan Guarantee	
15	Account (AS 45.92)	38,757,118

16 * Sec. 119. Section 4, ch. 24, SLA 1984, page 70, line 25 is amended to
 17 read:

	APPROPRIATION	GENERAL
	ITEMS	FUND
20	Shared Resource <u>Computer/</u>	345,000
21	Word Processing Application	345,000
22	(ED 99)	

23 * Sec. 120. The sum of \$9,026,000 in reserves for claims is appropri-
 24 ated from the Power Development Revolving Loan Fund (AS 44.33.600) to the
 25 general fund.

26 * Sec. 121. Section 301, ch. 171, SLA 1984 (Alaska Housing Finance
 27 Corp. - \$16,000,000) is repealed.

28 * Sec. 122. Section 28, ch. 82, SLA 1981, page 106, line 7 as amended
 29 by sec. 17, ch. 101, SLA 1982, is amended to read:

210
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 182

17.

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23

Proposed loan program lapse. These cash balances have been identified by the agencies as amounts over and above the FY 86 requirement.

Sec. _____ The sum of \$102,325,664 is appropriated to the general fund from the following enterprise funds:

Historical District Loan Fund (AS 45.98)	\$ 500,000
Mining Revolving Loan Fund (AS 27.09)	\$19,931,080
Residential Energy Conservation Loan Fund (AS 45.89)	\$ 7,312,533
→ Power Development Revolving Loan Fund (AS 44.33)	\$14,000,000
Power Development Revolving Loan Fund (AS 44.33) Alaska Power Authority Estimated Reserve for Claims	\$13,000,000 -*
Word War II Veterans Revolving Loan Fund (AS 26.10)	\$ 8,824,933
Fishery Product Revolving Loan Guarantee Fund (AS 45.92)	\$38,757,118

Sec. _____ The appropriation of \$16,000,000 to the Alaska Housing Finance Corporation made in Section 301, Chapter 171, SLA 1984 is repealed.

* Per a phone conversation on April 1, 1985, the Alaska Power Authority staff has indicated that the amount available for lapse from Reserves for Claims should be reduced to \$9,093,300. A written explanation will be provided this week.

Proposed appropriation bill for State loan programs. Net general fund effect is \$11,910,653.

Sec. ____ The sum of \$87,068,546 is appropriated to the general fund from the following enterprise funds:

Historical District Loan Fund (AS 45.98)	\$ 500,000
Mining Revolving Loan Fund (AS 27.09)	\$19,931,080
Residential Energy Conservation Loan Fund (AS 45.89)	\$ 7,312,533
Power Development Revolving Loan Fund (AS 44.33)	\$12,000,000
World War II Veterans Revolving Loan Fund (AS 26.10)	\$ 8,824,933
Fishery Product Revolving Loan Guarantee Fund (AS 45.92)	\$38,500,000—

Sec. ____ The unexpended and unobligated portion of the \$4,000,000 appropriation made to the power project fund in the Alaska Power Authority (AS 44.83.170) in Sec. 16, Ch. 90, SLA 1981 is repealed.

Sec. ____ The sum of \$102,979,199 is appropriated from the general fund for State loan programs to be allocated as follows:

DEPARTMENT OF EDUCATION

Commission on Postsecondary Education

Scholarship Revolving Loan Fund \$60,000,000

DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT

Division of Investments

Commercial Fishing Loan Program	\$ 4,822,150
Alternative Technology and Energy Loan Program	\$ 845,120
Fisheries Enhancement Loan Program	\$ 811,929

De Long Mountains Regional Transportation Project

Alaska Industrial Development Authority
Authority Economic Development Fund
(AS 44.88.172) \$18,000,000

NBGEA/GB2729/3-5-85/1

Handwritten notes:
5/11/85
1.2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30.31.32.33.34.35.36.37.38.39.40.41.42.43.44.45.46.47.48.49.50.51.52.53.54.55.56.57.58.59.60.61.62.63.64.65.66.67.68.69.70.71.72.73.74.75.76.77.78.79.80.81.82.83.84.85.86.87.88.89.90.91.92.93.94.95.96.97.98.99.100.
PAP 76.
D

DEPARTMENT OF NATURAL RESOURCES

Division of Agriculture

Agricultural Revolving Loan Fund	\$ 2,500,000
Grain Reserve Loan Fund	\$ 1,000,000

DEPARTMENT OF COMMUNITY AND REGIONAL AFFAIRS

Division of Housing Assistance

Housing Assistance Loan Fund	\$15,000,000
------------------------------	--------------

Sec. _____ The sum of \$225,000 in federal receipts for student loans and scholarships is appropriated to the scholarship revolving loan fund for the student loan program.

nmb/2729

MEMORANDUM

State of Alaska

TO: Jay Hogan
Associate Director
Division of Budget Review
Office of Management and Budget

DATE: February 22, 1985

FILE NO: 2735

TELEPHONE NO: 465-2568

FROM: Guy Bell *Guy Bell*
Budget Analyst
Division of Budget Review
Office of Management and Budget

SUBJECT: Housing Assistance Loan Fund

Proposal: Reduction of the Governor's FY 86 general fund budget for the Housing Assistance Loan Fund (HALF) from \$37 million to \$15 million.

HALF was originated in the Department of Community and Regional Affairs' (DCRA) Housing Assistance Division to provide loans for nonconforming housing in both urban and rural areas. Because nonconforming housing does not meet minimum building standards, it cannot meet the minimum standards for financing through the Alaska Housing Finance Corporation's bonding programs.

In 1983, the Legislature expanded HALF to include all rural housing. This expansion was apparently the result of a perceived lack of service from AHFC to rural areas. It was felt that the rural public would be better served by DCRA's regional offices and direct lending authority. However, of the total HALF portfolio on June 30, 1984, only 1.8 percent represented direct loans from the Housing Assistance Division. The remaining 98.2 percent had been made by financial institutions.

Due to the minimal number of direct HALF loans to the rural areas, it can be argued that HALF has not accomplished a higher level of service than had AHFC, and that a shift of the conforming loan program back to AHFC would have little or no impact on the rural housing market.

Given the current level of pressure on the budget, the Governor could propose converting the HALF program to its original form, and to shift all lending for conforming housing back to AHFC. My estimates show that this would reduce the HALF general fund requirement in FY 86 from \$37 million to \$15 million, as nonconforming housing accounts for only 39 percent of the Housing Assistance Division's portfolio.

I have not confirmed my analysis with the Department of Community and Regional Affairs or AHFC. Furthermore, whether this would require a statutory change would need to be discussed with the Department of Law.

If you would like me to proceed further with this proposal, I will contact DCRA, AHFC and the Department of Law to verify my analysis.

MEMORANDUM

State of Alaska

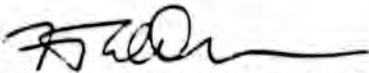
CONFIDENTIAL

TO: John Shively, Chief of Staff
Office of the Governor

DATE: February 15, 1985

FILE NO:

TELEPHONE NO:

FROM: 
Franklin T. Elder, Deputy Commissioner
Department of Commerce and Economic
Development

SUBJECT: Potential Loan Fund
Lapses

An analysis of loan fund requirements and projected balances has revealed funds that could be reappropriated and one program that needs additional funds.

	<u>Governor's FY '86 Budget</u>	<u>Recommended Changes</u>	<u>Possible Governor's Amended FY '86 Budget</u>
Commercial Fishing	3,710,000	+ 1,112,150	4,822,150
Child Care	-	-	
Historical District	-	[500,000]	
Mining	-	[19,931,080]	
Alternative Energy	1,060,000	[214,880]	845,120
Res. Energy Consv.	-	[7,312,533]	
Bulk Fuel	-	-	
Fish Enhancement	2,071,700	[1,259,771]	811,929
Rural Electrifi- cation R.L.F.	2,000,000	[2,000,000]	
Power Dev. R.L.F.	-	[12,000,000]	
Power Project L.F.	-	[4,000,000]	
Small Business	Balance already	goes to G.F.	
Tourism	Balance already	goes to G.F.	
Water Resources	Balance already	goes to G.F.	
Fishermen's Mortgage & Note	Balance goes to	Comm. Fish. R.L.F.	
World War II Vets	-	[8,824,933]	
Net Available for Reappropriation		<u>[54,931,047]</u>	

We have reviewed current loan fund balances and estimated cash flow through FY '86, and we have refined the expected loan demand by fund. We believe that the above outlined reappropriation (and an addition to the Commercial Fishing Loan Program) could be done without closing any of the current programs.

The Power Authority projects an FY '85 requirement of \$1.1 million for Rural Electrification Revolving Loan Fund (RERLF). This would leave a balance of \$2.5 million currently authorized funding available for FY '86. Proposed revised RERLF regulations are expected to increase demand for RERLF funding, but there is much uncertainty as to the amount of increase. The \$2.5 million estimated available funding for FY '86 represents a 127% increase over the estimated FY '85 RERLF demand.

John Shively

-2-

February 15, 1985

The FY '86 request for \$2 million additional RERLF funding could be deleted. If loan requests for FY '86 do, in fact, exceed the \$2.5 million expected to be available, the loans could be postponed until FY '87.

If Petersburg joins the Four-Dam Pool program, then the \$12.0 million won't be needed in the Power Development R.L.F., but we will not know for several months. If we reappropriate the funds and Petersburg doesn't join, we may have to renegotiate the 8% loan to the APA.

CH 90, SLA 81 appropriated \$4.0 million to the APA for a Power Project Loan Fund loan to the city of Fairbanks. Nearly four years after the appropriation, Fairbanks has not applied for the loan. The APA understands that Fairbanks now wants a grant rather than a loan. Perhaps you should discuss this with Senator Fahrenkamp.

I believe the announcement of any reappropriation in the WWII Vets program could be tied to a discussion of the proposed linked deposit program which will offer an additional interest rate break to veterans and rural residents. I will continue to treat this information as confidential until I receive further word from you.

FTE/mst1531m
021585e

ALASKA POWER AUTHORITY

334 WEST 5th AVENUE - ANCHORAGE, ALASKA 99501

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

February 28, 1985

The Honorable Jan Faiks
Co-Chair, Senate Finance Committee
Pouch V
Juneau, Alaska 99811

Dear Senator Faiks:

Subsequent to the Senate Finance Committee meeting on February 18, 1985, the Alaska Power Authority has performed an in-depth review of the status of currently authorized capital projects. The enclosed analysis is the result of this review. In certain cases the material previously provided to the Senate Finance Committee on the CP-3 forms has been modified.

The analysis provides the funding status for each project. It describes the December 31, 1984 encumbrances for each project, including the amount of the encumbrance earned as of February 15, 1985, and the amount anticipated to be earned as of June 30, 1985, and shows where applicable the cancellation costs if the project is cancelled. Recommendations regarding lapse/cancellation of encumbrances are provided. Remaining unencumbered costs are also identified.

The analysis does not include the Bradley Lake Hydroelectric Project or the Susitna Hydroelectric Project due to the early stages of development of those projects.

Attachment A is a summary of projected potential fund lapses in capital and other continuing appropriations.

Also in accordance with the request from the Senate Finance Committee, Attachments B and C describe the expenditures through December 31, 1984 for the Solomon Gulch Hydroelectric Project and the Anchorage-Fairbanks Intertie Project.

We are prepared to discuss the enclosed material at the meeting scheduled for March 7, 1985.

Sincerely,



Larry D. Crawford
Executive Director

GD/LDC/amh

8556/354

ALASKA POWER AUTHORITY
CURRENTLY AUTHORIZED CONTINUING APPROPRIATIONS
PROJECTED POTENTIAL LAPSES

<u>CAPITAL PROJECTS</u>		<u>Lapse</u>
<u>CP-J</u>	<u>Project Title</u>	<u>Amount</u>
<u>Project Code(s)</u>		
140, 440	Angoon Power	\$139,891
190	Chakachamna	2,400
220	Crooked Creek Waste Heat	62,500
251	Fairbanks District Heating	1,836
260	Goodnews Bay Waste Heat	15,485
270, 272, 273, 530	Grant Lake	354,754
430	Old Harbor Hydroelectric Feasibility	844,952
440	Ouzinkie Waste Heat	149,045
490	Rural Feasibility	276,589
550	Skagway Wind	3,892
700	Waste Heat Recovery	2,408
770	Discretionary Funds	1,052
840	Pedro Bay	100,000 ϕ
890	Anderson Coal Loan	<u>50,000</u>
Subtotal		\$2,104,256
<u>OTHER CONTINUING FUNDS</u>		
	Power Development Revolving Loan Fund (Ch. 171, SLA 1984)	12,000,000
	Power Project Loan Fund - City of Fairbanks (Ch. 90, SLA 1981)	4,000,000 ^{(a)-?}
	Power Cost Assistance Program (Ch. 90, SLA 1981)	2,184,000 ^{(b)}}
	Power Cost Equalization Program (Ch. 171, SLA 1984)	<u>1,349,900^{(c)}}</u>
Subtotal		\$21,638,156
<u>RESERVE FOR CLAIMS</u>		
	Solomon Gulch	\$ -0-
	Tyee Lake	2,822,500
	Swan Lake	1,870,800
	Terror Lake	10,323,100
	Anchorage-Fairbanks Intertie	<u>1,310,600</u>
Total Reserve for Claims		<u>16,327,000^(d)</u>
TOTAL		<u>\$37,965,156</u>

- (a) Although funding for this Power Project Loan Fund loan was appropriated in 1981, the City of Fairbanks has not yet applied for this loan. Until recently the City of Fairbanks desired a grant rather than a loan. However, an election has now been scheduled for April 2, 1985 to obtain voter ratification of a bond package and this loan. Depending on the outcome of the election, this funding may be available for lapse.
- (b) In addition to this continuing appropriation for the Power Cost Assistance Program (PCAP), the Power Authority projects a lapse of \$676,100 from the Ch. 122, SLA 1984 appropriation for PCAP.
- (c) Projected FY85 surplus of \$1,669,600 less \$319,700 carry-over to FY86 to fund projected shortfall.
- (d) Amount shown as requested by the Senate Finance Committee. However, much if not all of this funding (or potentially even a larger amount) is anticipated to be required for settlement of claims. If this amount is lapsed, future supplemental appropriations will be required.

ANALYSIS OF EXPENDITURES THRU 12-31-84

Project Title Anchorage-Fairbanks Intertie CP-3 Project Code(s) 130, 131, 132, 133

<u>Expenditure Description</u>	<u>Amount</u>
<u>I. PROCUREMENT</u>	
Tower Steel	\$ 8,676,864
Guy Hardware	449,096
Guy Strand Wire	255,147
Insulators	792,743
Conductor Hardware	314,461
Shield Wire	196,774
Conductor Wire	4,293,240
Conductor and Shield Wire Accessories	433,090
Station Service Equipment	2,532,638
Relay and Control Panels	387,898
Static Var System	3,486,375
Communications System	319,169
Sub-Total	<u>22,137,492</u>
<u>II. CONSTRUCTION</u>	
T/L (South) Intertie Line (South)	26,873,436
T/L (North) Intertie Line (North)	20,290,926
Subs (South) Substations (South)	1,883,000
Subs (North) Substations (North)	2,259,600
Cantwell Substation	1,312,451
TeeLand Substation	974,453
Cantwell Distribution	872,771
Sub-Total	<u>54,466,637</u>
<u>III. ENGINEERING AND CM</u>	
Surveying Acquisition	1,141,098
Right-of-way	424,617
Construction Management	5,359,018
Camp & Yard	800,275
Engineer	4,712,208
TeeLand Engineering	116,746
Sub-Total	<u>12,553,962</u>
<u>IV. LAND RIGHTS</u>	<u>1,365,175</u>
<u>V. APA ADMINISTRATION</u>	<u>1,318,100</u>
TOTAL	<u>\$91,841,366</u>

ANALYSIS OF EXPENDITURES THRU 12-31-84

Project Title Solomon Gulch Hydroelectric Project CP-3 Project Code(s) 581

<u>Expenditure Description</u>	<u>Amount</u>
I. PROCUREMENT	
Turbines and generator	3,819,874
Accessory electric equipment	890,942
Sub-substation equipment	7,327,805
Towers and fixtures	16,969,609
Office furniture and equipment	3,535
Transportation equipment	49,410
Stores equipment	15,150
Tools, shop and garage equipment	6,519
Communication equipment	45,236
	Subtotal
	<u>29,128,080</u>
II. CONSTRUCTION	
Structures and improvements - Generation	5,135,464
Structures and improvements - Transmission	16,947,680
Structures and improvements - General Plant	250,684
Reservoirs, dam and waterways	12,951,312
Roads	1,080,814
	Subtotal
	<u>36,365,954</u>
III. ENGINEERING AND CONSTRUCTION MANAGEMENT	3,766,940
IV. LAND RIGHTS	
Generation	64,520
Transmission	84,574
	Subtotal
	<u>149,094</u>
V. ALASKA POWER AUTHORITY ADMINISTRATION	192,804
Total Cost	69,602,872
Cash savings	(23,691,775) (a)
Total cash disbursement	<u>45,911,097</u>

(a) Solomon Gulch Acquisition - Cash Savings

Loans outstanding at time of acquisition:	
Federal Financing Bank (FFB)	\$17,245,000
Rural Electrification Administration (REA)	44,858,959
Total Outstanding Debt	<u>\$62,103,959</u>
Alaska Power Authority actions:	
Paid off the FFB loans	(17,245,000)
Established a Trust Fund to pay off the REA loans*	(21,167,185)
Total Cash Savings	<u>\$23,691,775</u>

* The trust to date has generated excess interest of over \$842,900 which has been deposited into the state general fund.

ALASKA POWER AUTHORITY
CURRENTLY AUTHORIZED CONTINUING APPROPRIATIONS
PROJECTED POTENTIAL LAPSES

CAPITAL PROJECTS

<u>CP-1</u> <u>Project Code(s)</u>	<u>Project Title</u>	<u>Lapse</u> <u>Amount</u>
140, 640	Angoon Power	\$139,891
190	Chakachamna	2,400
220	Crooked Creek Waste Heat	62,500
251	Fairbanks District Heating	1,836
260	Goodnews Bay Waste Heat	15,485
270, 272, 273, 530	Grant Lake	354,754
430	Old Harbor Hydroelectric Feasibility	844,952
440	Ouzinkie Waste Heat	149,045
490	Rural Feasibility	276,589
550	Skagway Wind	3,892
700	Waste Heat Recovery	2,408
770	Discretionary Funds	1,052

Amount previously
reappropriated

890	Anderson Coal Loan	50,000
Subtotal		<u>1,904,804</u> 52,104,256

OTHER CONTINUING FUNDS

Power Development Revolving Loan Fund (Ch. 171, SLA 1984)	12,000,000
Power Project Loan Fund - City of Fairbanks (Ch. 90, SLA 1981)	4,000,000 ^(a)
Power Cost Assistance Program (Ch. 90, SLA 1981)	2,184,000 ^(b)
Power Cost Equalization Program (Ch. 171, SLA 1984)	<u>1,349,900^(c)</u>
Subtotal	<u>21,437,704</u> 52,100,156

RESERVE FOR CLAIMS

Solomon Gulch	\$ -0-	
Tyee Lake	2,822,500	
Swan Lake	1,870,800	
Terror Lake	10,323,100	
Anchorage-Fairbanks Intertie	<u>1,310,600</u>	
Total Reserve for Claims		<u>16,327,000^(d)</u>
TOTAL		<u>37,765,704</u> 52,100,156

- (a) Although funding for this Power Project Loan Fund loan was appropriated in 1981, the City of Fairbanks has not yet applied for this loan. Until recently the City of Fairbanks desired a grant rather than a loan. However, an election has now been scheduled for April 2, 1985 to obtain voter ratification of a bond package and this loan. Depending on the outcome of the election, this funding may be available for lapse.
- (b) In addition to this continuing appropriation for the Power Cost Assistance Program (PCAP), the Power Authority projects a lapse of \$676,100 from the Ch. 122, SLA 1984 appropriation for PCAP.
- (c) Projected FY85 surplus of \$1,669,600 less \$319,700 carry-over to FY86 to fund projected shortfall.
- (d) Amount shown as requested by the Senate Finance Committee. However, much if not all of this funding (or potentially even a larger amount) is anticipated to be required for settlement of claims. If this amount is lapsed, future supplemental appropriations will be required.

ALASKA POWER AUTHORITY
 INCREASES (DECREASES) TO ESTIMATED COSTS REQUIRED TO COMPLETE
 PROJECTS FROM FEBRUARY 1985 REPORT TO LEGISLATURE

TYEE LAKE

\$	275,000	Insurance Settlement
	150,000	Interest Revenue
	128,276	Contractual Commitments Reduction
\$	<u>553,276</u>	

ANCHORAGE - FAIRBANKS INTERTIE

\$	450,000	SVS Modifications
	150,000	Storage Yard Operations
	500,000	Interim Maintenance and Operation
	75,000	Cantwell Substation Oil Containment
	135,600	Reserve for Construction, O&M, and Admin.
\$1,310,600		Total

SVS Modification

The Intertie participating utilities have identified several operating concerns regarding the Static Var Systems (SVS) which are presently being reviewed. The cost identified is to perform additional system studies and accomplish any necessary modifications to reduce the potentially harmful start-up characteristics of the SVS on the existing utility system. The requirement was identified subsequent to the February 1985 report.

Storage Yard Operations

This item is for the continued operation and maintenance of the Eklutna storage yard for storage of spare parts, equipment and materials from the Intertie project. The budget request to establish an APA central storage facility was again deleted from the APA capital budget and the central yard is therefore not available to store and maintain this equipment. This cost was inadvertently omitted in the February 1985 report.

Interim Maintenance and Operation

As a result of a major transformer failure at Goldhill Substation, the Intertie can only be placed in limited service until the transformer is repaired. During this interim period, because the full benefits of the Intertie are not available to offset the cost

of operation and maintenance the utilities do not consider the Intertie to be in commercial operation and are unwilling to absorb the cost of interim O & M. This interim cost must therefore be absorbed as a part of the project construction. This item was not identified until after the February report.

Cantwell Substation Oil Containment

This item provides for the addition of an oil containment structure at the Cantwell Substation to prevent any possible transformer oil leakage from entering the nearby stream. This item was previously identified however by oversight was not included in the February report.

Reserve for Construction, O & M and Administration

This item is a reserve for unidentified potential changes and costs for remaining construction, and O & M and administration of the project through it's completion. While it is probable that certain currently unanticipated costs will be encountered prior to the completion of the project, the exact amount of those costs are unknown at this time. The amount conservatively estimated here is the remaining balance of the unencumbered balance.

TERROR LAKE

\$ 1,000,000	Land Acquisition
518,000	ADF&G Continuing Studies
403,000	Ebasco Contract Modification
100,000	"As-Built" Survey
141,000	Power Line Communications
409,000	Additional KEA Costs
300,000	Reserve for Interest
500,000	Reserve for Construction
<u>\$ 3,371,000</u>	
[467,000]	Savings on Quantities
<u>\$ 2,904,000</u>	

Land Acquisition

Allowance for obtaining indefinite rights to all project lands as required by Article 5 of the FERC license. Amount is estimated top exposure and could be much lower as a result of final negotiation. Item was not included in February 1985 report in error. FERC representative had verbally advised in September 1984 that land rights in perpetuity were required.

Reserve for Construction

This is a simple allowance to pay for unforeseen conditions (contingencies) and allow contracts to be closed out. Omission of the item from February 1985 report was an oversight.

ALASKA POWER AUTHORITY
RECONCILIATION OF "RESERVE FOR CLAIMS" LAPSE PROJECTIONS

	<u>Tyee Lake</u>	<u>Swan Lake</u>	<u>Terror Lake</u>	<u>A-F Intertie</u>	<u>Total</u>
LAPSE-FEBRUARY 1985 REPORT	\$ 2,822,500	\$ 1,870,800	\$ 10,323,100	\$ 1,310,600	\$16,327,000
Corrections		-29,603	-100,000 ^(b)		-129,603
CORRECTED LAPSE	<u>\$ 2,822,500</u>	<u>\$ 1,841,197</u>	<u>\$ 10,223,100</u>	<u>\$ 1,310,600</u>	<u>\$16,197,397</u>
Claims Awarded Subsequent to February 1985 Report			-3,500,000 ^(c)		-3,500,000
	<u>\$ 2,822,500</u>	<u>\$ 1,841,197</u>	<u>\$ 6,723,100</u>	<u>\$ 1,310,600</u>	<u>\$12,697,397</u>
Expenditure Increases (-)/Decreases (+)	+553,276		-2,904,000	-1,310,600	-3,661,324
	<u>\$ 3,375,776</u>	<u>\$ 1,841,197</u>	<u>\$ 3,819,100</u>	<u>\$ 0</u>	<u>\$ 9,036,073</u>
Legislative Reappropriations ^(d)	-900,000				-900,000
REVISED LAPSE PROJECTIONS	<u>\$ 2,475,776</u>	<u>\$ 1,841,197</u>	<u>\$ 3,819,100</u>	<u>\$ 0</u>	<u>\$ 8,136,073</u>

- (a) Projected lapse in Attachment A should have been \$1,841,197 (see Exhibit E) rather than \$1,870,800
- (b) Projected lapse reflected in Attachment A was not calculated accurately in backup material (see Exhibit F)
- (c) Award of claim to Kiewit-Groves through binding arbitration involving problem with excess water in the Terror Lake Tunnel.
- (d) Reserve for reappropriation for the following projects:
 \$750,000 Transformer to provide electrical energy for Wrangell
 150,000 Grant to the City of Cordova to reduce effective interest rate on Cooperative Financing Corporation loan from 11.5% to 8.5% for one year.
\$900,000

ACCOUNTING OF THE \$198 MILLION DEPARTMENT OF COMMERCE AND
DEVELOPMENT (DCED) LOAN (BY PROJECT)

Swan Lake Note	\$ 26,165,000
Lake Tye Note	50,000,000
Terror Lake Note	<u>115,000,000</u>
Total	\$191,165,000
Working Capital and Renewals and Replacements	<u>4,576,000</u>
Total Loan	<u><u>\$195,741,000</u></u>

NOTE: Previous projections calling for a funding requirement of \$198 million included a contingency reserve of \$2 million. Upon reevaluation, this reserve is no longer deemed appropriate. Therefore, \$14 million of the \$210 million appropriation is available for lapse.

ANALYSIS OF UNENCUMBERED BALANCE REQUIREMENTS

Project Title Swan Lake Hydroelectric Project

CP-3 Project Codes(s) 610, 611, 612, 613

<u>Requirement Description</u>	<u>Amount</u>	<u>If Cost is ESSENTIAL to Project Completion, Explain Why</u>
Reserved for litigation	\$ 350,000	Ongoing legal costs associated with the settlement of claims.
Reserved for litigation (Solomon Gulch)	722,000	Ongoing legal costs associated with the settlement of Solomon Gulch claims. (The Solomon reserve for litigation is insufficient to meet anticipated costs.)
Reserve for claims	<u>1,841,197*</u>	
Construction reserve for minor modifications/adjustments of final inspection of dam	300,000	Final inspection of the dam will pinpoint which minor modifications need to be made to bring the plant to the Federal Energy Regulatory Commission license standard.
Equipment reserve for small tools, rolling equipment	450,000	Final inspection of the dam will pinpoint equipment - expenditures are necessary to bring the plant to the Federal Energy regulatory Commission license standard.
Reserve for microwave relocation aerial ball markers, stride lite, storage building, fencing	515,000	
Alaska Power Authority Administrative Costs	300,000	Personnel and travel expenses associated with the final stages of construction and the negotiations of power sales agreements inclusive of legal, financial analysis, and risk management costs.
	<u>\$4,478,197</u>	

* Although this reserve is considered nonessential for project completion, the Alaska Power Authority does anticipate that this amount may be necessary for final resolution of claims and litigation for Swan Lake and other "Four Dam Pool" projects (Terror Lake, Solomon Gulch and Ytee Lake).

ANALYSIS OF UNENCUMBERED BALANCE REQUIREMENTS

Project Title Terror Lake Hydroelectric Project

CP-3 Project Codes(s) 631, 632, 633

<u>Requirement Description</u>	<u>Amount</u>	<u>If Cost is ESSENTIAL to Project Completion, Explain Why</u>
Reserve for litigation	(a) 1,150,000	Ongoing legal costs associated with settlement of claims.
Reserve for Claims	10,223,100	
APA Administrative Expenses	10,323,100 200,000	Personnel and travel expenses associated with the final stages of construction and the negotiation of power sales agreements, inclusive of legal fees, financial analysis, and risk management costs.
Cost of Financing	200,000	Cost of short-term financing (interest expense loss in interest revenue)
Start-Up Costs	200,000	Cost required during testing period after completion of construction and prior to commercial operation.
	<u>\$11,973,100</u>	

* Although this reserve is considered nonessential for project completion, the APA does anticipate that this amount may be necessary for final settlement of claims and litigation for Terror Lake and the other "Four Dam Pool" projects (Tyee Lake, Swan Lake, and Solomon Gulch).

(a) amount needs to be \$10,223,100 rather than \$10,323,100 to add-up to the \$11,973,100 total

MEMORANDUM

State of Alaska

TO: Guy Bell
Office of Management & Budget

DATE: March 29, 1985

FILE NO.

TELEPHONE NO.

FROM: Gloria Mann *G. Mann*
Director/Accounting & Audit

SUBJECT: FY85 General Fund Lapse
Projects Reserve for Claims

This is to confirm today's phone conversation regarding the availability for lapse of the referenced funds.

Swan Lake Project:

The original source of these funds was the issuance of General Obligation Bonds on May 28, 1981 (interim financing). The bonds were redeemed at maturity on September 28, 1984, with proceeds from the Power Development Loan entered into by the Department of Commerce and Economic Development (DCED) and the Alaska Power Authority, Promissory Note No. 1 in the amount of \$26,165,000. The monies intended for lapse are in the "Construction Fund" and "Construction Reserve Account" established by the City of Ketchikan. To date, the City has not complied to the Power Authority's request to transfer those funds to the Authority. 1870.8

Tyee Lake Project:

The original source of these funds was the issuance of Variable Rate Demand Notes (VRDN) on February 17, 1982 (interim financing). The VRDN were redeemed at maturity on January 2, 1985 with proceeds from the Power Development Loan entered into by the DCED and the Power Authority (Promissory Note No. 2 in the amount of \$50,000,000). The monies intended for lapse are in the "Construction Fund" trust account established with Morgan Guaranty Trust Company of New York (MGT Co.). 2822.5

Terror Lake Project:

The source of these funds is the issuance of VRDN on June 22, 1982 (interim financing). The monies intended for lapse are in the "Construction Fund" and "Capitalized Interest Fund", irrevocable trust funds established with MGT Co. at the issuance of the notes. The maturity of the notes is on May 15, 1985, and funds will be available for lapse after such date upon redemption of the notes, in accordance with the terms of the authorizing resolution. Proceeds from the Power Development loan entered into by the DCED and the Power Authority, Promissory Note No. 3 in the amount of \$115,000,000 have been deposited in the "Redemption Fund" at MGT Co. for the redemption of the notes. 10323.0

Before a journal voucher can be prepared for lapsing funds in these three projects the promissory notes in the Power Development Loan must be reduced by corresponding amounts, funds must be returned to the Power Development Loan Fund and, from there lapsed to the General Fund.

8880/083

Guy Bell
March 29, 1985
Page 2

The Power Authority recommends that action to lapse funds from these projects is targeted after the maturity of Terror Lake VRDN on May 15, 1985, to allow for concurrent modification of the promissory notes and the repayment schedule of the Power Development Loan.

The amounts to be lapsed at the time will be reduced by the claims in the interim period.

Anchorage-Fairbanks Intertie: Lapse \$1,310,600.
Funds are available in Ch. 171, SLA 1984, S319, p. 53., A/C 08-73-4-135.
Attached is pertinent journal voucher.

Please call me if you have any questions.

GM/aid

cc: Bill Batt, Alaska Power Authority
R.E. Etheridge, Alaska Power Authority



KETCHIKAN PUBLIC UTILITIES

334 FRONT STREET

KETCHIKAN, ALASKA 99801

TELEPHONE 907-225-3111

MUNICIPALLY OWNED
ELECTRIC WATER PHONE

April 30, 1985

Representative John Sund
Alaska State Legislature
Pouch B (MS 3100)
Juneau, Alaska 99811

Dear Representative Sund:

Attached is a computer analysis that forms the most promising basis for agreement in our current discussions with the Alaska Power Authority. As we mentioned to John Hartle, this model was proposed by Bob Heath and Gordon Harrison, and grew out of certain reservations expressed by the Power Authority staff in response to a prior proposal that was also made by Gordon Harrison. The model appears to offer an affordable wholesale power rate to the communities and a fair return to the state.

For purposes of comparison, we have also included a printout of the first Harrison proposal. As you can see, that proposal featured an agreed wholesale power rate schedule that was to cover both debt service and operations and maintenance (O & M). Debt service would be funded out of any revenues remaining after O & M was paid. A floor and ceiling rate of return on the state's investment would trigger either increased payments by the communities or an early retirement of principal debt.

The Power Authority staff felt that this type of agreement might be difficult to administer because it would make debt service revenues highly dependent on O & M costs over which they would exercise little control. They were also concerned that it placed the risks of inflation, low loads, and excessive O & M costs squarely on the state, without sufficient incentives to the communities to assure the state of a fair return. Of course the benefits of high loads and lower-than-projected O & M costs would also be enjoyed by the state.

The new proposal has the virtue of simplicity. Each community would pay for O & M at the actual pooled average rate for all four projects, and thus bear much of the risk and benefit of fluctuations in load and cost. In this example, "debt service", or an amount above O & M, would be charged at 2.6 cents/kWh in 1986, rising to 4 cents/kWh by 1990, for all sales up to a particular combined forecast load. Sales above the

Representative John Sund
April 30, 1985
Page Two

forecast would be deemed "incentive sales" and would be charged at 1 cent/kWh less than the regular debt service amount. This lower rate would make it possible to attract large industrial loads, and would give the communities an additional incentive to increase project utilization. Finally, the communities would contribute a total of \$500,000 per year in addition to O & M to build a fund for renewals and replacements.

Because both O & M and debt service would be pooled, the wholesale power rate would be identical for all communities. This makes it possible to market the power from projects with high unit costs of O & M. The pooling of O & M is one reason that a statutory change is required in order to implement this proposal.

The rate of return to the state in this model is primarily sensitive to changes in load. By passing on the benefits of an incentive rate, we believe the communities can market substantial amounts of additional power to potential large loads that would otherwise develop their own diesel generation. The incentive sales increase the rate of return to the state to over 6%. They also lower the effective melded wholesale power rate to the communities. Without incentive sales, the forecast wholesale power rate would face stiff competition from alternative forms of generation, and the return to the state would be substantially lower.

The rate of return to the state is based upon revenues which include interest on reserves and the communities' contribution to the renewal and replacement fund. These are capital costs paid in consideration of the state's risk, and dedicated to the long-term preservation of the state's investment in the projects. The benefit of these funds will extend well beyond the period for which rate certainty will be guaranteed to the communities. We have not attempted to estimate the extent to which these reserves would be drawn down to pay for claims or improvements, or when such costs would be incurred.

The models provided are as follows:

1. Case H1-1 is the original proposal without any large loads.
2. Case H1-2 is the original proposal with large loads added.
3. Case H2-1 is the new proposal without any large loads.
4. Case H2-2 is the new proposal with large loads added.

I hope you will find this information useful evaluating the legislation necessary to implement the proposal. Please let me know if I can provide anything further.

Representative John Sund
April 30, 1985
Page Three

Very truly yours,

KETCHIKAN PUBLIC UTILITIES



Richard D. Newland
Utilities Manager

RDN:LLM

Enclosures

cc: Mayor & City Council
KPU Advisory Board
Doug Rosenberg, PTE&H
Four Dam Pool Members

PRESTON.1
(COM/Z6)
007/B6

Loan Principal (\$=000's)
 O & M Inflation Rate
 Rate of Return Floor
 Rate of Return Ceiling
 Change in Base Load Forecast

\$196,000
 4.00%
 3.50%
 8.00%
 0.00%

Case Number
 Internal Rate of Return (IRR)

NI-1
 5.7%

30-Apr-85

YEAR	BASELOAD SALES (\$M)	BASELOAD RATE (CENTS/KWH)	BASELOAD REVENUE (\$=000's)	LARGE LOAD SALES (MWH)	LARGE LOAD RATE (CENTS/KWH)	LARGE LOAD REVENUE (\$=000's)	TOTAL REVENUE (COL. D+E)	ACTUAL O&M EXPENSE (\$=000's)	BALANCE REMAINING FOR DEBT SV (\$=000's)	MINIMUM RETURN (FLOOR) (\$=000's)	MAXIMUM RETURN (CEILING) (\$=000's)	ACTUAL PRINCIPAL RETIREMENT (\$=000's)	NEW PRINCIPAL (\$=000's)	ADDITIONAL CAPITAL REQUIRED (\$=000's)	ACTUAL RATE OF RETURN (%)	TOTAL REVENUE REQUIREMENT (\$=000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1986	181,496	4.94	8,966	0	1.60	0	8,966	4,438	4,528	6,860	15,680	0	196,000	2,332	3.5%	11,298	6.22	1986
1987	191,437	5.44	10,414	0	1.60	0	10,414	4,616	5,799	6,860	15,680	0	196,000	1,061	3.5%	11,476	5.99	1987
1988	199,181	5.14	11,234	0	2.20	0	11,234	4,800	6,434	6,860	15,680	0	196,000	426	3.5%	11,660	5.85	1988
1989	206,042	6.09	12,548	0	2.50	0	12,548	4,992	7,556	6,860	15,680	0	196,000	0	3.9%	12,548	6.09	1989
1990	212,994	6.48	13,802	0	3.00	0	13,802	5,192	8,610	6,860	15,680	0	196,000	0	4.4%	13,802	6.48	1990
1991	219,067	6.58	14,415	0	3.00	0	14,415	5,400	9,015	6,860	15,680	0	196,000	0	4.6%	14,415	6.58	1991
1992	226,907	6.68	15,157	0	3.00	0	15,157	5,615	9,542	6,860	15,680	0	196,000	0	4.9%	15,157	6.68	1992
1993	236,183	6.78	16,013	0	3.00	0	16,013	5,840	10,173	6,860	15,680	0	196,000	0	5.2%	16,013	6.78	1993
1994	245,893	6.89	16,917	0	3.00	0	16,917	6,074	10,844	6,860	15,680	0	196,000	0	5.5%	16,917	6.89	1994
1995	255,479	6.99	17,830	0	3.00	0	17,830	6,317	11,513	6,860	15,680	0	196,000	0	5.9%	17,830	6.99	1995
1996	265,533	7.08	18,446	0	3.00	0	18,446	6,569	11,876	6,860	15,680	0	196,000	0	6.1%	18,446	7.08	1996
1997	265,897	7.18	19,091	0	3.00	0	19,091	6,832	12,259	6,860	15,680	0	196,000	0	6.3%	19,091	7.18	1997
1998	271,482	7.18	20,035	0	3.00	0	20,035	7,105	12,930	6,860	15,680	0	196,000	0	6.4%	20,035	7.28	1998
1999	277,243	7.48	20,745	0	3.00	0	20,745	7,390	13,356	6,860	15,680	0	196,000	0	6.8%	20,745	7.48	1999
2000	283,488	7.48	21,772	0	3.00	0	21,772	7,685	14,087	6,860	15,680	0	196,000	0	7.2%	21,772	7.68	2000
2001	288,220	7.89	22,712	0	3.00	0	22,712	7,993	14,719	6,860	15,680	0	196,000	0	7.5%	22,712	7.88	2001
2002	290,043	8.09	23,435	0	3.00	0	23,435	8,312	15,123	6,860	15,680	0	196,000	0	7.7%	23,435	8.08	2002
2003	291,926	8.28	24,171	0	3.00	0	24,171	8,645	15,527	6,860	15,680	0	196,000	0	7.9%	24,171	8.28	2003
2004	292,889	8.58	25,216	0	3.00	0	25,216	8,991	16,225	6,860	15,680	545	196,000	0	8.0%	25,216	8.58	2004
2005	295,935	8.88	26,279	0	3.00	0	26,279	9,350	16,929	6,860	15,680	1,249	195,455	0	8.0%	26,279	8.88	2005
2006	298,067	9.18	27,363	0	3.00	0	27,363	9,724	17,638	6,841	15,636	2,002	194,206	0	8.0%	27,363	9.18	2006
2007	300,290	9.48	28,467	0	3.00	0	28,467	10,113	18,354	6,797	15,535	2,818	192,204	0	8.0%	28,467	9.48	2007
2008	302,608	9.88	29,898	0	3.00	0	29,898	10,518	19,180	6,727	15,376	4,004	189,386	0	8.0%	29,898	9.88	2008
2009	305,023	10.18	31,051	0	3.00	0	31,051	10,938	20,113	6,629	15,151	4,942	185,783	0	8.0%	31,051	10.18	2009
2010	307,541	10.58	32,538	0	3.00	0	32,538	11,376	21,162	6,488	14,831	6,331	180,421	0	8.0%	32,538	10.58	2010
2011	310,165	10.98	34,056	0	3.00	0	34,056	11,831	22,225	6,315	14,474	7,791	174,089	0	8.0%	34,056	10.98	2011
2012	312,901	11.38	35,608	0	3.00	0	35,608	12,304	23,304	6,093	13,927	9,377	166,298	0	8.0%	35,608	11.38	2012
2013	315,753	11.88	37,511	0	3.00	0	37,511	12,796	24,715	5,820	13,304	11,411	155,921	0	8.0%	37,511	11.88	2013
2014	318,725	12.28	39,139	0	3.00	0	39,139	13,308	25,831	5,492	12,554	13,277	145,510	0	8.0%	39,139	12.28	2014
2015	321,824	12.78	41,129	0	3.00	0	41,129	13,841	27,289	5,093	11,641	15,648	132,232	0	8.0%	41,129	12.78	2015
2016	325,053	13.28	43,167	0	3.00	0	43,167	14,394	28,773	4,628	10,579	18,194	116,585	0	8.0%	43,167	13.28	2016
2017	328,420	13.67	44,888	0	3.00	0	44,888	14,970	29,918	4,080	9,327	20,292	98,390	0	8.0%	44,888	13.67	2017
2018	331,929	14.07	46,707	0	3.00	0	46,707	15,569	31,139	3,444	7,871	23,267	77,799	0	8.0%	46,707	14.07	2018
2019	335,587	14.49	48,631	0	3.00	0	48,631	16,192	32,439	2,723	6,224	26,215	54,571	0	8.0%	48,631	14.49	2019
2020	339,400	14.92	50,664	0	3.00	0	50,664	16,839	33,825	1,909	4,362	28,316	28,316	0	8.0%	50,664	14.92	2020
2021	343,375	15.38	52,816	0	3.00	0	52,816	17,513	35,304	991	0	0	0	0	0.0%	17,513	5.10	2021
2022	347,516	15.85	55,094	0	3.00	0	55,094	18,213	36,881	0	0	0	0	0	NA	18,213	5.24	2022
2023	351,836	16.34	57,506	0	3.00	0	57,506	18,942	38,564	0	0	0	0	0	NA	18,942	5.38	2023
2024	356,338	16.84	60,061	0	3.00	0	60,061	19,699	40,362	0	0	0	0	0	NA	19,699	5.52	2024
2025	361,030	17.39	62,769	0	3.00	0	62,769	20,487	42,282	0	0	0	0	0	NA	20,487	5.67	2025
2026	365,921	17.94	65,640	0	3.00	0	65,640	21,307	44,333	0	0	0	0	0	NA	21,307	5.82	2026
2027	371,019	18.51	68,686	0	3.00	0	68,686	22,159	46,526	0	0	0	0	0	NA	22,159	5.97	2027
2028	376,334	19.11	71,917	0	3.00	0	71,917	23,046	48,872	0	0	0	0	0	NA	23,046	6.12	2028
2029	381,867	19.73	74,704	0	3.00	0	74,704	23,967	50,736	0	0	0	0	0	NA	23,967	6.27	2029
2030	378,607	20.38	77,150	0	3.00	0	77,150	24,926	52,224	0	0	0	0	0	NA	24,926	6.58	2030
2031	378,607	21.05	79,694	0	3.00	0	79,694	25,923	53,770	0	0	0	0	0	NA	25,923	6.85	2031
2032	378,607	21.75	82,339	0	3.00	0	82,339	26,960	55,379	0	0	0	0	0	NA	26,960	7.12	2032
2033	378,607	22.47	85,091	0	3.00	0	85,091	28,038	57,052	0	0	0	0	0	NA	28,038	7.41	2033
2034	378,607	23.23	87,952	0	3.00	0	87,952	29,160	58,792	0	0	0	0	0	NA	29,160	7.70	2034
2035	378,607	24.02	90,928	0	3.00	0	90,928	30,326	60,602	0	0	0	0	0	NA	30,326	8.01	2035
2036	378,607	24.85	94,023	0	3.00	0	94,023	31,539	62,483	0	0	0	0	0	NA	31,539	8.33	2036
2037	378,607	25.68	97,242	0	3.00	0	97,242	32,801	64,441	0	0	0	0	0	NA	32,801	8.66	2037
	16,027,515		0			0	2,193,629	741,877	1,451,752	217,270	494,353	196,000	6,011,726	3,820		1,348,846		

Loan Principal (\$=000's) 8196,000
 D & M Inflation Rate 4.00%
 Rate of Return Floor 3.50%
 Rate of Return Ceiling 8.00%
 Change in Base Load Forecast 0.00%

Case Number MI-2
 Internal Rate of Return (IRR) 6.0%

YEAR	BASELOAD SALES (MMH)	BASELOAD RATE (CENTS/KWH)	BASELOAD REVENUE (\$=000's)	LARGE LOAD SALES (MMH)	LARGE LOAD RATE (CENTS/KWH)	LARGE LOAD REVENUE (\$=000's)	TOTAL REVENUE (COL. D+G) (\$=000's)	ACTUAL O&M EXPENSE (\$=000's)	BALANCE REMAINING FOR DEBT SV (\$=000's)	MINIMUM RETURN (FLOOR) (\$=000's)	MAXIMUM RETURN (CEILING) (\$=000's)	ACTUAL PRINCIPAL RETIREMENT (\$=000's)	NEW PRINCIPAL BALANCE (\$=000's)	ADDITIONAL CAPITAL REQUIRED (\$=000's)	ACTUAL RATE OF RETURN (%)	TOTAL REVENUE REQUIREMENT (\$=000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR
1985	181,496	4.94	8,966	10,828	1.60	173	9,139	4,438	4,874	6,860	15,680	0	196,000	1,986	3.5%	11,125	5.78	1985
1987	191,437	5.44	10,414	21,656	1.80	390	10,804	4,616	6,578	6,860	15,680	0	196,000	262	3.5%	11,085	5.20	1987
1988	197,181	5.64	11,224	22,484	2.20	715	11,948	4,800	7,863	6,860	15,680	0	196,000	0	4.0%	11,948	5.16	1988
1989	206,342	6.07	12,548	42,312	2.50	1,058	13,606	4,992	9,671	6,860	15,680	0	196,000	0	4.9%	11,606	5.48	1989
1990	212,994	6.48	13,802	54,140	3.00	1,624	15,426	5,192	11,859	6,860	15,680	0	196,000	0	6.1%	15,426	5.77	1990
1991	219,067	6.93	14,415	54,140	3.00	1,624	16,039	5,400	12,264	6,860	15,680	0	196,000	0	6.3%	16,039	5.87	1991
1992	226,907	6.68	15,157	54,140	3.00	1,624	16,782	5,615	12,790	6,860	15,680	0	196,000	0	6.5%	16,782	5.97	1992
1993	236,185	6.78	16,013	54,140	3.00	1,624	17,637	5,840	13,422	6,860	15,680	0	196,000	0	6.6%	17,637	6.08	1993
1994	245,593	6.88	16,917	54,140	3.00	1,624	18,542	6,074	14,092	6,860	15,680	0	196,000	0	7.2%	18,542	6.18	1994
1995	255,439	6.98	17,870	54,140	3.00	1,624	19,454	6,317	14,761	6,860	15,680	0	196,000	0	7.3%	19,454	6.28	1995
1996	260,533	7.08	18,446	54,140	3.00	1,624	20,070	6,569	15,125	6,860	15,680	0	196,000	0	7.7%	20,070	6.78	1996
1997	265,877	7.18	19,091	54,140	3.00	1,624	20,716	6,832	15,508	6,860	15,680	0	196,000	0	7.9%	20,716	6.47	1997
1998	271,482	7.28	20,035	54,140	3.00	1,624	21,660	7,105	16,178	6,860	15,680	498	196,000	0	8.0%	21,660	6.65	1998
1999	277,245	7.49	20,745	54,140	3.00	1,624	22,369	7,390	16,604	6,860	15,680	924	196,502	0	8.0%	22,369	6.75	1999
2000	283,468	7.68	21,772	54,140	3.00	1,624	23,396	7,685	17,235	6,843	15,640	1,695	194,578	0	8.0%	23,396	6.93	2000
2001	288,220	7.88	22,712	54,140	3.00	1,624	24,336	7,993	17,968	6,810	15,566	2,401	192,881	0	8.0%	24,336	7.11	2001
2002	290,643	8.08	23,475	54,140	3.00	1,624	25,060	8,312	18,372	6,751	15,431	2,941	190,481	0	8.0%	25,060	7.28	2002
2003	291,926	8.28	24,171	54,140	3.00	1,624	25,796	8,645	18,775	6,667	15,258	3,537	187,540	0	8.0%	25,796	7.45	2003
2004	293,689	8.58	25,216	54,140	3.00	1,624	26,840	8,991	19,474	6,564	15,003	4,470	184,094	0	8.0%	26,840	7.71	2004
2005	295,935	8.88	26,279	54,140	3.00	1,624	27,903	9,350	20,177	6,440	14,720	5,457	179,531	0	8.0%	27,903	7.97	2005
2006	298,067	9.18	27,363	54,140	3.00	1,624	28,987	9,724	20,887	6,284	14,363	6,524	174,076	0	8.0%	28,987	8.23	2006
2007	300,290	9.48	28,467	54,140	3.00	1,624	30,092	10,113	21,603	6,093	13,926	7,677	167,552	0	8.0%	30,092	8.49	2007
2008	302,608	9.88	29,898	54,140	3.00	1,624	31,522	10,518	22,428	5,864	13,404	8,911	159,876	0	8.0%	31,522	8.84	2008
2009	305,023	10.18	31,051	54,140	3.00	1,624	32,676	10,938	23,361	5,594	12,790	10,571	150,652	0	8.0%	32,676	9.10	2009
2010	307,541	10.58	32,528	54,140	3.00	1,624	34,162	11,376	24,410	5,293	12,052	12,258	140,080	0	8.0%	34,162	9.45	2010
2011	310,165	10.98	34,056	54,140	3.00	1,624	35,680	11,831	25,474	4,903	11,206	14,257	127,722	0	8.0%	35,680	9.79	2011
2012	312,901	11.39	35,608	54,140	3.00	1,624	37,232	12,304	26,552	4,470	10,218	16,235	113,455	0	8.0%	37,232	10.14	2012
2013	315,753	11.88	37,511	54,140	3.00	1,624	39,136	12,796	27,963	3,971	9,076	18,887	97,120	0	8.0%	39,136	10.58	2013
2014	318,725	12.28	39,129	54,140	3.00	1,624	40,764	13,308	29,080	3,399	7,770	21,210	78,233	0	8.0%	40,764	10.93	2014
2015	321,824	12.78	41,129	54,140	3.00	1,624	42,753	13,841	30,537	2,738	6,259	24,278	56,925	0	8.0%	42,753	11.37	2015
2016	325,051	13.28	43,167	53,554	3.00	1,607	44,774	14,394	31,984	1,992	4,554	27,472	32,445	0	8.0%	44,774	11.81	2016
2017	328,420	13.67	44,888	50,187	3.00	1,506	46,394	14,970	32,900	1,143	2,412	5,213	5,213	0	8.0%	46,394	12.25	2017
2018	331,929	14.07	46,707	46,678	3.00	1,400	48,108	15,569	33,919	192	0	0	0	0	0.0%	48,108	12.69	2018
2019	335,587	14.49	48,631	43,020	3.00	1,291	49,921	16,192	35,020	0	0	0	0	0	NA	48,631	13.13	2019
2020	339,400	14.93	50,664	39,207	3.00	1,176	51,841	16,839	36,178	0	0	0	0	0	NA	48,631	13.57	2020
2021	343,375	15.38	52,816	35,232	3.00	1,057	53,873	17,513	37,418	0	0	0	0	0	NA	52,816	14.01	2021
2022	347,518	15.85	55,094	31,089	3.00	933	56,027	18,213	38,746	0	0	0	0	0	NA	55,094	14.45	2022
2023	351,835	16.34	57,506	26,771	3.00	803	58,309	18,942	40,170	0	0	0	0	0	NA	57,506	14.89	2023
2024	356,338	16.86	60,061	22,269	3.00	668	60,729	19,699	41,698	0	0	0	0	0	NA	60,061	15.33	2024
2025	361,030	17.39	62,769	17,577	3.00	527	63,296	20,487	43,336	0	0	0	0	0	NA	62,769	15.77	2025
2026	365,921	17.94	65,640	12,686	3.00	381	66,021	21,307	45,094	0	0	0	0	0	NA	65,640	16.21	2026
2027	371,019	18.51	68,686	7,588	3.00	228	68,913	22,159	46,982	0	0	0	0	0	NA	68,686	16.65	2027
2028	376,324	19.11	71,917	2,273	3.00	68	71,986	23,046	49,008	0	0	0	0	0	NA	71,917	17.09	2028
2029	381,847	19.73	74,704	0	3.00	0	74,704	23,967	50,736	0	0	0	0	0	NA	74,704	17.53	2029
2030	378,607	20.38	77,150	0	3.00	0	77,150	24,926	52,224	0	0	0	0	0	NA	77,150	17.97	2030
2031	378,607	21.05	79,694	0	3.00	0	79,694	25,923	53,770	0	0	0	0	0	NA	79,694	18.41	2031
2032	378,607	21.75	82,339	0	3.00	0	82,339	26,960	55,379	0	0	0	0	0	NA	82,339	18.85	2032
2033	378,607	22.47	85,091	0	3.00	0	85,091	28,038	57,052	0	0	0	0	0	NA	85,091	19.29	2033
2034	378,607	23.23	87,952	0	3.00	0	87,952	29,160	58,792	0	0	0	0	0	NA	87,952	19.73	2034
2035	378,607	24.02	90,928	0	3.00	0	90,928	30,326	60,602	0	0	0	0	0	NA	90,928	20.17	2035
2036	378,607	24.83	94,023	0	3.00	0	94,023	31,539	62,483	0	0	0	0	0	NA	94,023	20.61	2036
2037	378,607	25.69	97,242	0	3.00	0	97,242	32,801	64,441	0	0	0	0	0	NA	97,242	21.05	2037

16,027,515 1,903,051 56,209 2,249,838 741,877 1,564,170 188,022 429,349 196,000 5,176,070 2,267 1,297,569

Loan Principal (\$=000's) \$196,000
 Inflation Rate 4.00%
 Internal Rate of Return (IRR) 5.47%
 Case Number M2-1

20-Apr-85

YEAR	BASELOAD			ADDITIONAL			TOTAL DEBT SVC (\$=000's)	OPERATIONS & MAINTENANCE				TOTAL COST (\$=000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR	
	SALES (MWH)	RATE (CENTS/KWH)	REVENUE (\$=000's)	SALES (MWH)	RATE (CENTS/KWH)	REVENUE (\$=000's)		ADMIN (\$=000's)	ON-SITE (\$=000's)	R & R (\$=000's)	TOTAL (\$=000's)				RATE (CENTS/KWH)
1986	181,496	2.6	4,719	0	1.6	0	4,719	663	3,576	500	4,939	2.7	9,658	5.3	1986
1987	191,437	2.8	5,360	0	1.8	0	5,360	898	3,719	500	5,117	2.7	10,477	5.5	1987
1988	199,181	3.2	6,374	0	2.2	0	6,374	933	3,808	500	5,301	2.7	11,675	5.9	1988
1989	206,042	3.5	7,211	0	2.5	0	7,211	971	4,022	500	5,493	2.7	12,705	6.2	1989
1990	212,994	4.0	8,520	0	3.0	0	8,520	1,010	4,183	500	5,693	2.7	14,213	6.7	1990
1991	219,067	4.0	8,763	0	3.0	0	8,763	1,050	4,351	500	5,901	2.7	14,663	6.7	1991
1992	226,907	4.0	9,076	0	3.0	0	9,076	1,092	4,525	500	6,117	2.7	15,193	6.7	1992
1993	236,183	4.0	9,447	0	3.0	0	9,447	1,136	4,706	500	6,341	2.7	15,789	6.7	1993
1994	245,893	4.0	9,836	0	3.0	0	9,836	1,181	4,894	500	6,575	2.7	16,411	6.7	1994
1995	255,439	4.0	10,218	0	3.0	0	10,218	1,228	5,090	500	6,818	2.7	17,036	6.7	1995
1996	260,573	4.0	10,421	0	3.0	0	10,421	1,277	5,293	500	7,071	2.7	17,492	6.7	1996
1997	265,897	4.0	10,636	0	3.0	0	10,636	1,329	5,505	500	7,334	2.8	17,970	6.8	1997
1998	271,492	4.0	10,859	0	3.0	0	10,859	1,382	5,725	500	7,607	2.8	18,466	6.8	1998
1999	277,343	4.0	11,094	0	3.0	0	11,094	1,437	5,954	500	7,891	2.8	18,995	6.8	1999
2000	283,488	4.0	11,340	0	3.0	0	11,340	1,494	6,192	500	8,187	2.9	19,526	6.9	2000
2001	288,220	4.0	11,529	0	3.0	0	11,529	1,554	6,440	500	8,494	2.9	20,021	6.9	2001
2002	290,043	4.0	11,602	0	3.0	0	11,602	1,616	6,698	500	8,814	3.0	20,416	7.0	2002
2003	291,926	4.0	11,677	0	3.0	0	11,677	1,681	6,966	500	9,147	3.1	20,824	7.1	2003
2004	293,889	4.0	11,756	0	3.0	0	11,756	1,748	7,244	500	9,493	3.2	21,248	7.2	2004
2005	295,933	4.0	11,837	0	3.0	0	11,837	1,818	7,534	500	9,852	3.3	21,690	7.3	2005
2006	298,067	4.0	11,923	0	3.0	0	11,923	1,891	7,835	500	10,226	3.4	22,149	7.4	2006
2007	300,290	4.0	12,012	0	3.0	0	12,012	1,967	8,149	500	10,615	3.5	22,627	7.5	2007
2008	302,608	4.0	12,104	0	3.0	0	12,104	2,045	8,475	500	11,020	3.6	23,124	7.6	2008
2009	305,023	4.0	12,201	0	3.0	0	12,201	2,127	8,814	500	11,441	3.8	23,642	7.8	2009
2010	307,541	4.0	12,302	0	3.0	0	12,302	2,212	9,166	500	11,879	3.9	24,180	7.9	2010
2011	310,165	4.0	12,407	0	3.0	0	12,407	2,301	9,533	500	12,334	4.0	24,740	8.0	2011
2012	312,901	4.0	12,516	0	3.0	0	12,516	2,393	9,914	500	12,807	4.1	25,323	8.1	2012
2013	315,753	4.0	12,630	0	3.0	0	12,630	2,488	10,311	500	13,299	4.2	25,929	8.2	2013
2014	318,725	4.0	12,749	0	3.0	0	12,749	2,588	10,723	500	13,811	4.3	26,560	8.3	2014
2015	321,824	4.0	12,873	0	3.0	0	12,873	2,691	11,152	500	14,344	4.5	27,217	8.5	2015
2016	325,053	4.0	13,002	0	3.0	0	13,002	2,799	11,598	500	14,897	4.6	27,900	8.6	2016
2017	328,420	4.0	13,137	0	3.0	0	13,137	2,911	12,062	500	15,473	4.7	28,610	8.7	2017
2018	331,929	4.0	13,277	0	3.0	0	13,277	3,027	12,545	500	16,072	4.8	29,349	8.8	2018
2019	335,587	4.0	13,423	0	3.0	0	13,423	3,149	13,047	500	16,695	5.0	30,119	9.0	2019
2020	339,400	4.0	13,576	0	3.0	0	13,576	3,274	13,568	500	17,343	5.1	30,919	9.1	2020
2021	343,375	4.0	13,735	0	3.0	0	13,735	3,405	14,111	500	18,017	5.2	31,752	9.2	2021
2022	347,518	4.0	13,901	0	3.0	0	13,901	3,542	14,676	500	18,717	5.4	32,618	9.4	2022
2023	351,836	4.0	14,073	0	3.0	0	14,073	3,683	15,263	500	19,446	5.5	33,519	9.5	2023
2024	356,338	4.0	14,254	0	3.0	0	14,254	3,831	15,873	500	20,204	5.7	34,457	9.7	2024
2025	361,030	4.0	14,441	0	3.0	0	14,441	3,984	16,508	500	20,992	5.8	35,431	9.8	2025
2026	365,921	4.0	14,637	0	3.0	0	14,637	4,143	17,168	500	21,812	6.0	36,449	10.0	2026
2027	371,019	4.0	14,841	0	3.0	0	14,841	4,309	17,855	500	22,664	6.1	37,505	10.1	2027
2028	376,334	4.0	15,053	0	3.0	0	15,053	4,481	18,569	500	23,551	6.3	38,604	10.3	2028
2029	378,607	4.0	15,144	0	3.0	0	15,144	4,661	19,312	500	24,473	6.5	39,617	10.5	2029
2030	378,607	4.0	15,144	0	3.0	0	15,144	4,847	20,085	500	25,432	6.7	40,576	10.7	2030
2031	378,607	4.0	15,144	0	3.0	0	15,144	5,041	20,898	500	26,429	7.0	41,573	11.0	2031
2032	378,607	4.0	15,144	0	3.0	0	15,144	5,243	21,724	500	27,466	7.3	42,610	11.3	2032
2033	378,607	4.0	15,144	0	3.0	0	15,144	5,452	22,593	500	28,545	7.5	43,689	11.5	2033
2034	378,607	4.0	15,144	0	3.0	0	15,144	5,670	23,496	500	29,667	7.8	44,811	11.8	2034
2035	378,607	4.0	15,144	0	3.0	0	15,144	5,897	24,436	500	30,833	8.1	45,978	12.1	2035
2036	378,607	4.0	15,144	0	3.0	0	15,144	6,133	25,413	500	32,047	8.5	47,191	12.5	2036
2037	378,607	4.0	15,144	0	3.0	0	15,144	6,378	26,430	500	33,308	8.8	48,453	12.8	2037

16,027,515

0

633,639

144,263

597,781

26,000

768,044

1,401,683

Loan Principal (\$=000's) \$196,000
 Inflation Rate 4.00%
 Internal Rate of Return (ROR) 6.10%
 Case Number H2-2

30-Apr-85

YEAR	BASELOAD			ADDITIONAL			TOTAL DEBT SVC (\$=000's)	OPERATIONS & MAINTENANCE				TOTAL COST (\$=000's)	ACTUAL RATE REQUIRED (CENTS/KWH)	YEAR	
	SALES (MWH)	RATE (CENTS/KWH)	REVENUE (\$=000's)	SALES (MWH)	RATE (CENTS/KWH)	REVENUE (\$=000's)		ADMIN (\$=000's)	ON-SITE (\$=000's)	R & R (\$=000's)	TOTAL (\$=000's)				RATE (CENTS/KWH)
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1986	181,496	2.6	4,719	10,828	1.6	173	4,892	863	3,576	500	4,939	2.6	9,831	5.1	1986
1987	191,437	2.8	5,360	21,656	1.8	390	5,750	898	3,719	500	5,117	2.4	10,267	5.1	1987
1988	199,181	3.2	6,374	32,484	2.2	715	7,089	923	3,868	500	5,301	2.3	12,390	5.3	1988
1989	206,042	3.5	7,211	42,312	2.5	1,058	8,269	971	4,023	500	5,493	2.2	13,763	5.5	1989
1990	212,994	4.0	8,520	54,140	3.0	1,624	10,144	1,010	4,183	500	5,693	2.1	15,837	5.9	1990
1991	219,067	4.0	8,763	54,140	3.0	1,624	10,387	1,050	4,351	500	5,901	2.2	16,289	6.0	1991
1992	226,907	4.0	9,076	54,140	3.0	1,624	10,700	1,092	4,525	500	6,117	2.2	16,817	6.0	1992
1993	236,183	4.0	9,447	54,140	3.0	1,624	11,072	1,136	4,706	500	6,341	2.2	17,413	6.0	1993
1994	245,893	4.0	9,836	54,140	3.0	1,624	11,460	1,181	4,894	500	6,575	2.2	18,035	6.0	1994
1995	255,439	4.0	10,218	54,140	3.0	1,624	11,812	1,228	5,090	500	6,818	2.2	18,660	6.0	1995
1996	260,533	4.0	10,421	54,140	3.0	1,624	12,046	1,277	5,293	500	7,071	2.2	19,116	6.1	1996
1997	265,897	4.0	10,676	54,140	3.0	1,624	12,260	1,329	5,505	500	7,334	2.3	19,594	6.1	1997
1998	271,482	4.0	10,859	54,140	3.0	1,624	12,483	1,382	5,725	500	7,607	2.3	20,090	6.2	1998
1999	277,243	4.0	11,094	54,140	3.0	1,624	12,718	1,437	5,954	500	7,891	2.4	20,609	6.2	1999
2000	283,468	4.0	11,340	54,140	3.0	1,624	12,964	1,494	6,192	500	8,187	2.4	21,151	6.3	2000
2001	288,220	4.0	11,529	54,140	3.0	1,624	13,153	1,554	6,440	500	8,494	2.5	21,647	6.3	2001
2002	290,043	4.0	11,602	54,140	3.0	1,624	13,226	1,616	6,698	500	8,814	2.6	22,040	6.4	2002
2003	291,926	4.0	11,677	54,140	3.0	1,624	13,301	1,681	6,966	500	9,147	2.6	22,449	6.5	2003
2004	292,889	4.0	11,756	54,140	3.0	1,624	13,380	1,748	7,244	500	9,493	2.7	22,872	6.6	2004
2005	295,935	4.0	11,837	54,140	3.0	1,624	13,462	1,818	7,534	500	9,852	2.8	23,314	6.7	2005
2006	298,067	4.0	11,923	54,140	3.0	1,624	13,547	1,891	7,835	500	10,226	2.9	23,773	6.7	2006
2007	300,290	4.0	12,012	54,140	3.0	1,624	13,636	1,967	8,149	500	10,615	3.0	24,251	6.8	2007
2008	302,608	4.0	12,104	54,140	3.0	1,624	13,729	2,045	8,475	500	11,020	3.1	24,749	6.9	2008
2009	305,023	4.0	12,201	54,140	3.0	1,624	13,825	2,127	8,814	500	11,441	3.2	25,266	7.0	2009
2010	307,541	4.0	12,302	54,140	3.0	1,624	13,926	2,212	9,166	500	11,879	3.3	25,804	7.1	2010
2011	310,165	4.0	12,407	54,140	3.0	1,624	14,031	2,301	9,533	500	12,334	3.4	26,364	7.2	2011
2012	312,901	4.0	12,516	54,140	3.0	1,624	14,140	2,393	9,914	500	12,807	3.5	26,947	7.3	2012
2013	315,753	4.0	12,629	54,140	3.0	1,624	14,254	2,488	10,311	500	13,299	3.6	27,554	7.4	2013
2014	318,725	4.0	12,749	54,140	3.0	1,624	14,373	2,588	10,723	500	13,811	3.7	28,184	7.6	2014
2015	321,824	4.0	12,873	54,140	3.0	1,624	14,497	2,691	11,152	500	14,344	3.8	28,841	7.7	2015
2016	325,053	4.0	13,002	53,554	3.0	1,607	14,609	2,799	11,598	500	14,897	3.9	29,508	7.8	2016
2017	328,420	4.0	13,137	50,187	3.0	1,506	14,642	2,911	12,062	500	15,473	4.1	30,116	8.0	2017
2018	331,929	4.0	13,277	46,678	3.0	1,400	14,578	3,027	12,545	500	16,072	4.2	30,750	8.1	2018
2019	335,587	4.0	13,423	43,020	3.0	1,291	14,714	3,149	13,047	500	16,695	4.4	31,409	8.3	2019
2020	339,410	4.0	13,576	39,207	3.0	1,176	14,752	3,274	13,568	500	17,343	4.6	32,095	8.5	2020
2021	343,375	4.0	13,725	35,272	3.0	1,057	14,792	3,405	14,111	500	18,017	4.8	32,819	8.7	2021
2022	347,518	4.0	13,901	31,089	3.0	933	14,833	3,542	14,676	500	18,717	4.9	33,581	8.9	2022
2023	351,876	4.0	14,073	26,771	3.0	803	14,877	3,683	15,263	500	19,446	5.1	34,383	9.1	2023
2024	356,328	4.0	14,254	22,269	3.0	668	14,922	3,831	15,873	500	20,204	5.3	35,225	9.3	2024
2025	361,030	4.0	14,441	17,577	3.0	527	14,969	3,984	16,508	500	20,992	5.5	35,961	9.5	2025
2026	365,921	4.0	14,637	12,686	3.0	381	15,017	4,143	17,168	500	21,812	5.8	36,879	9.7	2026
2027	371,019	4.0	14,841	7,589	3.0	228	15,068	4,309	17,855	500	22,684	6.0	37,773	10.0	2027
2028	376,324	4.0	15,053	2,273	3.0	68	15,122	4,481	18,569	500	23,551	6.2	38,672	10.2	2028
2029	38,607	4.0	15,144	0	3.0	0	15,144	4,661	19,312	500	24,473	6.5	39,417	10.5	2029
2030	38,607	4.0	15,144	0	3.0	0	15,144	4,847	20,085	500	25,432	6.7	40,576	10.7	2030
2031	38,607	4.0	15,144	0	3.0	0	15,144	5,041	20,899	500	26,429	7.0	41,573	11.0	2031
2032	38,607	4.0	15,144	0	3.0	0	15,144	5,243	21,724	500	27,466	7.3	42,610	11.3	2032
2033	38,607	4.0	15,144	0	3.0	0	15,144	5,452	22,593	500	28,545	7.5	43,689	11.5	2033
2034	38,607	4.0	15,144	0	3.0	0	15,144	5,670	23,496	500	29,667	7.8	44,811	11.8	2034
2035	38,607	4.0	15,144	0	3.0	0	15,144	5,897	24,436	500	30,833	8.1	45,978	12.1	2035
2036	38,607	4.0	15,144	0	3.0	0	15,144	6,133	25,413	500	32,047	8.5	47,191	12.5	2036
2037	38,607	4.0	15,144	0	3.0	0	15,144	6,378	26,430	500	33,308	8.8	48,453	12.8	2037
	16,027,515		1,903,051				689,847	144,263	597,781	26,000	769,044		1,457,892		

CITY OF WRANGELL, ALASKA

April 8, 1985

TO: WRANGELL CITY COUNCIL
FROM: JOYCE RASLER, CITY MANAGER *JR*
RE: 1985-86 BUDGET

AGENDA

4-9-85
City Mgr Report

I have prepared the Light Fund tentative budget for the 1985-86 fiscal year for continued Tye purchases. I have also computed the generation with the diesel alternative based on the declining cost of diesel. We assume we will continue to purchase from Tye under the same terms as the current agreement, however, even assuming we cannot reach an agreement and we generate our power by diesel, a rate reduction to the consumers is possible. Because of the fall in diesel costs and for the reasons set forth below, I recommend a ten percent (10%) rate reduction in the electrical rates effective with the July, 1985 billing.

The last rate increase was in December, 1979. Our rates were based on an average diesel cost of ninety five cents (\$0.95) per gallon. The rates were also set sufficient to pay back to the General Fund all monies loaned through the years. The loan from General Fund has been reduced annually as shown in the following schedule:

Due to General Fund June 30, 1978	\$540,970
1979	689,561
1980	602,340
1981	285,294
1982	108,203
1983	160,939
1984	-0-

In five years with our existing rates, we retired \$689,561 to the General Fund. Our rates, with the contributions from the Federal Revenue Sharing have also been sufficient to rebuild most of our distribution system, with \$138,000 budgeted in 1986 to complete the construction.

As stated, this proposed rate reduction is not a result of the Tye rate we are now under, it is a result of the declining diesel costs. We would not have to increase rates if we return to diesel operation through a failure to reach an agreement with APA beyond June 30, 1985.

fv

Draft: April 23, 1985

SHORTCOMINGS OF PRICING APA POWER AS A PERCENTAGE OF AVOIDED COST

A. Problems for the purchasing utility (in the Alaskan context)*/

1. Loss of potential loads: Some or all potential large new loads that could increase project utilization will be lost, because such loads demand a higher degree of certainty over longer periods. Many such loads will either be met with private generation or cogeneration (e.g., Wrangell Forest Products) or will be lost entirely (e.g., Phillips). In the cogeneration case, the utility may be required by law to purchase excess cogenerated power from the private party, thus reducing the utility's own purchases from the APA project. In the case of loads lost because the economic activity is relocated (e.g., to the Lower 48), the community loses not only employment and taxes, but also the "induced" loads, i.e., increases in other community loads resulting from the economic activity represented by the primary load.

2. Ratemaking and billing problems: The utility must make its retail rates prospectively, yet its power costs will become known only retrospectively. Matching costs to rates during each rate period (and keeping rates fairly predictable for consumers), always a chore, becomes significantly more difficult.

3. Added administrative costs: A fairly sophisticated formula is needed to calculate true avoided cost, and the values for each variable in the formula must be recalculated at frequent (e.g., monthly) intervals. This would create some administrative burden even if (a) diesel were the only alternative, and (b) disputes with APA over the proper value for each variable never arose. (It is also difficult to continue getting realistic quotes for a large volume of diesel once the utility begins buying reduced volumes.) In practice, the difficulties are even greater because (a) the formula must accommodate other alternatives (e.g., cogeneration) as such alternatives become available, and (b) disputes with the APA over the value of individual variables are likely.

*/ Such pricing works well in power "pools" in which a sophisticated computer controls the generators of many producers on an instantaneous central-dispatch basis. The computer is programed to minimize total generation costs at all times, based on each generator's fuel cost, efficiency, and maximum/minimum operating guides. Cost savings made possible by using Utility A's generator rather than Utility B's to serve a portion of Utility B's load are "split" (usually on a 50/50 basis) through use of a share-the-savings rate the computer charges to Utility B and credits to Utility A. The actual rate for each transaction, and each utility's costs and savings for any given period, are known at once, facilitating utility ratemaking and billing. Nothing similar exists in Alaska, nor could it exist in the Four Dam Pool context where (a) the communities are not electrically interconnected, and (b) APA power is intended to displace thermal generation completely for most days of the year.

4. Regulatory costs: For the cooperatives (Kodiak and Copper Valley), whose retail rates are regulated by the Alaska PUC, rate filings and rate cases will become more frequent, more complex, and more costly. If the past is a guide, the APUC may also require the co-ops to raise/lower retail rates to "track" the fluctuating wholesale cost of power to the co-op, thus producing fluctuating retail rates.

5. Planning problems: The search for alternative sources of power supply with more predictable long-term costs would be intensified and simultaneously complicated. Presumably the planning process would be biased (rationally) toward predictability, even if the price of predictability were that somewhat higher retail rates might result from the more predictable alternatives.

6. Uncertain impact on utility financing: It is not clear that a utility would be able to finance additions to its distribution system and/or its generating plant as easily or inexpensively as would otherwise be the case, since the utility's revenue stream and its ability to maintain required coverage ratios and reserves would be somewhat unpredictable.

B. Problems for the State of Alaska as the seller of power

1. Reduced revenue: Compared with long-term contracts under the terms of HB 219 pricing method, power sold on a percentage-of-avoided-cost basis is likely to produce less total revenue for the State, even if one assumes that loads are equal in both cases. But loads will actually be less (see ¶ A.1. above). The loss of potential large new loads that would have produced more revenue for the State would make the comparative revenue disadvantage to the State worse.

2. Increased revenue risk: This would take two forms. First, the State would take the entire risk of further downward movement in the price of diesel and the cost of alternative resources, whereas under HB 219 the communities would bear that risk entirely. Second, because the utilities would be free, over time, to switch wholly or partially to other sources of supply, and because the utilities would have an incentive to investigate and pursue such other sources, the State would face some risk of losing even the existing loads of the utilities, as well as utility load growth.

3. Risk of negative rate of return (failure to cover current costs): This simply indicates the extreme to which the State's additional risk could take it. Under HB 219, the State is assured that (a) O&M costs will be completely paid by the utilities, and (b) some positive return, in addition to return of the principal, will be earned on the State's loan. If wholesale rates are tied to actual avoided costs of the utilities, however, a sufficiently great drop in actual avoided costs would result in the APA failing to cover even its O&M costs. In less extreme cases, APA might cover its O&M costs but fail to earn sufficient revenue to repay the principal and/or interest on the loan.

4. Added administrative costs: Administering such a pricing system would be just as complex and labor-intensive for the APA as it would be for the utilities.

4/22/85

MEMORANDUM

TO: Sen. Arliss Sturgulewski, Chair,
Senate Resources Committee

FROM: Rep. John Sund

RE: HB 219 "An act relating to the applicability of the Alaska Public Utilities Commission Act to certain electric utilities; power development loans; and the energy program for Alaska."

The purpose of this bill is to ^{resolve} settle the four-dam-pool financing problem. The Alaska Power Authority and the six ^{several} four-dam-pool communities have been negotiating ^{for 2 1/2} years to ~~try to reach~~ power sales agreements acceptable to all parties. The issue is one of establishing a power sales rate that provides a reasonable return on the state's investment and also provides affordable electricity for the ~~four-dam-pool~~ communities.

Specifically, the problem is one of establishing terms for the \$196 million ^{loan} ~~loan~~ appropriated last session (\$210 million was appropriated; \$196 million has been spent). This appropriation was used to pay off short-term bonds issued by the APA to complete construction on the four dams. The appropriation was structured as an unsecured loan from the

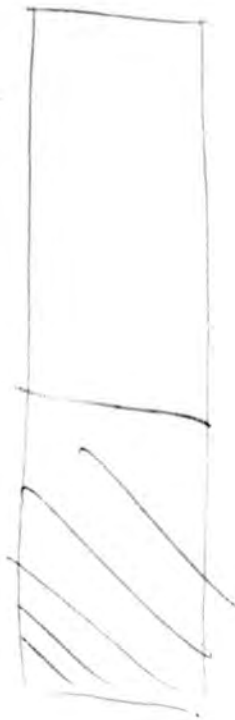
Cases

	Inflation Rate(%)	additional Sales(GWh) /yr
(Base Case)	6	0
	4	0
	6	25
	4	25
	6	50
	4	50

Tyee



Diesel



Solomon
Gutch



INFL RATE 4.00
 ROR 4.83
 RAR 500K

FISCAL YEAR	TOTAL SALES (GWH)	BASE SALES (GWH)	MORE (LESS) SALES (GWH)	OPERATIONS		TOTAL O&M (\$000)	BASE DEBT SERVICE (\$000)	ADD DEBT SERVICE (\$000)	TOTAL DEBT SERVICE (\$000)	PROD OST (\$000)
				ADMIN (\$000)	ON-SITE (\$000)					
1985										
1986	181.5	181.5	0.0	863	3,576	4,939	4,719	0	4,719	9,658
1987	191.4	191.4	0.0	915	3,790	5,205	5,359	0	5,359	10,564
1988	199.2	199.2	0.0	970	4,018	5,687	6,374	0	6,374	11,862
1989	206.0	206.0	0.0	1,028	4,259	5,787	7,210	0	7,210	12,997
1990	213.0	213.0	0.0	1,090	4,514	6,104	8,520	0	8,520	14,624
1991	219.1	219.1	0.0	1,155	4,785	6,440	8,764	0	8,764	15,204
1992	226.9	226.9	0.0	1,224	5,072	6,796	9,076	0	9,076	15,872
1993	236.2	236.2	0.0	1,298	5,376	7,174	9,448	0	9,448	16,622
1994	245.9	245.9	0.0	1,376	5,699	7,575	9,836	0	9,836	17,411
1995	255.4	255.4	0.0	1,458	6,041	7,999	10,216	0	10,216	18,215
1996	260.6	260.6	0.0	1,546	6,403	8,449	10,424	0	10,424	18,873
1997	265.9	265.9	0.0	1,638	6,788	8,926	10,636	0	10,636	19,562
1998	271.5	271.5	0.0	1,737	7,195	9,432	10,860	0	10,860	20,292
1999	277.3	277.3	0.0	1,841	7,626	9,967	11,092	0	11,092	21,059
2000	283.5	283.5	0.0	1,951	8,084	10,535	11,340	0	11,340	21,875
2001	288.2	288.2	0.0	2,068	8,569	11,138	11,528	0	11,528	22,666
2002	290.0	290.0	0.0	2,193	9,083	11,776	11,600	0	11,600	23,376
2003	291.9	291.9	0.0	2,324	9,628	12,452	11,676	0	11,676	24,128
2004	293.9	293.9	0.0	2,464	10,206	13,170	11,756	0	11,756	24,926
2005	295.9	295.9	0.0	2,611	10,818	13,930	11,836	0	11,836	25,766
2006	298.1	298.1	0.0	2,768	11,467	14,736	11,924	0	11,924	26,660
2007	300.3	300.3	0.0	2,934	12,155	15,590	12,012	0	12,012	27,602
2008	302.6	302.6	0.0	3,110	12,885	16,495	12,104	0	12,104	28,599
2009	305.0	305.0	0.0	3,297	13,658	17,455	12,200	0	12,200	29,655
2010	307.5	307.5	0.0	3,495	14,477	18,472	12,300	0	12,300	30,772
2011	310.2	310.2	0.0	3,704	15,346	19,550	12,408	0	12,408	31,958
2012	312.9	312.9	0.0	3,927	16,267	20,693	12,516	0	12,516	33,209
2013	315.8	315.8	0.0	4,162	17,243	21,905	12,632	0	12,632	34,537
2014	318.7	318.7	0.0	4,412	18,277	23,189	12,748	0	12,748	35,937
2015	321.8	321.8	0.0	4,677	19,374	24,551	12,872	0	12,872	37,423
2016	325.1	325.1	0.0	4,957	20,536	25,994	13,004	0	13,004	38,998
2017	328.4	328.4	0.0	5,255	21,769	27,523	13,136	0	13,136	40,659
2018	331.9	331.9	0.0	5,570	23,075	29,145	13,276	0	13,276	42,421
2019	335.6	335.6	0.0	5,904	24,459	30,863	13,424	0	13,424	44,287
2020	339.4	339.4	0.0	6,258	25,927	32,685	13,576	0	13,576	46,261
2021	343.4	343.4	0.0	6,634	27,482	34,616	13,736	0	13,736	48,352
2022	347.5	347.5	0.0	7,032	29,131	36,663	13,900	0	13,900	50,563
2023	351.8	351.8	0.0	7,454	30,879	38,833	14,072	0	14,072	52,905
2024	356.3	356.3	0.0	7,901	32,732	41,133	14,252	0	14,252	55,385
2025	361.0	361.0	0.0	8,375	34,696	43,571	14,440	0	14,440	58,011
2026	365.9	365.9	0.0	8,878	36,778	46,155	14,636	0	14,636	60,791
2027	371.0	371.0	0.0	9,410	38,984	48,895	14,840	0	14,840	63,735
2028	376.3	376.3	0.0	9,975	41,323	51,798	15,052	0	15,052	66,850
2029	378.6	378.6	0.0	10,573	43,803	54,876	15,144	0	15,144	70,020
2030	378.6	378.6	0.0	11,208	46,431	58,139	15,144	0	15,144	73,283
2031	378.6	378.6	0.0	11,880	49,217	61,597	15,144	0	15,144	76,741
2032	378.6	378.6	0.0	12,593	52,170	65,263	15,144	0	15,144	80,407
2033	378.6	378.6	0.0	13,349	55,300	69,149	15,144	0	15,144	84,293
2034	378.6	378.6	0.0	14,150	58,618	73,267	15,144	0	15,144	88,411

SALES RATE				PV OF
TOTAL	O & M	B. O. S.	A. O. S.	D. S.
(c/kWh)	(c/kWh)	(c/kWh)	(c/kWh)	(0000)
				(196,000)
				1,800
5.3	2.7	2.6	1.6	4,502
5.5	2.7	2.8	1.8	4,877
6.0	2.8	3.2	2.2	5,533
6.3	2.8	3.5	2.5	5,970
6.9	2.9	4.0	3.0	6,730
6.9	2.9	4.0	3.0	6,604
7.0	3.0	4.0	3.0	6,524
7.0	3.0	4.0	3.0	6,478
7.1	3.1	4.0	3.0	6,434
7.1	3.1	4.0	3.0	6,374
7.2	3.2	4.0	3.0	6,204
7.4	3.4	4.0	3.0	6,039
7.5	3.5	4.0	3.0	5,882
7.6	3.6	4.0	3.0	5,731
7.7	3.7	4.0	3.0	5,589
7.9	3.9	4.0	3.0	5,420
8.1	4.1	4.0	3.0	5,202
8.3	4.3	4.0	3.0	4,995
8.5	4.5	4.0	3.0	4,798
8.7	4.7	4.0	3.0	4,608
8.9	4.9	4.0	3.0	4,428
9.2	5.2	4.0	3.0	4,255
9.5	5.5	4.0	3.0	4,090
9.7	5.7	4.0	3.0	3,933
10.0	6.0	4.0	3.0	3,782
10.3	6.3	4.0	3.0	3,640
10.6	6.6	4.0	3.0	3,502
10.9	6.9	4.0	3.0	3,372
11.3	7.3	4.0	3.0	3,246
11.6	7.6	4.0	3.0	3,127
12.0	8.0	4.0	3.0	3,013
12.4	8.4	4.0	3.0	2,904
12.8	8.8	4.0	3.0	2,799
13.2	9.2	4.0	3.0	2,700
13.6	9.6	4.0	3.0	2,605
14.1	10.1	4.0	3.0	2,514
14.6	10.6	4.0	3.0	2,427
15.0	11.0	4.0	3.0	2,344
15.5	11.5	4.0	3.0	2,264
16.1	12.1	4.0	3.0	2,188
16.6	12.6	4.0	3.0	2,116
17.2	13.2	4.0	3.0	2,047
17.8	13.8	4.0	3.0	1,980
18.5	14.5	4.0	3.0	1,901
19.4	15.4	4.0	3.0	1,813
20.3	16.3	4.0	3.0	1,729
21.2	17.2	4.0	3.0	1,650
22.3	18.3	4.0	3.0	1,574
23.4	19.4	4.0	3.0	1,501

INFL RATE 4.00
 POP 4.83
 PER 500K

FISCAL YEAR	TOTAL SALES (GW)	BASE SALES (GW)	MORE (LESS) SALES (GW)	OPERATIONS		TOTAL O&M (\$000)	BASE DEBT SERVICE (\$000)	ADD DEBT SERVICE (\$000)	TOTAL DEBT SERVICE (\$000)	PROD COST (\$000)
				ADMIN (\$000)	ON-SITE (\$000)					
1985										
1986	181.5	181.5	0.0	863	3,576	4,939	4,719	0	4,719	9,658
1987	191.4	191.4	0.0	898	3,719	5,116	5,359	0	5,359	10,475
1988	199.2	199.2	0.0	934	3,867	5,301	6,374	0	6,374	11,675
1989	206.0	206.0	0.0	971	4,022	5,493	7,210	0	7,210	12,703
1990	213.0	213.0	0.0	1,010	4,183	5,693	8,520	0	8,520	14,213
1991	219.1	219.1	0.0	1,050	4,350	5,900	8,764	0	8,764	14,664
1992	226.9	226.9	0.0	1,092	4,524	6,116	9,076	0	9,076	15,192
1993	236.2	236.2	0.0	1,136	4,705	6,341	9,448	0	9,448	15,789
1994	245.9	245.9	0.0	1,181	4,893	6,575	9,836	0	9,836	16,411
1995	255.4	255.4	0.0	1,228	5,089	6,818	10,216	0	10,216	17,034
1996	260.6	260.6	0.0	1,278	5,293	7,070	10,424	0	10,424	17,494
1997	265.9	265.9	0.0	1,329	5,504	7,333	10,636	0	10,636	17,969
1998	271.5	271.5	0.0	1,382	5,725	7,607	10,860	0	10,860	18,467
1999	277.3	277.3	0.0	1,437	5,954	7,891	11,092	0	11,092	18,983
2000	283.5	283.5	0.0	1,495	6,192	8,186	11,340	0	11,340	19,524
2001	288.2	288.2	0.0	1,554	6,439	8,494	11,528	0	11,528	20,022
2002	290.0	290.0	0.0	1,617	6,697	8,814	11,600	0	11,600	20,414
2003	291.9	291.9	0.0	1,681	6,965	9,146	11,676	0	11,676	20,822
2004	293.9	293.9	0.0	1,748	7,244	9,492	11,756	0	11,756	21,248
2005	295.9	295.9	0.0	1,818	7,533	9,852	11,836	0	11,836	21,688
2006	298.1	298.1	0.0	1,891	7,835	10,226	11,924	0	11,924	22,150
2007	300.3	300.3	0.0	1,967	8,148	10,615	12,012	0	12,012	22,627
2008	302.6	302.6	0.0	2,045	8,474	11,019	12,104	0	12,104	23,123
2009	305.0	305.0	0.0	2,127	8,813	11,440	12,200	0	12,200	23,640
2010	307.5	307.5	0.0	2,212	9,165	11,878	12,300	0	12,300	24,178
2011	310.2	310.2	0.0	2,301	9,532	12,333	12,408	0	12,408	24,741
2012	312.9	312.9	0.0	2,393	9,913	12,806	12,516	0	12,516	25,322
2013	315.8	315.8	0.0	2,489	10,310	13,298	12,632	0	12,632	25,930
2014	318.7	318.7	0.0	2,588	10,722	13,810	12,748	0	12,748	26,558
2015	321.8	321.8	0.0	2,692	11,151	14,343	12,872	0	12,872	27,215
2016	325.1	325.1	0.0	2,799	11,597	14,896	13,004	0	13,004	27,900
2017	328.4	328.4	0.0	2,911	12,061	15,472	13,136	0	13,136	28,608
2018	331.9	331.9	0.0	3,028	12,543	16,071	13,276	0	13,276	29,347
2019	335.6	335.6	0.0	3,149	13,045	16,694	13,424	0	13,424	30,118
2020	339.4	339.4	0.0	3,275	13,567	17,342	13,576	0	13,576	30,918
2021	343.4	343.4	0.0	3,406	14,110	18,016	13,736	0	13,736	31,752
2022	347.5	347.5	0.0	3,542	14,674	18,716	13,900	0	13,900	32,616
2023	351.8	351.8	0.0	3,684	15,261	19,445	14,072	0	14,072	33,517
2024	356.3	356.3	0.0	3,831	15,871	20,203	14,252	0	14,252	34,455
2025	361.0	361.0	0.0	3,984	16,506	20,991	14,440	0	14,440	35,431
2026	365.9	365.9	0.0	4,144	17,167	21,810	14,636	0	14,636	36,446
2027	371.0	371.0	0.0	4,310	17,853	22,663	14,840	0	14,840	37,503
2028	376.3	376.3	0.0	4,482	18,567	23,549	15,052	0	15,052	38,601
2029	378.6	378.6	0.0	4,661	19,310	24,471	15,144	0	15,144	39,615
2030	378.6	378.6	0.0	4,848	20,082	25,430	15,144	0	15,144	40,574
2031	378.6	378.6	0.0	5,042	20,886	26,427	15,144	0	15,144	41,571
2032	378.6	378.6	0.0	5,243	21,721	27,464	15,144	0	15,144	42,608
2033	378.6	378.6	0.0	5,453	22,590	28,543	15,144	0	15,144	43,687
2034	378.6	378.6	0.0	5,671	23,494	29,665	15,144	0	15,144	44,809

SALES RATE				PV OF
TOTAL	O & M	B O S	A O S	O.S.
(c/kWh)	(c/kWh)	(c/kWh)	(c/kWh)	(196,000)
				1,800
5 3	2 7	2 6	1 6	4,502
5 5	2 7	2 8	1 8	4,877
5 9	2 7	3 2	2 2	5,533
6 2	2 7	3 5	2 5	5,970
6 7	2 7	4 0	3 0	6,730
6 7	2 7	4 0	3 0	6,604
6 7	2 7	4 0	3 0	6,524
6 7	2 7	4 0	3 0	6,478
6 7	2 7	4 0	3 0	6,434
6 7	2 7	4 0	3 0	6,374
6 7	2 7	4 0	3 0	6,204
6 8	2 8	4 0	3 0	6,039
6 8	2 8	4 0	3 0	5,882
6 8	2 8	4 0	3 0	5,731
6 9	2 9	4 0	3 0	5,589
6 9	2 9	4 0	3 0	5,420
7 0	3 0	4 0	3 0	5,202
7 1	3 1	4 0	3 0	4,995
7 2	3 2	4 0	3 0	4,798
7 3	3 3	4 0	3 0	4,608
7 4	3 4	4 0	3 0	4,428
7 5	3 5	4 0	3 0	4,255
7 6	3 6	4 0	3 0	4,090
7 8	3 8	4 0	3 0	3,933
7 9	3 9	4 0	3 0	3,782
8 0	4 0	4 0	3 0	3,640
8 1	4 1	4 0	3 0	3,502
8 2	4 2	4 0	3 0	3,372
8 3	4 3	4 0	3 0	3,246
8 5	4 5	4 0	3 0	3,127
8 6	4 6	4 0	3 0	3,013
8 7	4 7	4 0	3 0	2,904
8 8	4 8	4 0	3 0	2,799
9 0	5 0	4 0	3 0	2,700
9 1	5 1	4 0	3 0	2,605
9 2	5 2	4 0	3 0	2,514
9 4	5 4	4 0	3 0	2,427
9 5	5 5	4 0	3 0	2,344
9 7	5 7	4 0	3 0	2,264
9 8	5 8	4 0	3 0	2,188
10 0	6 0	4 0	3 0	2,116
10 1	6 1	4 0	3 0	2,047
10 3	6 3	4 0	3 0	1,980
10 5	6 5	4 0	3 0	1,901
10 7	6 7	4 0	3 0	1,813
11 0	7 0	4 0	3 0	1,729
11 3	7 3	4 0	3 0	1,650
11 5	7 5	4 0	3 0	1,574
11 8	7 8	4 0	3 0	1,501

INFL RATE 6.00
 ROR 5.17
 RFR 500K

FISCAL YEAR	TOTAL SALES (GWH)	BASE SALES (GWH)	MORE (LESS) SALES (GWH)	OPERATIONS		TOTAL O&M (\$000)	BASE DEBT SERVICE (\$000)	ADD DEBT SERVICE (\$000)	TOTAL DEBT SERVICE (\$000)	PROD COST (\$000)
				ADMIN (\$000)	ON-SITE (\$000)					
1985										
1986	206.5	181.5	25.0	863	3,576	4,939	4,719	400	5,119	10,058
1987	216.4	191.4	25.0	915	3,790	5,205	5,359	450	5,809	11,014
1988	224.2	199.2	25.0	970	4,018	5,487	6,374	550	6,924	12,412
1989	231.0	206.0	25.0	1,028	4,259	5,787	7,210	625	7,835	13,622
1990	238.0	213.0	25.0	1,090	4,514	6,104	8,520	750	9,270	15,374
1991	244.1	219.1	25.0	1,155	4,785	6,440	8,764	750	9,514	15,954
1992	251.9	226.9	25.0	1,224	5,072	6,796	9,076	750	9,826	16,622
1993	261.2	236.2	25.0	1,298	5,376	7,174	9,448	750	10,198	17,372
1994	270.9	245.9	25.0	1,376	5,699	7,575	9,836	750	10,586	18,161
1995	280.4	255.4	25.0	1,458	6,041	7,999	10,216	750	10,964	18,965
1996	285.6	260.6	25.0	1,546	6,403	8,449	10,424	750	11,174	19,623
1997	290.9	265.9	25.0	1,638	6,788	8,926	10,636	750	11,386	20,312
1998	296.5	271.5	25.0	1,737	7,195	9,432	10,860	750	11,610	21,042
1999	302.3	277.3	25.0	1,841	7,626	9,967	11,092	750	11,842	21,809
2000	308.5	283.5	25.0	1,951	8,084	10,535	11,340	750	12,090	22,625
2001	313.2	288.2	25.0	2,068	8,569	11,138	11,528	750	12,278	23,416
2002	315.0	290.0	25.0	2,193	9,083	11,776	11,600	750	12,350	24,126
2003	316.9	291.9	25.0	2,324	9,628	12,452	11,676	750	12,426	24,873
2004	318.9	293.9	25.0	2,464	10,206	13,170	11,756	750	12,506	25,676
2005	320.9	295.9	25.0	2,611	10,818	13,930	11,836	750	12,586	26,516
2006	323.1	298.1	25.0	2,768	11,467	14,736	11,924	750	12,674	27,410
2007	325.3	300.3	25.0	2,934	12,155	15,590	12,012	750	12,762	28,352
2008	327.6	302.6	25.0	3,110	12,885	16,495	12,104	750	12,854	29,349
2009	330.0	305.0	25.0	3,297	13,658	17,455	12,200	750	12,950	30,405
2010	332.5	307.5	25.0	3,495	14,477	18,472	12,300	750	13,050	31,522
2011	335.2	310.2	25.0	3,704	15,346	19,550	12,408	750	13,158	32,708
2012	337.9	312.9	25.0	3,927	16,267	20,693	12,516	750	13,266	33,959
2013	340.8	315.8	25.0	4,162	17,243	21,905	12,632	750	13,382	35,287
2014	343.7	318.7	25.0	4,412	18,277	23,189	12,748	750	13,498	36,687
2015	346.8	321.8	25.0	4,677	19,374	24,551	12,872	750	13,622	38,173
2016	350.1	325.1	25.0	4,957	20,536	25,994	13,004	750	13,754	39,748
2017	353.4	328.4	25.0	5,255	21,769	27,523	13,136	750	13,886	41,409
2018	356.9	331.9	25.0	5,570	23,075	29,145	13,276	750	14,026	43,171
2019	360.6	335.6	25.0	5,904	24,459	30,863	13,424	750	14,174	45,037
2020	364.4	339.4	25.0	6,258	25,927	32,685	13,576	750	14,326	47,011
2021	368.4	343.4	25.0	6,634	27,482	34,616	13,736	750	14,486	49,102
2022	372.5	347.5	25.0	7,032	29,131	36,663	13,900	750	14,650	51,313
2023	376.8	351.8	25.0	7,454	30,879	38,833	14,072	750	14,822	53,655
2024	378.6	356.3	22.3	7,901	32,732	41,133	14,252	669	14,921	56,054
2025	378.6	361.0	17.6	8,375	34,696	43,571	14,440	528	14,968	58,539
2026	378.6	365.9	12.7	8,878	36,778	46,155	14,636	381	15,017	61,172
2027	378.6	371.0	7.6	9,410	38,984	48,895	14,840	228	15,068	63,963
2028	378.6	376.3	2.3	9,975	41,323	51,798	15,052	69	15,121	66,919
2029	378.6	378.6	0.0	10,573	43,803	54,876	15,144	0	15,144	70,020
2030	378.6	378.6	0.0	11,208	46,431	58,139	15,144	0	15,144	73,283
2031	378.6	378.6	0.0	11,880	49,217	61,597	15,144	0	15,144	76,741
2032	378.6	378.6	0.0	12,593	52,170	65,263	15,144	0	15,144	80,407
2033	378.6	378.6	0.0	13,349	55,300	69,149	15,144	0	15,144	84,293
2034	378.6	378.6	0.0	14,150	58,618	73,267	15,144	0	15,144	88,411

SALES RATE				PV OF
TOTAL	D & M	B.D.S.	A.D.S.	O.S.
(c/kWh)	(c/kWh)	(c/kWh)	(c/kWh)	(\$000)
				(196,000)
				1,800
5.0	2.4	2.6	1.6	4,867
5.2	2.4	2.8	1.8	5,252
5.6	2.4	3.2	2.2	5,953
6.0	2.5	3.5	2.5	6,404
6.6	2.6	4.0	3.0	7,205
6.6	2.6	4.0	3.0	7,031
6.7	2.7	4.0	3.0	6,905
6.7	2.7	4.0	3.0	6,814
6.8	2.8	4.0	3.0	6,725
6.9	2.9	4.0	3.0	6,624
7.0	3.0	4.0	3.0	6,418
7.1	3.1	4.0	3.0	6,218
7.2	3.2	4.0	3.0	6,029
7.3	3.3	4.0	3.0	5,847
7.4	3.4	4.0	3.0	5,676
7.6	3.6	4.0	3.0	5,481
7.7	3.7	4.0	3.0	5,242
7.9	3.9	4.0	3.0	5,015
8.1	4.1	4.0	3.0	4,799
8.3	4.3	4.0	3.0	4,593
8.6	4.6	4.0	3.0	4,397
8.8	4.8	4.0	3.0	4,210
9.0	5.0	4.0	3.0	4,032
9.3	5.3	4.0	3.0	3,862
9.6	5.6	4.0	3.0	3,701
9.8	5.8	4.0	3.0	3,548
10.1	6.1	4.0	3.0	3,401
10.4	6.4	4.0	3.0	3,262
10.7	6.7	4.0	3.0	3,129
11.1	7.1	4.0	3.0	3,003
11.4	7.4	4.0	3.0	2,883
11.8	7.8	4.0	3.0	2,767
12.2	8.2	4.0	3.0	2,658
12.6	8.6	4.0	3.0	2,554
13.0	9.0	4.0	3.0	2,454
13.4	9.4	4.0	3.0	2,360
13.8	9.8	4.0	3.0	2,269
14.3	10.3	4.0	3.0	2,183
14.9	10.9	4.0	3.0	2,089
15.5	11.5	4.0	3.0	1,993
16.2	12.2	4.0	3.0	1,901
16.9	12.9	4.0	3.0	1,814
17.7	13.7	4.0	3.0	1,731
18.5	14.5	4.0	3.0	1,648
19.4	15.4	4.0	3.0	1,567
20.3	16.3	4.0	3.0	1,490
21.2	17.2	4.0	3.0	1,417
22.3	18.3	4.0	3.0	1,347
23.4	19.4	4.0	3.0	1,281

INFL RATE 4.00
 ROR 5.17
 R&R 500K

FISCAL YEAR	TOTAL SALES (GWh)	BASE SALES (GWh)	MORE (LESS) SALES (GWh)	OPERATIONS		TOTAL O&M (\$000)	BASE DEBT SERVICE (\$000)	ADD DEBT SERVICE (\$000)	TOTAL DEBT SERVICE (\$000)	PROD COST (\$000)
				ADMIN (\$000)	ON-SITE (\$000)					
1985										
1986	206.5	181.5	25.0	863	3,576	4,939	4,719	400	5,119	10,058
1987	216.4	191.4	25.0	898	3,719	5,116	5,359	450	5,809	10,925
1988	224.2	199.2	25.0	934	3,867	5,301	6,374	550	6,924	12,725
1989	231.0	206.0	25.0	971	4,022	5,493	7,210	625	7,835	13,328
1990	238.0	213.0	25.0	1,010	4,183	5,693	8,520	750	9,270	14,963
1991	244.1	219.1	25.0	1,050	4,350	5,900	8,764	750	9,514	15,414
1992	251.9	226.9	25.0	1,092	4,524	6,116	9,076	750	9,826	15,942
1993	261.2	236.2	25.0	1,136	4,705	6,341	9,448	750	10,198	16,539
1994	270.9	245.9	25.0	1,181	4,893	6,575	9,836	750	10,586	17,161
1995	280.4	255.4	25.0	1,228	5,089	6,818	10,216	750	10,966	17,784
1996	285.6	260.6	25.0	1,278	5,293	7,070	10,424	750	11,174	18,244
1997	290.9	265.9	25.0	1,329	5,504	7,333	10,636	750	11,386	18,719
1998	296.5	271.5	25.0	1,382	5,725	7,607	10,860	750	11,610	19,217
1999	302.3	277.3	25.0	1,437	5,954	7,891	11,092	750	11,842	19,733
2000	308.5	283.5	25.0	1,495	6,192	8,186	11,340	750	12,090	20,276
2001	313.2	288.2	25.0	1,554	6,439	8,494	11,528	750	12,278	20,772
2002	315.0	290.0	25.0	1,617	6,697	8,814	11,600	750	12,350	21,164
2003	316.9	291.9	25.0	1,681	6,965	9,146	11,676	750	12,426	21,572
2004	318.9	293.9	25.0	1,748	7,244	9,492	11,756	750	12,506	21,998
2005	320.9	295.9	25.0	1,818	7,533	9,852	11,836	750	12,586	22,438
2006	323.1	298.1	25.0	1,891	7,835	10,226	11,924	750	12,674	22,900
2007	325.3	300.3	25.0	1,967	8,148	10,615	12,012	750	12,767	23,377
2008	327.6	302.6	25.0	2,045	8,474	11,019	12,104	750	12,854	23,873
2009	330.0	305.0	25.0	2,127	8,813	11,440	12,200	750	12,950	24,390
2010	332.5	307.5	25.0	2,212	9,165	11,878	12,300	750	13,050	24,928
2011	335.2	310.2	25.0	2,301	9,532	12,333	12,408	750	13,158	25,491
2012	337.9	312.9	25.0	2,393	9,913	12,806	12,516	750	13,266	26,072
2013	340.8	315.8	25.0	2,489	10,310	13,298	12,632	750	13,382	26,680
2014	343.7	318.7	25.0	2,588	10,722	13,810	12,748	750	13,498	27,308
2015	346.8	321.8	25.0	2,692	11,151	14,343	12,872	750	13,622	27,965
2016	350.1	325.1	25.0	2,799	11,597	14,896	13,004	750	13,754	28,650
2017	353.4	328.4	25.0	2,911	12,061	15,472	13,136	750	13,886	29,358
2018	356.9	331.9	25.0	3,028	12,543	16,071	13,276	750	14,026	30,097
2019	360.6	335.6	25.0	3,149	13,045	16,694	13,424	750	14,174	30,868
2020	364.4	339.4	25.0	3,275	13,567	17,342	13,576	750	14,326	31,668
2021	368.4	343.4	25.0	3,406	14,110	18,016	13,736	750	14,486	32,502
2022	372.5	347.5	25.0	3,542	14,674	18,716	13,900	750	14,650	33,366
2023	376.8	351.8	25.0	3,684	15,261	19,445	14,072	750	14,822	34,267
2024	378.6	356.3	22.3	3,831	15,871	20,203	14,252	669	14,921	35,124
2025	378.6	361.0	17.6	3,984	16,506	20,991	14,440	528	14,968	35,959
2026	378.6	365.9	12.7	4,144	17,167	21,810	14,636	381	15,017	36,827
2027	378.6	371.0	7.6	4,310	17,853	22,663	14,840	228	15,068	37,731
2028	378.6	376.3	2.3	4,482	18,567	23,549	15,052	69	15,121	38,670
2029	378.6	378.6	0.0	4,661	19,310	24,471	15,144	0	15,144	39,615
2030	378.6	378.6	0.0	4,848	20,082	25,430	15,144	0	15,144	40,574
2031	378.6	378.6	0.0	5,042	20,886	26,427	15,144	0	15,144	41,571
2032	378.6	378.6	0.0	5,243	21,721	27,464	15,144	0	15,144	42,608
2033	378.6	378.6	0.0	5,453	22,590	28,543	15,144	0	15,144	43,687
2034	378.6	378.6	0.0	5,671	23,494	29,665	15,144	0	15,144	44,809

TOTAL (c/kWh)	SALES RATE			PV OF O.S. (\$000) (196,000)
	O & M (c/kWh)	B.D.S. (c/kWh)	A.D.S. (c/kWh)	
5.0	2.4	2.6	1.6	4,867
5.2	2.4	2.8	1.8	5,252
5.6	2.4	3.2	2.2	5,953
5.9	2.4	3.5	2.5	6,404
6.4	2.4	4.0	3.0	7,205
6.4	2.4	4.0	3.0	7,031
6.4	2.4	4.0	3.0	6,905
6.4	2.4	4.0	3.0	6,814
6.4	2.4	4.0	3.0	6,725
6.4	2.4	4.0	3.0	6,624
6.5	2.5	4.0	3.0	6,418
6.5	2.5	4.0	3.0	6,218
6.6	2.6	4.0	3.0	6,029
6.6	2.6	4.0	3.0	5,847
6.7	2.7	4.0	3.0	5,676
6.7	2.7	4.0	3.0	5,481
6.8	2.8	4.0	3.0	5,242
6.9	2.9	4.0	3.0	5,015
7.0	3.0	4.0	3.0	4,799
7.1	3.1	4.0	3.0	4,593
7.2	3.2	4.0	3.0	4,397
7.3	3.3	4.0	3.0	4,210
7.4	3.4	4.0	3.0	4,032
7.5	3.5	4.0	3.0	3,862
7.6	3.6	4.0	3.0	3,701
7.7	3.7	4.0	3.0	3,548
7.8	3.8	4.0	3.0	3,401
7.9	3.9	4.0	3.0	3,262
8.0	4.0	4.0	3.0	3,129
8.1	4.1	4.0	3.0	3,003
8.3	4.3	4.0	3.0	2,883
8.4	4.4	4.0	3.0	2,767
8.5	4.5	4.0	3.0	2,658
8.6	4.6	4.0	3.0	2,554
8.8	4.8	4.0	3.0	2,454
8.9	4.9	4.0	3.0	2,360
9.0	5.0	4.0	3.0	2,269
9.2	5.2	4.0	3.0	2,183
9.3	5.3	4.0	3.0	2,089
9.5	5.5	4.0	3.0	1,993
9.8	5.8	4.0	3.0	1,901
10.0	6.0	4.0	3.0	1,814
10.2	6.2	4.0	3.0	1,731
10.5	6.5	4.0	3.0	1,648
10.7	6.7	4.0	3.0	1,567
11.0	7.0	4.0	3.0	1,490
11.3	7.3	4.0	3.0	1,417
11.5	7.5	4.0	3.0	1,347
11.8	7.8	4.0	3.0	1,281

INFL RATE 6.00
 ROP 5.49
 R&R 500K

FISCAL YEAR	TOTAL SALES (GWh)	BASE SALES (GWh)	MORE (LESS) SALES (GWh)	OPERATIONS		TOTAL O&M (\$000)	BASE DEBT SERVICE (\$000)	ADD DEBT SERVICE (\$000)	TOTAL DEBT SERVICE (\$000)	PROD COST (\$000)
				ADMIN (\$000)	ON-SITE (\$000)					
1985				863	3,576	4,939	4,719	800	5,519	10,458
1986	231.5	181.5	50.0	915	3,790	5,205	5,359	900	6,259	11,464
1987	241.4	191.4	50.0	970	4,018	5,487	6,374	1,100	7,474	12,962
1988	249.2	199.2	50.0	1,028	4,259	5,787	7,210	1,250	8,460	14,247
1989	256.0	206.0	50.0	1,090	4,514	6,104	8,520	1,500	10,020	16,174
1990	263.0	213.0	50.0	1,155	4,785	6,440	8,764	1,500	10,264	16,704
1991	269.1	219.1	50.0	1,224	5,072	6,796	9,076	1,500	10,576	17,377
1992	276.9	226.9	50.0	1,298	5,376	7,174	9,448	1,500	10,948	18,122
1993	286.2	236.2	50.0	1,376	5,699	7,575	9,836	1,500	11,336	18,911
1994	295.9	245.9	50.0	1,458	6,041	7,999	10,216	1,500	11,716	19,715
1995	305.4	255.4	50.0	1,546	6,403	8,449	10,424	1,500	11,924	20,373
1996	310.6	260.6	50.0	1,638	6,788	8,926	10,636	1,500	12,136	21,062
1997	315.9	265.9	50.0	1,737	7,195	9,432	10,860	1,500	12,360	21,792
1998	321.5	271.5	50.0	1,841	7,626	9,967	11,092	1,500	12,592	22,559
1999	327.3	277.3	50.0	1,951	8,084	10,535	11,340	1,500	12,840	23,375
2000	333.5	283.5	50.0	2,068	8,569	11,138	11,528	1,500	13,028	24,166
2001	338.2	288.2	50.0	2,193	9,083	11,776	11,600	1,500	13,100	24,876
2002	340.0	290.0	50.0	2,324	9,628	12,452	11,676	1,500	13,176	25,628
2003	341.9	291.9	50.0	2,464	10,206	13,170	11,756	1,500	13,256	26,426
2004	343.9	293.9	50.0	2,611	10,818	13,930	11,836	1,500	13,336	27,266
2005	345.9	295.9	50.0	2,768	11,467	14,736	11,924	1,500	13,424	28,160
2006	348.1	298.1	50.0	2,934	12,155	15,590	12,012	1,500	13,512	29,102
2007	350.3	300.3	50.0	3,110	12,885	16,495	12,104	1,500	13,604	30,099
2008	352.6	302.6	50.0	3,297	13,658	17,455	12,200	1,500	13,700	31,155
2009	355.0	305.0	50.0	3,495	14,477	18,472	12,300	1,500	13,800	32,272
2010	357.5	307.5	50.0	3,704	15,346	19,550	12,408	1,500	13,908	33,458
2011	360.2	310.2	50.0	3,927	16,267	20,693	12,516	1,500	14,016	34,709
2012	362.9	312.9	50.0	4,162	17,243	21,905	12,632	1,500	14,132	36,037
2013	365.8	315.8	50.0	4,412	18,277	23,189	12,748	1,500	14,248	37,437
2014	368.7	318.7	50.0	4,677	19,374	24,551	12,872	1,500	14,372	38,923
2015	371.8	321.8	50.0	4,957	20,536	25,994	13,004	1,500	14,504	40,498
2016	375.1	325.1	50.0	5,255	21,769	27,523	13,136	1,500	14,636	42,159
2017	378.4	328.4	50.0	5,570	23,075	29,145	13,276	1,401	14,677	43,822
2018	378.6	331.9	46.7	5,904	24,459	30,863	13,424	1,290	14,714	45,577
2019	378.6	335.6	43.0	6,258	25,927	32,685	13,576	1,176	14,752	47,437
2020	378.6	339.4	39.2	6,634	27,482	34,616	13,736	1,056	14,792	49,408
2021	378.6	343.4	35.2	7,032	29,131	36,663	13,900	933	14,833	51,496
2022	378.6	347.5	31.1	7,454	30,879	38,833	14,072	804	14,876	53,709
2023	378.6	351.8	26.8	7,901	32,732	41,133	14,252	669	14,921	56,054
2024	378.6	356.3	22.3	8,375	34,696	43,571	14,440	528	14,968	58,539
2025	378.6	361.0	17.6	8,878	36,778	46,155	14,636	381	15,017	61,172
2026	378.6	365.9	12.7	9,410	38,984	48,895	14,840	228	15,068	63,963
2027	378.6	371.0	7.6	9,975	41,323	51,798	15,052	69	15,121	66,919
2028	378.6	376.3	2.3	10,573	43,803	54,876	15,144	0	15,144	70,020
2029	378.6	378.6	0.0	11,208	46,431	58,139	15,144	0	15,144	73,283
2030	378.6	378.6	0.0	11,880	49,217	61,597	15,144	0	15,144	76,741
2031	378.6	378.6	0.0	12,593	52,170	65,263	15,144	0	15,144	80,407
2032	378.6	378.6	0.0	13,349	55,300	69,149	15,144	0	15,144	84,293
2033	378.6	378.6	0.0	14,150	58,618	73,267	15,144	0	15,144	88,411
2034	378.6	378.6	0.0							

SALES RATE				PV OF
TOTAL	O & M	B O S	A O S	D.S.
(c/kWh)	(c/kWh)	(c/kWh)	(c/kWh)	(\$000)
				(196,000)
				1,800
4.7	2.1	2.6	1.6	5,232
5.0	2.2	2.8	1.8	5,625
5.4	2.2	3.2	2.2	6,367
5.8	2.3	3.5	2.5	6,832
6.3	2.3	4.0	3.0	7,670
6.4	2.4	4.0	3.0	7,448
6.5	2.5	4.0	3.0	7,275
6.5	2.5	4.0	3.0	7,139
6.6	2.6	4.0	3.0	7,007
6.6	2.6	4.0	3.0	6,865
6.7	2.7	4.0	3.0	6,624
6.8	2.8	4.0	3.0	6,391
6.9	2.9	4.0	3.0	6,170
7.0	3.0	4.0	3.0	5,958
7.2	3.2	4.0	3.0	5,760
7.3	3.3	4.0	3.0	5,540
7.5	3.5	4.0	3.0	5,281
7.6	3.6	4.0	3.0	5,035
7.8	3.8	4.0	3.0	4,802
8.0	4.0	4.0	3.0	4,579
8.2	4.2	4.0	3.0	4,370
8.5	4.5	4.0	3.0	4,169
8.7	4.7	4.0	3.0	3,979
8.9	4.9	4.0	3.0	3,799
9.2	5.2	4.0	3.0	3,627
9.4	5.4	4.0	3.0	3,466
9.7	5.7	4.0	3.0	3,311
10.0	6.0	4.0	3.0	3,164
10.3	6.3	4.0	3.0	3,024
10.6	6.6	4.0	3.0	2,892
10.9	6.9	4.0	3.0	2,767
11.3	7.3	4.0	3.0	2,646
11.7	7.7	4.0	3.0	2,516
12.2	8.2	4.0	3.0	2,391
12.6	8.6	4.0	3.0	2,272
13.1	9.1	4.0	3.0	2,160
13.7	9.7	4.0	3.0	2,053
14.3	10.3	4.0	3.0	1,952
14.9	10.9	4.0	3.0	1,856
15.5	11.5	4.0	3.0	1,765
16.2	12.2	4.0	3.0	1,678
16.9	12.9	4.0	3.0	1,597
17.7	13.7	4.0	3.0	1,519
18.5	14.5	4.0	3.0	1,442
19.4	15.4	4.0	3.0	1,367
20.3	16.3	4.0	3.0	1,296
21.2	17.2	4.0	3.0	1,228
22.3	18.3	4.0	3.0	1,164
23.4	19.4	4.0	3.0	1,104

INFL RATE 4.00
ROR 5.49
RRR 500K

FISCAL YEAR	TOTAL SALES (GM)	BASE SALES (GM)	MORE (LESS) SALES (GM)	OPERATIONS		TOTAL O&M (\$000)	BASE DEBT SERVICE (\$000)	ADD DEBT SERVICE (\$000)	TOTAL DEBT SERVICE (\$000)	PROD COST (\$000)
				ADMIN (\$000)	ON-SITE (\$000)					
1985										
1986	231.5	181.5	50.0	863	3,576	4,939	4,719	800	5,519	10,458
1987	241.4	191.4	50.0	898	3,719	5,116	5,359	900	6,259	11,375
1988	249.2	199.2	50.0	934	3,867	5,301	6,374	1,100	7,474	12,775
1989	256.0	206.0	50.0	971	4,022	5,493	7,210	1,250	8,460	13,953
1990	263.0	213.0	50.0	1,010	4,183	5,693	8,520	1,500	10,020	15,713
1991	269.1	219.1	50.0	1,050	4,350	5,900	8,764	1,500	10,264	16,164
1992	276.9	226.9	50.0	1,092	4,524	6,116	9,076	1,500	10,576	16,692
1993	286.2	236.2	50.0	1,136	4,705	6,341	9,448	1,500	10,948	17,289
1994	295.9	245.9	50.0	1,181	4,893	6,575	9,836	1,500	11,336	17,911
1995	305.4	255.4	50.0	1,228	5,089	6,818	10,216	1,500	11,716	18,534
1996	310.6	260.6	50.0	1,278	5,293	7,070	10,424	1,500	11,924	18,994
1997	315.9	265.9	50.0	1,329	5,504	7,333	10,636	1,500	12,136	19,469
1998	321.5	271.5	50.0	1,382	5,725	7,607	10,860	1,500	12,360	19,967
1999	327.3	277.3	50.0	1,437	5,954	7,891	11,092	1,500	12,592	20,483
2000	333.5	283.5	50.0	1,495	6,192	8,186	11,340	1,500	12,840	21,026
2001	338.2	288.2	50.0	1,554	6,439	8,494	11,528	1,500	13,028	21,522
2002	340.0	290.0	50.0	1,617	6,697	8,814	11,600	1,500	13,100	21,914
2003	341.9	291.9	50.0	1,681	6,965	9,146	11,676	1,500	13,176	22,322
2004	343.9	293.9	50.0	1,748	7,244	9,492	11,756	1,500	13,256	22,748
2005	345.9	295.9	50.0	1,818	7,533	9,852	11,836	1,500	13,336	23,188
2006	348.1	298.1	50.0	1,891	7,835	10,226	11,924	1,500	13,424	23,650
2007	350.3	300.3	50.0	1,967	8,148	10,615	12,012	1,500	13,512	24,127
2008	352.6	302.6	50.0	2,045	8,474	11,019	12,104	1,500	13,604	24,623
2009	355.0	305.0	50.0	2,127	8,813	11,440	12,200	1,500	13,700	25,140
2010	357.5	307.5	50.0	2,212	9,165	11,878	12,300	1,500	13,800	25,678
2011	360.2	310.2	50.0	2,301	9,532	12,333	12,408	1,500	13,908	26,241
2012	362.9	312.9	50.0	2,393	9,913	12,806	12,516	1,500	14,016	26,822
2013	365.8	315.8	50.0	2,489	10,310	13,298	12,632	1,500	14,132	27,430
2014	368.7	318.7	50.0	2,588	10,722	13,810	12,748	1,500	14,248	28,058
2015	371.8	321.8	50.0	2,692	11,151	14,343	12,872	1,500	14,372	28,715
2016	375.1	325.1	50.0	2,799	11,597	14,896	13,004	1,500	14,504	29,400
2017	378.4	328.4	50.0	2,911	12,061	15,472	13,136	1,500	14,636	30,108
2018	378.6	331.9	46.7	3,028	12,543	16,071	13,276	1,401	14,677	30,748
2019	378.6	335.6	43.0	3,149	13,045	16,694	13,424	1,290	14,714	31,408
2020	378.6	339.4	39.2	3,275	13,567	17,342	13,576	1,176	14,752	32,094
2021	378.6	343.4	35.2	3,406	14,110	18,016	13,736	1,056	14,792	32,808
2022	378.6	347.5	31.1	3,542	14,674	18,716	13,900	933	14,833	33,549
2023	378.6	351.8	26.8	3,684	15,261	19,445	14,072	804	14,876	34,321
2024	378.6	356.3	22.3	3,831	15,871	20,203	14,252	669	14,921	35,124
2025	378.6	361.0	17.6	3,984	16,506	20,991	14,440	528	14,968	35,959
2026	378.6	365.9	12.7	4,144	17,167	21,810	14,636	381	15,017	36,827
2027	378.6	371.0	7.6	4,310	17,853	22,663	14,840	228	15,068	37,731
2028	378.6	376.3	2.3	4,482	18,567	23,549	15,052	69	15,121	38,670
2029	378.6	378.6	0.0	4,661	19,310	24,471	15,144	0	15,144	39,615
2030	378.6	378.6	0.0	4,848	20,082	25,430	15,144	0	15,144	40,574
2031	378.6	378.6	0.0	5,042	20,886	26,427	15,144	0	15,144	41,571
2032	378.6	378.6	0.0	5,243	21,721	27,464	15,144	0	15,144	42,608
2033	378.6	378.6	0.0	5,453	22,590	28,543	15,144	0	15,144	43,687
2034	378.6	378.6	0.0	5,671	23,494	29,665	15,144	0	15,144	44,809

SALES RATE				PV OF
TOTAL	O & M	B.D.S.	A.D.S.	O.S.
(c/kWh)	(c/kWh)	(c/kWh)	(c/kWh)	(000)
				(196,000)
				1,800
4.7	2.1	2.6	1.6	5,232
4.9	2.1	2.8	1.8	5,625
5.3	2.1	3.2	2.2	6,367
5.6	2.1	3.5	2.5	6,832
6.2	2.2	4.0	3.0	7,470
6.2	2.2	4.0	3.0	7,448
6.2	2.2	4.0	3.0	7,275
6.2	2.2	4.0	3.0	7,139
6.2	2.2	4.0	3.0	7,007
6.2	2.2	4.0	3.0	6,865
6.3	2.3	4.0	3.0	6,624
6.3	2.3	4.0	3.0	6,391
6.4	2.4	4.0	3.0	6,170
6.4	2.4	4.0	3.0	5,958
6.5	2.5	4.0	3.0	5,760
6.5	2.5	4.0	3.0	5,540
6.6	2.6	4.0	3.0	5,281
6.7	2.7	4.0	3.0	5,035
6.8	2.8	4.0	3.0	4,802
6.8	2.8	4.0	3.0	4,579
6.9	2.9	4.0	3.0	4,370
7.0	3.0	4.0	3.0	4,169
7.1	3.1	4.0	3.0	3,979
7.2	3.2	4.0	3.0	3,799
7.3	3.3	4.0	3.0	3,627
7.4	3.4	4.0	3.0	3,466
7.5	3.5	4.0	3.0	3,311
7.6	3.6	4.0	3.0	3,164
7.7	3.7	4.0	3.0	3,024
7.9	3.9	4.0	3.0	2,892
8.0	4.0	4.0	3.0	2,767
8.1	4.1	4.0	3.0	2,646
8.2	4.2	4.0	3.0	2,516
8.4	4.4	4.0	3.0	2,391
8.6	4.6	4.0	3.0	2,272
8.8	4.8	4.0	3.0	2,160
8.9	4.9	4.0	3.0	2,053
9.1	5.1	4.0	3.0	1,952
9.3	5.3	4.0	3.0	1,856
9.5	5.5	4.0	3.0	1,765
9.8	5.8	4.0	3.0	1,678
10.0	6.0	4.0	3.0	1,597
10.2	6.2	4.0	3.0	1,519
10.5	6.5	4.0	3.0	1,442
10.7	6.7	4.0	3.0	1,367
11.0	7.0	4.0	3.0	1,296
11.3	7.3	4.0	3.0	1,228
11.5	7.5	4.0	3.0	1,164
11.8	7.8	4.0	3.0	1,104