

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 86/2
996 SCOMM44: HOUSE POWER ALTERNATIVES STUDY COMM. 1979-80

receipts of that fund, but not less than one million dollars. The hypothetical question arose: What if the entire State Highway Fund failed to amount to one million dollars? Would the state be obliged to make up the difference from other sources? The court observed in dicta:

[O]f course there would be no liability on the state to make up the deficit, for the reason that this appropriation is made specifically out of the Motor Fuels Tax; and of course whenever that is exhausted, there can be no further claim or demand under the appropriation.

Id. at 140 (emphasis in original).

The third basis for the conclusion is an analogous line of cases which stand for the proposition that a contractual obligation to pay out of a specified but as yet non-existent fund is not enforceable until the fund is created. Martin v. Martin, 43 P.2d 314, 315 (Cal. App. 1935); Owen v. Cohen, 119 P.2d 713, 716 (Cal. 1941) (en banc); Wilshire Realty Co. v. Kry Corp., 58 Cal. Rptr. 469, 475 (Cal. App. 1967); Furst and Thomas v. Elliott, 56 P.2d 1064, 1068 (Idaho 1936) and cases cited therein.

Under the latter two bases it is clear that there can be no payment to the Alaska Power Authority: the fund out of which the money is to be paid does not have a balance, the existence of which is an implied condition to any duty to disburse the appropriation.

Your second and third inquiries concern the propriety of withdrawal and investment by the Alaska Power Authority of appropriations prior to incurring the costs for which the amounts were specifically appropriated. The proposed withdrawal and investment would not be proper on these facts.

Your inquiries have two aspects: first is the propriety of a withdrawal of the money; second is the propriety of the investment of the money. On the first point, it must be

The Honorable Thomas K. Williams
Department of Revenue

October 5, 1979
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understood what is meant by "appropriation" and "withdrawal." Our supreme court endorsed the following definition of "appropriation":

An appropriation is the setting aside from the public revenue of a certain sum of money for a specified object, in such manner that the executive officers of the government are authorized to use that money, and no more, for that object, and no other.

Thomas v. Rosen, 569 P.2d 793, 796 (Alaska 1977). The key words in the definition are "setting aside," for they point out the distinction between appropriation and actual disbursement:

There is a pronounced distinction between the appropriation, or the setting aside, of a sum of money for a particular thing, and the actual disbursement of funds to meet the object of such an appropriation.

State v. Lee, 163 So. 859, 868 (Fla. 1935).

Insofar as the appropriations in question (ch. 49, SLA 1979; sec. 2, ch. 76, SLA 1979) are for the express purpose of paying the costs of enumerated projects, and insofar as no costs have been incurred in connection with those projects, there is no basis for any disbursement.

On this same issue, the established practice and interpretation of your department is entitled to considerable weight in interpreting an ambiguous legislative enactment. State v. Sorlie, 219 N.W. 105, 108 (N.D. 1928) (opinion of State Industrial Commission and state auditing board on the availability of appropriation for payment in subsequent year); In Re Integration of State Bar, 100 P.2d 1000, 1002 (Okla. 1940) (opinion of State Auditor on availability of appropriation). Thus, your view that an appropriation may not be disbursed unless and until there are obligations incurred on the designated project is legally significant.

The Honorable Thomas K. Williams
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It should be noted that the result might be different if the appropriations were unconditional appropriations to the Alaska Power Authority or the power project revolving fund. This memorandum does not address that situation.

On the second point, the propriety of investment of the appropriations if and when they are disbursed, the special purposes attached to the appropriation preclude their investment, with the possible exception of investment in the particular projects enumerated in the appropriations. This is in conformity with the rule that boards or officials having public funds in their control are without power to depart from the literal statutory requirements as to loans and investment of those funds. Annot. 104 ALR 623, 628 (1936). Even if we assume that the Alaska Power Authority and the power project revolving fund have investment authority (an extremely doubtful proposition with respect to the revolving fund), the conditions of the appropriations plainly restrict the exercise of any assumed investment authority.

In summary, the response to your second and third inquiries is that the appropriated funds may not be withdrawn before obligations are incurred and may not be invested in violation of the conditions attached to the appropriations.

TMJ:md

The proposed Six-Year Capital Program for the Alaska Power Authority supports goals and objectives for the Economic Development Program area. The Governor's policy theme # 4 is fully supported by the program objectives guiding this six-year plan since the projects will produce reasonable cost power in the future, improve the standard of living, increase employment opportunities, reduce the cost of living, and encourage long term use of renewable resources.

Major assumptions for the capital budget submission and six-year capital program are:

1. Diesel fuel will continue to escalate in price above the rate of inflation.
2. Use of natural gas for electric power generation will be restricted or precluded by federal energy policy or market conditions.
3. There will be no future contracts for inexpensive natural gas in the Cook Inlet area.
4. The population of Alaska desires to continue use of electricity as a form of energy and strongly supports renewable resource generation alternatives.

The condition that the capital program will effect is the rapidly increasing cost of electric energy for all electric power consumers in Alaska. The Long and Short-range Objectives of the Program address the sources of the condition by providing state assistance in the financing and development of alternative electric energy projects using renewable resources. Capital project development is the primary purpose of the Power Authority, consequently the objectives are related to the steps of the project development process.

Objective # 1 has no capital projects specifically associated with it, however it would assist in the financing of certain projects in the state like Swan Lake and Lake Tyee and negate the requirement for state loans to assist in financing the projects.

Objective # 2 is associated with what should be a continuing project if the Susitna Feasibility Analysis is initiated in FY '80. The Susitna project will provide 1,400 MW's of power and 6,000 Gwh of energy to the railbelt area of Alaska at a present cost of \$2.6 billion.

Objective # 3 is a continuation of a project funded in FY '80 to investigate a small biomass gasification/generation system for use in rural villages to lower electric power costs. The AVEC fuel conversion project was funded for \$150,000 in FY '80 to demonstrate the system in Anchorage, and \$125,000 is necessary in FY '81 to demonstrate village application.

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Objective # 4 involves the final step in development of a power project. Numerous projects in the railbelt area will not require special assistance from the state in order to obtain construction financing. The waste heat conversion generation project of the Golden Valley Electric Association and miscellaneous generation and distribution projects of other railbelt utilities will only require authorization from the legislature for the Power Authority to assist in financing the improvements. The Swan Lake project in Ketchikan and the Lake Tyee project for Petersburg and Wrangell require loans from the state subordinate to revenue bond debt issued to finance the construction. Swan Lake is a 22 MW capacity project with an estimated cost of \$85 million which will provide 69 million kwh of firm energy per year to Ketchikan. An \$18 million loan in FY '81 will be required to insure that the project can be financed. The Lake Tyee project will have 15 MW's of capacity and produce 69 million kwh of energy for Petersburg and Wrangell for \$45 million. A \$10 million loan in FY '82 will be required to insure that the project can be financed.

Objective # 5 and # 6 involve Feasibility Study and Federal Energy Regulatory License Application funds for numerous projects described below. Rough estimates of the total cost of the projects are provided for later years of the Capital Improvement Program without an estimate of the form or amount of state assistance.

1. Bradley Lake near Homer - Feasibility and FERC License - \$1,500,000 in FY '81, \$2,000,000 in FY '82, and no state assistance in construction financing. This project can provide 70 MW's of power and 300 million kwh of energy per year to the Kenai Peninsula and Anchorage area for an estimated cost of \$170,000,000. This will be a project of the state. ?
2. Grant Lake near Seward - Design and FERC License - \$1,000,000 in FY '81 and no state assistance in construction financing. This project can provide 6 MW's of power and 25,200,000 kwh's of energy to Seward for an estimated cost of \$20 million. Grant Lake will be a project of the state and no state funds will be necessary for construction financing. ★
3. Haines/Skagway Project - Feasibility Study and FERC License - \$500,000 in FY '81 - Energy alternatives for the communities are presently being assessed in a reconnaissance study. Results of the study are not available at the time of preparation of the budget. In order to proceed with development of a project in FY '81, funds must be reserved now to insure timely development of the best alternative identified for the area. State assistance for construction financing cannot be assessed at this time. When?
4. Dillingham (Lake Elva, Grant Lake, or Tazimina) - Detailed Feasibility and FERC License - \$400,000 in FY '81 - No state assistance is required for construction financing unless the Taximina project is recommended for development to serve a large region. The Alaska Power Administration completed a Reconnaissance study of the Bristol Bay region. The Power Authority is presently conducting a feasibility assessment of the

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Lake Elva, Grant Lake, and Tazimina River projects. The project which appears most feasible as a result of present studies will require state assistance for detailed study and preparation of a FERC license if the project appears feasible.

5. Kisaralik Project in the Bethel area - Feasibility and FERC License - \$500,000 in FY '81, \$1,000,000 in FY '82, and an undetermined level of state assistance in financing construction of this state project if the project appears feasible throughout the consecutive stages of the project development process. The Kisaralik River project would serve the lower Kuskokwim River area if the project appears feasible and the Single Wire Ground Return Transmission Demonstration Project is successful. The projects together may assist in the rural energy problem. A 1975 estimated cost of construction adjusted for inflation is \$100 million.
 6. Larsen Bay, Old Harbor and Port Lions (Mennonite Creek) on Kodiak Island - \$200,000 for each project in FY '81 will permit initiation of design and FERC license applications for three small hydroelectric projects which will provide 200 kw of power at Port Lions, 400 kw of power for Old Harbor, and 1 MW of power for Larsen Bay. The projects were studied initially by the Alaska Power Administration and more detailed feasibility assessments are being completed by the Power Authority. Mennonite Creek is estimated to cost \$1 million, Old Harbor \$3.2 million, and Larsen Bay \$2.2 million.
 7. Moonlight Springs near Nome - Design, FERC License, and Construction - \$600,000 in FY '81. A small run of river hydroelectric project with 500 kw of capacity has been identified in close proximity to the City of Nome. A preliminary feasibility study is being accomplished at this time.
- 3/80 Not
feasible

The capital projects and objectives which are based on the project development process are oriented toward a hydroelectric power development management strategy. Numerous other strategies are constantly assessed and in fact recommended where appropriate. Wood combustion steam generation options are being assessed for the Haines/Skagway area, Klawock, and Petersburg/Wrangell. This strategy appears to have short term merits for Haines and Klawock. Capital construction and operating costs are less than the hydroelectric option for early years of operation, however uncertain long term fuel supplies and rapidly increasing operating costs make hydroelectric power the best long term strategy for most communities where the alternative is available. Coal generation in the railbelt area will be assessed principally by the utilities and private industry. Capital costs as well as operating costs are high for this management strategy which is being assessed in conjunction with the Susitna Feasibility Analysis. Tidal, wind, and solar technologies have not been shown feasible in areas studied so far by the Power Authority due to cost, engineering, and climate constraints. Conservation is a management strategy which is promoted on a national level and by utilities, and by state DEPD/APUC, and it is considered within the load growth and energy demand forecasts for all project studies.

adequate

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No priorities were set for each fiscal year of the 6-year plan. The stage of project development, the nature of the project being developed, its location, the project sponsor (state project, public utility project, cooperative utility project), and the amount of financial assistance individual projects required were factors considered in the recommendation of projects. Projects in rural Alaska require more state assistance than projects in Southeast Alaska, which in turn require more than projects in the railbelt area of Alaska. Delay of low priority projects will result in continued rapid increases in electric power costs, higher costs of projects ultimately constructed due to inflation, and negative economic impacts on the communities or regions of Alaska the projects would serve. Delay in development of capital projects will consequently result in delay in accomplishment of both short term and long term objectives.

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31 ANALYTIC STATEMENT
(Six-Year Capital Program)

REVISED
DATE

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AGENCY SUBMISSION						GOVERNOR'S RECOMMENDATION Please Do Not Write In This Area			
AGENCY PRIORITY	OBJ NOISE	PROJECT TYPE	PROJECT TITLE AND LOCATION	AGENCY FUNDING YEAR <u>1981</u>	FUNDING SOURCE	GOVERNOR'S FUNDING YEAR <u>81</u>	GOVERNOR'S FUNDING YEAR <u>82</u>	GOVERNOR'S FUNDING YEAR _____	GOV'S PRIORITY
1	2	C, L, P, E, O	Susitna Feasibility Analysis Upper Susitna River ULTIMATE ANNUAL OPERATING COST = <u>N/A</u> EXPECTED YEAR = <u>FY 1996</u>	3,335.0	FED RCPTS GEN FUND GO BONDS TOTAL	3,335.0			
2	4	C, L, P, E, O	Swan Lake Hydroelectric Project Ketchikan ULTIMATE ANNUAL OPERATING COST = <u>150.0</u> EXPECTED YEAR = <u>1984</u>	18,000.0	FED RCPTS GEN FUND GO BONDS <u>RRIF</u> TOTAL	18,000.0			
3	4	C, L, P, E, O	Lake Tyee Hydroelectric Project Petersburg/Wrangell ULTIMATE ANNUAL OPERATING COST = <u>200.0</u> EXPECTED YEAR = <u>FY 1984</u>	10,000.0	FED RCPTS GEN FUND GO BONDS TOTAL	10,000.0			
4	3	C, E, P	AVEC Fuel Conversion Project Nulato ULTIMATE ANNUAL OPERATING COST = <u>N/A</u> EXPECTED YEAR = <u>FY 1981</u>	125.0	FED RCPTS GEN FUND GO BONDS TOTAL	125.0			
5	5, 6	P	Bradley Lake Hydroelectric Project Homer ULTIMATE ANNUAL OPERATING COST = <u>430.0</u> EXPECTED YEAR = <u>FY 1987</u>	1,500.0	FED RCPTS GEN FUND GO BONDS TOTAL	0			

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development PROPOSED FUNDING YEAR FY'81

PROJECT TYPE CODES	
C Bldg. Construction	L Land
I Other Improvement	P Professional Svcs.
E Equipment	O Other

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PROPOSED SIX-YEAR
CAPITAL PROGRAM

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AGENCY SUBMISSION						GOVERNOR'S RECOMMENDATION Please Do Not Write In This Area			
AGENCY PRIORITY	OBJ. NOISE	PROJECT TYPE	PROJECT TITLE AND LOCATION	AGENCY FUNDING YEAR 1981	FUNDING SOURCE	GOVERNOR'S FUNDING YEAR <u>81</u>	GOVERNOR'S FUNDING YEAR _____	GOVERNOR'S FUNDING YEAR _____	GOV'S PRIORITY
6	5, 6	I, P	Grant Lake Hydroelectric Project Seward ULTIMATE ANNUAL OPERATING COST = <u>50.0</u> EXPECTED YEAR = FY <u>1984</u>	1,000.0	FED RCPTS	0			
					GEN FUND				
					GO BONDS				
				1,000.0	TOTAL				
7	5, 6	I, P	Dillingham Hydroelectric Project Dillingham/Naknek ULTIMATE ANNUAL OPERATING COST = <u>50.0</u> EXPECTED YEAR = <u>1984</u>	400.0	FED RCPTS	100.0			
					GEN FUND				
					GO BONDS				
				400.0	TOTAL				
8	5, 6	I, P	Kisaralik Hydroelectric Project Bethel Area ULTIMATE ANNUAL OPERATING COST = <u>150.0</u> EXPECTED YEAR = FY <u>1985</u>	500.0	FED RCPTS	100.0			
					GEN FUND				
					GO BONDS				
				500.0	TOTAL				
9	5, 6	I, P	Haines/Skagway Hydroelectric Project Haines/Skagway ULTIMATE ANNUAL OPERATING COST = <u>40.0</u> EXPECTED YEAR = FY <u>1984</u>	500.0	FED RCPTS	100.0			
					GEN FUND				
					GO BONDS				
				500.0	TOTAL				
10	5, 6	I, P	Mennonite Creek Hydroelectric Project Port Lions ULTIMATE ANNUAL OPERATING COST = <u>2.0</u> EXPECTED YEAR = FY <u>1984</u>	200.0	FED RCPTS	200.0			
					GEN FUND				
					GO BONDS				
				200.0	TOTAL				

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development PROPOSED FUNDING YEAR FY'81

PROJECT TYPE CODES	
C Bldg. Construction	L Land
I Other Improvement	P Professional Svcs.
E Equipment	O Other

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PROPOSED SIX-YEAR
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AGENCY SUBMISSION						GOVERNOR'S RECOMMENDATION Please Do Not Write In This Area			
AGENCY PRIORITY	OBJ NOISE	PROJECT TYPE	PROJECT TITLE AND LOCATION	AGENCY FUNDING YEAR 81	FUNDING SOURCE	GOVERNOR'S FUNDING YEAR 81	GOVERNOR'S FUNDING YEAR	GOVERNOR'S FUNDING YEAR	GOV'S PRIORITY
11	5, 6	I, P	Larsen Bay Hydroelectric Project - Larsen Bay	200.0	FED ACPTS GEN FUND GO BONDS	200.0			
			ULTIMATE ANNUAL OPERATING COST = 15.0 EXPECTED YEAR = FY 1983	200.0	TOTAL	200.0			
12	5, 6	I, P	Old Harbor Hydroelectric Project - Old Harbor	200.0	FED ACPTS GEN FUND GO BONDS	200.0			
			ULTIMATE ANNUAL OPERATING COST = 20.0 EXPECTED YEAR = 1983	200.0	TOTAL	200.0			
4A	3, 5 6	I, P	AVEC Village Hydroelectric Study - 9 Villages	300.0	FED ACPTS GEN FUND GO BONDS	325.0			
			ULTIMATE ANNUAL OPERATING COST = 20.0 each EXPECTED YEAR = FY 1983	300.0	TOTAL	325.0			
13	5, 6	I, P	Discretionary Project Study Funds - Statewide	300.0	FED ACPTS GEN FUND GO BONDS	75.0			
			ULTIMATE ANNUAL OPERATING COST = N/A EXPECTED YEAR = FY	300.0	TOTAL	25.0			
			FY 81 TOTAL	36,560.0	FED ACPTS GEN FUND GO BONDS	4,760.0			
			ULTIMATE ANNUAL OPERATING COST =		RRIF	28,000.0			
			EXPECTED YEAR = FY	36,560.0	TOTAL	32,760.0			

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development PROPOSED FUNDING YEAR _____

PROJECT TYPE CODES

C	Brig Construction	L	Land
E	Other Improvement	P	Professional Fees
E	Equipment	J	Other

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REVISED DATE 10/31/79

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AGENCY SUBMISSION					GOVERNOR'S RECOMMENDATION Please Do Not Write In This Area				
AGENCY PRIORITY	OBJ. NOISE	PROJECT TYPE	PROJECT TITLE AND LOCATION	AGENCY FUNDING YEAR <u>1982</u>	FUNDING SOURCE	GOVERNOR'S FUNDING YEAR <u>82</u>	GOVERNOR'S FUNDING YEAR _____	GOVERNOR'S FUNDING YEAR _____	GOV'S PRIORITY
1	2	C, L, P, E, O	Susitna Feasibility Analysis	10,599.0	FED ACPTS	10,599.0			
			Upper Susitna River		GEN FUND				
			ULTIMATE ANNUAL OPERATING COST = <u>N/A</u>		G.O. BONDS				
			EXPECTED YEAR = FY <u>1996</u>	10,599.0	TOTAL		10,599.0		
2	5, 6	P	Bradley Lake Hydroelectric Project	2,000.0	FED ACPTS	0			
			Homer		GEN FUND				
			ULTIMATE ANNUAL OPERATING COST = <u>430.0</u>		G.O. BONDS				
			EXPECTED YEAR = <u>1987</u>	2,000.0	TOTAL		0		
					FED ACPTS				
					GEN FUND				
					G.O. BONDS				
					TOTAL				
					FED ACPTS				
					GEN FUND				
					G.O. BONDS				
					TOTAL				
			FY'82 TOTAL	12,599.0	FED ACPTS	10,599.0			
					GEN FUND				
			ULTIMATE ANNUAL OPERATING COST = _____		G.O. BONDS				
			EXPECTED YEAR = FY _____	12,599.0	TOTAL		10,599.0		

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development PROPOSED FUNDING YEAR FY'82

PROJECT TYPE CODES

C - Bldg. Construction	L - Land
I - Other Improvement	P - Professional Svc.
E - Equipment	O - Other

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PROPOSED SIX-YEAR
CAPITAL PROGRAM

REVISED
DATE

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AGENCY SUBMISSION						GOVERNOR'S RECOMMENDATION Please Do Not Write In This Area			
AGENCY PRIORITY	ORJ. NOIS)	PROJECT TYPE	PROJECT TITLE AND LOCATION	AGENCY FUNDING YEAR 1983	FUNDING SOURCE	GOVERNOR'S FUNDING YEAR <u>F3</u>	GOVERNOR'S FUNDING YEAR	GOVERNOR'S FUNDING YEAR	GOV'S PRIORITY
1	2	C, L, P, E, O	Susitna Feasibility Analysis	5,778.0	FED RCPTS GEN FUND GO BONDS	5,778.0			
			ULTIMATE ANNUAL OPERATING COST - N/A EXPECTED YEAR - FY 1996	5,778.0	TOTAL	5,778.0			
					FED RCPTS GEN FUND GO BONDS				
			ULTIMATE ANNUAL OPERATING COST EXPECTED YEAR -		TOTAL				
					FED RCPTS GEN FUND GO BONDS				
			ULTIMATE ANNUAL OPERATING COST - EXPECTED YEAR - FY		TOTAL				
					FED RCPTS GEN FUND GO BONDS				
			ULTIMATE ANNUAL OPERATING COST - EXPECTED YEAR - FY		TOTAL				
			FY'83 TOTAL	5,778.0	FED RCPTS GEN FUND GO BONDS	5,778.0			
			ULTIMATE ANNUAL OPERATING COST - EXPECTED YEAR - FY	5,778.0	TOTAL	5,778.0			

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development PROPOSED FUNDING YEAR FY'83

PROJECT TYPE CODES	
C Bldg. Construction	L Land
I Other Improvement	P Professional Svcs.
E Equipment	O Other

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REVISED
DATE

000063

March 24, 1980

The Honorable Bill Miles
Alaska State Legislature
Pouch V
Juneau, Alaska 99811

Dear Representative Miles:

Thank you for this opportunity for the Administration to comment on the proposals before your Committee regarding the Alaska Power Authority. The importance of the Alaska Power Authority in the State's energy future has increased rapidly and dramatically in the few years in which it has been in existence. This increasing role, in terms of dollars and activity, has also brought increased responsibility for the Legislature and the Administration in insuring that we are making carefully considered decisions regarding the State's energy future. It is in this spirit, both in support of the Power Authority's important job of developing reasonable cost power and in support of our obligation to make the best decisions for Alaska's energy future, that I offer these comments and recommendations for your consideration.

The first issue concerns the management of appropriations to the APA, specifically the nature and role of the Power Project Revolving Loan Fund. As you know, there are bills pending in the Legislature to appropriate \$1 billion to this revolving loan fund. The Power Project Revolving Loan Fund was originally created to finance front-end costs for power projects and actual construction financing for small projects. As it was expected that relatively minor amounts of money would be involved, the Power Project Revolving Loan Fund was established as a trust to be administered by the Power Authority. Also, due to the recurring nature of the use of these funds, the Fund was established as a revolving fund, whereby principal and interest payments would return to the Fund to be loaned out again.

During this session of the Legislature, due to our large expected revenue and the confused state of the bond markets, considerable interest is being focused on the use of state general funds to provide major financing for power projects. The \$1 billion appropriation proposal is evidence of this interest. If the Legislature does allocate a large portion of

March 24, 1980

★ | general fund revenue to power development, we feel that the Power Project Revolving Loan Fund as presently constituted should not be the vehicle for such appropriations. The principle reason for this position is that under existing law large amounts (interest and principle repayments) would revolve back to the Authority automatically and would be unavailable for other uses, in effect a de facto dedication for the purposes of the Fund. We feel that the Administration and the Legislature should make major funding decisions on an annual basis through the budget process.

★ | Representative Malone has proposed two possible approaches to this question:

1. eliminate the Power Project Revolving Loan Fund, and
2. modify the statutes governing the Power Project Revolving Loan Fund.

The former proposal would require the establishment of a new fund to receive appropriations for specific projects. The latter proposal would strip the Power Project Revolving Loan Fund of its "trust" status, resulting in investment of Fund balances by Revenue, not the APA. Interest earned on fund balances would go to the general fund and not to the Power Project Revolving Loan Fund. Further, the latter proposal would remove the "revolving" status of the Fund so that interest and principal repayments would flow to the general fund. The Administration is in accord with the intent of these recommendations. We feel that the second option is preferable, in that it involves the least revision of current practices while preventing a de facto dedication of very large sums of money to the Fund.

The second issue concerns the selection and development of specific projects by the APA and their review by the Administration and the Legislature. All parties seem to agree that the existing provisions on the APA statute regarding review and approval are vague and cumbersome and result in unnecessary delay to project development. In addition, the recent supreme court A.L.I.V.E. decision has clouded the legality of the present method of legislative approval by resolution.

Both the APA and Representative Malone have offered proposals to your Committee. Whichever approach the Committee follows, we recommend that the project selection and review procedures incorporate the following features:

- ✓ 1. Commencement of the process with an assessment of the demand for electric power in the community or region under consideration, followed by
- ✓ 2. A preliminary assessment (reconnaissance grade study) of all of the alternatives available to meet expected demand. This assessment, along with the APA's recommendation of the best alternative, should

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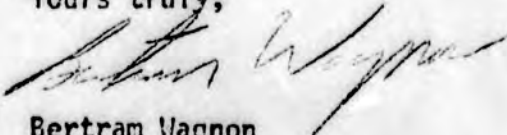
- ✓ be submitted to Budget and Management for review. Subsequent requests for funding for the selected project should be based on APA's assessment and Budget and Management's review;
- ✓ 3. Subsequent funding for a project at this stage should be targeted for a feasibility study of the chosen alternative. The results of the feasibility analysis should be submitted to Budget and Management for review. Subsequent requests for funding for the project should be based on APA's feasibility study and Budget and Management's review;
4. Subsequent funding for a project at this stage should be targeted for final engineering and design of the project. No further State government review would be necessary for the project unless
- ✓
- a. general funds are required to supplement or replace bond market financing,
 - b. general obligation bonds are recommended for project financing, or
 - c. State guarantees are recommended to facilitate bond market financing.

☆ In all of these cases, the market test of project feasibility is removed. Therefore, Budget and Management should be required to contract for an independent assessment of the project to replace market judgements. All of these alternatives would require appropriations or a vote of the people and the normal budget process provides adequate review.

In designing a project selection, development and review process based on these recommendations, the Committee should rely on personnel intimately familiar with the budget process to structure these steps in accordance with current budget practices. Time limits should be included to insure prompt action, and specific reporting requirements should receive attention to insure that the process produces the information of greatest concern to the Legislature and the Administration at the stages in the process when it is needed. It is our intent here to better integrate the review process with the budget process, i.e., specific appropriation to the APA, according to the discrete steps required to develop power projects.

We feel that adoption of these recommendations will help streamline the development of power projects in Alaska, while at the same time increasing the ability of the Legislature and the Governor to make wise and informed decisions. Thank you again for this opportunity to express our views and we hope they will be of help as the Committee discusses these issues.

Yours truly,



Bertram Wagon
Deputy Commissioner

STATE
of ALASKA

MEMORANDUM

TO: Ronald D. Lehr, Director
Division of Budget & Management
Office of the Governor

DATE: April 17, 1980

FILE NO:

TELEPHONE NO:

FROM: George Matz, Budget Analyst
Division of Budget & Management
Office of the Governor

SUBJECT: APA Reconnaissance
and Feasibility Studies

Mark Wittow, A.A. to Representative Malone, requested from Budget and Management a review of the reconnaissance and feasibility studies which have been completed for Alaska Power Authority (APA) projects. Attached is a table listing projects for which a reconnaissance or feasibility report or a budget request has been submitted to Budget and Management. The list does not include all APA projects.

The table includes an "approved" column for the reconnaissance and feasibility categories. The basis for approval is 1) statutory compliance; 2) approval by virtue of an appropriation for the next stage of project development; 3) approval via a joint resolution by the legislature. Regarding statutory compliance, it does not appear that any project actually complies with AS 44.56.180; specifically (b) which requires approval of a reconnaissance study by a joint resolution of the legislature before the APA can proceed with the engineering or design phase of a project if funded by the Permanent Fund or an appropriation from the General Fund and (e) which mandates an analysis by the Governor of the economic, environmental and social benefits and costs of a project when a joint resolution is required.

Again, this table is based on submittals to Budget and Management, not the entire Governor's Office. Some project reports (i.e., GVEA Waste Heat) have been submitted to DPDP. Previously, there was no standard procedure as to where reports should be submitted.

Attachment

cc: Mark Wittow ✓

PROJECT	Appropriated	RECONNAISSANCE		Approved	Appropriated	FEASIBILITY		Approved
		Under-way	Completed			Under-way	Completed	
Susitna	X		X	X	X	X		
Swan Lake					X		X	X*
Lake Tyee	X		X	X	X		X	X*
Terror Lake					X		X	X**
Power Creek, Cordova					X**			
Bradley Lake					X**	X		
Salmon Creek					X		X	X***
Mennonite Creek	X		X	X	X*			
Lake Elva	X	X						
Chilkat	X	X	X					
Kisaralik	X		X					
Gartina	X		X					
Gunnuk	X							
Thayer Creek	X		X					
Black Bear Lake	X		X					
Larsen Bay	X			X	X*			
Old Harbor	X			X	X*			
Grant Lake	X		X					
Green Lake							X	X**
City Creek			X				X	
Salomon Gulch					X		X	X**
Anch-Fbnks Intertie	X							

Chilkat

* Approved via Governors Budget

** Appropriated or approved (joint resolution) by the Legislature.

***APA Board of Directors

Projects which do not appear on this list (i.e., GVEA Waste Heat) have not had a study or budget request submitted to Budget & Management.

Project status as of April 1980.

Power Authority Calls for Wise Investment in Hydropower

This year will see intensified activity in electrical power development. The investigations needed for construction of the Susitna hydroelectric project will be initiated, while Green Lake and Solomon Gulch hydropower projects at Sitka and Valdez will enter their second construction season. If all goes well, Swan Lake and Terror Lake hydropower construction for Ketchikan and Kodiak will also be initiated in 1980 followed by Tyee Lake hydropower for Petersburg and Wrangell.

Projects still under investigation which may prove feasible for construction in the future are at Cordova, Homer, Seward, Bristol Bay, the Tlingit-Haida area, the lower Kuskokwim and Yukon area, and at some smaller rural communities. Other communities may be able to develop wood or peat fueled generation, while still others might be able to develop small tidal or wind power generation. The Alaska Power Authority is attempting to expedite these projects, and the end result should be a significant degree of electrical energy independence by the end of the next decade.

Because this is the first year that the Alaska Power Authority has been invited to outline its program for Alaska Construction and Oil, it is appropriate to review the authority's purpose and goals. Briefly, it is a corporation of the State of Alaska whose five-member board of directors is appointed by the governor, and confirmed by the legislature. The board of directors consists of chairman of the board, Charles Behlke, dean of the School of Engineering at the University of Alaska at Fairbanks; Arnold Espe, chairman of the board of the Alaska Pacific Bank; vice chairman of the board, Charles Conway, president of Conway Docks



By ERIC P. YOULD
Executive Director
Alaska Power Authority

and a director of the Alaska Visitors Association; Charles Webber, commissioner of Commerce and Economic Development, and Jack Wick, chairman of the board of Koniag Native Corporation. This blue-chip board's responsibility is to "... provide reasonable cost power to Alaska ...," thereby advancing its economic and social welfare.

The power authority concentrates on renewable resource developments that will lessen the state's dependence on depletable and inflation-prone fossil fuels. On a statewide basis, the renewable resource most feasible for power generation is hydropower.

Project financing will be available from the revenue bond market, however, the "front end" money needed for planning and concept design has in the past been provided by the state. It is envisioned that the state will be repaid from the revenue generated by the projects, and thus, the impact on the state treasury should be minimal. While many projects can be shown to be economically feasible, in some cases the magnitude of the investment perhaps coupled with a weak fiscal

base in the communities to be served may necessitate state financial assistance in order to achieve revenue bond financing. In these cases, the state hopefully would recapture its portion of investment from project-generated revenue.

The two projects presently under construction are Green Lake and Solomon Gulch. The Green Lake project has been spearheaded by "Rocky" Gutierrez, city manager of Sitka, whose enthusiasm and energy are directly responsible for the project's successful construction start. Financing for the \$45-million project was provided through an \$8-million loan from the state and the remainder from revenue bond financing managed by Dillon Read and Company. Engineering, design and management is being provided by R. W. Beck and construction has been awarded to S. J. Groves and Sons. The project consists of a 230-ft. high, concrete, thin-arch dam, with a crest length of 460 ft. The power conduit is approximately 1,900 ft. long, consisting of a 10.5 ft. dia. tunnel from the intake works to the powerhouse. The powerhouse will house two vertical Francis turbines under a net head of 349 ft. for an installed capacity of 16,500 kw. The project will transmit power by way of 7.4 mi. of 69 kv transmission line and will terminate at the existing Blue Lake hydropower project substation. Green Lake will generate 44.2 million kwh of firm energy annually and another 20.7 million kwh of secondary energy. Power-on-line is scheduled for late 1981.

The Solomon Gulch project consists of a 12,000 kw installed capacity plant with two Pelton turbines. The principal features of this \$35-million project are a 100-ft. high earthfill dam, 2,000 ft. of "Alyeska pipeline" penstock and roughly 100 mi. of

continued

transmission line. The market area for Solomon Gulch power is tentatively Valdez and Glennallen. This load center could be later tied into the railbelt area if Susitna proceeds to construction. Like Green Lake, Solomon Gulch development has been fortunate to receive the drive of a strong utility manager which in this case is Jim Palin. An REA cooperative, Copper Valley will receive 60 percent of project financing from REA with the remainder to come either from power authority revenue bonds, or perhaps Valdez general obligation bonds. The project

engineer is R. W. Retherford Associates and the transmission engineer is Minor and Minor Engineers. Construction engineer for the powerhouse will be Alaska Constructors, Inc. The contract for the transmission line has not yet been awarded.

Projects still in the planning stage are Susitna, Swan Lake, Terror Lake and Tyee Lake. During its last session, the legislature appropriated \$8.2 million to initiate field explorations for the Susitna hydropower project. On Nov. 2, 1979, the power authority selected Acres

American, Inc. as the engineer manager. The field explorations will begin in January 1980 and will require 2½ years to complete at a cost of some \$26 million. Assuming feasibility, project construction would begin upon issuance of a construction license by the Federal Energy Regulatory Commission (FERC). The FERC may take up to three years to act, however, there is potential to expedite Susitna construction approval under the President's new energy mobilization board.

The Swan Lake project planning is further advanced than Susitna and is probably next in line for construction. Assuming timely licensing and availability of financing, construction could start in July 1980 with power-on-line anticipated in early 1984. The Swan Lake project is similar to Green Lake in many respects. The project consists of a 190-ft. high, thin-arch dam, 4,200 ft. of power tunnel, two 11,000-kw Francis turbines and roughly 25 mi. of transmission line. Estimated cost of Swan Lake is \$85 million with financing provided through the power authority.

Following Swan Lake in 1980 should be the Terror Lake project. Unfortunately, Terror Lake is partially located in a national bear wildlife refuge, an area with less restrictions than proposed wilderness areas under d-2. The Department of Interior, which manages the refuge, has intervened against the project. Terror Lake, estimated to cost \$81 million, consists of a 156-ft. high earthfill dam, rock spillway, four mi. of power tunnel and penstock, a powerhouse consisting of two 10,000-kw Pelton turbines and 17 mi. of transmission line. Financing will come jointly from REA and the power authority.

Construction on the Tyee Lake hydropower project could start in early 1981. The project will consist of a conventional lake tap similar to the Snettisham project in Juneau. The major features consist of 4,500 ft. of power tunnel connecting Tyee Lake to an underground powerhouse which will house two 10,000-kw turbines. Tyee will deliver power to Petersburg and Wrangell through 80 mi. of transmission line. When the initial capacity of Tyee has been absorbed, construction of a small dam at the outlet of Tyee Lake and a third unit in the powerhouse would provide an ultimate installed capaci-



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ty of 30,000 kw. The first stage of Tyee is estimated to cost \$53 million with funding through the power authority and with power being sold to the Thomas Bay Power Commission.

Other activities during 1980 will include field explorations for a number of hydropower projects. The field explorations will lead to Federal Energy Regulatory Commission license to construct those projects that prove feasible. In addition to the hydro, it is anticipated that the power authority will get involved in facilitating waste heat development in the Fairbanks area and hopefully in some of the rural communities.

Alaska is rich in energy resources, and has a unique opportunity not available to other states. Relative energy independence can be achieved through renewable resource development if a portion of the state's nonrenewable income from oil and gas is utilized for this purpose. Equity investment by the state will move today's surplus dollars into the future, thus creating not only economical power for Alaskans, but a long-term source of revenue for the state treasury. Hydropower is capital-intensive, but it is also inflation-proof and a revenue-producer. Wise investment in hydropower is one of the most valuable long-term economic actions that the state could take. □

Fairbanks' DeLong To Head ERC Oil Group

Dan M. Krausse, Earth Resources Co. president and chief executive officer, has announced two management changes.

Louis F. DeLong, president of ERC of Alaska, will move to Dallas to become group vice president of the parent company with responsibility for its oil group.

Succeeding DeLong as ERC of Alaska president is John L. Seawell, currently president of the Rogers & Babler road-building and paving materials division in Anchorage. He will retain that post. ERC of Alaska headquarters will remain in Fairbanks. □

Big Three Lincoln Announces Expansion

Big Three Lincoln Alaska has announced an addition to its physical plant in Palmer. The new equipment and addition will increase Big Three's capability to serve customer's needs for liquid and gaseous nitrogen and compressed air. The Palmer manufacturing plant presently produces liquid oxygen, gaseous oxygen, and acetylene. □

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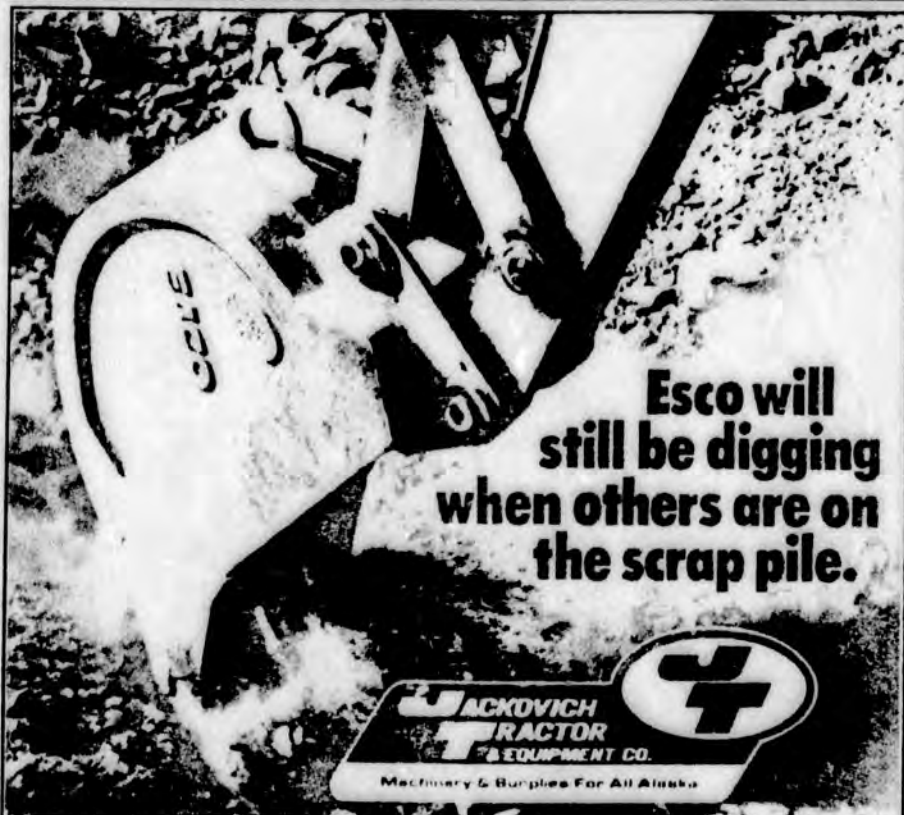
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Cor.

ALASKA POWER AUTHORITY

333 WEST 4th AVENUE - SUITE 31 - ANCHORAGE, ALASKA 99501

Phone: (907) 277-7641
(907) 276-2715

October 12, 1979

Mr. David A. Rose
Executive Director
Alaska Municipal Bond Bank Authority
601 West 5th Avenue, Suite 325
Anchorage, Alaska 99501

Dear Mr. Rose:

There is a need for a timely financing vehicle for diesel powered plants for small Alaskan communities that the Power Authority presently cannot provide due to the requirement for a joint resolution of the legislature authorizing the sale of bonds by the Authority. For this reason I support the proposed amendment to AS 44.58. I have not had an opportunity to present the proposal to the Power Authority Board of Directors, however, I am confident it would be supported as long as certain considerations are adhered to by the Bond Bank Authority in exercising this purpose.

First, there is great concern expressed by private and cooperative utilities statewide and the Alaska Public Utilities Commission of competition in power generation by the government sector, whether it is federal, state, or local, with the existing certificated utility. This competition promotes inefficient production of power and higher costs for all customers of the utility. Therefore, I urge the Bond Bank Authority to insure coordination and agreement with the existing utility, if one exists, prior to financing any diesel generation capacity. Standby reserve generators and replacement generators financed for existing small public utilities do not normally present a problem.

Second, the Bond Bank Authority may desire to coordinate or seek comments of the Power Authority staff on any diesel power generation proposals which are considered for financing. This may help to eliminate wasteful investment in generation capacity, duplication of efforts, and coordination as mentioned above.

Thank you for your consideration in seeking concurrence of the Power Authority.

Sincerely,



Eric P. Yould
Executive Director

cc: Power Authority Board Members
Representative Terry Gardiner
Senator Clem Tillion
APUC
DEPD



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OCT 26 1979

ALASKA POWER AUTHORITY

000106

Department Of Energy

Alaska Power Administration
P.O. Box 50
Juneau, Alaska 99802

October 5, 1979

Mr. Loyd M. Hodson
General Manager
Alaska Village Electric
Cooperative, Inc.
4831 Eagle Street
Anchorage, AK 99503

RECEIVED OCT 29 1979

Dear Mr. Hodson:

As a follow-up to our meeting in your office October 5, here are cost estimates for investigation of the better hydropower sites that have been identified near AVEC villages. These costs are rough but should be adequate for budgetary estimating purposes.

Scammon Bay	\$25,000
Elim	30,000
Kiana	40,000
(Storage plan \$45,000)	
Ambler	45,000
Shungnak/Kobuk/Mine	35,000
Togiak	25,000
Good News	20,000
Grayling	35,000
Kaltag	35,000
	<u>\$300,000</u>

The costs include travel, per diem, professional services in the field, and services necessary to write up the reports. The studies would have the essential information for finalizing power potential and determining engineering and economic feasibility.

Costs are included to establish a stream staff gages to obtain stream flow data. These require periodic reading and actual stream measurements three to four times to establish flow curves. Surveying and mapping would include enough topography to locate diversion points, penstock alignment, powerplant location, and transmission location. A surface examination of soil and geologic conditions would be made to verify stability and appropriateness of the physical site. A brief fish and wildlife study would be made to determine potential fish and wildlife aspects of the project physical features. A brief archaeological inspection would be made at the same time. Project design and cost estimates would be prepared to select turbine and penstock sizes based

on the hydrology data and the power needs, soil conditions, economics, etc. The report would be comprehensive enough to determine engineering and economic feasibility of the project. Costs for the studies have been increased 20 percent for contingencies, unforeseen items, and bad weather delays. An additional 10 percent is included for inflation.

As mentioned during our meeting, we feel that preliminary investigations should be started at Elim and Scammon Bay during 1979-1980, if possible.

If we can answer any questions, please call.

Sincerely,

Donald L. Shira

For Donald L. Shira
Chief, Planning Division

000107

To: Representative Hugh Malone
Representative Pat O'Connell
Senator Clem Tillion

From: Nancy Lord, Aide to Rep. Malone

Date: April 1, 1980

Subject: BRADLEY LAKE HYDROELECTRIC PROJECT

I

The Bradley Lake project, authorized by Congress since 1962, is currently being undertaken by the Corps of Engineers. Phase II, which began in August 1979, consists of engineering and environmental studies leading to a General Design Memorandum and Environmental Impact Statement by January 1982. Construction would then begin in 1982 and the project would come on-line in late 1987. The size of the project is 118 MW, the largest proposed hydroelectric project in the state after Susitna, and the estimated cost roughly 200 million dollars. Eklutna and Snettisham are the two other projects in the state which were constructed by the Corps of Engineers and are managed by the federal Alaska Power Administration.

The Alaska Power Authority has expressed a strong interest in the project and its director, Eric Yould, has recommended a joint venture. Under such a plan, the Corps would still construct the project but the state would finance it with revenue bonds and ultimately own it. \$3.5 million for initial involvement in the project was included in the Authority's budget request but was deleted by the governor based on the judgement that the project was being adequately taken care of without state involvement. (\$5.1 million is the actual amount that would be needed to take the project through Phase II.)

The facts and the merits of the two choices have been greatly

clouded by a lack of information, misinformation, rivalry between state and federal agencies, and competition for the proposed power among municipalities. (A third option, that of construction by a private firm and financing by the Authority, has been urged by some but not considered seriously because of the existing depth of involvement by the Corps and the delay that would result from FERC licensing.)

The challenge is to decide under what conditions and control the Bradley Lake project will provide the greatest benefits to residents of the Kenai Peninsula. The questions to be answered are 1) Under what plan will the cost of power to consumers be the cheapest? 2) Under which plan will those in charge be most receptive to the desires of the local people concerning access, esthetic and social impacts, and availability of power?

II FACTORS TO CONSIDER

Cost. The cost of the project, regardless of who constructs it, should not vary too much. It will depend largely on some factors concerning design and access which are yet to be decided. Although a report by John Nuveen and Co. indicated that state financing would cost less than federal financing, several of its assumptions were faulty and its conclusions cannot be supported. The main difference between federal and state financing is that federal financing is by appropriation, with an interest rate which for projects begun in 1982 will probably be 9%. (We know for sure that it will be no greater than 9% and no less than 8%.) State financing is proposed to be by revenue bonds. The Authority claims that these bonds can be sold at 7 3/4% and the money in the construction fund can then be invested at 9½%. However, the

revenue bond market is currently so unsettled that 7 3/4% money may or may not be available in 1982. In addition, it is very unlikely that the Authority would be allowed to hold onto all the bonded construction money for the length of construction and make money from reinvesting it. In either case-- federal or state financing-- once the project has paid for itself the benefits will accrue to the consumers through lower rates or additional increments of power.

Quality. The quality of the project should not vary significantly regardless of who finances the project. The Corps has high standards and its projects must pass through several layers of federal approval. With state financing, the project must receive FERC approval. The Corps has a good record with Eklutna and Snettisham, and both it and the Authority consider Bradley a very attractive project with which they would like to make a good showing.

Timing. The Corps plans to have Bradley on-line by late 1987. The Nuveen report assumes that, with state financing, construction could be completed two years sooner than with federal financing. Federal financing requires yearly appropriations, and the Nuveen report assumes that these would be delayed by Congress or the OMB. However, such delays have not been the case in the past with Alaskan projects, and representatives of the Corps and Power Administration assure us that they expect no delays. However, should federal appropriations ever be delayed, there is apparently nothing to prevent the state from making an investment in the project at that point.

Power allocation. Under federal ownership, the decision as to how the Bradley power will be allocated depends on a formula developed by the Power Administration during the construction years. With state ownership, this decision lies with the Power Authority, which has never had this responsibility before. The director of the Authority says a procedure similar to the federal one would be followed, the main difference being that with state financing contracts for the power must be signed before the revenue bonds can be sold and the project constructed, while the Power Administration has until the power is actually on-line to sign contracts. In the case of Bradley, there has emerged clear competition for the power between Anchorage Municipal Light and Power, which would like to have as much as possible-- even all-- until Susitna power is available, and the Homer Electric Association, which is expected to be able to use all the power by 1988 but which may not want to use any of it if natural gas is still available at a cheaper cost. In any case, power allocation could turn out to be the most controversial aspect of Bradley and might involve lawsuits before it's over. The Power Administration has experience and administrative procedures to rely on, while the Authority has neither and might be influenced by state policies or politics. In addition, tax-exempt revenue financing involves some constraints concerning how wide an area the power can be allocated to and in what proportions, while federal financing involves no such constraints. The attorney for the Power Authority is currently looking into the specific effects of tax-exempt financing on the distribution of power.

Responsiveness. The Corps and the Power Administration are well aware that the Power Authority would like to be involved with

the Bradley project, and for this reason they are being extremely cooperative and sensitive to all parties. Their past record is good and they were very well received at the public hearing in Homer in December. The Power Authority would like to participate in the project, largely for the experience to be gained prior to the much larger Susitna project. However, the Power Authority currently has a very small staff and is involved with at least 17 other hydro projects as well as other types of power projects. It is questionable whether they have the ability to give as much attention to the Bradley project as the federal agencies are able to give.

Other factors. Bradley may very well be the only hydro project in the state which is now economically feasible (and even that is not clearly established). Other projects will be built with state subsidies. If there's any reason to think that a subsidy might be appropriate for the consumers of Bradley power (whose rates could be five times what they are now without any subsidy) state financing should be considered.

III WAYS IN WHICH THE AUTHORITY MIGHT BE INVOLVED

1. financing of the Bradley Lake project, with construction by the Corps of Engineers, as has been discussed.
2. have them monitor the work of the Corps. A private firm could be hired to critique the studies, decision-making, engineering, and construction. (The federal people think this would be a waste of money since they already have a number of federal checks on their work.)

3. have them monitor the progress of the Corps and give notice to the legislature and governor if, at any point, they identify any problems which might delay the project or increase its cost.

4. have them study marketing aspects and make recommendations regarding power allocation.

References:

Bradley Lake Project Power Market Analysis, 1978

Bradley Lake Reanalysis, 1978, 3 volumes

information brochure, Sept. 1979

transcript of Homer public meeting, Dec. 1979

Retherford report, April 1979

Anchorage Municipal Light and Power report, Aug. 1979

Nuveen report, Feb. 1980

Power Administration review of Nuveen report, Feb. 1980

misc. correspondence from Power Administration, Corps, Authority, etc.



ERIC YOULD

Executive Director
Alaska Power Authority

Department of Commerce
& Economic Development
State of Alaska

333 W. 4th Ave., Suite 31
Anchorage, Alaska 99501
Phone (907) 277-7641



DEPARTMENT OF THE ARMY
ALASKA DISTRICT, CORPS OF ENGINEERS
P.O. BOX 7002
ANCHORAGE, ALASKA 99510

EPY

REPLY TO
ATTENTION OF:

NPAEN-PM-PE

25 APR 1980

RECEIVED

APR 29 1980

ALASKA POWER AUTHORITY

Mr. Eric P. Yould
Executive Director
Alaska Power Authority
333 West 4th Avenue
Suite 31
Anchorage, Alaska 99501

Eric

Dear Mr. Yould;

Reference is made to your letter of 28 March 1980 which inquires as to the schedule and funding for pre-construction planning on the Bradley Lake Hydroelectric Project.

The \$5.1 million estimate for pre-construction planning is correct and was used in testimony before the Congress this past February. The increase over earlier estimates is based on additional costs for field investigations and environmental studies.

Funding for an accelerated schedule is currently under review by the Congress. This would permit Office of Management and Budget review in time to recommend construction funding to the Congress in the appropriate budget cycle to initiate construction in 1983. If this occurs I will notify you immediately so that future planning and decisions can be made.

Sincerely,

LEE R. NUNN
Colonel, Corps of Engineers
District Engineer

from 1981 Capital Budget Book

PROJECT TITLE Susitna Feasibility Analysis		LOCATION(S) Upper Susitna River	AREA SERVED Railbelt	ELECTION DISTRICT(S) 5-13		
OBJ. NO(S) 2	OPERATING BUDGET BRU(S) Alaska Power Authority	BUDGET COMPONENT NUMBERS 08-71-7-060		START DATE 12/01/79		
COMPLETION DATE 12/01/83						
PROJECT NARRATIVE I. Project Need Statement. The existing situation for electric power generation and costs for railbelt Alaska is documented in Appendix Part 2 of the Susitna Project Report. Low cost electricity in the Cook Inlet area is attributable to inexpensive natural gas generation which will be impacted by federal energy policy, declining reserves, and increasing costs. The Fairbanks area is dependent upon higher cost coal and diesel oil generation. Overall, the railbelt area of Alaska, where approximately 80% of the electric power is consumed in Alaska, has the lowest cost power in Alaska. With increasing costs of fossil fuels, and heavy capital, operating, and environmental costs associated with coal generation, development of Susitna is an attractive alternative energy resource that should be developed if it is feasible. Susitna development will produce an inflation free source of electric power for the commercial and industrial areas of Alaska which are dependent upon energy at a reasonable price for economic stability and development. Delays in the project will result in a \$200 to 300 million increase per year in project construction costs which will be reflected in the ultimate cost of power.		PROJECT TYPE ☒ Building Construction (C) ☐ Other Improvement (I) ☒ Equipment (E) ☒ Land (L) ☒ Professional Services (P) ☒ Other (O) Major Project Feasibility Analysis		APPROPRIATION REQUEST (000) 1002 FED. RCPTS. 1003 G/F MATCH 1004 GEN. FUND 3,335.0 1005 I/A RCPTS. G.O. BONDS TOTAL 3,335.0		
		PROJECT CHARACTERISTICS ☒ Totally New Facility ☐ Addition to Existing Facility ☐ Renovation of Existing Facility ☐ Major Maintenance or Repair ☒ Supplement Previously Authorized Funds to Enable Completion ☒ One of Several Phases ☒ Major External Funding Source ☒ Other		GOVERNOR'S RECOMMENDATION APPROVED DEFERRED DISAPPROVED ☒ ☐ ☐ 1002 FED. RCPTS. 1003 G/F MATCH 1004 GEN. FUND 3,335.0 1005 I/A RCPTS. G.O. BONDS TOTAL 3,335.0		
		SITE FEATURES NO YES ☒ Site Currently Owned? ☒ All Utilities Available? ☒ Access Already Available?		01-1035a (12/79)		
		OPERATIONAL COST & NO. PERSONNEL INCREASE (DECREASE)		FIRST OPERATING YEAR	ULTIMATE ANNUAL YEAR	PREVIOUS YEAR-PRIORITY N/A
		FUNDING SOURCE FED. RCPTS. GEN. FUND		YEAR	YEAR	AGENCY PRIORITY 81-01
		TOTAL ANNUAL OPERATIONAL COST		YEAR	YEAR	GOVERNOR'S PRIORITY
		POSITION (FTE)		YEAR	YEAR	GOVERNOR'S PRIORITY
		II. Project Description. Study the feasibility and determine the optimum basin development plan for a multi-dam hydroelectric				

CATEGORY Electric Power

AGENCY Alaska Power Authority

PROGRAM Economic Development

01-1035a (12/79)

25a

PROPOSED CAPITAL

000064

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL (000)	BUDGET YEAR (000)	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering	12,920.0	2,578.0	10,342				
Land	72.0	36.0	36				
Construction							
Equipment	500.0	500.0					
Administration and Other	442.0	221.0	221				
Total Annual Expenditure (Capital Cost)	13,934.0	3,335.0	10,599				

CONTINUATION OF NARRATIVE

generation system on the upper Susitna River. The ultimate development will provide 1,400 MW's of firm power and over 6 billion kwh's of energy to the railbelt area of Alaska. The study will be performed by Acres American Incorporated, under contract to the Authority. In FY '80 SB 63 was passed which appropriated \$8.178 million to the governor for initial costs of the study. The study must be initiated and funds obligated by January 1, 1980. The study will encompass geotechnical, environmental, survey, hydrologic, economic and power market studies in addition to design activities. A Federal Energy Regulatory License application will be prepared. Most study activities are seasonal in nature, therefore any delay in funding will result in consequent delays in completion of the study.

III. Documentation of Estimated Capital Cost.

Costs for construction and operation of the project are included in reports by the Corps of Engineers on the project and are too lengthy to be addressed in this budget. The project feasibility analysis is treated as a distinct project in itself. The original cost estimate in the June 1978 Plan of Study was \$24.1 million for a 46 month Corps of Engineers study. This cost estimate was increased to \$26.5 million in July 1979 and \$28.3 million in November 1979. The cost estimate for the program of study activities for Acres American for January 1, 1980 is \$27,508,400. The estimated study costs including inflation is \$29.6 million. The estimated cost to achieve a go-no-go decision to proceed with a license application for the project is \$15.7 million after 15 months of the study.

IV. Analysis of Estimate of Operational Expense.

Operational expenses including equipment and personnel costs are included in the capital cost for the study. Cost estimates for operation and maintenance of the project after construction in 1978 dollars was estimated by

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development
PROJECT TITLE Susitna Feasibility Analysis

35b

PROPOSED PROJECT
ANALYSIS

REVISED

000065

the Corps of Engineers at 35 personnel in 1992 at a cost of \$3.4 million and 42 personnel in 1996 at a cost of \$4.0 million. All O & M costs would be paid from project revenues.

V. Identification of Alternatives Considered.

The investigation of feasible alternatives has been addressed in previous reports for the project and will be explored to greater detail in the final feasibility study. Due to federal policies which may preclude future use of diesel and/or natural gas in the generation of electricity, the Federal Energy Regulatory Commission stipulated that coal combustion steam generation at Beluga and Healy was the most feasible alternative to Susitna. Small decentralized hydroelectric development, coal, conservation, and continued in-state use of natural gas are some of the principal alternatives to Susitna which will be analyzed in more detail in this project. There is essentially no alternative to the performance of this study to determine the best long-term solution to electric energy production in the railbelt area of Alaska. A comprehensive study of the project will determine the best alternatives to develop.

*Effects
on
Acre Floor
Study*

CONTINUATION FORM

CATEGORY Power Development

AGENCY Alaska Power Authority

PROGRAM Economic Development

PROJECT
TITLE Susitna Feasibility Analysis

REVISED

000068

7C Analysis of Governor's Decisions

ITEM	AMOUNT	FUNDING SOURCE	EXPLANATION
Swan Lake Hydro Project			
Agency Request	18,000.0	G.F.	The request is for a subordinated loan, needed to assure sale of revenue bonds. The Governors recommendation is that the source of funding be the Renewable Resources Investment Fund (RRIF) rather than the General Fund.
Gov. Rec.	18,000.0	R.R.I.F.	

CATEGORY Development AGENCY Alaska Power Authority PROGRAM Economic Development

7C ANALYSIS OF
GOVERNOR'S DECISIONS

000067

PROJECT TITLE Swan Lake Hydroelectric Project		LOCATION(S) Ketchikan		AREA SERVED Ketchikan		ELECTION DISTRICT(S) A - 1																			
OBJ. NO(S) 4	OPERATING BUDGET BRU(S) Alaska Power Authority	NAME(S) Alaska Power Authority		BUDGET COMPONENT NUMBERS 08-71-7-060		START DATE Sept. 1980	COMPLETION DATE August 1983																		
PROJECT NARRATIVE I. Project Need Statement. The City of Ketchikan has increasing demand for electric energy which exceeds its existing hydro-electric capacity. Diesel generating capacity is used to provide power at a rapidly increasing price due to the cost of fuel. The project will be difficult to finance due to the restricted market area, the amount of project power that may be excess to initial demand, and the high cost in \$/KW for the project. It will be difficult for the utility to market debt for the full cost of the project unless a loan from the State subordinate to the revenue bond debt is made in a manner similar to the Green Lake project at Sitka. II. Project Description. The Swan Lake project consists of a dam, power tunnel, penstock, powerhouse, and 28 mile 115 KV transmission line to the City of Ketchikan. The project will have 22 MW of installed capacity producing 18 MW's of firm power and 69 million kwh of firm energy per year. A total of \$3,435,000 has been loaned by the state through the Power Project Revolving Loan Fund for design, license application, and purchase of equipment associated with the project in FY'79 and FY'80. A FERC license is expected to be approved by September of 1980, and construction will begin as soon as possible thereafter.				PROJECT TYPE ☒ Building Construction (C) ☐ Other Improvement (I) ☒ Equipment (E) ☒ Land (L) ☒ Professional Services (P) ☒ Other (O) Hydroelectric Project Construction		APPROPRIATION REQUEST (000) <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>18,000</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>18,000</td></tr> </table>		1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	18,000	1005	I/A RCPTS.			G.O. BONDS		TOTAL		18,000
				1002	FED. RCPTS.																				
1003	G/F MATCH																								
1004	GEN. FUND	18,000																							
1005	I/A RCPTS.																								
	G.O. BONDS																								
TOTAL		18,000																							
PROJECT CHARACTERISTICS ☒ Totally New Facility ☐ Addition to Existing Facility ☐ Renovation of Existing Facility ☐ Major Maintenance or Repair ☐ Supplement Previously Authorized Funds to Enable Completion ☒ One of Several Phases ☒ Major External Funding Source ☐ Other		GOVERNOR'S RECOMMENDATION APPROVED ☒ DEFERRED ☐ DISAPPROVED ☐ <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td></td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td>1015</td><td>RRIF</td><td>15,000.0</td></tr> <tr><td colspan="2">TOTAL</td><td></td></tr> </table>		1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND		1005	I/A RCPTS.			G.O. BONDS		1015	RRIF	15,000.0	TOTAL			
1002	FED. RCPTS.																								
1003	G/F MATCH																								
1004	GEN. FUND																								
1005	I/A RCPTS.																								
	G.O. BONDS																								
1015	RRIF	15,000.0																							
TOTAL																									
NO YES SITE FEATURES ☒ ☐ Site Currently Owned? ☒ ☐ All Utilities Available? ☒ ☐ Access Already Available?		01-1035a (12/79)																							
OPERATIONAL COST & NO. PERSONNEL INCREASE (DECREASE)		FIRST OPERATING YEAR 1983	ULTIMATE ANNUAL YEAR 1984	PREVIOUS YR-PRIORITY																					
FUNDING SOURCE	FED. RCPTS.			AGENCY PRIORITY																					
	GEN. FUND																								
	Project Revenues	150,000	150,000																						
TOTAL ANNUAL OPERATIONAL COST		150,000	150,000	GOVERNOR'S PRIORITY																					
POSITION (FTE)		2	2																						

CATEGORY Power DevelopmentAGENCY Alaska Power AuthorityPROGRAM Economic Development

PROPOSED CAPITAL

000068

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL (000)	BUDGET YEAR (000)	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering							
Land							
Construction	18,000	18,000					
Equipment							
Administration and Other							
Total Annual Expenditure (Capital Cost)	18,000	18,000					

CONTINUATION OF NARRATIVE

III. Documentation of Estimated Capital Cost.

Construction costs estimates for the project were prepared by R. W. Beck and Associates in a Feasibility Report on the project for the Ketchikan Public Utility. The cost estimate of \$86 million included interest during construction and inflation throughout the construction period. The total amount of the bond issue to include financing costs and funding of reserves could exceed \$100 million which would be perceived by investors as too large for a community the size of Ketchikan. State assistance in the form of a subordinate loan will provide a degree of security to investors and result in a bond issue in a more acceptable range of \$80 million.

IV. Analysis of Estimate of Operational Expense.

The hydroelectric plants of the utility will all be fully automated as a result of funds made available to the community in FY'80. This will decrease significantly the operations and maintenance costs of the project for the utility. All O & M costs and debt service will be paid from revenues derived from the sale of electric power by the utility.

V. Identification of Alternatives Considered.

The alternatives available to Ketchikan are limited to other hydroelectric projects or continued dependence upon diesel generation and its associated rapidly increasing cost. Diesel generation is not considered a viable alternative in the short or long run based solely on economics. Other hydroelectric projects considered are Mahoney Lake, Lake Grace, and Lake Tyee. Mahoney Lake was considered too small by the utility and not adequate to meet long term needs even though the cost/KW for power from the project was less than Swan Lake. Lake Grace was encumbered by federal land actions. Lake Tyee was almost a year behind Swan Lake in development, and the merits of the project in relation to Swan Lake were unknown, since Lake Tyee was located 83 miles from Ketchikan. Considering the present progress of project development for Swan Lake, it appears to be the best short and long term solution to Ketchikan's power requirements since Lake Tyee can still be developed to provide future power requirements of the City.

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development

PROJECT
TITLE Swan Lake Hydroelectric
Project

35b

PROPOSED PROJECT
ANALYSIS

REVISED

000069

PROJECT TITLE Lake Tyee Hydroelectric Project		LOCATION(S) Petersburg/Wrangell		AREA SERVED Petersburg/Wrangell		ELECTION DISTRICT(S) 2																			
OBJ. NO(S) 4	OPERATING BUDGET BRU(S) Alaska Power Authority		BUDGET COMPONENT NUMBERS 08-71-7-060		START DATE		COMPLETION DATE																		
PROJECT NARRATIVE I. Project Need Statement. Petersburg and Wrangell are largely dependent on diesel electric generation and its associated increasing costs. A renewable resource alternative energy project would alleviate this condition. Either hydroelectric or wood/biomass power generation could be solutions. Both alternatives are being investigated, however the hydroelectric option is most favored due to its flexibility in operation, low O & M costs, and stable source of fuel. The project may also be capable of providing power to Kake and additional power to Ketchikan. II. Project Description. The Swan Lake project is in two stages. Stage I provides 15 MW of power and 69 million kwh/year of energy at a cost of \$45 million. It consists of a lake tap, power tunnel, penstock, powerhouse, 57 mile 115 KV transmission line to Wrangell, and a 31 mile 37 KV line to Petersburg. Stage II requires construction of a dam to increase storage capacity and the addition of generators in the powerhouse. Stage II produces an additional 15 MW's of capacity and 62 million kwh/year of additional firm energy. III. Documentation of Estimated Cost. R. W. Retherford Associates prepared a Preliminary Feasibility Report on the project and estimated in 1978 dollars a cost of \$41 million for the			PROJECT TYPE ☒ Building Construction (C) ☐ Other Improvement (I) ☒ Equipment (E) ☒ Land (L) ☒ Professional Services (P) ☒ Other (O) Hydroelectric Project Construction		APPROPRIATION REQUEST <table border="1"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>10,000</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>10,000</td></tr> </table>			1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	10,000	1005	I/A RCPTS.			G.O. BONDS		TOTAL		10,000
			1002	FED. RCPTS.																					
1003	G/F MATCH																								
1004	GEN. FUND	10,000																							
1005	I/A RCPTS.																								
	G.O. BONDS																								
TOTAL		10,000																							
PROJECT CHARACTERISTICS ☒ Totally New Facility ☐ Addition to Existing Facility ☐ Renovation of Existing Facility ☐ Major Maintenance or Repair ☒ Supplement Previously Authorized Funds to Enable Completion ☒ One of Several Phases ☒ Major External Funding Source ☐ Other		GOVERNOR'S RECOMMENDATION APPROVED ☒ DEFERRED ☐ DISAPPROVED ☐ <table border="1"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td></td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td>1015</td><td>RCIF</td><td>10,000.0</td></tr> <tr><td colspan="2">TOTAL</td><td>10,000.0</td></tr> </table>			1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND		1005	I/A RCPTS.			G.O. BONDS		1015	RCIF	10,000.0	TOTAL		10,000.0
1002	FED. RCPTS.																								
1003	G/F MATCH																								
1004	GEN. FUND																								
1005	I/A RCPTS.																								
	G.O. BONDS																								
1015	RCIF	10,000.0																							
TOTAL		10,000.0																							
NO YES SITE FEATURES ☒ Site Currently Owned? ☒ All Utilities Available? ☒ Access Already Available?		01-1035a (12/79)																							
OPERATIONAL COST & NO. PERSONNEL INCREASE (DECREASE)		FIRST OPERATING YEAR 1984	ULTIMATE ANNUAL YEAR 1985	PREVIOUS YR-PRIORITY 80-03																					
FUNDING SOURCE	FED. RCPTS.			AGENCY PRIORITY 81-03																					
	GEN. FUND			GOVERNOR'S PRIORITY																					
	Project Revenues	200,000	200,000																						
TOTAL ANNUAL OPERATIONAL COST		200,000	200,000																						
POSITION (FTE)		4	4																						

CATEGORY Power DevelopmentAGENCY Alaska Power AuthorityPROGRAM Economic Development

000071

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL (000)	BUDGET YEAR (000)	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering							
Land							
Construction	10,000	10,000					
Equipment							
Administration and Other							
Total Annual Expenditure (Capital Cost)	10,000	10,000					

CONTINUATION OF NARRATIVE

Stage I Project including 7% inflation and interest during construction. Due to increased inflation in 1979, an estimated cost of \$45 million is included in this project description. A detailed and updated cost estimate is presently being prepared by the engineer as part of the FERC license application. The two communities of Petersburg and Wrangell will have difficulty in financing the project on their own due to the dollar value of the bond issue relative to the size of the communities and the amount of excess project power remaining to be marketed in the early years of operation. A state loan for the project subordinate to the payment of revenue bond debt service will reduce the total dollar value of the bond issue, increase the security of the bonds and make them more marketable, and help to insure project financing. The state loan appropriation is required no later than FY'81 to insure availability of funds prior to the construction financing when the FERC license should be approved. Since the loan may be considered a capital project appropriation, the funds would guarantee timely project financing if they were appropriated in FY'81 for use upon receipt of the FERC license. In FY'80, HB 32 appropriated \$2 million for loans for the project. The Power Authority assumed responsibility for management and development of the project in response to a request of the Thomas Bay Power Commission and the two communities. The expenditure of the \$2 million appropriated for the project will have to be clarified by the legislature.

IV. Analysis of Estimate of Operational Expense.

All operating and maintenance expenses will be paid from project revenues and are estimated to be \$200,000/year with 4 FTE positions for Stage I, and increase by \$100,000/year with one additional FTE position with development of Stage II.

V. Identification of Alternatives Considered.

Alternatives considered to the Lake Tyee project were other hydroelectric projects which were determined to be too large or small with a higher cost/KW of power produced, continued use of diesel generation with its asso-

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development
PROJECT TITLE Lake Tyee Hydroelectric Project **356** PROPOSED PROJECT ANALYSIS REVISED **000072**

ciated high operating and fuel costs, and wood waste combustion steam generation. The wood waste development appears competitive to Lake Tyee in the near term for a short period of economic analysis if a long-term low cost source of waste wood fuel can be established. The wood waste alternative has rapidly increasing fuel and operating costs which are subject to inflation. It also has a useful life of approximately 30 years, which is much shorter than a hydroelectric project.

CONTINUATION FORM

CATEGORY Power Development

AGENCY Alaska Power Authority

PROGRAM Economic Development

000073

PROJECT
TITLE Lake Tyee Hydroelectric
Project

PROJECT TITLE AVEC Fuel Conversion Project		LOCATION(S) Nulato	AREA SERVED Rural Alaska	ELECTION DISTRICT(S) 13, 15, 16-19, 21, 22
OBJ. NO(S) 3	OPERATING BUDGET BRUI(S) Alaska Power Authority	NAME(S)	BUDGET COMPONENT NUMBERS 08-71-7-060	START DATE July 1979
COMPLETION DATE June 1982				

PROJECT NARRATIVE I. Project Need Statement. Most rural villages are totally dependent on high cost diesel fuel with seasonal transportation and storage problems for electric power generation. The rural consumer often pays 5 to 10 times the cost/kwh of energy as consumers in Southeast and Railbelt Alaska. The small size of the market in each village precludes capital intensive developments which might employ economies of scale. Small scale alternative's for power development must be developed for rural Alaska, whether the solution is small scale hydroelectric power, wind power, or alternative fuels. II. Project Description. The legislature funded in FY'80 the AVEC Fuel Conversion project for \$150,000 to investigate feasibility and demonstrate a system which would gasify local wood or coal resources and burn the product low BTU gas in modified small diesel turbines. The system has been purchased and will undergo an Anchorage demonstration with the funds appropriated to date. Additional funds are necessary to fully demonstrate the system in a village environment, develop O & M procedures, fully test the operational feasibility, and fully assess the potential application of the technology in other villages throughout rural Alaska.	PROJECT TYPE ☐ Building Construction (C) ☐ Other Improvement (I) ☒ Equipment (E) ☐ Land (L) ☒ Professional Services (P) ☐ Other (O)	APPROPRIATION REQUEST (000) <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>125</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td colspan="2">G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>125</td></tr> </table>	1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	125	1005	I/A RCPTS.		G.O. BONDS			TOTAL		125
	1002	FED. RCPTS.																		
	1003	G/F MATCH																		
	1004	GEN. FUND	125																	
	1005	I/A RCPTS.																		
	G.O. BONDS																			
	TOTAL		125																	
	PROJECT CHARACTERISTICS ☐ Totally New Facility ☐ Addition to Existing Facility ☐ Renovation of Existing Facility ☐ Major Maintenance or Repair ☒ Supplement Previously Authorized Funds to Enable Completion ☐ One of Several Phases ☐ Major External Funding Source ☐ Other	GOVERNOR'S RECOMMENDATION APPROVED ☒ DEFERRED ☐ DISAPPROVED ☐ <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>125.0</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td colspan="2">G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>125.0</td></tr> </table>	1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	125.0	1005	I/A RCPTS.		G.O. BONDS			TOTAL		125.0
	1002	FED. RCPTS.																		
	1003	G/F MATCH																		
1004	GEN. FUND	125.0																		
1005	I/A RCPTS.																			
G.O. BONDS																				
TOTAL		125.0																		
SITE FEATURES NO YES ☒ ☐ Site Currently Owned? ☐ ☒ All Utilities Available? ☐ ☒ Access Already Available?	01-1035a (12/79)																			
OPERATIONAL COST & NO. PERSONNEL INCREASE (DECREASE)	FIRST OPERATING YEAR	ULTIMATE ANNUAL YEAR																		
FUNDING SOURCE FED. RCPTS GEN. FUND Project Revenues	N/A	N/A																		
TOTAL ANNUAL OPERATIONAL COST		PREVIOUS YR-PRIORITY N/A																		
POSITION (FTE)		AGENCY PRIORITY 81-04																		
GOVERNOR'S PRIORITY																				

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development

PROPOSED CAPITAL

000074

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL (000)	BUDGET YEAR (000)	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering	20	20					
Land							
Construction	55	55					
Equipment	35	35					
Administration and Other	15	15					
Total Annual Expenditure (Capital Cost)	125	125					

CONTINUATION OF NARRATIVE

III. Documentation of Estimated Capital Cost.

The FY'80 funding was inadequate to fully test and demonstrate the operation of the proposed system in a village environment. The attached description of the project reflects the activities and time and expenditure schedules for the project. A village demonstration will require shipment to and setup of the system at Nulato and detailed investigation of the optimal operating and maintenance parameters of the system for economic and reliable operation in the village environment. The cost estimates were negotiated between the Alaska Village Electric Cooperative (AVEC), their engineers, and the Power Authority as part of the original project contract negotiations. The cost estimate for FY'81 needs may be low, in which case AVEC will absorb the cost overruns.

IV. Analysis of Estimate of Operational Expense.

Operating costs will be derived from revenues from the sale of electric power as part of the overall AVEC system. The gathering of the fuel source (coal or wood) may contribute to the local economy of the village, and in any case may result in a lower fuel cost for the electric utility for specific villages where an alternative fuel is available.

V. Identification of Alternatives Considered.

This project is a demonstration project and as such has been assessed as one of only a few potential feasible solutions to the rural energy problem. Solutions on a village by village basis must be determined, and the application of alternative energy technologies to lower electric power costs in some villages may not be feasible. In that case, only high cost diesel generation with state subsidies will be the solution. This technology has been assessed to warrant demonstration due to its specific limited application to rural Alaska.

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development
 PROJECT TITLE AVEC Fuel Conversion Project

356

PROPOSED PROJECT

REVISED

000075

7C Analysis of Governor's Decisions

ITEM	AMOUNT	FUNDING SOURCE	EXPLANATION
Bradley Lake Hydroelectric Project			
Agency Request	1,500.0	G.F.	The Bradley Lake project has been federally authorized and the U.S. Army Corps of Engineers is currently undertaking Phase I feasibility and design work. Consequently no General Funds are allocated for this project.
Gov. Rec.	0		

CATEGORY Development AGENCY Alaska Power Authority PROGRAM Economic Development

7C ANALYSIS OF
GOVERNOR'S DECISIONS

000076

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL (000)	BUDGET YEAR (000)	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering	2,950	1,250	1,700				
Land							
Construction							
Equipment	320	170	150				
Administration and Other	230	80	150				
Total Annual Expenditure (Capital Cost)	3,500	1,500	2,000				

CONTINUATION OF NARRATIVE

II. Project Description.

The project consists of a concrete gravity dam, diversion works, a power tunnel, powerhouse, and transmission facilities for a 70 MW project that will produce over 300 million kwh of energy per year at a 1978 cost of \$160 million. The first two years of funding will produce project authorization documents and preliminary design of the project after detailed site investigations are completed. Future project construction costs will be paid from proceeds of revenue bonds issued for the project.

III. Documentation of Estimated Capital Cost.

The capital cost estimate for project construction is contained in the Corps of Engineers Reanalysis of the Bradley Lake Hydroelectric Project of March 1978. The cost will be significantly higher at project completion due to inflation and project delays if the Corps constructs the project. Considerable savings in construction cost may be realized if the state proceeds to develop the project independently utilizing private industry. The Corps of Engineers estimates a cost of \$3.5 million to perform field investigations, studies and preliminary design of the project for authorization for construction as a federal project. A cost of \$3,112,000 is estimated for similar activities using private industry and efforts to obtain a FERC license.

IV. Analysis of Estimate of Operational Expense.

The operation and maintenance cost of the Bradley Lake Project was estimated in the Corps of Engineers report. Eight (8) full time positions and maintenance costs will amount to approximately \$430,000/year and be paid for by project revenues.

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development
PROJECT TITLE Bradley Lake Hydroelectric Project

35b

PROPOSED PROJECT
ANALYSIS

REVISED
000078

V. Identification of Alternatives Considered.

Alternatives considered are the same as discussed for the Susitna Project in the Cook Inlet area of Alaska. Bradley Lake is a low cost/KW of power project with minimal environmental impact. The cost of energy from Bradley Lake will be competitive with electric power generated with natural gas fuel under new gas contracts.

CONTINUATION FORM

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development
PROJECT TITLE Bradley Lake Hydroelectric
Project
01-1033 (7/79) REVISED 000079

7C Analysis of Governor's Decisions

ITEM	AMOUNT	FUNDING SOURCE	EXPLANATION
Grant Lake Hydroelectric Project			
Agency Request	1,000.0	G.F.	
Gov. Rec.	0		Grant Lake is located in a proposed RAREII area of Chugach National Forest. Since this land status is likely to preclude development of a hydroelectric facility and that the City of Seward is currently tied in to Chugach Electric, no funding is allocated.

CATEGORY Development AGENCY Alaska Power Authority PROGRAM Economic Development

7C ANALYSIS OF
GOVERNOR'S DECISIONS

000080

PROJECT TITLE Grant Lake Hydroelectric Project		LOCATION(S) Kenai Peninsula		AREA SERVED Seward		ELECTION DISTRICT(S)	
OBJ. NO(S) 5 & 6		OPERATING NAME(S) BUDGET BRU(S) Alaska Power Authority		BUDGET COMPONENT NUMBERS 08-71-7-060		START DATE Sept. 1979	
						COMPLETION DATE Sept. 1983	

PROJECT NARRATIVE I. Project Need Statement. The project would serve the electric power needs of the Seward area. The City of Seward now purchases power wholesale from Chugach Electric Association (CEA); the city owns and maintains standby generators only. Since 1972 the power and energy has been provided by CEA without an effective contract. With growth in power demand expected in the Seward area and with the price of the present wholesale power supply rising due to increasing fuel costs, city officials have indicated their desire to develop their own generating facilities. Development of the hydroelectric potential of Grant Lake will insure an inflation proof source of power and allow the utilization of a renewable resource, falling water, in lieu of fossil fuels. It will also serve to meet the growing power requirements of the Seward area, thereby allowing power from other sources to be diverted to other market areas. This project is in keeping with the policy mandate to encourage renewable resource development. This project is superior to other generation alternatives because it provides lower cost energy (estimated at 40 mills/kwh) and is most preferable from an environmental standpoint. The next best alternative has an estimated energy cost of 65 mills/kwh and would cause greater environmental disruption. Delay in initiating this	PROJECT TYPE ☐ Building Construction (C) ☒ Other Improvement (I) ☐ Equipment (E) ☐ Land (L) ☒ Professional Services (P) ☐ Other (O)		APPROPRIATION REQUEST (000) <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td align="right">1,000</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td align="right">1,000</td></tr> </table>		1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	1,000	1005	I/A RCPTS.			G.O. BONDS		TOTAL		1,000
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	1003	G/F MATCH																				
	1004	GEN. FUND	1,000																			
	1005	I/A RCPTS.																				
		G.O. BONDS																				
	TOTAL		1,000																			
	PROJECT CHARACTERISTICS ☒ Totally New Facility ☐ Addition to Existing Facility ☐ Renovation of Existing Facility ☐ Major Maintenance or Repair ☐ Supplement Previously Authorized Funds to Enable Completion ☐ One of Several Phases ☐ Major External Funding Source ☐ Other		GOVERNOR'S RECOMMENDATION APPROVED DEFERRED DISAPPROVED ☐ ☐ ☒ <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td></td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td></td></tr> </table>		1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND		1005	I/A RCPTS.			G.O. BONDS		TOTAL		
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TOTAL																						
SITE FEATURES NO YES ☒ ☐ Site Currently Owned? ☒ ☐ All Utilities Available? ☒ ☐ Access Already Available?		01-1035a (12/79)																				
OPERATIONAL COST & NO. PERSONNEL INCREASE (DECREASE)		FIRST OPERATING YEAR 1983																				
ULTIMATE ANNUAL YEAR 1984		PREVIOUS YR-PRIORITY 80-16																				
FUNDING SOURCE FED. RCPTS. GEN. FUND Project Revenues		\$50,000 \$50,000 \$50,000																				
TOTAL ANNUAL OPERATIONAL COST		\$50,000																				
POSITION (FYE)		AGENCY PRIORITY 81-06																				
		GOVERNOR'S PRIORITY																				

CATEGORY Power Development

AGENCY Alaska Power Authority

PROGRAM Economic Development

000081

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL (000)	BUDGET YEAR (000)	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering	930	930					
Land							
Construction							
Equipment							
Administration and Other	70	70					
Total Annual Expenditure (Capital Cost)	1,000	1,000					

CONTINUATION OF NARRATIVE

project would result in higher construction costs due to inflation and continued use of nonrenewable fossil fuels. Grant Lake is presently in the Chugach National Forest, and a Forest Service permit would be required. A one mile access road would be required for project construction and operation. This project would be one of several that could be intertied to serve the combined needs of the Kenai/Anchorage area. Detailed investigations and analysis are needed to further assess the projects viability and cost.

II. Project Description.

A dam 50 feet in height would be built at the outlet of Grant Lake, one mile from the Seward Highway and the Alaska Railroad. The dam's crest length would be 550 feet. A small saddle dam would also be needed. The raised lake would provide 75,000 acre-feet of storage and complete regulation of the 170 cubic feet per second average flow. One mile of pipeline with about 800 feet of penstock would achieve a head of 250 feet. Average energy output would be 25.2 million kwh annually with an installed capacity of 6 MW. One mile of transmission line would tie the powerplant to the existing transmission line to Seward.

III. Documentation of Estimated Capital Costs.

Currently estimated at \$20 million, the project requires detailed site investigations and design to establish construction costs more accurately. The reconnaissance level construction cost estimate is from a Reconnaissance Study of Hydroelectric Power Alternatives done for the City of Seward by CH2M Hill Engineers. Adjusted for inflation, the estimated construction cost is based on a construction start in 1981. All costs would be recovered through revenues from the sale of project power. Based on experience with similar projects, the estimated cost of preconstruction planning and design is \$1 million.

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development
PROJECT TITLE Grant Lake Hydroelectric Project

35b

PROPOSED PROJECT
ANALYSIS

REVISED

000082

IV. Operational Expense.

Based on experience with projects of similar size and type of remote operation, the estimated annual operation and maintenance expense (both first year and thereafter) would be \$50,000. All costs would be funded from project revenues.

V. Alternatives Considered.

The reasonable alternatives to this project include Seward's continued dependence on CEA or development of other hydroelectric projects in the area. Seward officials do not wish to remain completely dependent upon CEA power, the cost of which is increasing and will continue to increase as long as fossil fuels are used. The other available hydroelectric projects are Crescent Lake, Ressurrection River and Snow River. Based on present knowledge, none are competitive with Grant Lake in terms of cost or environmental impact. Postponing development to await the construction of other regional hydroelectric projects does not provide less expensive power, nor does it help to resolve the region's combined power needs.

CONTINUATION FORM

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development 000083
PROJECT TITLE Grant Lake Hydroelectric

7C Analysis of Governor's Decisions

ITEM	AMOUNT	FUNDING SOURCE	EXPLANATION
Dillingham Hydroelectric Project			
Agency Request	400.0	G.F.	The agency request is to determine the feasibility of hydroelectric generation in the Dillingham area with emphasis on Lake Elva. However, a recent Alaska Power Administration report states that "high costs raise serious questions about the validity of additional investments in Lake Elva investigations". Consequently, funding for Lake Elva feasibility studies are not funded. The intent of the Gov. Rec. is to use existing data (i.e. Bristol Bay Energy & Electric Potential) to evaluate the potential for all forms of renewable energy in the Dillingham area and to recommend which projects would be most cost-effective in displacing fuel oil.
Gov. Rec.	100.0	G.F.	

CATEGORY Development

AGENCY Alaska Power Authority PROGRAM Economic Development

7C ANALYSIS OF
GOVERNOR'S DECISIONS

000084

PROJECT TITLE Dillingham Hydroelectric Project		LOCATION(S) Dillingham Vicinity		AREA SERVED Dillingham/Naknek		ELECTION DISTRICT(S) 16	
OBJ. NO(S) 5 & 6		OPERATING BUDGET BRU(S) Alaska Power Authority		BUDGET COMPONENT NUMBERS 08-71-7-060		START DATE Sept. 1979	
						COMPLETION DATE Sept. 1983	

PROJECT NARRATIVE I. Project Need Statement. Nushagak Electric Cooperative supplies electrical power to the Dillingham area. It is a REA cooperative with about 2,900 KW of diesel generating capacity. The Naknek/King Salmon area is served by Naknek Electric Association, an REA cooperative with about 3,700 KW of diesel generating capacity. Thus, the area is susceptible to fuel price increases caused by both inflation and increases in the relative price of diesel oil. Since 1970, the amount of electricity provided by the two utilities has increased at 11% per year, and growth in demand is expected to continue at a rate of at least 4.5% annually. Several potential hydroelectric projects in the area have been identified that offer the possibility of displacing diesel-fired generation and meeting at least a portion of the anticipated load growth. Unlike diesel fuel, hydroelectric generation is virtually free of the effects of inflation and fuel price escalation. Further, it is in keeping with the state mandate to develop renewable resources. II. Project Description. Three projects are now under consideration for the area and are the subject of a feasibility assessment presently underway. The three are the best sites from a longer list of 15 sites evaluated	PROJECT TYPE ☐ Building Construction (C) ☒ Other Improvement (I) ☐ Equipment (E) ☐ Land (L) ☒ Professional Services (P) ☐ Other (O)	APPROPRIATION REQUEST <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>400,000</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>400,000</td></tr> </table>	1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	400,000	1005	I/A RCPTS.			G.O. BONDS		TOTAL		400,000	GOVERNOR'S RECOMMENDATION <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>APPROVED</td> <td>DEFERRED</td> <td>DISAPPROVED</td> </tr> <tr> <td style="text-align: center;">☒</td> <td style="text-align: center;">☐</td> <td style="text-align: center;">☐</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>100.0</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>100.0</td></tr> </table> 01-1035a (12/79)	APPROVED	DEFERRED	DISAPPROVED	☒	☐	☐	1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	100.0	1005	I/A RCPTS.			G.O. BONDS		TOTAL		100.0
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OPERATIONAL COST & NO. PERSONNEL INCREASE (DECREASE) FUNDING SOURCE Project Revenues TOTAL ANNUAL OPERATIONAL COST 50,000 POSITION (FTE)	FIRST OPERATING YEAR 1983 50,000 50,000	ULTIMATE ANNUAL YEAR 1984 	PREVIOUS YR-PRIORITY 80-14 AGENCY PRIORITY 81-07 GOVERNOR'S PRIORITY
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CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL	BUDGET YEAR	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering	400,000	400,000					
Land							
Construction							
Equipment							
Administration and Other							
Total Annual Expenditure (Capital Cost)	400,000	400,000					

CONTINUATION OF NARRATIVE

in a recently completed reconnaissance study by R. W. Retherford Associates for the Alaska Power Administration entitled "Bristol Bay Energy and Electric Power Potential". Grant Lake, about 65 miles north of Dillingham, would incorporate a dam at the lake outlet to increase head and provide full regulation of flows. Installed capacity would be 1.5 MW and 12 million KWH could be provided annually. Access would be by air or overland vehicle. The site is located in Wood River Lakes Park, but hydro development is listed as a compatible use.

The proposed Lake Elva Project is located at a site about 49 miles north of Dillingham. This project would also require a dam to provide increased head and flow regulation. Installed capacity would be 1.5 MW and the project could provide about 8.5 million KWH annually. This site is also located in the state park, and access would be via Lake Aleknagik and Lake Nerka. A stream gage has been installed at this site to verify flow estimates.

The Tazimina Lake Project would include a forebay dam and a reservoir dam upstream. The site is approximately 120 miles from Naknek. It is located in a wilderness study area, but no definite finding of compatibility has been made. Access to the site would be via a planned state road from Iliamna to Nondalton. With 30 MW capacity, this project would be capable of serving the needs of the Iliamna area as well as Dillingham and Naknek.

A feasibility assessment of these three projects is currently underway. It is anticipated that one or two of the projects will prove viable and should be developed.

III. Estimated Capital Cost.

Preliminary cost estimates are from the previously cited Retherford report and include the cost of transmission. They are 1979 estimates.

Lake Elva \$10 million

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development

PROJECT
TITLE Dillingham Hydroelectric
Project

35b

PROPOSED PROJECT
ANALYSIS

REVISED

000086

Grant Lake
Tazimina

\$12 million
58 million

In addition, approximately \$400,000 is required for detailed feasibility study and license application for the most viable project.

IV. Operational Expense.

Based on estimates for other hydroelectric projects of similar size and location, annual operation and maintenance costs are estimated at \$50,000 for each of the smaller projects and \$150,000 for the Lake Tazimina Project. These costs would be paid out of revenues from the sale of project power.

V. Alternatives Considered.

In addition to the 12 other hydroelectric sites, alternative means of providing power include continued use of diesel generation, coal-fired generation from local coal resources, and perhaps wind generation. Alternatives are being further evaluated in the feasibility assessment now underway.

CONTINUATION FORM

CATEGORY	<u>Power Development</u>	AGENCY	<u>Alaska Power Authority</u>	PROGRAM	<u>Economic Development</u>
PROJECT TITLE	<u>Dillingham Hydroelectric Project</u>				000087
01-1033 (7/79)					
				REVISED	

7C Analysis of Governor's Decisions

ITEM	AMOUNT	FUNDING SOURCE	EXPLANATION
Kisaralik River Hydroelectric Project			The Governors intent is to fund a comprehensive analysis of renewable sources of energy which have the potential for end-use displacement of fuel oil in the Bethel area. This analysis is to result in a report which recommends which projects are most cost-effective.
Agency Request	500.0	G.F.	
Gov. Rec.	100.0	G.F.	

CATEGORY Development

AGENCY Alaska Power Authority PROGRAM Economic Development

7C ANALYSIS OF
GOVERNOR'S DECISIONS

000088

PROJECT TITLE Kisaralik Hydroelectric Project		LOCATION(S) Kisaralik River		AREA SERVED Bethel and Vicinity		ELECTION DISTRICT(S) 16-17-18	
OBJ NO(S) 5 & 6		OPERATING NAME(S) BUDGET BRU(S) Alaska Power Authority		BUDGET COMPONENT NUMBERS 08-71-7-060		START DATE Sept. 1979	
						COMPLETION DATE Sept. 1983	

PROJECT NARRATIVE I. Project Need Statement. Bethel's power needs are served by privately owned and operated Bethel Utilities Corporation, while the surrounding villages are served by small diesel-electric units, owned either individually or by AVEC. Being dependent on oil, the cost of electricity is extremely high and fully exposed to future price increases due to both inflation and relative increases in the price of diesel fuel. Power demands are expected to grow at a moderate rate. The proposed project would displace diesel fuel and utilize renewable hydroelectric energy that is virtually inflation-proof once the project has been constructed. The full extent of the savings in power costs depends upon the eventual project cost which has yet to be verified. The project is sufficiently large to satisfy the needs of Bethel and the surrounding villages if inter-connection costs do not prove prohibitive. The use of hydroelectric potential is in keeping with state policy of encouraging renewable resource development. II. Project Description. The proposed project is located at the lower falls on the Kisaralik River approximately 60 miles east of Bethel. The watershed area is 544 square miles. With a dam 340 feet high, the project would provide 36 megawatts and 159 million kilowatt hours of firm energy annually. A stream gage has been	PROJECT TYPE ☐ Building Construction (C) ☒ Other Improvement (I) ☐ Equipment (E) ☐ Land (L) ☒ Professional Services (P) ☐ Other (O)		APPROPRIATION REQUEST <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>500,000</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>500,000</td></tr> </table>		1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	500,000	1005	I/A RCPTS.			G.O. BONDS		TOTAL		500,000
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	TOTAL		500,000																			
	PROJECT CHARACTERISTICS ☒ Totally New Facility ☐ Addition to Existing Facility ☐ Renovation of Existing Facility ☐ Major Maintenance or Repair ☐ Supplement Previously Authorized Funds to Enable Completion ☐ One of Several Phases ☐ Major External Funding Source ☐ Other		GOVERNOR'S RECOMMENDATION APPROVED DEFERRED DISAPPROVED ☐ ☐ ☐ <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>100.0</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>100.0</td></tr> </table>		1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	100.0	1005	I/A RCPTS.			G.O. BONDS		TOTAL		100.0
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TOTAL		100.0																				
SITE FEATURES ☒ Site Currently Owned? ☒ All Utilities Available? ☒ Access Already Available?		01-1035a (12/79)																				
OPERATIONAL COST & NO. PERSONNEL INCREASE (DECREASE)		FIRST OPERATING YEAR 1984																				
ULTIMATE ANNUAL YEAR 1985		PREVIOUS YR.-PRIORITY 80-17																				
FUNDING SOURCE FED. RCPTS. GEN. FUND Project Revenues		150,000 150,000																				
TOTAL ANNUAL OPERATIONAL COST		150,000																				
POSITION (FTE)		AGENCY PRIORITY 81-08																				
		GOVERNOR'S PRIORITY																				

CATEGORY Power Development

AGENCY Alaska Power Authority

PROGRAM Economic Development

000089

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL	BUDGET YEAR	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering	500,000	500,000					
Land							
Construction							
Equipment							
Administration and Other							
Total Annual Expenditure (Capital Cost)	500,000	500,000					

CONTINUATION OF NARRATIVE

installed to verify flow assumptions and a study is underway to verify the suitability of the site. The feasibility of this project will also depend on transmission costs, which will be clarified through a demonstration project underway this year in the Bethel area. Development of this project could be precluded by Wild and Scenic River designation. A Federal Energy Regulatory Commission license will be required for construction.

III. Documentation of Estimated Capital Cost.

The construction cost estimate of \$100,000,000 is a very preliminary figure, adjusted for inflation, provided by R. W. Retherford Associates in 1975 as a part of a report for the Alaska Power Administration entitled "A Regional Electric Power System for the Lower Kuskokwim Vicinity". In addition, based on experience with similar projects, \$500,000 will be required for detailed feasibility studies and license application.

IV. Operational Expense.

The annual expense associated with operation and maintenance of the project is estimated at \$150,000, based on experience with projects of similar size and remote location. These expenses would be paid from revenues derived from the sale of project power.

V. Alternatives Considered.

Alternatives for power generation available to the Bethel area are limited. There is some local oil and gas potential and some geothermal potential. All generation options are being investigated as part of the feasibility assessment currently underway.

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development
PROJECT TITLE Kisaralik Hydroelectric PROPOSED PROJECT 000090

7C Analysis of Governor's Decisions

ITEM	AMOUNT	FUNDING SOURCE	EXPLANATION
Haines-Skagway Hydroelectric Project			The Governors intent is to fund a comprehensive analysis of energy supply and demand for the Haines-Skagway area with recommendations as to which forms of renewable sources of energy are most cost-effective for meeting end-use demand.
Agency Request	500.0	G.F.	
Gov. Rec.	100.0	G.F.	

CATEGORY Development AGENCY Alaska Power Authority PROGRAM Economic Development

7C ANALYSIS OF
GOVERNOR'S DECISIONS

000091

PROJECT TITLE Haines/Skagway Hydroelectric Project		LOCATION(S) Vicinity of Haines & Skagway		AREA SERVED Haines and/or Skagway		ELECTION DISTRICT(S) 3	
OBJ. NO(S) 5 & 6		OPERATING NAME(S) Alaska Power Authority		BUDGET COMPONENT NUMBERS 08-71-7-060		START DATE June 1979	
		BUDGET BRU(S)				COMPLETION DATE Sept. 1983	

PROJECT NARRATIVE I. Project Need Statement. The electric power system in Skagway is comprised of 380 KW of hydroelectric and 1,150 KW of diesel generation capacity. The Haines system is made up of 4,400 KW of diesel generation capacity. Moderate future increases in load requirements are anticipated. The cost of diesel-fired generation is high and susceptible to both inflation and fuel cost escalation. The utilization of the area's hydroelectric potential would provide a renewable source of energy that, after construction, is virtually free from the impact of inflation. II. Project Description. Reconnaissance level studies have identified several sites in the area. All are being evaluated further in a feasibility assessment currently underway. The projects range from 5 to 9 MW in installed capacity. An interconnection between Haines and Skagway may be a project feature depending upon project location and transmission costs. The site specific investigations currently underway are designed to verify the suitability of the sites and the cost estimates. The better sites will be evaluated in greater detail.	PROJECT TYPE ☐ Building Construction (C) ☒ Other Improvement (I) ☐ Equipment (E) ☐ Land (L) ☒ Professional Services (P) ☐ Other (O)		APPROPRIATION REQUEST <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>500,000</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>500,000</td></tr> </table>		1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	500,000	1005	I/A RCPTS.			G.O. BONDS		TOTAL		500,000
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SITE FEATURES NO YES ☒ ☐ Site Currently Owned? ☒ ☐ All Utilities Available? ☒ ☐ Access Already Available?		01-1035a (12/79)																				
OPERATIONAL COST & NO. PERSONNEL INCREASE (DECREASE)		FIRST OPERATING YEAR 1983																				
ULTIMATE ANNUAL YEAR 1984		PREVIOUS YR-PRIORITY 80-15																				
FUNDING FED. RCPTS.		AGENCY PRIORITY 81-09																				
GEN. FUND		GOVERNOR'S PRIORITY																				
Project Revenues		40,000																				
TOTAL ANNUAL OPERATIONAL COST		40,000																				
POSITION (FTE)		40,000																				

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development **000092**

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL	BUDGET YEAR	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering	440,000	440,000					
Land							
Construction							
Equipment	40,000	40,000					
Administration and Other	20,000	20,000					
Total Annual Expenditure (Capital Cost)	500,000	500,000					

CONTINUATION OF NARRATIVE

III. Capital Cost.

The very preliminary cost estimates are based on a study conducted by CH2M Hill Engineering for the Corps of Engineers in 1979. The estimated construction costs of the various projects range between \$7-10 million. In addition, \$500,000 is required for detailed feasibility studies and license application.

IV. Operational Expense.

Based on estimates for similar projects, the annual operation and maintenance costs are estimated at 40,000/year for each small project.

V. Alternatives Considered.

In addition to the various hydropower projects being considered, wood-fired steam generation is also being evaluated as an energy option.

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development

PROJECT
TITLE Haines/Skagway Hydroelectric
Project

35b

PROPOSED PROJECT
ANALYSIS

REVISED
DATE

000093

7C Analysis of Governor's Decisions

ITEM	AMOUNT	FUNDING SOURCE	EXPLANATION
Mennonite Creek Hydroelectric Project			The Governors intent is to fund this request via the Power Project Loan Fund. Participation by a local utility will be necessary.
Agency Request	200.0	G.F.	
Gov. Rec.	200.0	G.F.	

CATEGORY Development

AGENCY Alaska Power Authority PROGRAM Economic Development

7C ANALYSIS OF
GOVERNOR'S DECISIONS

000094

PROJECT TITLE Mennonite Creek Hydroelectric Project		LOCATION(S) Kodiak Island	AREA SERVED Port Lions	ELECTION DISTRICT(S) 15
OBJ. NO(S) 5 & 6	OPERATING BUDGET BRUI(S) Alaska Power Authority	BUDGET COMPONENT NUMBERS 08-71-7-060		START DATE Oct. 1979
COMPLETION DATE Sept. 1982				

PROJECT NARRATIVE I. Project Need Statement. Located on the north end of Kodiak Island, the village of Port Lions depends largely on fishing and fish processing for its economic base. Kodiak Electric Association (KEA) has power generation and distribution facilities at the village. These are comprised of four diesel-electric plants with a combined capacity of 985 KW. Moderate load growth is anticipated. Hydroelectric potential is available and offers a means of displacing diesel fuel and containing power costs. II. Project Description. Mennonite Creek, west of the village, has a drainage area of 11 square miles and an estimated average annual flow of 41 cfs. The majority of the drainage basin is fairly flat with many small lakes and ponds that give good natural regulation to the stream. A diversion structure 0.4 miles from tidewater would provide a mean head of 100 feet and divert the flow into a conduit leading to a powerhouse in Port Lions. Approximately 1,800,000 KWH of diesel generation could be displaced. A transmission system will not be required. The project would have 200 KW installed capacity.	PROJECT TYPE ☐ Building Construction (C) ☒ Other Improvement (I) ☐ Equipment (E) ☐ Land (L) ☒ Professional Services (P) ☐ Other (O)	APPROPRIATION REQUEST <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>200,000</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td colspan="2">G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>200,000</td></tr> </table>		1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	200,000	1005	I/A RCPTS.		G.O. BONDS			TOTAL		200,000						
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	PROJECT CHARACTERISTICS ☒ Totally New Facility ☐ Addition to Existing Facility ☐ Renovation of Existing Facility ☐ Major Maintenance or Repair ☐ Supplement Previously Authorized Funds to Enable Completion ☐ One of Several Phases ☐ Major External Funding Source ☐ Other	GOVERNOR'S RECOMMENDATION <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>APPROVED</td> <td>DEFERRED</td> <td>DISAPPROVED</td> </tr> <tr> <td style="text-align: center;">☒</td> <td style="text-align: center;">☐</td> <td style="text-align: center;">☐</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>200.0</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td colspan="2">G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>200.0</td></tr> </table>		APPROVED	DEFERRED	DISAPPROVED	☒	☐	☐	1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	200.0	1005	I/A RCPTS.		G.O. BONDS			TOTAL		200.0
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SITE FEATURES NO YES ☒ Site Currently Owned? ☒ All Utilities Available? ☒ Access Already Available?	01-1035a (12/79)																										
OPERATIONAL COST & NO. PERSONNEL INCREASE (DECREASE)	FIRST OPERATING YEAR 1982	ULTIMATE ANNUAL YEAR 1983	PREVIOUS YR-PRIORITY 80-11																								
FUNDING SOURCE FED. RCPTS. GEN. FUND Project Revenues	2,000	2,000	AGENCY PRIORITY 81-16																								
TOTAL ANNUAL OPERATIONAL COST	2,000	2,000	GOVERNOR'S PRIORITY																								
POSITION (FTE)																											

CATEGORY Power Development

AGENCY Alaska Power Authority

PROGRAM Economic Development

000095

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL	BUDGET YEAR	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering	100,000	100,000					
Land							
Construction	100,000	100,000					
Equipment							
Administration and Other							
Total Annual Expenditure (Capital Cost)	200,000	200,000					

CONTINUATION OF NARRATIVE

III. Capital Cost.

The cost of the project was estimated in 1979 by the Alaska Power Administration at \$1 million. In addition, based on experience with other similar projects, \$200,000 will be required for preconstruction activities, which would be in the form of a loan to the utility.

IV. Operational Expense.

Operation and maintenance costs were estimated in 1978 by R. W. Retherford Associates at \$2,000 annually. These costs would be paid from revenues derived from the sale of project power.

V. Alternatives Considered.

Other than continued dependence on diesel fuel generation, no reasonable alternatives are available to Port Lions at comparable costs.

CATEGORY	<u>Power Development</u>	AGENCY	<u>Alaska Power Authority</u>	PROGRAM	<u>Economic Development</u>
PROJECT TITLE	<u>Mennonite Creek Hydroelectric Project</u>				
		35b		PROPOSED PROJECT ANALYSIS	REVISED
					000096

7C Analysis of Governor's Decisions

ITEM	AMOUNT	FUNDING SOURCE	EXPLANATION
Larsen Bay Hydroelectric Project			
Agency Request	200.0	G.F.	The Governors intent is to fund this request via the Power Project Loan Fund. Participation by a local utility will be necessary.
Gov. Rec.	200.0	G.F.	

CATEGORY Development AGENCY Alaska Power Authority PROGRAM Economic Development

7C ANALYSIS OF
GOVERNOR'S DECISIONS

000097

PROJECT TITLE Larsen Bay Hydroelectric Project		LOCATION(S) Kodiak Island		AREA SERVED Larsen Bay		ELECTION DISTRICT(S) 15	
OBJ. NO(S) 5 & 6		OPERATING BUDGET BRU(S) Alaska Power Authority		BUDGET COMPONENT NUMBERS 08-71-7-060		START DATE Oct. 1979	
						COMPLETION DATE Sept. 1982	

PROJECT NARRATIVE I. Project Need Statement. The economic base of Larsen Bay, a Kodiak Island village of approximately 125 permanent residents, is a seasonal fish cannery. The cannery operates a diesel fuel generator which also supplies some adjacent commercial and residential buildings. Other small private generators supply other buildings, including a school. The village would like a full-time power supply and distribution system and relief from rapidly increasing diesel fuel costs. Total demand is estimated at 1,800 KW. A stream flowing north through the village offers hydroelectric potential. II. Project Description. The stream would be diverted by means of a small concrete diversion dam at about 800 feet elevation and routed through a 1,500 foot long penstock to a power plant consisting of two 500 KW units. 9,000 feet of transmission line would also be required. The projects annual energy output would be 2.7 million KWH. III. Capital Cost. Cost estimates for this project, prepared by the Alaska Power Administration in a May 1978 Appraisal Evaluation, are based on April 1978 prices. The estimated cost is \$2.2 million.	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">PROJECT TYPE</td> </tr> <tr> <td>☐ Building Construction (C)</td> <td></td> </tr> <tr> <td>☒ Other Improvement (I)</td> <td></td> </tr> <tr> <td>☐ Equipment (E)</td> <td></td> </tr> <tr> <td>☐ Land (L)</td> <td></td> </tr> <tr> <td>☒ Professional Services (P)</td> <td></td> </tr> <tr> <td>☐ Other (O)</td> <td></td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">PROJECT CHARACTERISTICS</td> </tr> <tr> <td>☒ Totally New Facility</td> <td></td> </tr> <tr> <td>☐ Addition to Existing Facility</td> <td></td> </tr> <tr> <td>☐ Renovation of Existing Facility</td> <td></td> </tr> <tr> <td>☐ Major Maintenance or Repair</td> <td></td> </tr> <tr> <td>☐ Supplement Previously Authorized Funds to Enable Completion</td> <td></td> </tr> <tr> <td>☐ One of Several Phases</td> <td></td> </tr> <tr> <td>☐ Major External Funding Source</td> <td></td> </tr> <tr> <td>☐ Other</td> <td></td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%; text-align: center;">NO</td> <td style="width:10%; text-align: center;">YES</td> <td style="width:80%;">SITE FEATURES</td> </tr> <tr> <td>☒</td> <td>☐</td> <td>Site Currently Owned?</td> </tr> <tr> <td>☒</td> <td>☐</td> <td>All Utilities Available?</td> </tr> <tr> <td>☒</td> <td>☐</td> <td>Access Already Available?</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;">OPERATIONAL COST & NO. PERSONNEL INCREASE (DECREASE)</td> <td style="width:20%;">FIRST OPERATING YEAR</td> <td style="width:20%;">ULTIMATE ANNUAL YEAR</td> <td style="width:30%;">PREVIOUS YR-PRIORITY</td> </tr> <tr> <td></td> <td>1982</td> <td>1983</td> <td>80-13</td> </tr> <tr> <td rowspan="3" style="text-align: center; vertical-align: middle;">FUNDING SOURCE</td> <td>FED. RCPTS.</td> <td></td> <td rowspan="3" style="text-align: center; vertical-align: middle;">AGENCY PRIORITY</td> </tr> <tr> <td>GEN. FUND</td> <td></td> </tr> <tr> <td>Project Revenues</td> <td>15,000</td> <td>15,000</td> </tr> <tr> <td colspan="2">TOTAL ANNUAL OPERATIONAL COST</td> <td>15,000</td> <td>15,000</td> </tr> <tr> <td colspan="2">POSITION (FTE)</td> <td></td> <td></td> </tr> </table>	PROJECT TYPE		☐ Building Construction (C)		☒ Other Improvement (I)		☐ Equipment (E)		☐ Land (L)		☒ Professional Services (P)		☐ Other (O)		PROJECT CHARACTERISTICS		☒ Totally New Facility		☐ Addition to Existing Facility		☐ Renovation of Existing Facility		☐ Major Maintenance or Repair		☐ Supplement Previously Authorized Funds to Enable Completion		☐ One of Several Phases		☐ Major External Funding Source		☐ Other		NO	YES	SITE FEATURES	☒	☐	Site Currently Owned?	☒	☐	All Utilities Available?	☒	☐	Access Already Available?	OPERATIONAL COST & NO. PERSONNEL INCREASE (DECREASE)	FIRST OPERATING YEAR	ULTIMATE ANNUAL YEAR	PREVIOUS YR-PRIORITY		1982	1983	80-13	FUNDING SOURCE	FED. RCPTS.		AGENCY PRIORITY	GEN. FUND		Project Revenues	15,000	15,000	TOTAL ANNUAL OPERATIONAL COST		15,000	15,000	POSITION (FTE)			
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POSITION (FTE)																																																																						

APPROPRIATION REQUEST	
1002	FED. RCPTS.
1003	G/F MATCH
1004	GEN. FUND 200,000
1005	I/A RCPTS.
	G.O. BONDS
TOTAL 200,000	

GOVERNOR'S RECOMMENDATION		
APPROVED ☒	DEFERRED ☐	DISAPPROVED ☐
1002	FED. RCPTS.	
1003	G/F MATCH	
1004	GEN. FUND 200.0	
1005	I/A RCPTS.	
	G.O. BONDS	
TOTAL 200.0		

01-1038a (12/79)	
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CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development **000098**

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL	BUDGET YEAR	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering	200,000	200,000					
Land							
Construction							
Equipment							
Administration and Other							
Total Annual Expenditure (Capital Cost)	200,000	200,000					

CONTINUATION OF NARRATIVE

Based on the field reconnaissance, no unusual construction problems are expected. Additional preconstruction costs are estimated at \$200,000. Construction costs can be financed by revenue bonds sold for the project.

IV. Operational Expense.

Operation and maintenance costs, from the same source, are estimated at \$15,000 annually. These costs would be paid from revenues derived from the sale of project power.

V. Alternatives Considered.

No reasonable alternatives other than continued dependence on diesel-fired generation are available to this community.

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development
PROJECT TITLE Larsen Bay Hydroelectric Project

35b

PROPOSED PROJECT
ANALYSIS

REVISED

000099

7C Analysis of Governor's Decisions

ITEM	AMOUNT	FUNDING SOURCE	EXPLANATION
Old Harbor Hydroelectric Project			The Governors intent is to fund this request via the Power Project Loan Fund. Participation by a local utility will be necessary.
Agency Request	200.0	G.F.	
Gov. Rec.	200.0	G.F.	

CATEGORY Development AGENCY Alaska Power Authority PROGRAM Economic Development

7C ANALYSIS OF
GOVERNOR'S DECISIONS

000100

PROJECT TITLE Old Harbor Hydroelectric Project		LOCATION(S) Kodiak Island	AREA SERVED Old Harbor	ELECTION DISTRICT(S) 15	
OBJ. NO(S) 5 & 6	OPERATING BUDGET BR/US Alaska Power Authority	BUDGET COMPONENT NUMBERS 08-71-7-060		START DATE Oct. 1979	COMPLETION DATE Sept. 1982

PROJECT NARRATIVE I. Project Need Statement. Another Kodiak Island village, Old Harbor, was the site of a seasonal fish cannery destroyed by fire. Plans call for rebuilding it or replacing it with a floating processing plant. Power is provided by small diesel generators. Total demand is estimated at 1,800 KW. An alternative to diesel generation is provided by the hydroelectric potential of an unnamed stream tributary to Old Harbor. II. Project Description. Features of the plan include a small earthfill diversion dam, buried pipe for a transbasin diversion across a ridge, penstock, powerplant, transmission line and witchyard. The diversion would be at about 500 feet elevation. The power-plant would contain two units totalling 600 KW capable of producing 2.6 million KWH annually. The transmission line would be about 9,700 feet long, partly along an existing road. III. Capital Cost. The project is estimated to cost \$3,300,000 based on April 1978 price levels. This estimate comes from an appraisal evaluation by the Alaska Power Administration. An additional \$200,000 would be required for preconstruction activities. Topographic and geological conditions could substantially change (increase or decrease) costs.	PROJECT TYPE ☐ Building Construction (C) ☒ Other Improvement (I) ☐ Equipment (E) ☐ Land (L) ☒ Professional Services (P) ☐ Other (OI)	APPROPRIATION REQUEST <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td>200,000</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td colspan="2">G.O. BONDS</td><td></td></tr> <tr><td colspan="2">TOTAL</td><td>200,000</td></tr> </table>	1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	200,000	1005	I/A RCPTS.		G.O. BONDS			TOTAL		200,000												
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TOTAL ANNUAL OPERATIONAL COST		20,000	20,000	GOVERNOR'S PRIORITY																												
POSITION (FTE)																																

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development **000101**

CAPITAL PROJECT EXPENDITURES (CASH FLOW)	TOTAL	BUDGET YEAR	BUDGET YEAR Plus 1	BUDGET YEAR Plus 2	BUDGET YEAR Plus 3	BUDGET YEAR Plus 4	REMAINING COST
Planning and Engineering	200,000	200,000					
Land							
Construction							
Equipment							
Administration and Other							
Total Annual Expenditure (Capital Cost)	200,000	200,000					

CONTINUATION OF NARRATIVE

Construction of the project could be financed by the Rural Electric Administration.

IV. Operating Expenses.

The Power Administration estimates operation and maintenance costs at \$20,000 annually, payable from revenues derived from the sale of project power.

V. Alternatives Considered.

Other than continued use of diesel generators, this may be the only viable alternative available to this community. The Alaska Power Administration is presently expanding the reconnaissance study of the area to investigate alternative sites more distant from the project site recommended in the Power Administration's Preliminary Reconnaissance Report.

CATEGORY Power Development AGENCY Alaska Power Authority PROGRAM Economic Development

PROJECT TITLE Old Harbor Hydroelectric Project

35b PROPOSED PROJECT ANALYSIS

REVISED

000102

7C Analysis of Governor's Decisions

ITEM	AMOUNT	FUNDING SOURCE	EXPLANATION
AVEC Villages Hydroelectric Study			The Governors intent is that this funding be appropriated to the Power Project Loan Fund to be used for the development of renewable forms of energy in villages such as the nine villages identified in a recent AVEC study. All forms of renewable energy are to be considered.
Agency Request	300.0	G.F.	
Gov. Rec.	325.0	G.F.	

CATEGORY Development AGENCY Alaska Power Authority PROGRAM Economic Development

7C ANALYSIS OF
GOVERNOR'S DECISIONS

000103

PROJECT TITLE AVEC Villages Hydroelectric Study		LOCATION(S) 9 AVEC Villages		AREA SERVED Rural Alaska		ELECTION DISTRICT(S) 13, 15, 16-19	
OBJ. NO(S) 3, 5, 6		OPERATING BUDGET BRUI(S) NAME(S) Alaska Power Authority		BUDGET COMPONENT NUMBERS 08-71-7-060		START DATE July 1, 1980	
						COMPLETION DATE Dec. 30, 1981	

PROJECT NARRATIVE I. Project Need Statement. AVEC villages presently pay the highest electric energy rates in the nation. Alternative energy resources must be developed where feasible to reduce dependence on diesel generation. II. Project Description. The Alaska Power Administration performed a reconnaissance study of AVEC villages in an effort to identify potential feasible hydroelectric resources for development. The report will not be completed until December, however, the Power Administration provided the attached letter to the utility estimating costs to study 9 potential sites (see attached). This cost estimate does not include costs of stream gaging which may cost approximately \$10,000 per site. Funding is requested to perform feasibility assessments of the sites. III. Documentation of Estimated Capital Cost. Documentation is provided in the attached letter from the Power Administration. IV. Analysis of Estimate of Operational Expense. The projects which appear feasible and are constructed will have small operating and maintenance costs (estimated to be \$15-20,000/project/year) which will be paid for from revenues generated from the sale of power from the project.	PROJECT TYPE ☐ Building Construction (C) ☐ Other Improvement (I) ☐ Equipment (E) ☐ Land (L) ☐ Professional Services (P) ☒ Other (O) Feasibility Assessments	APPROPRIATION REQUEST <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1002</td><td>FED. RCPTS.</td><td></td></tr> <tr><td>1003</td><td>G/F MATCH</td><td></td></tr> <tr><td>1004</td><td>GEN. FUND</td><td align="right">300.0</td></tr> <tr><td>1005</td><td>I/A RCPTS.</td><td></td></tr> <tr><td></td><td>G.O. BONDS</td><td></td></tr> <tr><td colspan="2"></td><td></td></tr> <tr><td colspan="2"></td><td></td></tr> <tr><td colspan="2">TOTAL</td><td align="right">300.0</td></tr> </table>		1002	FED. RCPTS.		1003	G/F MATCH		1004	GEN. FUND	300.0	1005	I/A RCPTS.			G.O. BONDS								TOTAL		300.0					
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