

HB

356

COMMITTEE REPORT

SENATE

**Finance

5/13/77

5/16/77

Date

Mr. President:

The Committee on Resources has had HR 356 water resources revolving loan fund under consideration. A majority of the members of the Committee

- recommends it do pass
- recommends it do not pass
- recommends it do pass with attached amendment(s)
- recommends it be replaced with CS for _____ and that CS for _____ do pass
- (and) recommends it be referred to the _____ committee
- reports it back without recommendation
- AND attaches a report of its intent
- (other) _____

MEMBERS SIGNING THE MAJORITY REPORT:

_____ *John Stennis* _____
 _____ *Tillion* _____
 _____ *Mr. [unclear]* _____
 _____ *[unclear]* _____

MEMBERS NOT CONCURRING IN THE MAJORITY REPORT:

_____ recommends: _____
 _____ recommends: _____
 _____ recommends: _____

_____ *K. Polansky* _____
 Chairman

A M E N D M E N T

Offered in the SENATE

By RESOURCES COMMITTEE

To: _____ SENATE BILL NO. _____

_____ HOUSE BILL NO. 356 Am.

AMENDMENT: Page 2 Lines 23 through 27

Delete section four in its entirety and re-number accordingly.

A M E N D M E N T

Offered in the SENATE

By Resources Committee

To: _____ SENATE BILL NO. _____

_____ HOUSE BILL NO. 356 am

AMENDMENT: Page 2 Lines 23 through 27

Delete section four in its entirety
and re-number accordingly.

May 17, 1977

Letter of Intent for HB 356

Inasmuch as the administration of State water resources is currently the responsibility of various departments, it is the intent of this Resources Committee in enacting the water resources revolving loan fund (HB 356) that the Commissioner of the Department of Commerce and Economic Development, in adopting regulations to carry out the provisions of this act, is directed to take into account the responsibilities for water resources of the Department of Environmental Conservation under AS 46.03 of the Department of Fish and Game under AS 16, and of the Department of Natural Resources under AS 46.15.

Kay Poland, Chairman
Senate Resources Committee

John Butrovich

Clem V. Tillion

Chancy Croft

H. D. Meland

John Huber

Mike Colletta



THE
SOUTHEASTERN
CONFERENCE

P. O. BOX 531
WRANGELL, ALASKA 99929

March 11, 1977

Representative Terry Gardiner
Chairman, House Judiciary Committee
Pouch V Mail Stop No. 3100
Juneau, Alaska 99811

Dear Sir: *Terry*

The Southeastern Conference wishes to express their appreciation to you for your interest and efforts in sponsoring legislation of economic importance to Southeast Alaska and those other communities needing support in the development of hydro and other water resource development.

As requested in our meeting held March 1, 1977, we are submitting back up material for the proposed changes in the Water Resources Revolving Loan Fund Act. Enclosed are the suggested changes in the Statutes and proposed appropriations for the next fiscal year, including a revised summary of funding requirements for FY 1978.

Very truly yours,

James R. Eide
James R. Eide
President

JRE/jr

enclosures

President	James R. Eide
First Vice President	William Macomber
Second Vice President	John Halliwell

PROPOSED AMENDMENTS

WATER RESOURCES REVOLVING LOAN FUND ACT

Sec. 45.86.010. There is established a separate fund, The Water Resources Revolving Loan Fund. Loans from this fund are to be used to develop and conserve in the public interest the water resources of Alaska, using State revenues from the Alaska Permanent Fund (mineral development).

Sec. 45.86.040 (b) is repealed and re-enacted to read:

Sec. 45.86.040 (b) The department shall forward all loan applications it recommends for approval to the Water Resources Revolving Loan Fund Committee established with the department and made up of the commissioner or his deputy, the director of division of energy and power development, and the director of division of business loans.

Sec. 45.86.060 shall be added as follows:

Sec. 45.86.060. CONDITIONS APPLICABLE TO PROJECT LOANS. (a) The term of the loan shall not exceed 50 years and the interest rate shall be not less than three, or more than five, percent a year on the unpaid balance. The repayment schedule shall be computed in a manner so that annual payments of principal and interest, termed debt service, are approximately equal over a period not to exceed 40 years. Repayment of the loan, principal and interest, will commence at the date of commercial operation of the project or ten years from the date the loan is made, whichever is sooner.

(b) Loans shall be utilized for feasibility studies, pre-construction engineering including the securing of permits and licenses necessary for construction and operation, design and construction of capital improvement projects.

(c) If, in the opinion of the Water Resources Revolving Loan Fund Committee, feasibility studies or preconstruction engineering establish that the project is not feasible from either a technical, economic or financial viewpoint, the department may not require repayment of loans made for this purpose, provided that repayment of all loans shall be required if design or construction of the project proceeds.

This Act takes effect immediately in accordance with _____.

JUSTIFICATION FOR AMENDMENTS

WATER RESOURCES REVOLVING LOAN FUND ACT

I. The change in Sec. 45.86.010 is to correctly indicate the proper fund from which the revolving fund would secure revenue for making the loans. When the Water Resources Revolving Loan Fund was first drafted, one of the sources of loan funds was tied to Alaska mineral lease bonus funds. This was passed by the Legislature, but vetoed by the Governor as being unconstitutional. Since then, voter approval of the permanent fund has made possible this vehicle for funding these projects.

Sec. 45.86.040 - the Loan Committee composition as now specified in the Statutes, was a high level group deemed necessary to consider loans for large projects such as the Susitna and Yukon Taiya projects. Projects of this nature would now come under the State Power Authority which, together with Federal support, would finance the large installations.

The formation of a committee within the Department of Commerce would be more appropriate to consider the financing of small hydro and water projects. These would be administered similar to the other business loans the Department handles.

Sec. 45.86.060 - The first draft of HB171 (copy attached) spelled out the conditions of loans consistent with long term low interest. However, it was determined that this type of condition could best be handled by regulatory provisions. As a result, the conditions now being applied to the loans are not in accord with the intent of the Legislation. Loans are for a term of seven years rather than long term of forty to fifty years and interest rates of 6% are hardly low. Interest is due and payable yearly and prior to the project generating revenues or the ability to meet debt service. This burden on small utilities preclude their involvement in the revolving fund.

Subsection (b) spells out the type of activities in the development of the property which would be eligible for loans under the revolving fund. Subsection (c) is an "advance planning fund" provision similar to H.U.D. 701. If the studies indicate the project is not feasible, the repayment of the loans for the studies may not be required. Here again is the intent to alleviate the financial burden for the small communities for those projects which turn out to be a "dry hole" and for which revenues cannot be realized.

II. Basis for the proposed appropriation bill FY 1978 for the Resources Revolving Loan. The proposed appropriations for FY 1978 are based on estimated community requirements for the specified projects over and above the funds made available in the 1977 appropriations. The attached list of funding requirements total \$3,730,000, however, it appears that the applications for FY 1977 will leave a balance of \$230,000 which can reduce the proposed appropriations to \$3,500,000.



KETCHIKAN PUBLIC UTILITIES

334 FRONT STREET

P. O. BOX 1019 KETCHIKAN, ALASKA 99901

TELEPHONE 907-225-3111

February 11, 1977

MUNICIPALLY OWNED
ELECTRIC WATER PHONE

Representative Oral Freeman
State Capitol
Pouch V
Juneau, Alaska 99811

Subject: Development of Hydroelectric Generating
Plants in Southeast Alaska

Dear Oral:

Mr. N. L. Teague, City-Utilities Manager has requested that I submit to you some pertinent information regarding the advantages to Ketchikan, and Southeast Alaska as a whole, which would be gained by the installation of hydroelectric generating plants. I will use Ketchikan as an example.

We have three (3) small hydroelectric plants. To 1969 we were hydro oriented. Our first base load type diesel was placed in operation in 1970. We now have three (3) such units. I believe that a comparison of cost, hydro versus diesel generation in our system, is pertinent.

In 1976, the average operation and maintenance cost of producing one (1) kilowatt hour at the bus bar by hydroelectric generation was \$.0055 or 5.5 mils.

The average cost of operation and maintenance per kilowatt hour of generation by diesel was \$.0638.

A recap in the same vein, from 1970 to date, clearly points up that hydroelectric power is the greatest hedge against inflation since the Republicans.

TIME PERIOD - January 1, thru December 31, 1970:

Diesel = \$.01249/KWHR

Hydro = \$.00272/KWHR

Differential in cost/KWHR - Diesel greater by \$.00977

Differential in dollars - 2,718,600 KWHR x \$.00977 = \$26,560.72

TIME PERIOD - January 1, thru December 31, 1971:

Diesel = \$.01689/KWHR

Hydro = \$.00336/KWHR

Differential in cost/KWHR - Diesel greater by \$.01353

Differential cost in dollars = \$174,228.52

TIME PERIOD - January 1, thru December 31, 1972:

Diesel = \$.01476/KWHR

Hydro = \$.00365/KWHR

Differential in cost/KWHR - Diesel greater by \$.01111

Differential cost in dollars = \$143,065.69

TIME PERIOD - January 1, thru December 31, 1973:

Diesel = \$.02144/KWHR

Hydro = \$.00388/KWHR

Differential in cost/KWHR - Diesel greater by \$.01756

Differential cost in dollars = \$226,123.63

TIME PERIOD - January 1, thru December 31, 1974:

Diesel = \$.04125/KWHR

Hydro = \$.00534/KWHR

Differential in cost/KWHR - Diesel greater by \$.03591

Differential cost in dollars = \$462,420.25

TIME PERIOD - January 1, thru December 31, 1975:

Diesel = \$.0430/KWHR

Hydro = \$.0051/KWHR

Differential in cost/KWHR - Diesel greater by \$.0379/KWHR

Differential cost in dollars = \$491,763.87

Representative Oral Freeman
re: Development of Hydroelectric Generating Plants
February 11, 1977 - Page Three

TIME PERIOD - January 1, thru December 31, 1976:

Diesel = \$.0638/KWHR

Hydro = \$.0055/KWHR

Differential in cost/KWHR - Diesel greater by \$.0583/KWHR

Differential cost in dollars = \$470,883.27

Note that 1976 differential cost in dollars is slightly less than 1975. This is due to a small hydro-electric plant (Silvis) being returned to service in 1976. The Silvis Plant had been destroyed by a landslide in 1969.

The Silvis hydro plant generated approximately 13% of our electrical system output in 1976. Without the Silvis Plant in operation, our differential cost in dollars would have been approximately \$532,098.00 for 1976.

Look at what is happening in the major item needed for diesel generation. That "NON-RENEWABLE RESOURCE", diesel fuel oil.

Costs for fuel delivered by barge to our S. W. Bailey diesel plant located ashore on Tongass Narrows, for example, are as follows:

<u>Date</u>	<u>Cost per gallon</u>	<u>Cost of fuel oil/KWHR generated</u>
1972	\$.1375	\$.0095
1973	\$.1930	\$.0133
1974	\$.3260	\$.0225
1975	\$.3610	\$.0249
1976	\$.3930	\$.0271
1977 (Feb.)	\$.4190	\$.0289

In a time span of just over four years and two months, our diesel fuel costs have increased 205 percent.

The industrial growth of the lower 48 States and most specifically the Pacific Northwest was made possible by the construction by the U. S. Government of large hydroelectric projects. In addition, it permitted a better living standard for the people at low energy cost.

The technology of transmission line construction permitted transmission line "grids" to be built from the large government projects to all points of the land or load centers.

Representative Oral Freeman
re: Development of Hydroelectric Generating Plants
February 11, 1977 - Page Four

Southeastern Alaska does not lend itself to the aforementioned methodology. We are situated in an archipelago that would strain the technology of transmission line construction and be vastly more expensive. It is one thing to serve load centers connected by land, another to serve load centers connected only by water.

It is therefore most logical to construct (large for us) hydroelectric projects as close to the load centers as possible, e.g. our Swan or Grace Lake projects. Short, interconnecting transmission lines could be installed between neighboring islands, e.g. Revillagigedo Island (Ketchikan) and Annette Island (Metlakatla).

Oral, it is safe to say that every power utility in Southeastern Alaska is municipally owned with the exception of Juneau, Alaska. It seems odd to us that Juneau is the only community that has a Federal hydroelectric project "on line" in our part of the State.

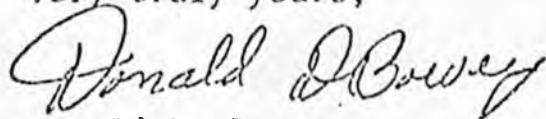
Government seems to speak with forked tongue. They advocate conservation of depletable natural resources and energy, and yet seem to balk at providing the help necessary to alleviate the situation in our portion of Alaska.

Also, Oral, any added expense to the Utilities or cities created by the construction of the hydroelectric projects should be deferred until the projects are "on line". I do not believe any of us can individually carry the burden of cost of generation by our existing means, plus pay any interest or principal payments in case of loans or bonds. Payment deferral is of utmost importance.

I have made this letter far longer than I had intended, Oral, and apologize for taking up so much of your valuable time.

I am attaching certain data that we hope you will find of interest.

Very truly yours,



Donald D. Bowey
Assistant Utilities Manager

cc: N. L. Teague, City-Utilities Manager
Senator Robert Ziegler
Representative Terry Gardiner



KETCHIKAN PUBLIC UTILITIES

334 FRONT STREET

P. O. BOX 2018 KETCHIKAN, ALASKA 99901
7300

TELEPHONE 907-225-3111

MUNICIPALLY OWNED
ELECTRIC WATER PHONE

April 5, 1977

Mr. James Eide
City Manager
P. O. Box 531
Wrangell, Alaska 99929

Subject: Hearing before the Commerce Committee,
Representative Joe McKinnon, Chairman,
Re: House Bills No. 356 and No. 357

Dear Jim:

The hearing meeting was held at 8:00 A.M. in the new court building in Juneau, Room 628, on Monday, April 4, 1977.

Representative Ernie Haugen was kind enough to meet Jack Ballard of Wrangell and myself at the Baranof Hotel for coffee and then escorted us to the hearing.

Ernie testified first and pretty well recapped the history of the Water Resources Loan Fund and the intent of the legislative bodies. I believe that Ernie brought out that the Southeastern Conference group has been most active in promulgating the concept of long term, low interest loans for hydroelectric oriented projects and potable water projects from which all Alaskans will benefit.

Next to testify was Representative Terry Gardiner. Terry affirmed the preceding testimony and very ably placed his beliefs and thoughts before the committee.

Dick Ballard, chairman of the Thomas Bay Power Authority did an excellent job of testifying as regards Petersburg-Wrangell power. Dick was knowledgeable and had a good delivery. I am sure he clarified conditions prevailing in your area.

This writer testified next. I had just completed an analysis of the Ketchikan Public Utilities 1976 generation for another report. Much of the data in the analysis was germane to the hearing in that it clearly pointed out cost of operation of hydroelectric in comparison to an alternate means which in our case is diesel. My analysis was in hand written (rough) form. Terry had copies made and presented them to the committee members.

Last to testify was Farrell Campbell, Business Agent for the

file sponsor
HB356

Mr. James Eide
Re: House Bills No. 356 and No. 357
April 5, 1977 - Page Two

Operating Engineers Union. Farrell pointed out that labor supported the concept as set forth of long term, low interest loans, and the use of a "RENEWABLE RESOURCE" to power the prime movers that turn the generators which produce electric energy.

Chairman McKinnon and the Representatives of his Commerce Committee are to be complimented, and thanked for their courtesy and consideration shown the persons to be heard. The committee was knowledgeable on the subject and questions were direct and honest.

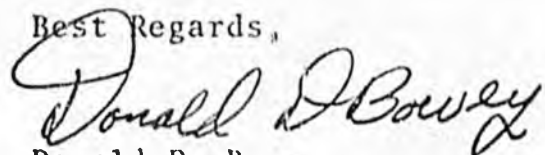
Action taken while I was present consisted of the following:

1. Motion for amendment of H.B. No. 356.
Page 1, line 13, after the word "ALASKA", insert period and delete, "using State revenues from nonrenewable resource [mineral] development". MOTION APPROVED.
2. Motion made to amend.
Page 1, line 18, by deleting mention of five percent (5%). Supporter of the amendment felt the intent of the original act was to provide low interest loans and recommended the three percent (3%) figure. MOTION FAILED TO PASS.

House Bills No. 356 and No. 357 will be moved out of the Commerce Committee and, I believe, on to Finance.

Sorry you could not be present at Juneau, Jim, but hope this letter and accompanying data helps keep you informed.

Best Regards,



Donald D. Bowey
Assistant Utilities Manager

cc: N. L. Teague, City-Utilities Manager
Ted Ferry, KPU Advisory Board Chr.
Jim Williamson, R. W. Beck and Associates
Senator Robert Zeigler Sr.
Representative Oral Freeman
Representative Terry Gardiner

Enclosures

March 31, 1977

MEMORANDUM TO FILE

FROM : Donald D. Bowey, Assistant Utilities Manager

SUBJECT: COST DIFFERENTIAL, HYDRO VS. DIESEL

Cost of generation per KWHR by prime mover type and Plant.
Maintenance and operating costs only used. Labor, fuel, oils,
parts, repair, etcetera.

DIESEL - YEAR 1976:

<u>ACCT. NOS.</u>	<u>KETCHIKAN</u>	<u>TOTEM BIGHT</u>	<u>BAILEY</u>	<u>TOTAL</u>
546	\$ -0-	\$ 2,484.98	\$ 4,259.75	\$ 6,744.73
547	2,202.00	21,404.85	181,942.23	205,549.08
548	2,089.19	11,404.85	71,995.64	85,088.07
549	87.55	517.16	3,789.01	4,393.72
551	-0-	-0-	1,445.90	1,445.90
552	-0-	-0-	15,408.49	15,408.49
553	7,429.11	7,232.17	185,038.96	199,700.24
554	-0-	3,378.11	5,078.78	8,456.89
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	\$11,807.85	\$46,020.51	\$468,958.76	\$526,787.12

HYDRO - YEAR 1976:

<u>ACCT. NOS.</u>	<u>KETCHIKAN</u>	<u>BEAVER FALLS</u>	<u>SILVIS</u>	<u>TOTAL</u>
535	\$11,736.34	\$ 4,550.10	\$ 3,373.16	\$ 19,659.60
536	-0-	-0-	-0-	-0-
537	11,040.88	6,295.40	4,282.81	21,619.09
538	167,897.24	64,310.82	12,878.83	245,086.89
539	10,077.48	4,168.18	9,534.15	23,779.81
541	293.89	1,961.09	528.14	2,783.12
542	7,248.64	3,137.13	725.64	11,111.41
543	4,589.61	5,936.72	2,449.79	12,976.12
544	5,328.12	8,861.16	13,881.94	28,071.22
545	94.63	-0-	-0-	94.63
	<hr/>	<hr/>	<hr/>	<hr/>
	\$218,306.83	\$99,220.60	\$ 47,654.46	\$365,181.89

Memo to File - Page Two
 re: Cost Differential, Hydro vs. Diesel
 March 31, 1977

YEAR 1976:

HYDRO:

<u>POWERHOUSE</u>	<u>GENERATION KWHR</u>	<u>M & O COSTS DOLLARS</u>	<u>COST/KWHR CENTS</u>
Ketchikan Plant	17,693,700	\$218,306.83	\$.01234
Beaver Falls	40,669,000	99,220.60	.00244
Silvis	10,172,000	47,654.46	.00468
TOTALS	68,534,700	\$365,181.89	\$.00533

AVERAGE COST PER KWHR generated by HYDRO = 5.3 MILL

DIESEL:

Ketchikan Plant	55,900	\$ 11,807.85	\$.21123
Totem Bight	781,000	46,020.51	.05893
S. W. Bailey	7,240,000	468,958.76	.06477
TOTALS	8,076,900	\$526,787.12	\$.06522

AVERAGE COST PER KWHR generated by DIESEL = 65.2 MILL

Average Cost Per Kilowatthour of Total Generation By Diesel and Hydro. (Conglomerate):

- Total generated 76,611,600 kwhr = \$.01164 cents/kwhr
- Total M & O Costs = \$891,969.01 ^{or} 11.6 MILL/KWHR
- Cost per KWHR "SOLD" (Gen. less Station Use & Losses),
= \$.0131 cents or 13.1 Mill
- Hydro generated = 89.46% of total generation
- Diesel generated = 10.54% of total generation
- WATER YEAR was exceptional.
- Diesel cost per KWHR generated = \$.06522 cents, or 65.2 MILL
- Hydro cost per KWHR generated = \$.00533 cents, or 5.3 MILL
- Diesel generation per KWHR exceeded Hydro generation per
KWHR by \$.05989 cents, or 59.9 MILL

Memo to File - Page Three
re: Cost Differential, Hydro vs. Diesel
March 31, 1977

HYPOTHESIS:

HYDRO..... $\frac{68,534,700 \text{ KWHR}}{14.5 \text{ kwhr/gal.}} = 4,726,531 \text{ gallons of fuel}$

$4,726,531 \text{ gal.} \times \$.41 = \$1,937,878$

Added to labor, etc. of HYDRO would = \$2,303,058

Added to actual diesel generation cost of
generation 8,076,900 kwhr or,
\$2,303,058 PLUS \$526,787..... = \$2,829,845

$\frac{\$2,829,845 \text{ M\&O Costs}}{76,611,600 \text{ kwhr}} = .03694 \text{ cents/kwhr}$

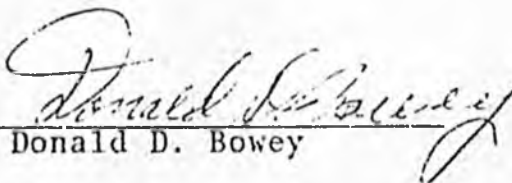
or,
36.9 mill

The above hypothesis of all diesel operation in
1976 would have meant, $\frac{36.9 \text{ mill}}{11.6 \text{ mill}} = 3.181$

OR, generation costs, maintenance and operation only
would have been 218% greater than it actually was
by combination, or conglomerate, of hydro & diesel.

The above is very conservative as it does not consider
additional staffing which would have been necessary,
plus other factors, if all generation had been by
diesel.

Time and staffing prevents a more in-depth analysis at this time.


Donald D. Bowey

cc: N. L. Teague, City-Utilities Manager
Mack Wheeler, U.S. Corps of Army Engineers
Ernst & Ernst