Not taken up.
R

AMENDMENT

OFFERED IN THE HOUSE: BY: FINANCE COMMITTEE

TO: SENATE CS FOR HOUSE BILL No. 779

SENATE BILL No. _____

1) PAGE: 5 LINE: 11

Change "Sec. 44.62.090" to "Sec. 44.56.090" on this line and where it appears elsewhere in the bill.

2) 5, 9 25, 9

Delete "and costs of renewals, replacements and improvements of it"

3) 16 3

Add a new paragraph "(3) "person" includes a public agency, a corporation, company, partnership, firm, association, organization, business trust, or society, as well as a natural person;"

Renumber paragraphs which follow.

AMENDMENT

#1

OFFERED IN THE HOUSE: BY: STATE AFFAIRS

To: _____ HOUSE BILL No. 779

SENATE BILL No. _____

PAGE: 11 LINE: 11

Delete sentence starting with "If", and ending with "resolution".

Insert new sentence:"The commissioner shall submit the general design, demonstration of financial feasibility, and maximum amount of bonds estimated to be necessary to the legislature, together with his recommendation requesting approval by concurrent resolution."

file copy

Kent Miller
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Telephone (907) 225-3382

April 13, 1976

Honorable Hugh Malone, Chairman
Finance Committee
Alaska House of Representatives
Pouch WF
Juneau, Alaska 99811

Dear Mr. Malone:

As requested, I am submitting the attached comments on the Alaska Power Authority.

Sincerely yours,

Kent Miller

jkn

Attachment

Electric Power Project Sponsorship by the State of Alaska: Comments on the Role of the Alaska Power Authority

Prepared for the
Alaska House of Representatives
Finance Committee

by:
Kent Miller
Ketchikan, Alaska
April 1976

The establishment of the Alaska Power Authority, as provided in H. B. 779, will mark the first time a single public agency has had the opportunity to plan and develop electric power systems in a broad range of types and scales for all areas of the State. Other agencies now in existence have been limited either geographically, by community size, by the type of generation or energy transmission they are authorized to develop, or by the availability of funds for capital-intensive projects. It will now be possible to implement optimized power system development programs for Alaska which utilize the best available regional energy resources and applicable technologies, and which can serve the needs of virtually any Alaskan community. Such programs can respond in an adequate and timely manner to the requirement for large scale interconnected generation and transmission systems in the Anchorage-Fairbanks-Southcentral region, and can also plan and develop small isolated systems for communities such as Naknek-Dillingham and Petersburg-Wrangell. It is especially significant first that the Alaska Power Authority will be a resident agency capable of shared insight and sensitive response to community goals, and second that its principal financing mode will be revenue bonds, the marketability of which will be based primarily on a give project's financial outlook, corresponding directly to local demand, rather than to arbitrary criteria for allocation of funds.

It is hoped that the Alaska Power Authority will address the power system development options and priorities outlined in the Alaska Electric Power Study, submitted to the House Finance Committee in

March 1976. However, in doing so, it must be recognized that the University study was not intended to specify development of individual projects; that study was focused on the project level only to the extent necessary to establish survey level scale and cost comparisons. Therefore the work of the Authority must begin with definitive analysis and selection of project alternatives, consistent with the characteristics of local systems.

A very brief review of the University study's conclusions is as follows:

1. The Anchorage-Fairbanks-Southcentral region is expected to account for 94% to 97% of Alaska's electrical load growth through 1995. Large scale capacity additions will be required to serve this load, and it is probable that a regional generation and interconnected transmission system will be technically and economically desirable. It is expected that existing municipal and REA utilities will not be able to organize and finance adequate power system expansion in this region, and that large scale Federal assistance, which in any case would be confined to the Susitna Hydroelectric Project, may not be approved by Congress. Therefore a high priority should be given to the State development initiatives for this region; regional power markets should be capable of fully supporting the cost of an optimal State sponsored system development program. The Kodiak and Prince William Sound areas of the Southcentral region have characteristics more closely resembling Southeast, which is described below, although

Prince William Sound has substantially higher expected load growth and a long term potential for regional interconnection with Anchorage and/or Fairbanks.

2. The Southeast region is expected to have a moderate load growth rate, consistent with continuing development of its extensive small scale hydroelectric resources. It is probable that local communities may continue to play a substantial role in the development and financing of capacity additions. The State may elect to confine its activities in this region to planning, technical assistance, and interim financing, although this certainly does not rule out the possibility of State development of self supporting projects.

3. In other regions of the State, excluding Barrow and the North Slope Borough, which have a local natural gas resource and a strong local financing capability, the absence of relatively low-cost local energy resources and weakness in communities' financing capabilities may indicate the need for small scale State sponsored capacity additions. In part this may invlove a guarantee program for villages which are sub-economic for REA participation via AVEC, however, larger relatively fast-growing load centers such as Bethel, Kotzebue, and others may require more extensive State commitments. Again State planning, technical assistance and possible interim financing would appear desirable even if a minimal level of State participation is chosen for these regions.

4. The State has available to it a set of financing and administration alternatives which can enable a very substantial sponsorship role in the power sector, either on a regional or statewide basis. Conservation of the State's financial resources nevertheless requires that maximum emphasis be placed on the most economical projects, and that most State-sponsored projects be financially self-supporting.

Following these conclusions, in developing the State's power sector activities, it will be necessary for the Authority to prepare definitive system development programs for individual load centers, specifying projects, or sets of projects, capable of satisfying their short to long term needs. Projects selected must be optimized to the load centers' requirements in terms of technical feasibility, scale, schedule, and cost. For most areas this will require a multi-stage development program; for some areas this program may include more than one mode of generation.

The Anchorage-Fairbanks-Southcentral region may serve as an example: For this region the resource and technology options identified by the University include short term reliance on expanded gas-turbine and small scale coal-fired steam generation, which are the present modes in Anchorage and Fairbanks respectively. This will be necessary through the early 1980s, due to the long lead times for projects which require opening of large new coal mines or development of major hydroelectric sites. The University study recommends caution in long term planning for the use of gas turbines for base loading due to the possibility that natural gas prices may escalate more rapidly than projected that gas availability may br curtailed due to competing

demands of export markets, or that Federal regulation may restrict use of gas as power fuel. Nevertheless the gas turbine mode, with appropriate near term acquisition of gas supplies, should have long term potential for peaking, system reserve, and to satisfy load growth contingencies. The long term alternatives to use of gas turbines for base loading generation are hydro power and large scale coal-fired steam. It is possible that these options may be best realized in the next twenty years by development of the upper Susitna River, Bradley Lake, and possibly other Kenai Peninsula hydro sites, and/or development of mine mouth generation at Beluga, Matanuska Valley, or Nenana Valley coal fields.

At the present time, it must be emphasized that the Susitna Hydroelectric Project as proposed by the Corps of Engineers has not been established as the optimal alternative for State sponsorship in this region, or that it is the only project in this region which may require State development and funding through 1995. The University study indicates that under most financing assumptions coal-fired generation would be more economical than the Corps version of Susitna. The study also indicates that only the most conservative load growth forecast falls wholly within the Susitna project's capacity through 1995; higher load growth rates will require development of other projects as well.

Therefore, at the present time, State planning for the Anchorage-Fairbanks-Southcentral region should not be confined to the Susitna project, and particularly not to the Corps of Engineers version. Cost estimates for the Corps development scheme are $1.5 billion in 1975 dollars, including $1.1 billion for Stage 1. The University's

estimate of interest during construction and escalation for this project increases the total to $3.5 billion by 1992, including $2.3 billion to be expended on Stage 1 through 1986; these figures are acknowledged to be reasonable by the Corps. Such capital outlays would result in electric power costs higher than estimated for coal-fired alternatives. On the other hand, the Henry J. Kaiser Company, in a conceptual study prepared for the State in 1974, estimated $640 million for an equivalent Susitna Stage 1, including interest during constuction and escalation through its completion in early 1983. This estimate results in generation costs for Susitna which are less than both gas-fired and coal-fired alternatives.

Both the Corps of Engineers and Kaiser development plans were prepared by experienced professionals, but their project cost estimates are radically different. Therefore it is indicated that the State should prepare a definitive preliminary engineering report to firmly establish the Susitna development plan which is most competitive with alternative modes of generation, and which is therefore in the best interest of regional electricity consumers. Such a report should satisfy a substantial portion of the FPC licensing criteria for the project, and should cost less than $1 million. In addition to this evaluation of Susitna, it is necessary for the State to establish the comparative feasibility of coal as a generation alternative, and to also evaluate possible development of other Southcentral region hydro sites. This must be done both for the purpose of selecting the most economical development program, and also to establish contingency plans to satisfy at least mid-range load growth forecasts through 1995. It is probable that initially about $750,000 will be required for this purpose.

The results of this planning effort can give the State an independent and proven basis for proceeding with electric power system development in the Anchorage-Fairbanks-Southcentral region.

A planning effort similar in scope but smaller in scale may provide detailed guidelines for State project development options in other regions. Again, it is necessary to emphasize that definitive preliminary system studies must be made prior to the selection of individual projects for State sponsorship, or for State-assisted local development. It is believed that approximately $500,000 should initially be allocated for this purpose. Although this figure is disproportionately high in terms of the ratio of demand between regions, it is necessary due to the level of preliminary engineering effort which is required to establish firm planning criteria for even very small projects.

It is suggested that all system development alternatives for individual load centers be subjected to the following project analysis sequence:

1. Load growth forecasting for the specific load center, using a standardized rigorous statistical methodology, similar to or based on that used in the University's regional forecasts, and consistent with its general conclusions.

2. Demand-capacity balance analysis, directly relating load growth forecasts to existing systems' capacity, energy capability, and plant obsolescence schedule, indicating future demand-capacity deficits as criteria for the scale and scheduling of system expansion.

3. Survey of alternative costs for available resources and technologies for system expansion, resulting in pre-selection of the better alternatives for further study.

4. Preliminary engineering of selected better alternatives for system expansion, including geological and hydrological studies, conceptual design, power system studies and scheduling, and order of magnitude or better capital and operating cost estimates. These studies will establish the technical feasibility of alternative projects.

5. Economic comparison of selected technically feasible alternatives, including discounted cash flow comparison of all incremental system costs attributable to each alternative through the life cycle of the longest-lived project. The results of this comparison, expressed as a set of internal rates of return 1/ will provide economic criteria for selection of an optimal system development program.

6. Financial analysis of best system development programs, indicating operating ratios, debt service coverage and other financial feasibility indicators, over a probable range of power sales and rates.

1/ Internal rate of return is defined as the discount rate which equalizes present worth of comparable capital and operating cost streams throughout a system's life cycle. The use of this method in cost-benefit analysis requires that corresponding benefit streams, in this case electricity produced, be set equal.

This project analysis method would resemble that used by the International Bank for Reconstruction and Development (World Bank). This system has been developed during the Bank's thirty years of trial and error experience in the financing of electric power projects. World Bank criteria provide both for selection of comparatively economical projects and project features, consistent with overall system characteristics, and also for rationing available capital between many competing regional development schemes. Several texts and numerous case studies have been prepared to document this system. Although the World Bank's activities are exclusively outside the United States, this approach is believed uniquely suited to the Alaska Power Authority's projected role in selecting self-supporting projects for revenue bond financing, and is consistent with the requirements of the revenue bond market.

It can be expected that the initial planning work of the Alaska Power Authority, in responding to expressions of local needs, will produce an array of technically and economically feasible projects which is greater than it can finance immediately or even in the foreseeable future. It may be anticipated that this ratio may diminish over time, due to the satisfaction of long deferred needs by the Authority, and its own growth; however it is believed that throughout its life the Authority will be compelled to continually ration its financial resources between competing projects. It is suggested that the first step in determining the magnitude of the Authority's operations should be a definitive analysis of its

financial capability. The primary focus of this analysis should be the revenue bond market, and the financial guidelines which would enable the Authority to achieve the greatest volume of revenue bond sales. However, supplementary financing options should also be evaluated: Both leveraged lease financing of equipment and foreign export bank loans for imported materials, equipment, and construction services are available on terms roughly similar to revenue bonds, and are used in power system financing in the U. S. and overseas. Both of these methods have previously been proposed for partial financing of the Susitna project. These supplementary sources of funds may ease the Authority's demands on the revenue bond market and possibly could enable a somewhat larger scale of operations. In addition, the Authority should analyze the financial capabilities of existing utilities and communities, and should establish guidelines for local participation in generation and transmission, consistent with local resources. In particular the Authority should identify utilities and communities which have sufficiently favorable ratios between demand and financial resources that State project sponsorship would be unnecessary.

Following definition of the Authority's financial capability, a method must be developed to equitably ration available capital between competing projects. It is suggested that this method should be based on statewide comparison of internal rates of return yielded by proposed projects, versus their most economical alternatives. The selection of projects with the highest internal rates of return should then normally yield greatest power cost savings

to the consumers who are able to purchase Authority power. Initially, however, strong local demand for State project sponsorship could suggest that the Authority consider financing only the least capital intensive modes of generation, in order to widely spread some initial benefit of its operations across the State. This assumes that the Authority could estimate the maximum level of benefits to be produced by all potential projects throughout the State at a given time, and model its financial commitments accordingly consistent with its resources. It is suggested first that this would be an extremely difficult and expensive task, second that it could result in extensive suboptimal use of resources, and third that it would yield a very low ratio of benefits, compared to exclusive reliance on local financing resources; the least capital intensive modes of generation are generally capable of unassisted local sponsorship, particularly under the local participation guidelines indicated above. It is believed therefore that except in contingency situations the Authority's key role should be in the planning, financing, and development of technically and economically optimal projects, which individually will result in least cost new generation for their target load centers. It is believed that in many, but certainly not all, cases these projects will represent the more capital-intensive alternatives, for which local resources are most often inadequate.

Administered in this way, the role of the Authority would be that of the businesslike supplier of a single service - least cost electricity. Obviously, communities which are selected for its projects will benefit from the economic spinoff of comparatively

large construction programs. On the local level, particularly in small towns, this factor may be a key inducement for seeking Authority projects; in fact the value of least cost electricity to the community may be of negligible concern to many local project promoters and interested firms. For the Authority, however, a key test of competence will be its ability to resist pressures to spread public works benefits throughout the State at the expense of its customers.

The above comments may suggest a simplistic view of the Authority's role, assuming that it involves only a straightforward technical and financial response to well accepted community needs. In practice, this response is likely to be significantly complicated by the requirement that the Authority, to conserve its own resources, must market power to local distribution utilities. At least some currently self sufficient Alaskan utilities have their own short to long term system development goals, and may resist purchasing Authority power on suitable terms. This problem may occur in the Anchorage-Southcentral region, where the Authority may not be capable of offering long term base loading power as cheaply as some utilities can hope to generate it using existing natural gas reserves. The utilities may be much more optimistic than the Authority, at least for bargaining purposes, about the future availability of low cost gas. The Authority's only unilateral option in such cases will be to develop facilities capable of serving only those utilities which in the short term are willing to meet its terms. This could compel the choice of sub-optimal development programs by the Authority, regardless of its own

decisions as to the most economical mode and scale of generation and/or transmission for the region. In such cases, regulatory intervention may be required to weigh the public interest against the positions of the Authority and individual utilities. A similar problem may also occur in Southeast Alaska, where some utilities have invested substantial sums in preliminary studies for hydro projects which may not be selected for development by the Authority. It is possible that these utilities may not accept the Authority's standardized project analysis criteria unless it is indicated that no alternative means of project selection is acceptable. It is also recognized that at least a few Alaskan utilities have chronic operating problems, such as severe distribution losses and faulty methods of operating existing plant; problems such as these could partially jeopardize the effectiveness of Authority-sponsored system expansions. In these cases the Authority may be compelled to recommend improvements in local utilities' facilities, operations or management practices; these criteria for project sponsorship by the Authority could be regarded as onerous by some utilities. Therefore it is believed that operations of the Authority may not always, or even normally, be met with general agreement and acceptance, and that as a result its short term progress toward its goals may often be frustrated. Probably this sort of problem must be accepted as a normal hindrance to the operation of such an agency.

It is clear that in all its activities, the role of the Authority's directors, management and senior staff will be the key to its achievement of worthwhile goals; only technically competent, broadly experienced, politically sophisticated, and critical individuals can

be expected to organize and operate such an enterprise for the public benefit. The process of management selection for the Authority should recognize that the agency is expected to become involved in the planning, financing and development of $1 billion or more in fixed assets in its first ten years of operation, and that it must accomplish this in a manner consistent with achieving $100-500 million in annual revenues following project commissioning. This scale of operations is that of a major public utility or industrial firm. Because the Authority must obtain the confidence of the revenue bond market, its senior personnel must have stature comparable to key management in major U. S. firms and public enterprises.

In summary, it is believed that the establishment of the Alaska Power Authority has an excellent opportunity to develop greatly improved electric power systems in the State. The Authority's success nevertheless depends heavily on careful and objective planning of its project analysis methodology, financial capability, and marketing and utility relations strategy. Management selection will be a key first step in this process.

HB 779

Greater
Juneau Chamber of Commerce

"SERVING ALASKA'S CAPITAL"

200 N. Franklin Street (907) 586-2201 Juneau, Alaska 99801

April 3, 1976

Honorable Hugh Malone
Chairman, House Finance Committee
The Capitol
Pouch V
Juneau, Alaska 99811

Dear Hugh:

RE: C.S.H.B. 779

I enjoyed being able to attend your hearing on the Alaska Power Authority Bill in Wednesday, 31 March. Here are some suggestions which may be beneficial:

1. AS 44.56.030. The directors should serve for fixed terms. This is a big business. Not only will these men have to raise the money for building the projects, they will have to run them for the indefinite future. There ought to be an assurance of some continuity. I am not aware of any corporate board whose directors "serve at the pleasure of" anybody. Business continuity and judgement demand fixed terms. Millions of dollars worth of power a year will be sold under the authority of the board. Of course, the Commissioner of Commerce would be at the pleasure of the Governor.

2. AS 44.56.040. Because of the immensity of the business, if not now, then later on, the directors are going to have to be full-time or at least as many of them as are officers of the corporation. During the hearing it was said rather fleetingly that in private enterprise directors do not serve full-time. The truth is that the officers of a corporation are directors, and in that dual capacity they do serve full-time. There are additional directors who attend director's meetings but do not serve full-time. It seems to me that the directors who are officers of the authority should be full-time.

3. AS 44.56.050. One of the worst things that could be done is to put the employees of the authority under AS 39.25 in the classified service. With this provision remaining in the bill they will all have to be classified by the Department of Administration and governed by all the numerous rules and regulations that pertain to such classified employees. Not only should they not be under AS 39, the bill should probably contain a specific reference to the fact that they are not

under the Public Employment Relations Act, AS 23.40. Let the authority take care of its own employees. The most that might be said is that hiring, promotions and severances would be in accordance with merit principles.

4. AS 44.56.170. The Commissioner of Commerce is a member of the board of the authority; he should be able to make his views known in the deliberations of the board. I do not see the sense of giving him another shot at the desirability of a project. If the report is not unanimous, a minority view could be tendered to the Legislature.

5. AS 44.56.210. Under the provisions that the authority budget must go through the Executive Budget Act (AS 37.07), the Department of Administraton would have a major voice in the conduct of the authority. This is a big business, it ought to be able to conduct its own budgetary affairs. If it needs to obtain an appropriation from the Legislature, that request should certainly be budgeted as other requests are. But that is a far cry from having the Department of Administration and the Legislature do every bit of the authority's budget. Certainly the Legislature and the Department of Administration should be able to audit the workings of the authority, but it should not be hamstrung by the public budgeting process regarding moneys that are not appropriated from the General Fund. It will have millions of dollars of revenues from its operations, which it should be able to budget in accordance with its legislative charter.

Thank you for the opportunity to comment on the bill. It will be a great thing for Alaska to start utilizing the abundant power potential we have. With kind regards, I remain

Sincerely yours,

Joseph R. Henri
President

cc: Honorable Bill Ray

TO: Jalmar Kerttula, Chairman
Senate Commerce Committee
Alaska State Legislature

FROM: James B. Rhode
AA to Rep. Malone, Chairman
House Finance Committee

DATE: 24 May 1976

At your request, Representative Duncan asked that I prepare a brief analysis of the key sections of Senate CS for HB 779 (Commerce) - the Alaska Power Authority.

Sec. 44.56.080 (10) [P. 4, L. 13] permits the authority to contract with the United States, any legal person, or a foreign country to construct, acquire, and operate " . . . all or any part . . ." of a power project. Firstly, this enables the authority to enter joint ventures with public and private utilities, a concept that has wide and growing support in the power industry and the bond market. (The complete hand over of projects to local utilities involves uncertainties that hamper bond sales.) As for participation with the "United States", the act originally read "Corps of Engineers", but the House Finance Committee was opposed to restricting the State to any particular Federal agency. Although the phrase "United States" was inserted to accomodate the Susitna proposal of U.S. Senator Gravel, the authority is not in any way committed or limited to his approach. Specifically, paragraph (13) of this section [P. 5, L. 3] in providing for feasibility studies of hydroelectric and fossil fuel projects, looks to the authority to weigh various alternatives to the Gravel proposal, including the Kaiser plan for Sustina or large scale coal-fired steam plants. The latter possibilities are given preliminary review in papers that have been made a part of your Committee's record.

Sec. 44.62.090 [P. 5, L. 11] empowers the authority to wholesale power to local distribution systems and sets out the kinds of costs that can be charged to retail consumers.

Secs. 44.62.100 and 110 [P. 6, L. 22] contain standard provisions for the issuing of revenue bonds for the authority's work. Sub-section (c) [P. 9, L. 12] permits special "capital reserve funds", set up with bond proceeds or appropriations, equal to no more than 10% of total bonds outstanding. The act declares, however, that these funds will be created ". . .only if . . ." they ". . .would enhance the marketability of the

bonds." This language was added to acknowledge the possibility that the funds might be perceived as "near moral obligations" of the kind that have found disfavor as the result of the bond problems of New York State. Sec. 44.62.130 [P. 11, L. 27] clearly affirms that the bondholders security is that of the authority's income and assets, not the credit of the State or its subdivisions.

Sec. 44.62.170 [P. 13, L. 19] establishes a separate "Power Project Revolving Fund" in the authority for feasibility studies, all phases of pre-construction, and for construction (including, of course, the purchase of diesel, gas, and coal-fired plant and equipment). By its letter of intent, the House Finance Committee expressed its preference for providing $2.7 million for this revolving fund out of the $3 million appropriated to the Water Resources Revolving Loan Fund (with the balance of $300,000 reserved for water supply projects and studies). This appropriation transfer is agreeable to supporters of both measures.

Sec. 44.62.180 [P. 14, L. 6] requires the approval of all new projects, including any Susitna agreement with the United States, by concurrent resolution of the Legislature. However, should $1 million or less be needed to modify or complete a project that was previously approved, further legislative action would not be required. This provision is to guard against delays from relatively small project changes and, especially, delays in revenues for the repayment of bondholders.

To forstall difficulties of the kind that have arisen in the Alaska State Housing Authority, the act binds the authority to submit an annual, independent audit [P. 15, L. 7], an annual comprehensive report on its activities [P. 15, L. 12], and an annual budget [P. 15, L. 16].

Your Committee is assured that all technical aspects of this act have been reviewed and agreed upon by Mr. Eric Wohlforth, bond attorney of Wohlforth & Flint, Anchorage, by financial advisors and bond counsel of White, Weld & Co., New York and San Francisco, and by the Commissioner of Revenue.

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274-2519
272-9489

April 20, 1976

Honorable Jalmar Kerttula
Chairman, Senate Commerce Committee
Pouch V
State Capitol Building
Juneau, Alaska 99811

Re: CS for HB 779 ("An Act Creating the Alaskan Power Authority")

Dear Senator Kerttula:

Subsequent to its passage by the House, comments were received on the above bill by the investment banking firm of White, Weld & Co. of New York. The comments were largely technical in nature, directed toward permitting a wider variety of financing arrangements including joint financings of projects with other entities. The additional sentence in paragraph 10 is designed to insure that a capital reserve fund is created only if the authority determines that such creation would enhance the marketability of bonds (although White, Weld feels that this fund and the legislative statement to make up deficiencies has no substantial merit - a position I respect but do not agree with). The change in paragraph 12 is designed to assure that the authority can covenant with bondholders to complete projects. Of the White, Weld suggestions I commend the following (with some personal revisions) to your consideration in deliberations on the bill:

(New matter is underlined; deleted matter bracketted)

1. AS 44.56.070. PURPOSE OF THE AUTHORITY. The purpose of the authority is to promote, develop and advance the general prosperity and economic welfare of the people of Alaska by providing a means of constructing, <u>acquiring</u>, financing and operating hydroelectric and fossil fuel generating projects.

2. AS 44.56.080(6) to issue bonds [to pay the cost of acquiring by construction, or improving and equipping, a power project and to secure payment of the bonds as provided in this chapter] <u>to carry out any of its corporate purposes and powers, including the acquisition or construction of any project to be owned or leased, as lessor or lessee, by the authority, or the</u>

acquisition of any interest therein or any right to capacity thereof, the establishment or increase of reserves to secure or to pay such bonds or interest thereon, and the payment of all other costs or expenses of the authority incident to and necessary or convenient to carry out its corporate purposes and powers;

3. AS 44.56.080(7) to sell, lease as lessor or lessee, exchange, donate, convey or encumber in any manner by mortgage or by creation of any other security interest, real or personal property owned by it, or in which it has an interest, when, in the judgment of the authority, the action is in furtherance of its corporate purposes;

4. AS 44.56.080(10) to enter into contracts with the United States or any [of its agencies or with any political subdivision of this state] person, and subject to the laws of the United States and subject to concurrence of the legislature, with a foreign country or its agencies, for the construction, acquisition, operation and maintenance of all or any part of a power project, either inside or outside the state, and for the [marketing of the power produced from it] sale or transmission of power from any project or any right to the capacity thereof, or for the security of any bonds of the authority issued or to be issued for such project;

5. AS 44.56.080(11) to enter into contracts for the purchase, sale, exchange, transmission, or use of power [or falling water] generated by any project, or any right to the capacity thereof with any person[,firm or corporation,] and with the United States [or any of its agencies, with any political subdivision of this state], and subject to the laws of the United States and subject to the concurrence of the legislature, with a foreign country or its agencies;

6. AS 44.56.090. POWER CONTRACTS. The authority shall, in addition to other methods which it may find advantageous, provide that municipal electric, rural electric, cooperative electric, or private electric utilities and regional electric authorities or other persons authorized by law to engage in the distribution of [electric] power may secure a reasonable share of the power generated by a project, or any interest therein, or for any right to the capacity thereof, and shall sell the power or cause the power to be sold at prices representing cost of generation, plus capital and operating charges, plus a fair cost of transmission, all as determined by the directors, and subject to conditions which assure the resale of the power to

[domestic and rural] retail consumers at the lowest possible price. A contract for the sale, transmission and distribution of power generated by a project or any right to the capacity thereof shall provide

(1) for payment of all operating and maintenance expenses of a project and costs of renewals, replacements and improvements thereof;

(2) for interest on and amortization charges sufficient to retire bonds of the authority issued for the project and reserves therefor, plus a debt service coverage factor as may be determined by the authority, to be necessary for the marketability of its bonds;

(3) for continuous control and operation of the project by the authority or its agents;

(4) for full and complete disclosure to the authority of all factors of cost in the transmission and distribution of power, so that rates to [consumers] any persons may be fixed initially in the contract and may be adjusted from time to time on the basis of true cost data;

(5) for periodic revisions of the service and rates to [consumers] persons on the basis of accurate cost data obtained by the accounting methods and systems approved by the directors and in furtherance and effectuation of the policy declared in this [paragraph] chapter;

(6) for the cancellation and termination of a contract upon violation of its terms by [the power distributor or company, or its subsidiary or associate] any person;

(7) for such security for performance as the authority may consider practicable and advisable, including provisions assuring the continuance of [service by the power distributors or companies] the distribution and transmission of power generated by a project by any person, the use of their facilities for [the service] such purposes, and the continuance of an outlet and adequate market for the power generated by the project;

(8) other terms not inconsistent with the provisions and policy of this chapter as the authority may consider advisable.

7. AS 44.56.100. BONDS OF THE AUTHORITY. (a) The authority may borrow money and may issue bonds, including but not limited to bonds on which the principal and interest are payable

(1) exclusively from the income and receipts or other money derived from the project financed with the proceeds of the bonds; (2) exclusively from the income and receipts or other money derived from designated projects whether or not they are financed in whole or in part with the proceeds of the bonds; [or] (3) from its income and receipts or other assets generally, or a designated part or parts of them; or (4) from one or more revenue producing contracts including a contract providing for the security of such bonds made by the authority with any person. The authority may issue bonds to pay, fund or refund the principal of, or interest or redemption premiums on, bonds issued by it, whether or not the bonds or interest to be funded or refunded have become due.

8. AS 44.56.110(a). In Line 11, page 7, after corporate trustee add (herein called "trust agreement"). In Line 19, page 7, after rentals, add charges. In Line 3, page 8, after lease add power contract,. In Line 9, page 8, after other, add rights or.

9. AS 44.56.110(b) Notwithstanding any other provisions of this chapter, the trust agreement shall contain a covenant by the authority that it will at all times maintain rates, fees or charges sufficient to pay, and that a contract entered into by the authority for the sale, transmission or distribution of power shall contain rates, fees or charges sufficient to pay the costs of operation and maintenance of the project, the principal of and interest on bonds issued under the trust agreement as the same severally become due and payable, to provide for debt service coverage as deemed necessary by the authority for the marketing of its bonds and to provide for renewals, replacements and improvements of the project and to maintain reserves required by the terms of the trust agreement.

10. AS 44.56.110(c) For the purpose of securing any one or more issues of its bonds, the authority may establish one or more special funds, called "capital reserve funds", and shall pay into those capital reserve funds the proceeds of the sale of its bonds and any other money which may be made available to the authority for the purposes of those funds from any other source. The funds shall be established only if the authority determines that such establishment would enhance the marketability of the bonds. All money held in a capital reserve fund, except as provided in this section, shall be used as required, solely for (1) the payment of the principal of, and interest on, bonds or of the sinking fund payments with respect to those bonds, (2) the purchase or redemption of bonds, or (3)

the payment of a redemption premium required to be paid when those bonds are redeemed before maturity; however, money in a fund may not be withdrawn from it at any time in an amount which would reduce the amount of that fund to less than the capital reserve requirement set out in (2) of this subsection, except for the purpose of making, with respect to those bonds, payment, when due, of principal, interest, redemption premiums and the sinking fund payments for the payment of which other money of the [corporation] authority is not available. Income or interest earned by, or increment to, a capital reserve fund, due to the investment of the fund or any other amounts in it, may be transferred by the authority to other funds or accounts of the authority to the extent that the transfer does not reduce the amount of the capital reserve fund below the capital reserve fund requirement.

11. AS 44.56.150. TAX EXEMPTION. All property of the authority is public property devoted to an essential public and governmental function and purpose and is exempt from all taxes of the state or a political subdivision of the state. All bonds [or notes] issued under this chapter are issued by a body corporate and public of this state and for an essential public and governmental purpose and the bonds [and notes], and the interest and income on and from the bonds [and notes], and all income of the authority are exempt from taxation except for transfer, inheritance and estate taxes.

12. AS 44.56.180. CONSTRUCTION OF PROJECTS. The authority shall submit a statement outlining the general design, demonstration of financial feasibility, and maximum amount of bonds estimated to be necessary for each new project to the legislature and the commissioner of commerce and economic development together with a statement that the authority intends to design, acquire and construct the project itself or that it intends that the project be designed, acquired or constructed by the United States or another person under agreement with the authority providing for ownership of all or a portion of the project by the authority [on completion] or of a right to the capacity thereof. If the legislature adopts a concurrent resolution approving the general design and maximum amount of bonds, the authority shall, in accordance with the terms of the concurrent resolution, (1) proceed to design, acquire and construct the new project, or (2) agree with the United States or other person for design, acquisition and construction of the project by the United States, for payments to the United States or other person for such design, acquisition and construction, reimbursement by the United States or other person in certain events, and otherwise on the terms and conditions as may be set out in such agreement.

If the new project is to be designed, acquired and constructed by the authority, it shall be designed, acquired and constructed as a public work of the state except that public bidding shall not be required, if the authority so determines. For the purpose of this section a new project does not include an addition or modification to an existing project if the total cost of the addition or modification does not exceed $1,000,000 [or], to any repair or reconstruction of a project or to any design, acquisition or construction necessary to complete a project for which bonds have been issued,previously authorized by the legislature. [An] Any such addition [or], modification [or], repair, reconstruction, design, acquisition or construction may be undertaken by the authority without any of the approvals necessary for a new project.

13. AS 44.56.230. DEFINITIONS. In this chapter, unless the context requires otherwise,

(1) "authority" means the Alaska Power Authority established by this chapter;

(2) "bonds" means bonds, notes, or other obligations of the authority issued under this chapter;

(3) "person" means a public agency or a natural person or a private corporation, firm, partnership, or business trust of any nature whatsoever, organized and existing under the laws of any state or of the United States.

(4) "power" includes any and all electrical energy generated, distributed, bought or sold for purposes of lighting, heating, power and every other useful purpose;

[(4) "power project" or "project" includes any and all real or personal property or any interest in it including, without limitation, dams, powerhouses, and transmission lines owned, used or operated, or useful for operation, in the generation by means of water or fossil fuel power, and the transmission of electrical power and also including channels, locks, canals, and other navigational, reclamation, flood control and fisheries facilities and environmental protective measures as may be necessary or desirable in connection with it.]

(5) "power project" or "project" means any plant, works, system, facilities, water rights, fuel deposits or sources and real estate and personal property of any nature whatsoever, together with all facilities and appurtenances related thereto or necessary for the purposes thereof, used or

useful in the generation by means of water or fossil fuel of electric power and the production, transmission, purchase, sale, exchange and interchange of electric power thereof, and shall include any interest therein, whether divided or undivided, or any right to the capacity thereof.

(6) "public agency" means any city or other municipal corporation, political subdivision, governmental unit, or public corporation created by or pursuant to the laws of this state or of another state of the United States, and any state or the United States, and any person, board or other body declared by the laws of any state or the United States to be a department, agency, or instrumentality thereof.

Please let me know if I can assist further on the matter.

Very truly yours,

WOHLFORTH & FLINT

By Eric E. Wohlforth
Eric E. Wohlforth

EEW/am

cc: Mr. Langhorne A. Motley
Commissioner of Commerce and
Economic Development
Mr. Sterling Gallagher
Commissioner of Revenue
Mr. James Rhodes
Representative James Duncan

Original sponsors: Duncan and Swanson

IN THE HOUSE BY THE FINANCE COMMITTEE

CS FOR HOUSE BILL NO. 779

IN THE LEGISLATURE OF THE STATE OF ALASKA

NINTH LEGISLATURE - SECOND SESSION

A BILL

For an Act entitled: "An Act creating the Alaska Power Authority."

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

* Section 1. AS 44 is amended by adding a new chapter to read:

CHAPTER 56. ALASKA POWER AUTHORITY.

ARTICLE 1. CREATION AND ORGANIZATION.

Sec. 44.56.010. LEGISLATIVE FINDING AND POLICY. (a) The legislature finds, determines and declares that

(1) there exist numerous potential hydroelectric and fossil fuel generating sites in the state;

(2) the establishment of power projects at these sites is necessary to supply lower cost power to the state's municipal electric, rural electric, cooperative electric, and private electric utilities, and regional electric authorities, and thereby to the consumers of the state, as well as to supply existing or future industrial needs;

(3) the achievement of the goals of lower consumer power costs and long-term economic growth and of establishing, operating and developing power projects in the state will be accelerated and facilitated by the creation of an instrumentality of the state with powers to incur debt for constructing, and with powers to operate, power projects.

(b) It is declared to be the policy of the state, in the interests of promoting the general welfare of all the people of the state, and public purposes, to reduce consumer power costs and otherwise to encourage the long-term economic growth of the state, including the development of its natural resources, through the establishment of

power projects by creating the public corporation with powers, duties and functions as provided in this chapter.

Sec. 44.56.020. CREATION OF AUTHORITY. There is created the Alaska Power Authority. The authority is a public corporation of the state in the Department of Commerce and Economic Development but with separate and independent legal existence.

Sec. 44.56.030. MEMBERSHIP OF THE AUTHORITY. The authority consists of the commissioner of commerce and economic development and four public members appointed by the governor. The appointment of each director other than the commissioner of commerce and economic development is subject to confirmation by the legislature.. The directors must be residents of the state and qualified voters at the time of appointment and shall comply with the requirements of AS 39.50 (conflict of interest). The term of office of each director appointed by the governor is four years except that the directors first appointed shall have terms of one, two, three, and four years, respectively. A vacancy in a directorship occurring other than by expiration of term shall be filled in the same manner as the original appointment but for the unexpired term only.

Sec. 44.56.040. OFFICERS AND QUORUM. The directors shall elect one of the public members as chairman and other officers they determine desirable. The powers of the authority are vested in the directors, and three directors of the authority constitute a quorum. Action may be taken and motions and resolutions adopted by the authority at a meeting by the affirmative vote of at least three directors. The directors of the authority serve without compensation, but they shall receive the same travel pay and per diem as provided by law for board members.

Sec. 44.56.050. STAFF. The authority shall employ an executive director who may with the approval of the authority select and employ

additional staff as necessary. In addition to its staff of regular employees, the authority may contract for and engage the services of the bond counsel, consultants, experts, and financial advisors the authority considers necessary for the purpose of developing information, or conducting studies, investigations, hearings, or other proceedings.

ARTICLE 2. PURPOSE AND POWERS.

Sec. 44.56.070. PURPOSE OF THE AUTHORITY. The purpose of the authority is to promote, develop and advance the general prosperity and economic welfare of the people of Alaska by providing a means of financing and operating hydroelectric and fossil fuel generating projects.

Sec. 44.56.080. POWERS OF THE AUTHORITY. In furtherance of its corporate purposes, the authority has the following powers in addition to its other powers:

(1) to sue and be sued;

(2) to have a seal and alter it at pleasure;

(3) to make and alter bylaws for its organization and internal management;

(4) to make rules and regulations governing the exercise of its corporate powers;

(5) to acquire, whether by construction, purchase, gift or lease, and to improve, equip and operate power projects;

(6) to issue bonds to pay the cost of acquiring by construction, or improving and equipping, a power project and to secure payment of the bonds as provided in this chapter;

(7) to sell, exchange, donate, convey or encumber in any manner by mortgage or by creation of any other security interest, real or personal property owned by it, or in which it has an interest, when, in the judgment of the authority, the action is in furtherance of its corporate purposes;

(8) to accept gifts, grants or loans from, and enter into contracts or other transactions regarding them, with a federal agency or an agency or instrumentality of the state, municipality, private organization or other source;

(9) to deposit or invest its funds, subject to agreements with bondholders;

(10) to enter into contracts with the United States or any of its agencies or with any political subdivision of this state, and subject to the laws of the United States and subject to concurrence of the legislature, with a foreign country or its agencies, for the construction, acquisition, operation and maintenance of all or any part of a power project, either inside or outside the state, and for the marketing of the power produced from it;

(11) to enter into contracts for the purchase, sale, exchange, transmission, or use of power or falling water with any person, firm or corporation, and with the United States or any of its agencies, with any political subdivision of this state, and subject to the laws of the United States and subject to the concurrence of the legislature, with a foreign country or its agencies;

(12) to apply to the appropriate agencies of the state, the United States and to a foreign country and any other proper agency for the permits, licenses, or approvals as may be necessary, and to construct, maintain and operate power projects in accordance with the licenses or permits, and to obtain, hold and use the licenses and permits in the same manner as any other person or operating unit;

(13) to perform feasibility studies with respect to hydroelectrical and fossil fuel power generating projects;

(14) to enter into contracts or agreements with respect to the exercise of any of its powers, and do all things necessary or convenient

to carry out its corporate purposes and exercise the powers granted in this chapter;

(15) to exercise the power of eminent domain in accordance with AS 09.55.250 - 09.55.410.

Sec. 44.62.090. POWER CONTRACTS. The authority shall, in addition to other methods which it may find advantageous, provide that municipal electric, rural electric, cooperative electric, or private electric utilities and regional electric authorities authorized by law to engage in the distribution of electric power may secure a reasonable share of the power generated by a project, and shall sell the power or cause the power to be sold at prices representing cost of generation, plus capital and operating charges, plus a fair cost of transmission, all as determined by the directors, and subject to conditions which assure the resale of the power to domestic and rural consumers at the lowest possible price. A contract for the sale, transmission and distribution of power generated by a project shall provide

(1) for continuous control and operation of the project by the authority;

(2) for full and complete disclosure to the authority of all factors of cost in the transmission and distribution of power, so that rates to consumers may be fixed initially in the contract and may be adjusted from time to time on the basis of true cost data;

(3) for periodic revisions of the service and rates to consumers on the basis of accurate cost data obtained by the accounting methods and systems approved by the directors and in furtherance and effectuation of the policy declared in this paragraph;

(4) for the cancellation and termination of a contract upon violation of its terms by the power distributor or company, or its subsidiary or associate;

(5) for such security for performance as the authority may consider practicable and advisable, including provisions assuring the continuance of service by the power distributors or companies, the use of their facilities for the service, and the continuance of an outlet and adequate market for the power generated by the project;

(6) other terms not inconsistent with the provisions and policy of this chapter as the authority may consider advisable.

ARTICLE 3. FINANCIAL PROVISIONS.

Sec. 44.62.100. BONDS OF THE AUTHORITY. (a) The authority may borrow money and may issue bonds, including but not limited to bonds on which the principal and interest are payable (1) exclusively from the income and receipts or other money derived from the project financed with the proceeds of the bonds; (2) exclusively from the income and receipts or other money derived from designated projects whether or not they are financed in whole or in part with the proceeds of the bonds; or (3) from its income and receipts or other assets generally, or a designated part or parts of them. The authority may issue bonds to pay, fund or refund the principal of, or interest or redemption premiums on, bonds issued by it, whether or not the bonds or interest to be funded or refunded have become due.

(b) Bonds shall be authorized by resolution of the authority, and shall be dated and shall mature as the resolution may provide, except that no bond may mature more than 50 years from the date of its issue. Bonds shall bear interest at the rates, be in the denominations, be in the form, either coupon or registered, carry the registration privileges, be executed in the manner, be payable in the medium of payment, at the places, and be subject to the terms of redemption which the resolution or a subsequent resolution may provide.

(c) All bonds, regardless of form or character, shall be negotia-

ble instruments for all the purposes of the Uniform Commercial Code.

(d) All bonds may be sold at public or private sale in the manner, for the price or prices, and at the time or times which the authority may determine.

Sec. 44.62.110. TRUST INDENTURES AND TRUST AGREEMENTS. (a) In the discretion of the authority, an issue of bonds may be secured by a trust indenture or trust agreement between the authority and a corporate trustee (which may be a trust company, bank, or national banking association, with corporate trust powers, located inside or outside the state) or by a secured loan agreement or other instrument or under a resolution giving powers to a corporate trustee by means of which the authority may

(1) make and enter into any and all the covenants and agreements with the trustee or the holders of the bonds which the authority may determine to be necessary or desirable, including, without limitation, covenants, provisions, limitations and agreements as to

(A) the application, investment, deposit, use and disposition of the proceeds of bonds of the authority or of money or other property of the authority or in which it has an interest;

(B) the fixing and collection of rentals, fees or other consideration for, and the other terms to be incorporated in, contracts with respect to a project;

(C) the assignment by the authority of its rights in contracts with respect to a project or in a mortgage or other security interest created with respect to a project to a trustee for the benefit of bondholders;

(D) the terms and conditions upon which additional bonds of the authority may be issued;

(E) the vesting in a trustee of rights, powers, duties, funds or property in trust for the benefit of bondholders, includ-

ing, without limitation, the right to enforce payment, performance, and all other rights of the authority or of the bondholders, under a lease, contract of sale, mortgage, security agreement, or trust agreement with respect to a project by mandamus or other proceeding or by taking possession of by agent or otherwise and operating a project and collecting rents or other consideration and applying the same in accordance with the trust agreement;

(2) pledge, mortgage or assign money, leases, agreements, property or other assets of the authority either presently in hand or to be received in the future, or both; and

(3) provide for any other matters of like or different character which in any way affect the security or protection of the bonds.

(b) Notwithstanding any other provisions of this chapter, the trust agreement shall contain a covenant by the authority that it will at all times maintain rates, fees or charges sufficient to pay, and that a contract entered into by the authority for the sale, transmission or distribution of power shall contain rates, fees or charges sufficient to pay the costs of operation and maintenance of the project, the principal of and interest on bonds issued under the trust agreement as the same severally become due and payable, and to maintain reserves required by the terms of the trust agreement.

(c) For the purpose of securing any one or more issues of its bonds, the authority may establish one or more special funds, called "capital reserve funds", and shall pay into those capital reserve funds the proceeds of the sale of its bonds and any other money which may be made available to the authority for the purposes of those funds from any other source. All money held in a capital reserve fund, except as provided in this section, shall be used as required, solely for (1) the

payment of the principal of, and interest on, bonds or of the sinking fund payments with respect to those bonds, (2) the purchase or redemption of bonds, or (3) the payment of a redemption premium required to be paid when those bonds are redeemed before maturity; however, money in a fund may not be withdrawn from it at any time in an amount which would reduce the amount of that fund to less than the capital reserve requirement set out in (2) of this subsection, except for the purpose of making, with respect to those bonds, payment, when due, of principal, interest, redemption premiums and the sinking fund payments for the payment of which other money of the corporation is not available. Income or interest earned by, or increment to, a capital reserve fund, due to the investment of the fund or any other amounts in it, may be transferred by the authority to other funds or accounts of the authority to the extent that the transfer does not reduce the amount of the capital reserve fund below the capital reserve fund requirement.

(d) If the authority decides to issue bonds secured by such a capital reserve fund, the bonds may not be issued if the amount in the capital reserve fund is less than such a per cent, not exceeding 10 per cent of the principal amount of all of those bonds secured by that capital reserve fund then to be issued and then outstanding in accordance with their terms, as may be established by resolution of the authority (called the "capital reserve fund requirement"), unless the authority, at the time of issuance of the obligations, deposits in the capital reserve fund from the proceeds of the obligations to be issued or from other sources, an amount which, together with the amount then in the fund, will not be less than the capital reserve fund requirement.

(e) In computing the amount of a capital reserve fund for the purpose of this section, securities in which all or a portion of the funds are invested shall be valued by some reasonable method established

by the authority by resolution. Valuation on a particular date shall include the amount of any interest earned or accrued to that date.

(f) The chairman of the authority shall annually, no later than January 2, make and deliver to the governor and the legislature his certificate stating the sum, if any, required to restore any capital reserve fund to the capital reserve fund requirement. The legislature may appropriate such a sum, and all sums appropriated during the then current fiscal year by the legislature for such restoration shall be deposited by the authority in the proper capital reserve fund. Nothing in this section creates a debt or liability of the state.

(g) When the authority has created and established a capital reserve fund, the commissioner of revenue may lend surplus money in the general fund to the authority for deposit in a capital reserve fund in an amount equal to the capital reserve fund requirement. The loans shall be made on such terms and conditions as may be agreed upon by the commissioner of revenue and the authority, including without limitation terms and conditions providing that the loans need not be repaid until the obligations of the authority secured and to be secured by the capital reserve fund are no longer outstanding.

Sec. 44.62.120. VALIDITY OF PLEDGE. It is the intention of the legislature that a pledge made in respect of bonds shall be valid and binding from the time the pledge is made; that the money or property so pledged and thereafter received by the authority shall immediately be subject to the lien of the pledge without physical delivery or further act; and that the lien of the pledge shall be valid and binding as against all parties having claims of any kind in tort, contract or otherwise against the authority irrespective of whether the parties have notice. Neither the resolution, trust agreement nor any other instrument by which a pledge is created need be recorded or filed under the

provisions of the Uniform Commercial Code to be valid, binding or effective against the parties.

Sec. 44.62.130. NONLIABILITY ON BONDS. (a) Neither the members of the authority nor a person executing the bonds is liable personally on the bonds or is subject to personal liability or accountability by reason of the issuance of the bonds.

(b) The bonds issued by the authority do not constitute an indebtedness or other liability of the state or of a political subdivision of the state, except the authority, but shall be payable solely from the income and receipts or other funds or property of the authority. The authority may not pledge the faith or credit of the state or of a political subdivision of the state, except the authority, to the payment of a bond and the issuance of a bond by the authority does not directly or indirectly or contingently obligate the state or a political subdivision of the state to apply money from, or levy or pledge any form of taxation whatever to the payment of the bond.

Sec. 44.62.140. PLEDGE OF THE STATE. The state pledges to and agrees with the holders of bonds issued under this chapter and with the federal agency which loans or contributes funds in respect to a project, that the state will not limit or alter the rights and powers vested in the authority by this chapter to fulfill the terms of a contract made by the authority with the holders or federal agency, or in any way impair the rights and remedies of the holders until the bonds, together with the interest on them with interest on unpaid installments of interest, and all costs and expenses in connection with an action or proceeding by or on behalf of the holders, are fully met and discharged. The authority is authorized to include this pledge and agreement of the state, insofar as it refers to holders of bonds of the authority, in a contract with the holders, and insofar as it relates to a federal agency, in a

contract with the federal agency.

Sec. 44.62.150. TAX EXEMPTION. All property of the authority is public property devoted to an essential public and governmental function and purpose and is exempt from all taxes of the state or a political subdivision of the state. All bonds or notes issued under this chapter are issued by a body corporate and public of this state and for an essential public and governmental purpose and the bonds and notes, and the interest and income on and from the bonds and notes, and all income of the authority are exempt from taxation except for transfer, inheritance and estate taxes.

Sec. 44.62.160. BONDS LEGAL INVESTMENTS FOR FIDUCIARIES. The bonds of the authority are securities in which all public officers and bodies of the state and all municipalities and municipal subdivisions, all insurance companies and associations and other persons carrying on any insurance business, all banks, bankers, trust companies, savings banks, savings associations, including savings and loan associations and building and loan associations, investment companies and other persons carrying on a banking business, all administrators, guardians, executors, trustees and other fiduciaries, and all other persons whatsoever who are now or may hereafter be authorized to invest in bonds or other obligations of the state, may properly and legally invest funds including capital in their control or belonging to them. Notwithstanding any other provisions of law, the bonds of the authority are also securities which may be deposited with and may be received by all public officers and bodies of this state and all municipalities and municipal subdivisions for any purpose for which the deposit of bonds or other obligations of the state is now or may hereafter be authorized.

ARTICLE 4. POWER PROJECT REVOLVING FUND.

Sec. 44.62.170. FUND ESTABLISHED. (a) There is established as a

separate fund the power project revolving fund which shall be administered by the authority as a trust fund separate and distinct from any other money or funds of the authority.

(b) The authority may make loans from the fund, at such interest rate or rates as it determines, to eligible borrowers to pay the costs of feasibility studies, preconstruction engineering, design and construction of hydroelectric and fossil fuel power projects.

(c) Repayment of the loans shall be secured in such manner as the authority determines is feasible to assure repayment under a loan agreement entered into with the borrower. Under a loan agreement repayment may be deferred until the project with respect to which a loan is made has achieved earnings from its operations sufficient to pay the loan.

(d) As used in this section an "eligible borrower" is a municipality or public utility as defined in AS 42.05.701(2)(A).

ARTICLE 5. GENERAL PROVISIONS.

Sec. 44.62.180. CONSTRUCTION OF PROJECTS. The authority shall submit a statement outlining the general design, demonstration of financial feasibility, and maximum amount of bonds estimated to be necessary for each new project to the legislature and the commissioner of commerce and economic development together with a statement that the authority intends to design, acquire and construct the project itself or that it intends that the project be designed, acquired or constructed by the United States under agreement with the authority providing for ownership of the project by the authority on completion. If the legislature adopts a concurrent resolution approving the general design and maximum amount of bonds, the authority shall, in accordance with the terms of the concurrent resolution, (1) proceed to design, acquire and construct the new project, or (2) agree with the United States for design, acquisition and construction of the project by the United States, for pay-

ments to the United States for such design, acquisition and construction, reimbursement by the United States in certain events, and otherwise on the terms and conditions as may be set out in such agreement. If the new project is to be designed, acquired and constructed by the authority, it shall be designed, acquired and constructed as a public work of the state except that public bidding shall not be required, if the authority so determines. For the purpose of this section a new project does not include an addition or modification to an existing project if the total cost of the addition or modification does not exceed $1,000,000 or to any repair of a project. An addition or modification or repair may be undertaken by the authority without any of the approvals necessary for a new project.

Sec. 44.62.190. ANNUAL AUDIT. The authority shall have its financial records audited annually by a certified public accountant. The legislative auditor may prescribe the form and content of the financial records of the authority and shall have access to these records at any time.

Sec. 44.62.200. ANNUAL REPORT. Before March 1 of each year, the authority shall submit to the governor and the legislature a comprehensive report describing operations, income and expenditures for the preceding 12-month period.

Sec. 44.62.210. BUDGET AND APPROPRIATIONS. The authority shall submit its annual budget to the legislature through the governor as provided for state agencies by the Executive Budget Act (AS 37.07). It may expend money directly appropriated by the legislature only as authorized by the legislature.

Sec. 44.62.220. PUBLIC RECORDS; OPEN MEETINGS. The provisions of AS 09.25.110 - 09.25.120 and AS 44.62.310 - 44.62.312 apply to the authority. The authority shall publish a proposed agenda of its meet-

ings and afford the public an opportunity to be heard in accordance with AS 44.62.312.

Sec. 44.62.230. DEFINITIONS. In this chapter, unless the context requires otherwise,

(1) "authority" means the Alaska Power Authority established by this chapter;

(2) "bonds" means bonds, notes, or other obligations of the authority issued under this chapter;

(3) "power" includes any and all electrical energy generated, distributed, bought or sold for purposes of lighting, heating, power and every other useful purpose;

(4) "power project" or "project" includes any and all real or personal property or any interest in it including, without limitation, dams, powerhouses, and transmission lines owned, used or operated, or useful for operation, in the generation by means of water or fossil fuel power, and the transmission of electrical power and also including channels, locks, canals, and other navigational, reclamation, flood control and fisheries facilities and environmental protective measures as may be necessary or desirable in connection with it.

Sec. 44.62.240. SHORT TITLE. This chapter may be cited as the Alaska Power Authority Act.

From A. Tussing

current justification for scrubbers based on ambient air quality standards," one EPRI scrubber expert said, calling the stricter state implementation plans which make scrubbers necessary "artificial requirements." He added: "Intermittent controls are effective in most areas and are much more cost-effective." And he said he has seen "no fundamental improvement" in scrubber availability and believes the cost some utilities have paid to achieve acceptable availability "is much too high. Shutting down at night is no solution." Yet, he said, "we see no options any less expensive" than scrubbers in meeting present SO_2 regulations, and he added that the options that do exist "are considerably farther down the road and so may be more expensive" than scrubbers.

The design criteria program is planned to provide "a reliable design basis for people forced to put on scrubbers," the scrubber expert explained. Lime/limestone scrubbers got top priority because they represent the scrubber technology that's most developed. The areas undergoing most intensive evaluation right now are: (1) mist elimination, where a horizontal duct orientation seems to improve washability and to cut plugging and scaling; (2) reheaters, where corrosion of the heat-exchange tubes may be controlled by better maintenance techniques or removing the tubes from the flue-gas duct; and (3) sludge handling and disposal, including research into sludge hardeners. The EPRI official, commenting on the design criteria EPRI will probably come up with, said: "There will likely not be a system sold by a vendor that conforms in all particulars for all conditions."

The EPRI work on regenerative scrubber systems includes a recent request for vendor proposals to design large pilot-plant models of likely systems and a second look at some systems, such as the magnesium oxide systems tried and abandoned by several utilities, that might still be feasible for retrofit on lime/limestone scrubbers to end sludge-disposal problems. EPRI right now is more interested in regenerative systems producing sulfuric acid than those producing elemental sulfur because the naphtha or natural gas needed for reducing scrubber end products into elemental sulfur are increasingly rare and costly.

EPRI officials are also concerned about the reliability of the air pollution measuring systems now used at power plants. The mechanical technique for measuring sulfur dioxide, sulfates and nitrogen oxides "is not very accurate," one EPRI official said, adding that researchers now suspect that the pollutants "interact with the measurement filter." The result is probably an "overmeasurement" of the pollutants, the officials said.

ALASKA MAY CREATE STATE POWER AUTHORITY TO BUILD NEEDED GENERATION

The state of Alaska, facing a likely peak load growth in the Anchorage and Fairbanks areas of 14%/year or more, is considering creating a state power authority to build the hydroelectric and large steam generating plants state officials are convinced the fast-growing area needs. The utilities in the areas around the two cities and in the area between them are generally small and would be overwhelmed by the costs of financing large, new, efficient generating units, the officials agree. The utilities have been keeping up with their peak load growth only by adding gas turbines each year. Gas turbines are relatively inexpensive and are installed quickly, but they burn either natural gas—which could well be banned by the federal government soon for electricity generation—or expensive distillate oil.

The need for new generating facilities in the Anchorage area alone is shown by the following conclusion reached by consultants hired by a legislative committee: the Anchorage area, which had a 1975 peak load of 270 Mw, is expected to have a peak of more than 1,500 Mw in 1985 and possibly as much as 4,500 Mw by 1995. The Alaska House finance committee, which commissioned the report from the Institute of Social, Economic and Government Research at the University of Alaska, heard testimony early this month on the results of the four-and-a-half-month-long effort. Economists from the institute, engineers from Stafano Mesplay & Associates and from Robert W. Retherford Associates, consultant Kent Miller and financial consultants from National Economic Research Associates worked on the study.

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The "options are limited" in meeting the needs of the rural area, a University of Alaska professor who worked on the study noted. Those areas will have to rely on diesel generators, with "a few small hydro plants," the professor, Oliver Goldsmith, explained in a telephone interview. Arlon Tussing, a United States Senate committee staffer with special Alaska expertise, added that about 20 potential hydro sites have been identified near small rural towns and that he and others who worked on the study believe projects at those sites should be "scaled to the loads." He explained that some officials and others had been proposing "too-big pet projects" for the rural areas.

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STEFANO - MESPLAY & ASSOCIATES, INC.

CONSULTING ENGINEERS

RALPH R. STEFANO
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VICE PRESIDENT
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ELECTRICAL, P.E.

G. L. HENDERSON
CHEMICAL, P.E.

April 2, 1976

Representive Hugh Malone
Chairman House Finance Committee
Pouh "V"
Juneau, Alaska 99801

Dear Hugh:

In accordance with our telephone conversation with Jim Rhode on the statements recently made by Senator Gravel regarding the cost of Susitna Dam Power project and the Railbelt Energy requirements for the future, we do not agree with the Senators' statements entirely for the following reasons:

1. The Senator's costs do not agree with any previously published costs we know of for hydro projects in Alaska.
2. The support of the dam project does not consider the power needs of the railbelt during the estimated 17 year construction period.
3. We agree a hydro power project should be initiated immediately. Concurrently, coal fired power plants to serve the railbelt areas should be constructed for 1980 production of electrical energy. This will serve the interim power needs of the railbelt until the dam project is operational in 1990. These mine mouth coal fired power plants can be located at Healy, Susitna-Baluga and Sutton.

The above opinion reflects a summary of the state power study we recently completed in association with ISEGR at the University of Alaska.

This study indicates the Susitna Dam will cost $5,052 per KW in 1985 dollars. This represents a total project cost of $3.5 billion.

We are not aware of the Senator's source for his costs which are reported at 1.5 billion for the same project. If the reported costs represents 1975 dollars, the KW cost is equal to $17,698/KW when escalated to 1990. If this reported construction cost is based on 1990 dollars, then 1975 construction dollars would be $190/KW.

704 2ND AVENUE ANCHORAGE, ALASKA 99501 PHONE (907) 279-1461

The above obviously tells this writer there is something wrong with the reported project cost of 1.5 billion dollars. We suspect this may be correct for a portion of the project capitalization but the total project cost may not have been reported accurately.

It is interesting to note that when the hydro project of 699 MW (firm) is compared with a coal fired mine mouth plant of 650 MW (firm) the following costs are apparent based on 1985 dollars:

Susitna Hydro	$5,052/KW	=3.5 billion
Mine Mouth Coal Plant	$3,000/KW	=1.9 billion

The savings for a coal fired plant is substantial and the first unit can be "on the line" by 1980.

Since the coal fired plant can be completed by 1980, whereas the hydro plant cannot be completed until 1990, a realistic dollar comparison is not possible; therefore, if we can consider 1980 dollars for the coal fired plant this results in a firm cost of $1,500/KW for coal fired generation. This means the coal fired plant can be constructed on the first 6 years interest cost of the 3.5 billion dollar hydro project.

If we can be of additional assistance, or you require more detailed information regarding hydro vs. coal, please call on me.

Very truly yours,

STEFANO/MESPLAY & ASSOCIATES
CONSULTING ENGINEERS

Ralph R. Stefano, P.E.

RRS:pa

Copy AE-1 Alaska file

WW-1523-UC1-1X
3101

March 3, 1976

Mr. Richard Ballard, President
Thomas Bay Power Commission
Post Office Box 758
Wrangell, Alaska 99929

Dear Dick:

Subject: Thomas Bay Project

In accordance with my telephone conversation with you and Dick Olson on February 24, 1976, enclosed are copies of several documents which have a bearing on the future of the Thomas Bay Project.

The first item is a letter dated January 29, 1976 from Bill Boardman to Jim Williamson. The letter reflects the thinking of Commissioner Motley of the Department of Commerce and Economic Development. Jim Williamson has the copy of the preliminary "Energy Task Force" report with him this week in Juneau. I will forward a copy when he returns.

The second letter dated February 14, 1976 from Bill Boardman encloses copies of HB700 and SB622 which are companion Bills that have been introduced to appropriate the $3 million this year to the Water Resources Revolving Loan Fund. The letter from Bill Boardman pretty much describes the support for this funding and the copies of the Bills indicate the geographical support by the sponsorship. Also enclosed are two pages outlining the support information on Alaska Water Resources Projects provided the legislature for the $3 million appropriation request. This information was prepared by us and was essentially the same data that was presented at the Southeast Conference in Ketchikan this year.

The last item is a newspaper article from the Ketchikan News dated February 10, 1976 with reference to hydroelectric funding and feasibility studies. It makes reference to the University of Alaska Study which was to have been ready in February. However it is now scheduled for presentation on March 4, 1976. Jim Williamson, Bill Boardman, H. D. Scougal, "Rocky" Gutierrez and perhaps several others will be at that hearing and will be working on a rebuttal presentation to be made the following day on March 5th.

The newspaper article also makes reference to the Department of Commerce and Economic Development Study of hydro turbines. The Department has not received a formal report from the Consultant retained to do this work. The Department also makes reference to this work within the "Energy Task Force" report. The problem here is that with the hydro turbine concept the power developed is not dependable and can only be considered as replacement energy for diesel generation when water is available. It has been incorrectly stated that the hydro turbines eliminate very costly dams and reservoirs required for hydroelectric projects when in fact the cost for these regulating facilities is small with respect to the total project cost for a hydroelectric project that develops firm power. In the case of the Thomas Bay Project the cost of the regulating facilities is less than 18 percent of the project cost.

In addition, as we discussed by telephone and as was contained in the Appraisal Report on the Thomas Bay Project, we recommend the Commission investigate and study alternative projects to the Thomas Bay Project for re-evaluation of the economics of the Thomas Bay Project against these alternatives. This study would firm up the decision to proceed with further more detailed evaluation investigations of the Thomas Bay Project as the most viable and economic project for the Petersburg-Wrangell area or identify another project which might be more economical. The study could identify a smaller local hydroelectric project that might satisfy more immediate power needs and yet not involve as large a commitment by the Petersburg-Wrangell people.

We feel that if the Commission is going to proceed with the more detailed evaluation investigations this year as indicated on the enclosed schedule submitted to the legislature, it is essential to complete the appraisal investigation and study of the alternative projects to the Thomas Bay Project as soon as possible this spring. This would allow the field work to be completed this summer for completion of the Evaluation Report as shown on the schedule. As such, we recommend consideration of an appraisal investigation and study of Virginia Lake, Thoms Lake, and Kunk Lake. It is estimated that the study cost for the three projects, depending upon the scope of the study, would range from about $35,000 to $45,000. To completely cover all alternative projects within a reasonable geographical area, consideration could also be given to the investigation and study of the Goat Creek and Tyee Lake Projects. This of course would involve additional study expenditures.

We would be pleased to meet with the Commission to discuss a program and scope of services to investigate the feasibility of alternative hydroelectric projects to the Thomas Bay Project. Should you have any questions or desire our attendance at a Commission Meeting, please let us know.

Very truly yours,

R. W. BECK AND ASSOCIATES, INC.

DEB/cg

Enclosures

cc: Richard Olson w/encl.

DEB

Donald E. Bowes
Executive Engineer

Haugh

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R. W. BECK AND ASSOCIATES, INC.

CONSULTANTS

A SUBSIDIARY OF R. W. BECK AND ASSOCIATES

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TELEPHONE:
206-622-5000

WW-0000-BD-AM

March 18, 1976

Representative Ernie Haugen
Pouch V
Juneau, Alaska 98111

Dear Ernie:

Subject: Budget and Audit Committee Report

As discussed here is a copy of the news release in the national technical publication, Electric Week of March 15, 1976, apparently given out by Arlon Tussing. It makes a definite point of downgrading larger projects; I am sure particularly Thomas Bay. One thing it means we will have to consider all small projects in the future even though we know they are obviously uneconomical or impractical.

Also, for your information enclosed is a copy of our letter of March 3, 1976 to the Thomas Bay Power Commission concerning the need to investigate smaller projects in the Wrangell area.

Very truly yours,

R. W. BECK AND ASSOCIATES, INC.

James V. Williamson
Assistant Manager
Western Design Office

JVW/jgd

Enclosure

current justification for scrubbers based on ambient air quality standards," one EPRI scrubber expert said, calling the stricter state implementation plans which make scrubbers necessary "artificial requirements." He added: "Intermittent controls are effective in most areas and are much more cost-effective." And he said he has seen "no fundamental improvement" in scrubber availability and believes the cost some utilities have paid to achieve acceptable availability "is much too high. Shutting down at night is no solution." Yet, he said, "we see no options any less expensive" than scrubbers in meeting present SO_2 regulations, and he added that the options that do exist "are considerably farther down the road and so may be more expensive" than scrubbers.

The design criteria program is planned to provide "a reliable design basis for people forced to put on scrubbers," the scrubber expert explained. Lime/limestone scrubbers got top priority because they represent the scrubber technology that's most developed. The areas undergoing most intensive evaluation right now are: (1) mist elimination, where a horizontal duct orientation seems to improve washability and to cut plugging and scaling; (2) reheaters, where corrosion of the heat-exchange tubes may be controlled by better maintenance techniques or removing the tubes from the flue-gas duct; and (3) sludge handling and disposal, including research into sludge hardeners. The EPRI official, commenting on the design criteria EPRI will probably come up with, said: "There will likely not be a system sold by a vendor that conforms in all particulars for all conditions."

The EPRI work on regenerative scrubber systems includes a recent request for vendor proposals to design large pilot-plant models of likely systems and a second look at some systems, such as the magnesium oxide systems tried and abandoned by several utilities, that might still be feasible for retrofit on lime/limestone scrubbers to end sludge-disposal problems. EPRI right now is more interested in regenerative systems producing sulfuric acid than those producing elemental sulfur because the naphtha or natural gas needed for reducing scrubber end products into elemental sulfur are increasingly rare and costly.

EPRI officials are also concerned about the reliability of the air pollution measuring systems now used at power plants. The mechanical technique for measuring sulfur dioxide, sulfates and nitrogen oxides "is not very accurate," one EPRI official said, adding that researchers now suspect that the pollutants "interact with the measurement filter." The result is probably an "overmeasurement" of the pollutants, the officials said.

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STATE OF ALASKA
DEPARTMENT OF COMMERCE
& ECONOMIC DEVELOPMENT
OFFICE OF THE COMMISSIONER
JUNEAU

March 23, 1976

Dear Mike:

I have attached a redraft of the Corps drafted bill regarding the "Hydroelectric Power Development Act of 1976." The redraft was as a result of the meeting held with you, Bob Mitchell, Jim Rhodes from Legislative Affairs, Representative Duncan, Sterling Gallagher, Eric Wohlforth and myself. Subsequent to our Saturday morning meeting, Wohlforth, Gallagher, Rhodes, Duncan and I met for two hours to finalize those points we all discussed. The product I think you will find in the attached redraft.

You will find that we used the traditional legislative method of putting deletions in brackets, and new insertions underlined. Further, I think we all recognize that this is a very quick first look at this proposed bill. I am sure that there more than likely will be further refinements as we go along, but I think it is fair to state that we have addressed most of the major points.

I will be looking forward to your comments.

Sincerely yours,

Langhorne A. Motley
Commissioner

cc: Ann Garrabrant
Sterling Gallagher
Jim Rhodes✓
Representative Duncan
Eric Wohlforth
Bob Mitchell

A BILL

To facilitate and expedite the provision of hydroelectric power at water resources development projects to be constructed by the Department of the Army, Corps of Engineers.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress Assembled, that this Act may be cited as the "Hydroelectric Power Development Act of 1976" and is to be administered by the Secretary of the Army, acting through the Chief of Engineers, to facilitate and expedite the construction of water resources development projects to be constructed by the Corps of Engineers with hydroelectric power generation as a project purpose which the Chief of Engineers estimates, prior to the commencement of construction of the project, will yield 50 per centum or more of the benefits to be attributable to the project when it is fully operational.

SEC.2 /In connection with water resources development projects which meet the criteria established by section 1 of this Act and which are to be constructed by the Corps of Engineers in accordance with an authorization occurring on or subsequent to the date of enactment of this act/or which have been authorized for construction previous to the date of enactment of this Act if their construction has not commenced as of the date of enactment of this Act, the Secretary of the Army, acting through the Chief of Engineers (hereafter referred to in this Act as the "Secretary") is authorized to construct such projects including any activities for engineering and designing, land acquisition, site development and off-site improvement necessary for the authorized construction by making expenditures from the Hydroelectric Power Development Fund established in section 6 of this act and from payments of non-Federal funds as provided for in this and other pertinent Acts as well as from appropriated Federal funds for the project in accordance with its authorization.

SEC. 3 As a condition of the Secretary making any expenditures from the Hydroelectric Power Development Fund for a project as authorized in section 2 of this Act and prior to his making any such expenditures, an appropriate non-Federal public

authority(ies), [approved by the Secretary,] shall agree with the Secretary, in writing, to pay the Secretary for all the separable and joint costs of preparing for the construction and constructing the project attributed by the Chief of Engineers to the provision of hydroelectric power generation and to assume ownership of the project and responsibility for performing and paying for its operation and maintenance as well as necessary replacements.

SEC. 4(a). Non-Federal obligation[s] for payment of the hydroelectric construction costs of a project in accordance with section 3 of this Act shall include repayment to the Secretary without interest, for any expenditures the Secretary makes to defray such costs from the Hydroelectric Power Development Fund established in section 6 of this Act or from any other source of Federal funding as well as payment for any other such costs prior to their occurrence or as they occur which the Secretary determines are not to be initially funded from a Federal source. This total non-Federal obligation[s] shall be completely discharged on or prior to the date the Chief of Engineers estimates, in the agreement to be entered into as provided in section 3 of this Act, that the project concerned will be available for actual generation of all or a substantial portion of the authorized hydroelectric power of the project. The Secretary shall require the non-Federal obligor[s] to make installment payments to the Secretary, in accordance with the agreement and during its term, scheduled to insure complete payment by this deadline as well as to serve the best interests of the program authorized by this Act and the project and non-Federal obligor[s] concerned. <u>The agreement shall provide for an initial determination of feasibility and compliance of the project with law and a further determination if the requirements of feasibility and compliance with law are met to construct the project</u>.

(b) In consideration of the obligations to be assumed by

non-Federal public authorities under the provisions of this section and this Act and in recognition of the substantial investments which will be made in and by those authorities in reliance on the program established by this Act, the United States shall assume the responsibility for paying for all increased costs over the estimates fixed in the agreement of any non-Federal public authorities, under agreement with the Secretary in accordance with this Act, if such costs are occasioned by any delay in the availability of the project concerned for actual generation of all or a substantial portion of the authorized hydroelectric power of the project beyond the date estimated by the Chief of Engineers in accordance with subsection (a) of this section or are attributable to any cause other than the action or inaction of the public non-Federal authority, its agents or assignees. The Secretary, pursuant to the agreement, may singly or in combination extend affected payment schedules, forgive payments due him, in whole or in part, or pay the expenses of authorities and the obligations due their investors as [he deems advisable to discharge this responsibility] may be fixed pursuant to the agreement. A determination [by the Secretary at any time subsequent to entering into an agreement] pursuant to the agreement in accordance with this Act that the project concerned will not be [constructed to generate] available for actual generation of all or a substantial portion of its authorized hydroelectric power will result in discharging non-Federal public authorities from any further obligations under such agreement. In connection with such a determination, the Secretary shall pursuant to the agreement take such actions and make such payments to the authorities or their investors as [he finds] are necessary to defray or prevent any losses to the authorities and their investors for their obligations and investments made in reliance upon the agreement.

(c) Notwithstanding the provisions of subsection (b) of this section, the United States shall not assume any responsibility for paying for any increased costs or defraying or preventing the expense or any losses of any non-Federal public authority (or its investors) under agreement with the Secretary in accordance with this Act if and to the extent that such costs or losses are attributable to delays in construction of or failure to construct a project occasioned by the action or inaction of the non-Federal public authority, its agents, or assignees.

SEC. 5. The Secretary is authorized pursuant to the agreement to convey all title, rights, and interests of the United States to any project, its lands and water areas, and appurtenant facilities to any non-Federal public authority[ies] which is obliged to assume ownership of the project and responsibility for performing and paying for its operation and maintenance as well as necessary replacements in accordance with section 3 of this Act. Such conveyance shall, pursuant to the agreement, to the maximum extent possible, occur prior to or at the time the project concerned is available for actual generation of all or a substantial portion of the authorized hydroelectric power of the project and shall include such Federal requirements, reservations, and provisions for access rights to the project and its records as the Secretary finds advisable to complete any portion of project construction remaining at the time of conveyance and protect the Federal interest and investment in the project over the life of the project and insure that it will be operated and maintained in a responsible and safe manner to accomplish, as nearly as may be possible, all of the authorized purposes of the project including, but not restricted to, hydroelectric power generation. Any non-Federal obligations to pay the Federal government under the provisions of this or any other Act for work, services, or facilities at a project

at the time of its conveyance under the provisions of this Act shall remain as obligations to the Federal government unaffected by the conveyance.

SEC. 6. There is hereby established in the Treasury of the United States a Hydroelectric Power Development Fund (hereafter referred to in this Act as the "fund") to be and remain available for use by the Secretary to make the expenditures he is authorized to make by section 2 of this Act. The fund shall consist of (1) all receipts and collections by the Secretary of repayments to the Secretary by non-Federal public authorities for the Secretary's expenditures from the fund or from any other source of Federal funding for hydroelectric construction costs of projects in accordance with this Act and which the Secretary is hereby directed to deposit in the fund as they are received and (2) any appropriations made by the Congress for the fund.

SEC. 7 (a) If the Secretary determines that moneys in the fund are in excess of current needs, he may request the investment of such amounts as he deems advisable by the Secretary of the Treasury in direct, general obligations of, or obligations guaranteed as to both principal and interest by, the United States.

(b) With the approval of the Secretary of the Treasury, the Secretary may deposit moneys of the fund in any Federal Reserve bank or other depository for funds of the United States, or in such other banks and financial institutions and under such terms and conditions as the Secretary and the Secretary of the Treasury may mutually agree.

SEC. 8. There is authorized to be appropriated to the Secretary for deposit in the fund established by section 6 of this Act for expenditures by the Secretary as authorized by this Act, the sum of $25 million and such sums, if any, after this initial appropriation that the Secretary may annually require to maintain

the fund at any average minimum level of $25 million.

APR 0 1 1976

Box 2340
Anchorage, Alaska 99510

March 29, 1976

Representative Hugh Malone
House Finance Committee
Pouch V
Juneau, Alaska 99811

Dear Hugh:

Would you please have the enclosed testimony on Devil's Canyon Dam inserted in the record?

Hugh, you are aware of the financial problems that Alaska faces after the oil begins to flow. I believe it is incumbent upon you to tell the Alaska public the facts. The majority of the public believe that Alaska is going to have a surplus of over a billion dollars a year. You and I both know that under the current taxes and the energy plan, Alaska will be lucky to stay afloat.

Sincerely,

Jerry McCutcheon

Jerry McCutcheon
Box 2340
Anchorage, Alaska 99510

March 29, 1976

SUBJECT: DEVIL CANYON DAM
TESTIMONY OF JERRY McCUTCHEON

The original philosophy of the Devil Canyon Dam was the substitution of hydroelectric power for gas powered generation and later for coal power generation. Thus, the hydroelectric to the degree substituted would make gas and coal available to the South 48 States. This would allow the Federal Government to substitute a renewable resource for a non-renewable resource.

It is important to note the Federal Government is not doing Alaska a favor but is extending the U.S. supply of fossil fuels--particularly natural gas.

Devil Canyon is not cheap power. At best Devil Canyon-Watana were hoped to be medium cost power at some future date. It has never been believed that the dams would be able to compete with current power generation but would set some upper limit to the cost of power as the price of gas escalates and the price of coal finally rises. There will be a considerable period of time after the dam is completed that electricity from the dam would have to be sold at a loss in order to be competitive. Remember, you will already have an installed capacity greater than the dam(s) when the dam(s) come on line and not a simple substitution of power. One must consider what the cost is not to use the existing power generation facilities. It is more complex than simply turning off the then existing generating capacity. Thus the dam(s) are liable to be losers for the rest of this century.

The U. S. Government gains the gas that would otherwise be used in electrical generation and some day the coal that it would replace. Alaska obtains an upper limit on power costs in the railbelt area at some future date. It should be remembered that the dam(s) will not be able to supply all the power needed and the stop-lost effect will only be in relationship to the dam(s) power as to the total market power demand.

Again, the cost of power must be subsidized to the point where it is cheaper for the current power companies not to use their own existing facilities and to take power from the dam(s). That difference must include the bond indebtedness on the existing equipment and/or paid for value of the equipment.

STATE PURCHASE OF THE DAM(S):

Those of us who were in from the beginning wanted the State to be able to buy the dam at sometime convenient to the State. Second--purchase of the

dam was dependent upon a free market for oil and the legislature having enough guts to place an additional substantial tax on oil.

Neither of these facts are present. The State, contrary to popular opinion, is not going to get billions. The State is broke today and will be running more deficits in the next decade unless the State increases the oil taxes now. Thus, the State has no money to invest in a good project, let alone one which places an even greater drain on the State Treasury. The dam investment would be considerably worse than the State investment in the stock market--only on a gigantic scale.

We once looked at the dam as a method of keeping the State political bureaucracy's hands off of our surplus revenues; better a dam that is a loser for a few decades than the bungling bureaucracy which would leave nothing.

We don't have those extra funds--we don't even have enough revenue to pay our future bills.

SUPPOSE WE HAD THE FUNDS:

Let's look at the project. The Corps of Engineers estimates the cost at $1.5 billion with a 20% allowance for cost over-run, which would produce power at 21 mills, 2.1 cents. If we adjust the price to the minimum expected cost over-run, 200%, Library of Congress, for a project of this size, the cost is $2.4 billion and the power rate is 34 mills. Compare this with the current cost of 9.5 mills for Anchorage power generation. A 200% increase in the price of gas means an 85% increase in the cost of power generation; thus, the price of gas must increase 8 times before a power company can consider not using their own equipment. State ownership of the dam(s) only makes sense if we have cash which we are trying to sugar bowl away from ourselves and pass on past the end of this century and for use through the next century.

The dam(s) are an admission that the State administration and legislature are incompetent.

The Gravel proposal calls for power cost averaging for the whole State. We will end up with all kinds of wild schemes for generating power--for nobody will really be responsible for any of the proposals. This puts the very bureaucracy from which we were trying to sugar bowl the money back in control making a political grab bag of the dam(s). Each project should be considered on its own merit.

For the above reasons I find myself in opposition to the Gravel proposal. Further, I fear any legislation which you will write will do little more than be political consumption for the home folks. While you may or may not dutifully protect Alaska, it will not be something that Congress will buy. I

fear Congress will look at the package of a half-commercial venture with Congress getting stuck for the cost over-run and Alaska getting the dam and will then throw both the current Corps of Engineers proposal and the State of Alaska's proposal in the ash can. You will have killed the proposed dam. It may look good to the home folks but it is liable to kill our dam(s).

I believe there should be a simple statement to Congress that the State of Alaska believes the dam(s) are in the best interest of the Nation for the long run conservation of the fossil fuels, particularly gas, even though the dam(s) may not be immediately financially feasible. Further, the State of Alaska would like the authorization for the dam(s) to contain permission for the State to purchase the dam(s) when and if the State of Alaska ever gets its financial problems resolved and accumulates enough money for the purchase. I believe Alaska would get much further telling Congress the truth than trying to rely on a fast hustle.

I believe the prospects are good that Congress will appropriate funds for the dam(s) in view of the energy problem. Previous Congresses and administrations did not appropriate money because the dam(s) could not compete against cheap gas and oil. It is now recognized that we are going to run out of gas and oil. Those days of wasteful abundance are gone--alternate energy forms are in.

While I welcome Senator Gravel's belated attention to Devil Canyon, I believe it is badly misdirected and overlooks the fact that the President of the United States has asked Congress for $100 billion for energy development.

Further, I believe Gravel's'share of Federal fund theory' falls apart when we take out the military. Isn't that for the whole nation? Then let's remove that portion of the FAA that has to do with international air traffic; spread BLM according to the amount of Federal land we have vs. the other States; subtract the BIA (it's not our fault the Government has had 80 years of mismanagement). The objective of the BIA was to put itself out of business. If we subtract all those things that occur in Alaska which are Federally funded and not for the State's benefit, Alaska gets far less than its fair share. This is the largest State in the Union with the smallest population. How about spreading the amount of Federal funds per acre of Federal lands? How about the fact that Alaska is losing $1 million a day in taxes that it could be taking from the oil industry if it were not for price control? And $120,000 a day that we lose on our own royalty oil? Just how many sacrifices does Senator Gravel think the State of Alaska should make? The signing of the Energy Act which Gravel told the President when he made the trip with the President to Alaska, would not make much difference to the State of Alaska, is killing us.

Gentlemen, please do not jeopardize the Devil Canyon Dam, which we cannot afford, by proposing a half-commercial venture by the State of Alaska. There will be a strong movement forward on all energy fields. We still have only a mess in Anchorage--not a Federal building. There is no reason for Alaska to get into the act other than to support the dam.

STATE OF ALASKA
DEPARTMENT OF COMMERCE
& ECONOMIC DEVELOPMENT
OFFICE OF THE COMMISSIONER
JUNEAU

March 23, 1976

Dear Mike:

I have attached a redraft of the Corps drafted bill regarding the "Hydroelectric Power Development Act of 1976." The redraft was as a result of the meeting held with you, Bob Mitchell, Jim Rhodes from Legislative Affairs, Representative Duncan, Sterling Gallagher, Eric Wohlforth and myself. Subsequent to our Saturday morning meeting, Wohlforth, Gallagher, Rhodes, Duncan and I met for two hours to finalize those points we all discussed. The product I think you will find in the attached redraft.

You will find that we used the traditional legislative method of putting deletions in brackets, and new insertions underlined. Further, I think we all recognize that this is a very quick first look at this proposed bill. I am sure that there more than likely will be further refinements as we go along, but I think it is fair to state that we have addressed most of the major points.

I will be looking forward to your comments.

Sincerely yours,

Langhorne A. Motley
Commissioner

cc: Ann Garrabrant
Sterling Gallagher
Jim Rhodes
Representative Duncan ✓
Eric Wohlforth
Bob Mitchell

A BILL

To facilitate and expedite the provision of hydroelectric power at water resources development projects to be constructed by the Department of the Army, Corps of Engineers.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress Assembled, that this Act may be cited as the "Hydroelectric Power Development Act of 1975" and is to be administered by the Secretary of the Army, acting through the Chief of Engineers, to facilitate and expedite the construction of water resources development projects to be constructed by the Corps of Engineers with hydroelectric power generation as a project purpose which the Chief of Engineers estimates, prior to the commencement of construction of the project, will yield 50 per centum or more of the benefits to be attributable to the project when it is fully operational.

SEC.2 /In connection with water resources development projects which meet the criteria established by section 1 of this Act and which are to be constructed by the Corps of Engineers in accordance with an authorization occurring on or subsequent to the date of enactment of this act/or which have been authorized for construction previous to the date of enactment of this Act if their construction has not commenced as of the date of enactment of this Act, the Secretary of the Army, acting through the Chief of Engineers (hereafter referred to in this Act as the "Secretary") is authorized to construct such projects including any activities for engineering and designing, land acquisition, site development and off-site improvement necessary for the authorized construction by making expenditures from the Hydroelectric Power Development Fund established in section 6 of this act and from payments of non-Federal funds as provided for in this and other pertinent Acts as well as from appropriated Federal funds for the project in accordance with its authorization.

SEC. 3 As a condition of the Secretary making any expenditures from the Hydroelectric Power Development Fund for a project as authorized in section 2 of this Act and prior to his making any such expenditures, an appropriate non-Federal public

authority(ies), [approved by the Secretary,] shall agree with the Secretary, in writing, to pay the Secretary for all the separable and joint costs of preparing for the construction and constructing the project attributed by the Chief of Engineers to the provision of hydroelectric power generation and to assume ownership of the project and responsibility for performing and paying for its operation and maintenance as well as necessary replacements.

SEC. 4(a). Non-Federal obligation[s] for payment of the hydroelectric construction costs of a project in accordance with section 3 of this Act shall include repayment to the Secretary without interest, for any expenditures the Secretary makes to defray such costs from the Hydroelectric Power Development Fund established in section 6 of this Act or from any other source of Federal funding as well as payment for any other such costs prior to their occurrence or as they occur which the Secretary determines are not to be initially funded from a Federal source. This total non-Federal obligation[s] shall be completely discharged on or prior to the date the Chief of Engineers estimates, in the agreement to be entered into as provided in section 3 of this Act, that the project concerned will be available for actual generation of all or a substantial portion of the authorized hydroelectric power of the project. The Secretary shall require the non-Federal obligor[s] to make installment payments to the Secretary, in accordance with the agreement and during its term, scheduled to insure complete payment by this deadline as well as to serve the best interests of the program authorized by this Act and the project and non-Federal obligor[s] concerned. The agreement shall provide for an initial determination of feasibility and compliance of the project with law and a further determination if the requirements of feasibility and compliance with law are met to construct the project.

(b) In consideration of the obligations to be assumed by

non-Federal public authorities under the provisions of this section and this Act and in recognition of the substantial investments which will be made in and by those authorities in reliance on the program established by this Act, the United States shall assume the responsibility for paying for all increased costs over the estimates fixed in the agreement of any non-Federal public authorities, under agreement with the Secretary in accordance with this Act, if such costs are occasioned by any delay in the availability of the project concerned for actual generation of all or a substantial portion of the authorized hydroelectric power of the project beyond the date estimated by the Chief of Engineers in accordance with subsection (a) of this section or are attributable to any cause other than the action or inaction of the public non-Federal authority, its agents or assignees. The Secretary, pursuant to the agreement, may singly or in combination extend affected payment schedules, forgive payments due him, in whole or in part, or pay the expenses of authorities and the obligations due their investors as [he deems advisable to discharge this responsibility] may be fixed pursuant to the agreement. A determination [by the Secretary at any time subsequent to entering into an agreement] pursuant to the agreement in accordance with this Act that the project concerned will not be [constructed to generate] available for actual generation of all or a substantial portion of its authorized hydroelectric power will result in discharging non-Federal public authorities from any further obligations under such agreement. In connection with such a determination, the Secretary shall pursuant to the agreement take such actions and make such payments to the authorities or their investors as [he finds] are necessary to defray or prevent any losses to the authorities and their investors for their obligations and investments made in reliance upon the agreement.

(c) Notwithstanding the provisions of subsection (b) of this section, the United States shall not assume any responsibility for paying for any increased costs or defraying or preventing the expense or any losses of any non-Federal public authority (or its investors) under agreement with the Secretary in accordance with this Act if and to the extent that such costs or losses are attributable to delays in construction of or failure to construct a project occasioned by the action or inaction of the non-Federal public authority, its agents, or assignees.

SEC. 5. The Secretary is authorized pursuant to the agreement to convey all title, rights, and interests of the United States to any project, its lands and water areas, and appurtenant facilities to any non-Federal public authority[ies] which is obliged to assume ownership of the project and responsibility for performing and paying for its operation and maintenance as well as necessary replacements in accordance with section 3 of this Act. Such conveyance shall, pursuant to the agreement, to the maximum extent possible, occur prior to or at the time the project concerned is available for actual generation of all or a substantial portion of the authorized hydroelectric power of the project and shall include such Federal requirements, reservations, and provisions for access rights to the project and its records as the Secretary finds advisable to complete any portion of project construction remaining at the time of conveyance and protect the Federal interest and investment in the project over the life of the project and insure that it will be operated and maintained in a responsible and safe manner to accomplish, as nearly as may be possible, all of the authorized purposes of the project including, but not restricted to, hydroelectric power generation. Any non-Federal obligations to pay the Federal government under the provisions of this or any other Act for work, services, or facilities at a project

at the time of its conveyance under the provisions of this Act shall remain as obligations to the Federal government unaffected by the conveyance.

SEC. 6. There is hereby established in the Treasury of the United States a Hydroelectric Power Development Fund (hereafter referred to in this Act as the "fund") to be and remain available for use by the Secretary to make the expenditures he is authorized to make by section 2 of this Act. The fund shall consist of (1) all receipts and collections by the Secretary of repayments to the Secretary by non-Federal public authorities for the Secretary's expenditures from the fund or from any other source of Federal funding for hydroelectric construction costs of projects in accordance with this Act and which the Secretary is hereby directed to deposit in the fund as they are received and (2) any appropriations made by the Congress for the fund.

SEC. 7 (a) If the Secretary determines that moneys in the fund are in excess of current needs, he may request the investment of such amounts as he deems advisable by the Secretary of the Treasury in direct, general obligations of, or obligations guaranteed as to both principal and interest by, the United States.

(b) With the approval of the Secretary of the Treasury, the Secretary may deposit moneys of the fund in any Federal Reserve bank or other depository for funds of the United States, or in such other banks and financial institutions and under such terms and conditions as the Secretary and the Secretary of the Treasury may mutually agree.

SEC. 8. There is authorized to be appropriated to the Secretary for deposit in the fund established by section 6 of this Act for expenditures by the Secretary as authorized by this Act, the sum of $25 million and such sums, if any, after this initial appropriation that the Secretary may annually require to maintain

the fund at any average minimum level of $25 million.

Table 21. Average Rate Determination - System #5
(Watana + Devil Canyon)

Year	Project Costs, $1000 Revenue Producing Investment	Project Costs, $1000 OM&R	1986 PW Costs $1,000 Investment	1986 PW Costs $1,000 OM&R	Project Energy Sales, Million Kwh Firm Energy	Secondary Energy	1986 PW Firm Energy	1986 PW Secondary Energy
1986	1,278,810	1829	1,278,810		3054	86	(1986 to 1989)	81
1987		"			"	172	10,431	151
1988		"			"	258		213
1989		"			"	344		266
1990	489,240	2400	378,520		4860	690	3,527	(1990 to 2040)
1991		"			5150	"	3,505	7,732
1992		"			5470	"	3,491	
1993		"			5800	"	3,472	
1994		"			6058	"	(1994 to 2040)	
							51,873	
2040								
Totals			1,657,330				76,299	8,443
Annual or Annual Equivalent			113,345	2,267			5,218	577

Average Rate Computation:

(1) Annual Costs:

	Capital	$113,345,000
	OM&R	2,267,000
	Total	$115,612,000
(2) Revenue from secondary energy @ 10 mills/kwh		- 5,770,000
(3) Required revenue from firm energy sales		$109,842,000
(4) Equivalent annual firm energy sales		5,218,000,000 kwh

(5) Average rate for repayment 109,842,000/5,218,000,000 = 21.1 mills/kwh

file

Alaska State Legislature

House

JUNEAU ALASKA

13 April 1976

Mr. Eric E. Wohlforth
Wohlforth & Flint
Attorneys at Law
645 G Street
Anchorage, AK 99501

Dear Eric:

As we discussed on the phone, I enclose the comments of Mr. Ted Swick of White, Weld & Co., New York, on the power authority bill, together with some notes.

A., pg. 1: The Committee made a policy decision to limit the authority's initial efforts to technology that is proven in Alaska.

D., pg. 3: I believe the members involved with the bill will be receptive to language permitting joint projects.

4., pg. 8: I quote from a conversation with Mr. Swick, taped with his consent:

> ". . . This, in effect, is a moral obligation type of make-up, recognizing the intent, I think, of the legislation and the various options that the authority chooses to leave open, in terms of how it is actually going to raise or provide funds. I would have to comment that any provision that is a close relative, if you will, of the moral obligation concept, which has become so badly thought of in today's market place, mainly because of New York's problems, may be a severe detriment in being able to market bonds at all. The language, of course, in this proposed legislation, does use the words 'the legislature may'. In the New York deals, that word is 'shall' even though, as your act provides, it is not an actual obligation or covenant to make up anything. It is strictly a legislative option. The word 'may' is certainly more palatable than the word 'shall', but the whole idea in today's market place could work to the detriment of any revenue bonds. I'm not suggesting that it be completely stricken, but I wanted to comment on the implications of the moral obligation, which this language clearly is."

Later, Mr. Swick agreed that the sum of his position was that

this section ". . . is not going to materially help and could possibly cause serious marketing problems . . ."

2., 3., pg. 9: Perhaps the legislature's concerns can be reconciled with Mr. Swick's by language that would require approval of initial estimates ". . . provided, however, the directors of the authority may issue other bonds necessary to complete a project." On the other hand, could this power be stated in the authorization itself?

It seems the other suggestions are technical matters that you may wish to advise us about by phone.

Sincerely,

James B. Rhode
AA to Rep. Malone, Chairman
House Finance Committee

Encl
cc: Rep. Jim Duncan
Commissioner Sterling Gallagher,
Department of Revenue
JBR/jb

Institute of Social, Economic
and Government Research

Telephone (907) 272-5522

University of Alaska
3211 Providence Drive
Anchorage, Alaska 99504

April 22, 1976

Mr. Jim Rhode
House Finance Committee
Alaska State Legislature
Juneau, Alaska 99811

Dear Jim:

I have received a copy of Tom Stahr's letter to you expressing his concern over the treatment of the Corps' Susitna project in the Electric Power Study. I have had several conversations with Mr. Stahr regarding his feeling that the study is biased against hydro and we have finally agreed to disagree on this point.

There are a couple of points raised in his letter to which I would like to respond briefly.

First, the cost per kilowatt figures on page 1-5 are not really wrong. They are the cost per prime kilowatt of power, while Mr. Stahr would like to see the lower figure--cost per installed kilowatt of power--in its place. The total project cost is, of course, the same in either case. The cost per kilowatt figure using prime power was chosen to make it compatible with the bulk of the analysis of other hydro sites in the report but in the final draft, to avoid further confusion, the cost per installed kilowatt will be used.

Second, with regard to the 86 percent of firm energy figure, this was taken directly from the Corps' report and was used by them to determine their mill rate. Secondary energy was not calculated for any hydro project and so was not included for Susitna.

Third, depending upon how it is financed, coverage may or may not be necessary. Calculation of the cost under different assumptions merely points out the price sensitivity of the project to financing mode.

Mr. Stahr interprets these points as a bias against hydro as in his mind, this shows hydro to be much more expensive than fossil plants. However, page 1-5 does not compare systems of generation, but rather individual units coming on line in 1985, and in the case of Watana 1987. At those points in time, costs will be as stated; but it does not follow necessarily from this that the Corps' project will be the most expensive alternative over its lifetime.

Obviously, a complete system analysis would have examined not only alternative hydroelectric designs (Kaiser, etc.) but also would include the fact that fossil plants coming on line before 1985 would be less expensive than those shown on page 1-5. This, however, is a task properly for the newly created Alaska Power Authority.

Sincerely,

Oliver Scott Goldsmith

OSG/ds

MAY 03 1976

STEFANO - MESPLAY & ASSOCIATES, INC.

CONSULTING ENGINEERS

RALPH R. STEFANO
PRESIDENT
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ELECTRICAL, P.E.

G. L. HENDERSON
CHEMICAL, P.E.

April 30, 1976

Representative Hugh Malone
Chairman House Finance Committee
Pouch "V"
Juneau, Alaska 99801

Dear Hugh:

In accordance with my telephone conversation with Jim Rhode regarding costs, definitions, construction time, and future Railbelt Electric loads, the following may clarify our letter to you of April 2, 1976.

In order to clearly present a comparison of hydroelectric vs. coal fired steam turbine generation, the first thing that is necessary is definitions associated with each generation system.

Definitions:

Firm Power: Firm Power is defined as the amount of power available with the largest unit out of service.

For example, in a power plant having 3 generators of 100, 200 and 300 KW capacity totalling 600 KW, its firm power is 300 KW (loss of the largest unit). The use of this term "firm power" is generally associated with fossil fuel plants and is generally confused with the term "prime power" or "prime capacity" that is associated with hydro plants. However, when there is a series of generators in a hydroelectric plant, firm power remains as defined, "the loss of the largest unit installed".

Installed Capacity: Installed Capacity is defined as the sum of the Name-Plate capacity of all the generators installed in the plant. In the above example for "firm power", 600 KW is the "installed capacity".

Prime Power: Prime Power is defined as the maximum potential power constantly available for transformation into electrical energy. Transformation of potential energy may be chemical, mechanical or hydraulic; however, the term in practice considers hydroelectric installation, and is related to minimum water flow due to run-off and reservoir capacity.

Perhaps you noted in the ISEGR Study, the use of the terms "Prime Capacity" and "Prime KW" as noted under the Regional Hydroelectric Resources section, page 5-15. These terms may have been used when in effect discussion was about "Prime Energy" which is megawatt hours, (MWH). The correlations of terms meaning the same thing for fossil or hydro plants is as follows:

FOSSIL FUEL PLANT	HYDRO PLANT
Installed Capacity	Installed Capacity
Firm Power	Prime Capacity or Prime Power

Comparison #1 - Cost Basis

For the hydroelectric plant, we will use the cost shown in table 5-2 of the ISEGR Report, page 5-20, as follows:

1976 dollars, 1568 MW installed capacity, prime capacity @ 699 MW @ a cost of $2252/KW.

For the coal fired steam plant, we will use the cost of $968/KW, 1300 MW installed capacity @ 1976 dollars. This cost is actual for the 650 MW coal fired steam plant at Centralia, Washington, completed in 1973.

	Centralia Plant Installed Cost	
	1973	$354
15% escalation	1974	$407
"	1975	$468
"	1976	$538

Alaska factor = 1.8 times 1976 dollars in Alaska - 1.8 x $538 = $968/KW.

Our letter of April 2, 1976, indicated 1985 dollars of $5052/KW for hydroelectric taken from page 1-5, table 1-2, of the ISEGR Report. A later issue of the report quotes this cost for hydro as 1990 dollars with completion of the project in 1992. $$1500/KW for the coal fired steam plant was used escalating 1973 prices and applying an Alaska factor.

Since prime power in the hydro plant is equated to the firm power of a coal plant and is determined generally by the least amount of water in the reservoir, we assumed the construction cost for hydroelectric based on prime power of 699 MW taken from table 5-1 of the ISEGR Report page 5-21. This calculation is reproduced here as follows:

1985 dollars: Susitna Hydroelectric Plant
Prime Capacity = $5052/KW x 699 MW = $3,531,348,000.

If the installed capacity were calculated for the project cost, it would be as follows:

1985 dollars: $5052/KW x 1568 MW = $7,921,536,000.
This is the true cost of the project in 1985 dollars.

However, let's assume 1976 dollars so we can compare with coal in the same time frame, then, for 1976 dollars:

Prime Capacity, Hydro: $2252/KW x 699 MW = $1,574,148,000
Installed Capacity, Hydro: $2252/KW x 1568 MW = $3,531,136,000
Installed Capacity, Coal: $968/KW x 1300 MW = $1,258,400,000

From the above, it's easy to see how 1.5 billion was quoted for the hydroelectric plant. It was probably due to misunderstanding of prime power as defined and related to installed capacity for hydro plants. The relationship between firm power, and installed capacity for coal plants, does not permit a calculation of cost for firm power which is defined as the loss of the largest unit; consequently, to calculate the cost of a coal fired plant, this must be based on the installed capacity times the dollar per KW cost.

As is noted above, using 1976 dollars, if the calculation is applied to the Susitna Project, its cost will be 3.5 billion. Also from the above, it is difficult, if not impossible, to compare a hydroelectric project with a coal fired installation on a dollar for dollar or year for year basis.

Comparison #2 - Time Basis

Consider the actual dates both systems can be constructed and on line producing power, starting in 1976.

	On Line	Lead Time Needed
Susitna Hydro	1992	16 years
Coal Plant	1982	6 years

This comparison shows minimum lead times. A coal plant could be producing power for 10 years before the hydro comes on line; therefore, the construction cost for coal will in reality be accomplished with 1980 dollars and the hydro plant cost will be escalated using 1990 dollars.

We have worked on this comparison dilligently to try and show as simply as possible that you can build a coal fired plant in Alaska for the interest on the Susitna Power Project in its first six years.

If you require a more detailed information, please let me know at your earliest convenience.

Very truly yours,

STEFANO/MESPLAY & ASSOCIATES, INC.
CONSULTING ENGINEERS

Ralph R. Stefano, P.E.

RRS:cf