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ALASKA STATE LEGISLATURE

SENATE STATE AFFAIRS COMMITTEE

SENATOR VIC FISCHER, CHAIRMAN

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SENATE STATE AFFAIRS COMMITTEE

COMMITTEE REPORT

ON

THE SUSITNA PROJECT

SENATE BILLS 68, 69, 70, AND 71

MARCH 24, 1983

Senate State Affairs Committee
Committee Report -- the Susitna Project
Senate Bills 68, 69, 70, and 71

The Senate State Affairs Committee held four days of hearings on hydroelectric development and the proposed Susitna project. Testimony on three days was primarily from witnesses invited to address specific issues. In an all-day public hearing in Anchorage, the views of more than thirty members of the public were heard. The focus of the hearings was on economic and fiscal concerns within the province of the committee.

Summary of Principal Findings

1. Alaska's oil revenues have fallen below anticipated levels, making uncertain the state's ability to fund the Susitna project.
2. Falling oil prices have also affected the net benefits of the Susitna project, and the Acres determination that the project is economically feasible may no longer be supportable.
3. Other questions, including whether Susitna would be eligible for tax-exempt bonds, remain to be answered.
4. As the federal construction license is not expected before 1986, three years remain in which to reevaluate the project's economics and financing and to gather additional data before making a decision to construct.
5. Other APA hydro projects have experienced significant cost increases. Power projects in Washington State are facing default because of poor planning and management; this is expected to result in a tighter bond market for new projects like Susitna.
6. Power sales contracts are a prerequisite for the construction of Susitna. Utilities are reluctant to sign take-or-pay contracts until they have assurance that the price of this power will be competitive with alternatives.
7. The APA is continuing to assess Susitna and the alternatives, with a report expected in May.

8. The public, while supporting hydropower generally, is concerned about the the costs of Susitna power, both in power rates and in opportunity costs.

Bills Before the Committee

Of the bills currently before the committee, SB 68, SB 69, and SB 71 would authorize construction of Susitna and would approve a finance plan for the project consisting of a state appropriation of \$2.3 billion in 1983 dollars to be dedicated through a constitutional amendment and revenue bonds of the APA backed by the general obligation of the state. SB 70, an alternative financing bill, would provide for power project funding through per capita "energy dividends."

Background of The Proposed Susitna Project

The Susitna project is a two-dam (Watana and Devil Canyon) hydroelectric project proposed by the Alaska Power Authority (APA) to provide power to the railbelt area. As planned, the Watana phase (1020 MW) would come on-line in 1993 and the Devil Canyon phase (600 MW) in 2002.

A 2½-year feasibility study was conducted by Acres American at a cost to the state of \$41 million. A \$1 million study of railbelt power alternatives was conducted concurrently for the Governor's office by Battelle.

The Acres study concluded that the project was technically viable, environmentally acceptable, and economically feasible. The determination of economic viability was based on a number of assumptions, many of which have changed since the completion of the study last year.

The APA Board of Directors, in making its recommendations to the State of Alaska last April, noted that while the project offers a potential for long-term benefits, realizing those benefits will depend on skillful management, proper timing, and assumptions about an uncertain future holding true. They concluded, "The Authority believes it is premature to make any commitment, at this time, to actual project construction."¹

The capital costs of the project are estimated at \$5.1 billion 1982 dollars or \$12.5 billion nominal dollars at 7% inflation. Acres concluded that in order for power in the early years of the project to be priced competitively against thermal alternatives, a state appropriation of \$2.3 billion (later revised to \$1.8 billion) in 1982 dollars would be required.²

This appropriation, variously referred to as an equity investment, state financing, grant, or subsidy would not be repaid to the state's treasury; instead, benefits in terms of jobs, economic development, and state electric rates would be expected to accrue to Alaskans.

Last year, the legislature authorized work to be done on project design and a license application to be submitted to the Federal Energy Regulatory Commission (FERC), and appropriated \$25.6 million. The engineering firm of Harza-Ebasco has been selected for the design work; the FERC application was filed on February 28.

Financing of Hydro Projects in Alaska

The Energy Program for Alaska (AS 44.83.400), adopted in 1981, provides that power projects developed by the Alaska Power Authority are to be funded largely through cash grants from the general fund, with supplemental funds coming from the sale of revenue bonds by APA. The stated purpose of this state participation in the funding of power projects was to convert a portion of Alaska's one-time oil wealth into a renewable resource with long-term benefits to Alaskans. In addition, state funding of such capital-intensive projects would help ensure that consumer costs in the projects' early years would be competitive with the costs from alternative (oil or gas) power sources.

The Energy Program for Alaska currently includes four major hydro projects that are either in operation or under construction. These are Solomon Gulch, Swan Lake, Tye Lake, and Terror Lake. So far, \$270 million has been appropriated by the Legislature for direct funding of these projects. In addition, the APA has borrowed in the form of short-term notes \$200 million in interim financing to supplement the financing of these projects.³ The next major projects anticipated to be added to the Energy Program for Alaska are Bradley Lake and Susitna.

A characteristic of the Energy Program for Alaska is that each project must pay a proportionate share of the combined outstanding debt. This means additional debt cannot be added to the system in a proportion higher than the existing ratio of debt to state funding without raising all rates throughout the system.

Under this system there must be sufficient state revenues available if hydroelectric projects are to be successfully financed in Alaska. As 88% of the state's income comes from oil revenues, the future of the state, and its hydro development plans, is inextricably tied to the price of oil on the world market.

Future State Oil Income

There is now great uncertainty concerning the direction in which oil prices, which have fallen significantly in the last year, are heading. While some analysts believe that prices will stabilize in the long-run and continue to escalate in real terms, others anticipate a serious drop in the short-term that will only very gradually return to price levels experienced during the last decade.

To demonstrate the expected severe decline in state revenues, the Institute of Social and Economic Research compared their 1983 preliminary projections of petroleum revenues with projections they made just two years ago.

For FY 84, their former projection of \$5.6 billion (nominal dollars) compares to the new projection of \$3.2 billion. For FY 93 (the year in which the Watana phase of Susitna could be expected to come on-line) the 1981 projection of \$13.8 billion compares with a new projection of just \$4.0 billion.

The Department of Revenue and the Legislative Finance Division have projected similar revenue declines.⁶ Alaska's peak oil revenue year appears to have already passed.

Effect of Oil Prices on Susitna

Lower oil prices will affect the Susitna project in at least four major ways:

- 1) Lower state revenues may be insufficient to pay for Susitna.

Reduced state income may mean that there are insufficient state funds to pay for the state's portion of Susitna.

The Legislative Finance Division has compared projected revenues to funds available for capital projects and to funds needed for Susitna.⁷ They identify just \$2.4 billion in nominal dollars available for all capital projects between 1985 and 1993, under current law, after subtracting funds needed for the operating budget. This compares to the \$3.5 billion alone that would be required for Susitna under SB 68 and to the \$11.7 billion that has been identified for other planned capital projects. Even if the law were changed so that both permanent fund inflation-proofing and dividends were repealed, the analysis shows that there would still be a total of only \$6.6 billion available for capital projects in the same time

period.

- 2) Less state spending and reduced economic activity decreases the demand for power.

Battelle, in revising its electricity forecasts for the railbelt last year, adjusted its forecasts downward to reflect the effect. The previous peak demand projected for 1995, for example, was 993 MW in the moderate case; the revised peak demand is 791 MW for the same year.

- 3) Lower inflation rates may result in higher financing costs.

If interest rates remain high, the discount rate--the difference between inflation and interest rates-- will increase. Higher discount rates will result in higher real costs for bonds.

- 4) Thermal alternatives to Susitna will be cheaper than anticipated.

Less expensive thermal alternatives (oil, gas or coal) reduce the net economic benefits of Susitna. The financial feasibility of Susitna would also be affected, as more state funding would be required to assure the marketability of Susitna power. The House Research Agency has studied the effect of lower natural gas prices on Susitna feasibility. The recent gas contracts signed by Enstar Natural Gas Company and the Department of Revenue's most-recent oil price escalation forecast were used as the basis for comparison with the Acres feasibility analysis. The conclusion was that if oil prices correspond closely to the Department of Revenue's forecast, the price of power from gas generation would be 38% less in 1994 than projected by Acres, and 50% less in 1996. This means that, in order for the price of power from Susitna to be at a marketable rate, an additional \$600-700 million in state grant funds, above the \$1.8 billion projected by Acres, would have to be appropriated to the project.

Key Feasibility Factors

The real discount rate and fuel price escalation are the key feasibility factors that must fall within defined limits for Susitna to be an economically feasible long-term source of railbelt power. Acres, in performing the feasibility analysis, made assumptions on future values of these factors based on the information available at the time of the study. Acres performed a sensitivity analysis,¹⁰ that

showed the net economic effect of changes in these assumptions.

Acres assumed a base case discount rate of 3%, and the APA continues to assume that Susitna financing can be obtained at that rate. Acres concluded that Susitna was viable only with a discount rate of less than 4.2%. A discount rate of 5%, the sensitivity analysis showed, would result in a negative net benefit of over \$500 million. The current discount rate, according to Data Resources Inc., is more than 6%.¹¹ Even that favorable rate assumes tax-exempt financing.

It is not clear whether Susitna bonds will be eligible for tax-exempt status. According to the APA, the IRS has indicated that the "two-county rule" would prohibit tax-exemption, unless power sale contracts were something other than take-or-pay. The APA has identified alternative methods of obtaining tax-exempt status, including granting the APA authority to retail power (by-passing the utilities) or restructuring the existing utilities.¹²

The fuel escalation rate assumed by Acres in its base case was 2.6% above inflation to 2000 and 1.2% to 2010. An escalation rate less than 1%, according to the APA, would result in negative net benefits. A zero percent escalation rate would result in a negative net benefit of over \$1 billion.

Other critical factors in the feasibility analysis include load forecasts, capital costs and capital cost escalation, and base fuel costs.

There is now considerable uncertainty regarding oil and gas price trends. Other elements of the feasibility analysis are also in flux. The APA is currently reevaluating the assumptions for its Susitna update, which will be reviewed by the Office of Management and Budget. Much of this information can be fed into computer models, so that project feasibility may be continually monitored.

Susitna Financing Plan

The APA is required by statute to submit a finance plan for each proposed project. Acres has prepared a report for the APA, "Task 11: Financing Options," which is the first step towards a finance plan for Susitna.

The financing options suggested by Acres, and reviewed by the APA's financial advisors, involve state appropriations of between \$1.4 and \$1.8 billion (1982 dollars) between 1984 and 1989, with the balance of funding coming from revenue bonds. Two of the four options involve state appropriations guaranteed through a constitutional

amendment.

Among the recommendations of APA's financial advisors are that prior to major state expenditures or the sale of any bonds, participating utilities sign definitive contractual commitments, an updated economic and financial analysis of the project be completed, and the question of whether or not tax-exempt bonds can be sold be answered.

The advisors stressed that bonding, to the greatest degree possible, should be with revenue bonds, backed by the moral obligation of the state, rather than relying upon general obligation (G.O.) bonds. They said that G.O. bonds would, in any case, be of limited usefulness, as they will be marketable only if their maturity dates fall within the state's short oil revenue curve, and the state can only incur an additional \$565-\$900 million in G.O. debt without negatively affecting its bond rating. The advisors also recommended that the state appropriation be made first, before any bonds are sold.

Cost History of Other Power Projects

The four hydro projects of the APA that are either in operation or under construction have experienced significant increases in construction cost estimates between the feasibility and actual construction stages. These have varied from 54% for Swan Lake to 218% for Tye¹³.

The committee specifically reviewed the Tye Project. Its wholesale power price, even with the state paying 70% of the capital costs, will be much higher than the cost of diesel power for Petersburg and Wrangell. Problems identified were major changes in project design, poor initial cost estimates, poor review of cost estimates, poor pricing analyses, hasty decisions made without the benefit of accurate data and analysis, overcapacity resulting in underutilization, and mid-project statutory changes.

In response to committee concerns, APA staff testified that they expect to gain better control of project costs in the future through more professional and complete engineering work, closer supervision by the APA, and a requirement for independent cost estimates.

Other lessons may be learned from the experiences of the Washington Public Power Supply System (WPPSS), as explained by Eileen Titmuss, a bond analyst for Drexel, Burnham, and Lambert in New York City.

In WPPSS's, Washington created an agency to enter into long-term power sales contracts with utilities to build nuclear plants. The bond market believed that the projects were backed by the full faith and credit of the U.S.

Government, and the bonds found a generous market acceptance. In truth, the real security behind the bonds was the ability of the Bonneville Power Administration to raise rates. When costs of the nuclear plants rose and power demand proved to be less than had been projected, two of the five plants had to be mothballed and a substantial rate increase was proposed. Participating utilities balked at the increase, claiming they simply could not raise¹⁴ the required revenues, despite take-or-pay contracts. This has resulted in a revenue shortfall that may soon force WPPSS into defaulting on these bonds.

The lessons of WPPSS that could be applied to Susitna include knowing true and full project costs, having realistic demand forecasts, requiring the utilities to participate in project investment, providing for rate-payer education and involvement, and close state monitoring of agency management and contracting.

The bond market, after WPPSS, is expected to be tighter because of competition for funds among other large-scale projects. In addition, bond purchasers can be expected to take a harder look at both the sanctity of power sales contracts and the economic assumptions underlying project feasibility analyses.

Power Sales Contracts

Power sales contracts help assure the marketability of a project's power. It is standard industry practice to obtain power¹⁵ sales contracts prior to beginning project construction.

Until now, the APA has not followed this practice, and utilities have been under no obligation to purchase power from its completed projects. In the Ketchikan case, the power sale contract that was eventually signed allows the utility to cease purchasing Swan Lake power if it becomes higher priced than the diesel alternative.

The APA is currently in the process of developing a standard take-or-pay contract, requiring utilities to purchase the power regardless of its cost.

Utilities are understandably reluctant to sign such contracts if the price of project power may cost more than the alternatives. This problem has been most apparent in the case of Petersburg and Wrangell, where it appears that the power from Tyee Lake will cost significantly more than continuing to generate with diesel.

Utilities are also reluctant to sign take-or-pay contracts for power under the Energy¹⁶ Program for Alaska because of flaws in the legislation. One concern is the

provision that if \$5 billion is not appropriated for energy projects by 1986, all projects must pay a 10% return on state investment each year. Further, because of the "pooling" nature of the Energy Program for Alaska, utilities are responsible for paying a proportionate share of any new debt that enters the system and have no control over rate increases to meet that debt. This makes it impossible to predict rates or ensure price stability.

The APA has recommended, the Federal Energy Regulatory Commission will require, and the Governor has insisted that construction not begin on Susitna without first having rigorous power sales contracts in place. The utilities are reluctant to make commitments and have indicated that they will not do so until they have a better assurance that Susitna costs will be competitive with alternatives.

All major railbelt utilities were represented at the Anchorage hearing, and all testified that they must have more information about the level of state funding and the possible price of power before they will be willing to negotiate take-or-pay contracts.

Although the Alaska Public Utilities Commission has no jurisdiction over the APA, it does have authority to review the power supply contracts of regulated utilities to ensure reasonable consumer rates. It would likely become involved if the reasonableness of Susitna prices came into question.

Information and Work Schedule

APA's Susitna feasibility update will not be completed until mid-May, and will include, besides economic feasibility factors, information on alternatives including Cook Inlet gas, North Slope gas, coal, and Chakachamna hydro.

The Administration indicated that it will be prepared, also in May, when oil market fluctuations may have steadied, to discuss the state's ability to finance Susitna.

A license application was filed with FERC on February 28, 1983. FERC approval for construction is not expected until December 1986, although FERC hopes to expedite the approval process.

The APA Board of Directors, meeting March 14, altered their request for funding for the Susitna project from the \$37 million recommended in the Governor's preliminary FY 84 capital budget to \$22 million. This smaller amount of money will enable them to continue with the work required for FERC licensing, but will not provide for detailed design engineering. The reason given for the decision was to request funds only as needed; as FERC licensing is expected to take three years, it is not necessary to proceed with

detailed design work during FY 84.

The APA is also studying the possibility of lowering the height of the Watana Dam. Preliminary indications are that dropping the dam height by 85 feet could save 10% of the Watana construction costs for 12% less annual energy, while a drop of 185 feet could save 20% of the costs for 26% less energy. The intent of such a design change would be to enhance the financial viability of the project by requiring less appropriation of state funds. Although the project cost would decrease, the per unit cost of energy would increase.

Conclusions

The two major outstanding questions regarding the viability of the Susitna project concern its economic and financial feasibilities.

Economic feasibility relates to the project's net benefits, compared to the alternatives for providing electricity to the railbelt. The study completed by Acres in 1982 concluded that at that time the project appeared feasible. Since that time, a number of fundamental assumptions have changed and remain unsettled. An updated feasibility analysis is required to determine if Susitna remains the most economic choice.

This feasibility analysis must realistically consider the alternatives to Susitna. These include Cook Inlet gas, North Slope gas, coal, other hydro including Chakachamna, and conservation. Each of these alternatives has so far received far less consideration than the Susitna option.

Financial feasibility relates to whether, regardless of the project's economic feasibility, the project can be financed so that the price of power will be at a marketable rate. The Acres analysis showed that a state appropriation of at least \$1.8 billion (in 1982 dollars) would be required to keep the price of power competitive. Unless Alaska is both willing and able to pay this price, the project will not be financially feasible, utilities will not contract to purchase Susitna power, and project bonds will not be marketable.

A workable finance plan for Susitna needs to answer at least three questions:

(1) How much does the state need to appropriate to Susitna to assure that its power will be initially priced no higher than the alternatives?

(2) Will state revenues be sufficient to make such an appropriation without negatively impacting other state needs?

(3) Can a mechanism be developed that

would either guarantee the availability of the necessary funds or provide for the accumulation of all necessary funds prior to bonding and construction?

The finance plan proposed in the legislation before the committee does not answer these questions. The state revenues available for Susitna have not been determined, the tax-exempt status of Susitna revenue bonds is uncertain, the degree to which the state can safely obligate to back the revenue bonds is unknown, and other elements of a successful finance plan are absent. Accordingly, the basis for acting on the bills is not currently available.

A public vote would be desirable to assure public acceptance of both project subsidies and future power rates. Such a vote requires a realistic and workable finance plan, and a question for the voters with specific information as to total project costs and levels of state funding.

The FERC license for Susitna is not expected before late 1986, so a construction decision is not required at this time.

NOTES

1. Letter from Charles Conway to Governor Hammond, April 26, 1982.

2. A distinction is made between economic feasibility and financial feasibility. Economic feasibility relates to whether a project is the lowest-cost option in the long-run. Financial feasibility relates to the ability to finance a project in such a manner that the price of power is competitive with alternatives. A project might thus be economically feasible without being financially feasible.

3. The interim financing is divided between Tye Lake (\$50 million), Swan Lake (\$35 million), and Terror Lake (\$115 million).

4. Recent forecasts are noted in "Alaska Energy Planning Studies," by Arlon Tussing and Gregg Erickson, Nov. 1982. The authors note that, while the government agency forecasters referenced by Acres project increases in real oil prices, recent internal forecasts by petroleum producers assume real declines through 1985 and a long-term trend between a level nominal-dollar and a level constant-dollar trajectory. The significance of varying forecasts is not whether one may be more reliable than another but that there is neither consensus nor certainty.

5. "Comparison of ISER MAP Model Projections Prepared in 1981 for Battelle Railbelt Study and Preliminary Projections Prepared in 1983," prepared for the Alaska Senate State Affairs Committee by Scott Goldsmith and Gunnar Knapp, Feb. 1983

6. All revenue projections are simply projections, and actual revenues could vary widely. The Department of Revenue currently bases its projections on the 30th percentile of probability, which means that there is a 70% chance that revenues might be higher than projected. With the recent drop in OPEC prices, however, the 30th percentile projections are considered most likely.

7. "Funds available for Capital Projects," memo to Senator Vic Fischer from Milt Barker, Fiscal Analyst, Feb. 21, 1983

8. "Railbelt Electric Power Alternatives Study," Battelle, Volume 1, Dec. 1982, p. xv

9. "Comparison of Susitna and Natural Gas Power Costs," memo to Rep. Hugh Malone from Jack Kreinheder, Research Staff, March 3, 1983
10. Plate 24, "Sensitivity Analysis," Acres summary report, 1982
11. Data Resources U.S. Review, Feb. 1983
12. APA Susitna "Checklist," Table 1, transmitted to Governor Sheffield Jan, 17, 1983
13. "Cost History of APA Hydro Projects", Chart 5 accompanying transcript of testimony by Gregg Erickson before the Senate State Affairs Committee, March 1, 1983
14. In Oregon, the courts have ruled that contracts binding municipal utilities to WPPSS debts are illegal. At question is whether the utilities had the right to make such commitments without a vote of the ratepayers.
15. Letter to Charles Conway from Eric Yould, October 11, 1982
16. "Marketing of Project Power Under the Energy Program for Alaska," memo from Myles Yerkes to Eric Yould, Dec. 28, 1982

WITNESSES WHO TESTIFIED BEFORE THE COMMITTEE

<u>WITNESS</u>	<u>AFFILIATION</u>
Governor Sheffield	Administration
Eric Yould	APA
Ray Benish	APA
William Wakefield	FERC
Tom Singer	Erickson & Associates
Ernie Haugen	Thomas Bay Power Commission
Richard Underkofler	City of Petersburg
Kenneth Mason	City of Wrangell
George Matz	OMB
Ernie Mueller	Environmental Services, Limited
Kent Wick	Homer Electric Association
Bob Mellir	Self
Mike Kelly	Golden Valley Electric Association
Jeff Bohman	Self
Harold Pomeroy	Self
Jeff Eustis	Self
Bob Penney	State Chamber of Commerce
Mano Frey	Laborers' Union Local 341
Joseph Henri	Resource Development Council
Jim Ayres	Self
Paul Lowe	Self
Larry Underwood	Self
Wayne Beckwith	Anchorage Chamber of Commerce
Budd Goodyear	Matanuska Electric Association
Tom Stahr	Municipal Light and Power
Lee Woreham	Susitna Power Now
Liz Gilbert	Chugach Electric Association
Sharon O'Dell	Self
Nancy Lee	Self
Mary Pat Haberle	Self
Keith Treseder	Self
Victor Mittasch	Self
Judy Zimicki	Northern Alaska Environmental Center
Jim Sykes	Self
George Skladal	Self
Doug Stark	Self
Ron Kuzek	Self
Mark Beltz	Self
Bill Holton	Self
Brian Boyd	Self
Earl Finkler	CSM

Chuck Konigsburg	Self
Lisa Moorehead	Self
George Rogers	Self
Don Grimes	First Southwest
Steve McAleer	First Boston
Sterling Gallagher	John Nuveen
Tony Merritt	Acres American
Gervin Wernock	Acres American
Eileen Titmuss	Drexel Burnham Lambert
Gregg Erickson	Erickson and Associates
Lee Gorsuch	ISER
Milt Barker	Legislative Finance Division
Robert Heath	Department of Revenue
Harrison Call	RMI Pacific Northwest
Carolyn Guess	APUC
Dick Emmerman	OMB
David Rogers	Senate Advisory Council
Al Carson	DNR
Dennis Kelso	ADFG

ALASKA STATE LEGISLATURE

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SENATOR VIC FISCHER, CHAIRMAN

POUCH V, JUNEAU 99811
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March 10, 1983

Honorable Bill Sheffield
Office of the Governor
Pouch A
Juneau, Alaska 99811

Dear Governor Sheffield:

The Senate State Affairs Committee has completed extensive hearings on the proposed Susitna hydroelectric project. We appreciated your taking the time to share your thoughts on this project with us.

The inescapable conclusion of the hearings is that the precipitous drop in oil prices has substantially altered the economic foundations of the Susitna project. Unless an immediate and thorough re-evaluation is made, and new answers provided, Susitna may well change from its desired goal of being the high benefit keystone to future state development into an uneconomic white elephant with an appetite for state funds capable of destroying Alaska's economy for years to come.

It has become clear that action by you and your administration is critical before the project can move ahead, and before we will be in position to act knowledgeably on legislation pending before the Senate State Affairs Committee (SB 68, 69, 70, and 71). We trust that you will cooperate in providing the necessary information and answers.

A summary of the extensive information and analytical work presented at the hearings will be completed next week and will be presented with the meeting minutes and edited transcripts. The purpose of this letter is to share with you, immediately, some of the questions that have been raised so that they may begin to get the attention that they require.

Though most people favor hydroelectric power and Susitna, the crucial question now facing Alaska is, simply, how and whether the state can pay for the project. The economic and financial picture was

quite different a few years ago, when oil revenues were piling up and it appeared that we would have billions of dollars in "surplus" revenues to spend on Susitna. If we are to proceed, we must find new ways of financing the project that will not undermine the fiscal structure of the state.

The committee was told that falling oil prices will affect the Susitna project in four ways:

*First, state revenues will be lower, and the funds simply will not be available to appropriate the state's "equity" portion without sacrificing other needs. As Lee Gorsuch, of the Institute of Social and Economic Research, testified, it now looks as though our peak revenue year may well be past.

*Second, lower state revenues will result in less economic activity within the state, which will reduce the future demand for the project's power.

*Third, lower oil prices and reduced economic activity should result in a lower inflation rate, which may raise the real cost of project financing.

*Fourth, lower prices mean that the cost of the thermal alternatives to Susitna will be less.

To elaborate on the last point, a recent memo by the House Research Agency indicates that with lower than expected gas prices (as evidenced by the recent Enstar contracts) the Susitna project would need subsidies of an additional \$600-700 million in state appropriations, above the minimum \$1.8 billion projected by Acres, as necessary to simply make Susitna power marketable relative to the alternatives.

Given the projected revenue situation, an awareness seems to be emerging that the factors that made Susitna an economically positive project just a short time ago may no longer be present. These factors must be continually monitored from this time forward so that when the time is right, we will be in a position to go forward with Susitna. Some of these factors, as identified by OMB, are:

- load forecasts
- fuel prices
- capital costs
- the discount rate

All of these factors are now different from the assumptions made by Acres in evaluating Susitna eighteen months ago, and are still changing.

At this stage, we have identified some of the key issues and questions that now need to be addressed in order to proceed with decisions on Susitna. We need your help to deal with them.

1. FINANCING

The basic question is: is there, can there be, a workable

finance plan for Susitna? So far, the Alaska Power Authority has not presented a finance plan, only a list of possible options. APA has suggested that only a dedicated revenue stream of \$1.8 billion (\$1982) would satisfy the need for a cash contribution by the state, with revenue bonds to supplement the financing. Analysis by the Legislative Finance Division, however, has found that such a dedicated stream would leave no money for any other capital projects in the whole state. Commissioner Heath has indicated that the administration is "very nervous" about Susitna financing, but is not prepared to comment more specifically on a finance plan until some of the uncertainties in the oil market are resolved. I believe we will have no progress on Susitna until a realistic financing plan is in place, one that can be approved by all parties.

What are Administration plans with respect to Susitna financing?

Is a financing plan being prepared?

When can the legislature expect a bona fide proposal from the administration for financing Susitna?

What is the Administration position on the financing bills pending before the Senate State Affairs Committee?

SB 68 -- advisory vote on financing Susitna

SB 70 -- Alaska Energy Dividend Fund

SB 71 -- bonding for Susitna

2. UPDATING ASSUMPTIONS

Which of the Susitna study and feasibility assumptions need to be updated, and how shall the updates be incorporated into the project's evaluation?

Who will be responsible for what data, and how will it all be tracked?

When will an authoritative re-assessment be available?

Many of the factors in question were identified during our hearings. They include the forecasted demand, fuel prices and price escalation, capital costs, and the bond discount rate. The APA is responsible for the update, but they have indicated that it will not be completed until May. Even then, these factors will still be subject to considerable uncertainty.

3. DECISION TIMING

You and others testified to the necessity to meet various criteria before a decision can be made to go ahead with Susitna.

The FERC representative, William Wakefield, testified that FERC approval is not likely before December, 1986, maybe not until 1987.

How far shall we go and what shall we do with Susitna before we are sure that it is both feasible and financable?

What is the Administration position on SB 69, which would authorize first phase construction of Susitna?

What schedules do you anticipate for provision of neces-

sary answers?

APA staff testified that a smaller Watana Dam is under consideration. They also indicated the possibility of a different, single dam on the Susitna River in lieu of the two-dam configuration; it would be designed for smaller load demands and would cost less. At the same time, site specific design and engineering are being considered and appropriations have been requested to pursue plans previously prepared.

What timing and effort is considered appropriate for further preparatory work pending FERC approval? What further action will be required in pursuit of FERC application action? What costs are entailed in what activities in FY 84, 85, and 86? In other words, how much money is required, and when, to keep the Susitna project viable during the FERC application and re-evaluation periods?

4. RELATIONSHIP TO BRADLEY LAKE

APA staff testified that Bradley, in order to compete with gas, would require a cash contribution of 50-75% of the project cost which is estimated at a total of about \$400 million.

How does Susitna fit with the need for and financing of other planned hydro projects, specifically Bradley Lake?

How and when shall we proceed with Bradley? Shall it be the 135 MW size or the 60-90 MW size? Such decisions are clearly intertwined with a decision on the timing of Susitna, and they need to be addressed in that context.

In addition, is it wise to begin funding this smaller but still expensive dam incrementally, without considering where the full funding will come from and whether we can afford it either with or without Susitna?

5. ALTERNATIVES

Serious questions have been raised about the extent to which alternatives to Susitna hydro have been adequately examined. This matter becomes particularly important if Susitna decisions are deferred due to financing, marketability, or other problems.

It has been very difficult in the past to evaluate alternatives--gas, coal, other hydro--because they have not enjoyed the same degree of financial support as Susitna. Although many studies have been completed, the focus has not always been clear. For example, of the two recent studies concerned with using North Slope gas for electrical generation, one (Ebasco) is principally a hardware study, and the other (Booz-Allen) basically avoided the option because Ebasco had already looked at it. The representative from Booz-Allen, when asked to compare the gas option to Susitna, commented that the way to decide on how to meet railbelt electrical needs was to identify the need and then look at all the options, not to identify a source and then show how it could serve the need.

It was also suggested that we let the marketplace do the

choosing, and then decide whether to subsidize the capital costs of that choice.

In any case, in order to be prepared, additional consideration of the short-term and long range alternatives to Susitna appear to be called for.

How can we best continue to evaluate alternatives? Who should do that?

Are there technologically "clean" ways of using coal for power generation? Could such use facilitate development of coal resources for export and other economic development? Would state subsidies be required to make that feasible? How much money would be required to adequately study coal potentials?

How can we best determine what the realistic prospects are for use of gas to meet future power demand? What effect would state equity or subsidies akin to Susitna have on future gas and power cost?

Chakachamna and other hydro?

The Department of Commerce and Economic Development (DCED) has documented significant savings, even in Anchorage, through residential energy conservation. In other parts of the country, utilities have found that it's usually more cost effective to invest in conservation than in new generating facilities. Even though conservation will not by itself solve future power requirements problems, its potential for energy and cost savings is enormous.

What role can and should conservation play in decreasing the need for additional power for the railbelt?

How do the benefits of other alternatives, including subsidized power costs, compare with the benefits of energy conservation?

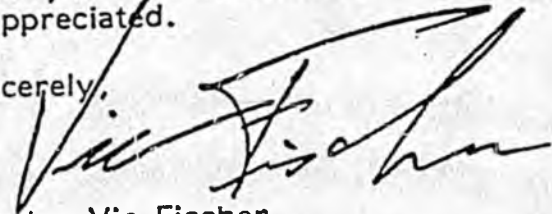
There are many other questions that need to be answered in the near future, including: tax-exempt bonding, land ownership, fisheries mitigation, and power sales contracts. The ones I noted above seem, based on the committee hearings, to be those that are the most basic and urgent at this time.

The above questions are, of course, difficult to answer. But they must be confronted in light of the fiscal realities now faced by the Susitna Project. As the issues before us are of such importance that they must be addressed at the highest level, I look forward to your Administration taking the lead in seeking answers to all the many questions and establishing a policy course for Alaska's energy future.

It is clear from the information we obtained in the hearings that legislative actions on Susitna will be stymied unless we receive

critical financial and other information from your administration.
Your cooperation in this will be greatly appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "Vic Fischer". The signature is written in a cursive style with a large, sweeping initial "V".

Senator Vic Fischer

cc: Commissioner Dick Lyon
Commissioner Esther Wunnike
Commissioner Dan Casey
Peter McDowell, OMB
Charles Conway
John Schaeffer
Robert Huffman

BILL SHEFFIELD
GOVERNOR



STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

March 16, 1983

The Honorable Vic Fischer
Senator
Alaska State Legislature
Pouch V
Juneau, AK 99811

Dear Senator Fischer:

This will acknowledge receipt of your letter of March 10, sharing with me the questions raised during the extensive hearing held by the Senate State Affairs Committee on the proposed Susitna hydroelectric project.

A copy of your list of questions has been sent to the Commissioner of the Department of Commerce and Economic Development, Dick Lyon. I have asked him to personally coordinate the Administration's response to these questions and to assist you further, if necessary.

I look forward to receiving a summary of the hearings when it is completed.

Sincerely,

A handwritten signature in cursive script that reads "Bill Sheffield".

Bill Sheffield
Governor

ALASKA STATE LEGISLATURE

SENATE STATE AFFAIRS COMMITTEE
SENATOR VIC FISCHER, CHAIRMAN

POUCH V, JUNEAU 99811
(907) 465-4954



SENATE STATE AFFAIRS COMMITTEE

COMMITTEE REPORT

ON

THE SUSITNA PROJECT

SENATE BILLS 68, 69, 70, AND 71

A D D I T I O N A L M A T E R I A L

MARCH 24, 1983

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SENATE STATE AFFAIRS
STANDING COMMITTEE
February 24, 1983
1:30 p.m.

Members Present: Senator Vic Fischer, Chairman
Senator Rick Halford
Senator Arliss Sturgulewski
Senator Tim Kelly

Members Absent: Senator Pat Rodey

COMMITTEE CALENDAR

No specific bills were under consideration at this meeting. Instead the time was used as a background briefing on hydroelectric power as it relates to the legislation before the Senate.

WITNESS REGISTER

Mr. Eric Yould
Alaska Power Authority
No address or phone provided.
Position Statement: Answered questions from committee members and offered testimony regarding hydro construction and financing.

Bill Sheffield, Governor
State of Alaska
Pouch A, Juneau, Alaska 99811
465-3500
Position Statement: Answered questions from committee members.

Representative Tony Vaska
Alaska State Legislature
Pouch V, Juneau, Alaska 99811
465-4914
Position Statement: Committee draft doesn't reflect his testimony.

Senator Rick Halford
Alaska State Legislature
Pouch V, Juneau, Alaska 99811
465-4958
Position Statement: Asked questions of Eric Yould.

PREVIOUS ACTION

No previous action to record.

ACTION NARRATIVE

TAPE# 1 for 2/24/83

Recording
Number 000

The meeting of the Senate State Affairs Committee was called to order at 1:30 p.m. with member Senators V. Fischer, Ray, Sturgulewski and Kelly present. Senator Rodey was absent.

Number 010

Chair V. Fischer calls the meeting to order.

Number 051

Today's meeting is to provide background information for the series of hearings. The administration's views are going to be heard from Governor Sheffield.

Number 053

Governor Sheffield testified that power was one way we can develop Alaska. He felt that if Susitna met certain criteria, then it would be a good deal. He has come up with a checklist for the Susitna project consisting of the following: we must know 1) the cost, 2) the financing from start to finish, 3) who will buy the power, 4) 100% of the design, 5) final pre-construction cost estimate, and we must have 6) Federal Energy Regulatory Commission license, 7) external review planning, 8) tax exempt status in place, 9) legislative authorization, and 10) APA approval. He felt that Bradley Lake was also part of the overall picture as it could come on line before Susitna and could supplement the railbelt needs by providing peak power to Anchorage. He envisions a total intertied system within the railbelt area receiving power from three locations where all consumers would pay the same price. State money would be involved, with the state getting its money back over a long, long time. In rural Alaska we subsidize diesel fuel, although there are lots of possibilities for power other than diesel fuel-- hydro, gas, wind, thermal. Under Commissioner Dick Lyon we are going to try to develop long range plans while we have some money with which to do it. In Southeastern Alaska, Governor Sheffield envisions two power grids consisting of northern and southern sections. He named other options like coal, and the wind mills which are used in Urialakleet, and felt that we need to be able to store up that power. Governor Sheffield's overall view was to

generate a long term plan consisting of two parts--one large scale and one small scale. It was his view that they all help to get our money back. He felt that Susitna looks right 50 years down the road. In any case, in order to develop our energy resources, we need to store up large amounts of money-- as the Alaska Investment Fund would do.

Chair V. Fischer asked what the energy network was under the Administration, and how it all fits together.

Governor Sheffield responded that the Alaska Power Authority is housed under the Department of Commerce and Economic Development, but that it is run by an independent board.

Number 289

Governor Sheffield said that he saw himself becoming more involved with the Alaska Power Authority than the previous administration and wants more direct contact with it. Policy decisions will be up to Commerce.

Commissioner Lyon, Department of Commerce and Economic Development, said that the Department wants to be closer to all the entities under its umbrella.

Number 328

Chair V. Fischer asked how fast they saw the decisions being made. He also asked if the Commissioner thought they would proceed down the checklist and then decide on the project.

Number 338

Governor Sheffield would like to speed up the process of the checklist. "I don't have a time frame yet."

Chair V. Fischer said that the committee has before it several bills affecting Susitna financing. Governor Sheffield said that he would be looking at alternative financing.

Number 387

Eric Yould, APA executive director, gave an overview of the Alaska Power Authority. One of the goals of APA would be to put into place a long term scenario that would implement the views of the Governor. He agreed that he worked very closely with the new administration. He felt close Administration supervision was in the best interest of the state. He continued to

explain that the purpose of the Alaska Power Authority was to provide economic development to the state through the lowest cost power, and that the APA took a longer term view. He felt that we are developing very cost effective projects.

Number 000

CHANGE TAPE TO SIDE 2.

Number 183

Eric Yould introduced Mr. Ray Benish.

Mr. Ray Benish testified on the APA's ability to study and implement power plans. The goal of the APA is to remain small, and they contract out most of their work. 1/2 billion dollars worth of construction has been funded under APA. Other programs include power cost assistance in rural areas, where the State picks up part of the costs for electricity. Current program cost is \$10 million per year. Another program is the revolving electric loan fund. It allows utilities to get 2 percent loans which enables them to provide electricity to areas otherwise unserved. Power production loan fund has been used in the past to fund some hydro studies. He concluded by saying that all these programs must report back to the Legislature.

Next came a slide show on various Alaska Power Authority projects including Bradley Lake, Green Lake, Swan Lake, Terror Lake, Tyee, Solomon Gulch, Anchorage/Fairbanks intertie, waste heat projects, Silver Lake, Susitna, Kiseralik, and Tazimina.

Number 000

BEGIN SIDE 2, TAPE 1.

Number 93

Senator Halford asked why the Susitna camp is in the only swamp around?

Number 101

Eric Yould answered that the camp was put in during the middle of winter. The decision has proved embarrassing.

Question.

Number 150

Eric Yould testified on the system undergone with power projects. The process on the projects begins with a reconnaissance study process, and proceeds with a review of energy needs, a comparison of life cycle costs, a review of the costs of resources,

and a study of alternatives to diesel fuel generation. Mr. Yould said that the Alaska Power Authority had been criticized for bringing forth too many projects, but actually APA rejects many projects which are not feasible. APA has just completed the feasibility stage on Susitna. He said that if the conclusion proves that Susitna is technically feasible, APA still can't go forward until the Legislature authorizes construction. Alaska Power Authority initiated the Tyee project with state funds. It had to have interim financing. This is also true for Swan Lake and Terror Lake projects.

- Number 275 Senator Sturgulewski wanted an overview of what will happen for the rest of the presentation and the other hearings on Hydro that have been sheduled by this committee.
- Number 282 Chair V. Fischer responded that they would follow the printed agenda.
- Number 324 Chair V. Fischer asked what was the incentive for a "good" project like Green Lake to pool with higher cost projects.
- Number 336 Eric Yould answered that the lower cost projects will not wish to be included in the pool and higher cost ones will want in. Present pooling system may not be workable. May affect bonding.
- Number 363 Chair V. Fischer asked if the Alaska Power Authority was looking at ways of financing some of these other projects.
- Number 370 Eric Yould responded that they were.
- Number 380 Chair V. Fischer asked what kinds of power sales agreements do we now have with Swan and Terror Lake?
- Number 390 Eric Yould responded that the power sales agreements were written around SB 25 and specify that they are "subject to existing state law." They will now have to be changed, and the APA is looking for a standard to adopt. Petersburg and Wrangell have recently balked at the power sales agreements offered them for Tyee power.
- Number 412 Senator Sturgulewskisaid that there was a

lack of a specific method of legislative oversight and that it was frustrating. She

asked if A.P.A. could provide data for unexpended amounts on various projects?

Eric Yould answered that yes they could.

Senator Sturgulewski asked if A.P.A. had a method to report its findings on projects.

Number 449

Eric Yould answered that a long term energy plan was a good vehicle for that purpose.

Number 472

Senator Sturgulewski said that this information was not available or perhaps not asked for in the past. She felt that we needed better legislative oversight.

Number 518

William Wakefield, Federal Energy Regulatory Commission (FERC) testified. His office has developed a "Susitna Status Report" which was distributed to the Committee. FERC is charged with determining whether or not the Susitna project is in the best interest of the public. FERC's process for that determination consists of public notices, sixty to ninety day comment period, and a three pronged analysis. An Environmental Impact Study is prepared. There may be a hearing before an administrative law judge. Intervenor may present evidence. A staff recommendation is made. Commissioners review the record. The three criteria for issuance are 1) Needed? 2) Stable? 3) Environmentally sound? The status report lays out timetable for Federal Energy Regulatory staff decisions.

Number 598

Chair V. Fischer: What criteria do you use to determine the need for power?

Number 605

William Wakefield answered that they use the application and other data. "Hydroelectric Power Evaluation" is a document used by FERC to make these decisions, and was provided to the committee. "Any conclusion we make we must defend in public."

Number 625

Chair V. Fischer said that Alaska has a policy of promoting power development. He then asked how Mr. Wakefield would evaluate Alaska's long term plan for the future.

Number 645

William Wakefield answered that such economic development is speculative and very difficult to evaluate. FERC makes independent analyses.

Chair V. Fischer said that he was trying to get a feel for the relationship between the F.E.R.C. and the State.

Number 660

Senator Sturgulewski asked what was the long range price of other energy sources. She asked if FERC used the same assumptions as the Finance Committee.

William Wakefield answered that they look at the State's analysis, and they look at their analysis, and make an independent judgement if they don't agree. He said that there was a mechanism in place whereby the conclusion made by FERC could be challenged. In reviewing the application, however, they don't discuss the merits of the information, only the sources and explanations.

CHANGE TAPE TO TAPE 2 for 2/24/83.

Number 000

William Wakefield: FERC is speaking on the feasibility of the projects. Their opinion can be challenged in court but not while they are in the review process.

Number 026

Senator Sturgulewski asked where the FERC representative would physically be located?

Mr. Wakefield answered Washington, D.C.

Number 045

Senator Sturgulewski asked if they would have on-site personnel. Wakefield answered yes.

Number 093

Senator Sturgulewski asked what was the last major dam built in the last few years?

William Wakefield (FERC) said there hadn't been any for quite some time.

Chair V. Fischer asked if FERC looked at power purchase agreements, or does FERC assume that it can be done.

William Wakefield answered that the power sales agreement had to come before the licensing. He further concluded that FERC assumes the need for power is very clearly

defined.

Number 155

Chair V. Fischer asked Mr. Wakefield if the state could assume that when FERC issues an order that they have okayed the project and that the state could then go ahead with the project. Senator Fischer also asked what questions the state should still ask after we have received the FERC approval.

William Wakefield answered that the State doesn't have the final design yet, so FERC reviews what the State has and they stay in touch in an on-going process. He commended the APA. He also said that unless FERC has all the information, they cannot go through their process.

Number 201

Chair V. Fischer asked if FERC would throw the application away if it was missing some pertinent information.

William Wakefield said FERC would ask for more information.

Chair V. Fischer asked at what point the state needs to give full and formal Susitna approval.

Mr. Wakefield said that FERC is going on the assumption that the project is already approved.

Senator Sturgulewski answered that only the filing of Susitna with FERC has been approved.

Mr. Wakefield said that if FERC has any indication that the state is not going on with the process, they won't want to commit time and money to it.

Chair V. Fischer asked at what point do we have to have money on the line?

Mr. Wakefield answered that construction must commence within two years of licensure. You must have power sales contracts before licensing, which assumes financing in-place.

Number 289

Chair V. Fischer asked about the FERC commission order that approved a cost for Tyee of \$64.1 million, in contrast to the \$132 million we now have in the project.

Does FERC use a sensitivity analysis regarding costs and to what extent does FERC track power costs after licensure?

Mr. Wakefield answered that economic analysis is subject to change by its very nature, and that Tyee has been a moving target.

Number 338

Senator Sturgulewski asked if FERC continued its oversight once the process is complete, license is issued, and the project comes to fruition.

Mr. Wakefield said that the FERC analysis is complete with licensure, and that they only do inspections later.

Senator Sturgulewski asked if FERC would take any preventive action.

Mr. Wakefield answered that they do not.

Number 370

Chair V. Fischer said that the next testimony is from Erickson and Associates. They are going to speak on interim financing.

Chair V. Fischer introduced Tom Singer from Erickson and Associates.

Number 403

Tom Singer read his testimony. See testimony from Erickson & Associates memorandum. This memorandum is attached to Senate State Affairs Committee copy of minutes only. Not available on computer network.

Senator Kelly returns to meeting.

Number 512

Several witnesses discussed the Tyee Project including Ernie Haugen (Thomas Bay Power Commission), Rich Underkofler (City of Petersburg), Kenneth Mason (City of Wrangell), George Matz (OMB), and Ernie Mueller (former APA board member)..

Number 552

Eric Yould passed out a chronology of the Tyee project. He said that Tyee was originally undertaken in 1978 by Thomas Bay Power Commission. Originally the cost was \$39 million, one half cost was in the transmission line and one half in civil engineering portion. In 1979 the Alaska

Power Authority took over. In 1980 costs were revised from \$39 million to \$51 million. APA Board was concerned. Independent cost estimates were completed in June 1981: \$97 million present dollars or 110 million at time of completion. APA needed additional funding; they turned to interim financing for \$50 million. APA indicated plan to Legislative Budget and Audit. Ultimate cost will be between \$115 and \$125 million. The financing statutes have changed year by year.

- Number 000 BEGIN TAPE 2, SIDE 2. Eric Yould continues. Cost for Tye power has been estimated at 30¢ per kilowatt hour.
- Number 050 Ernie Mueller said that APA once considered firing the engineering firm that gave poor cost estimates.
- Number 080 George Matz, Office of Management and Budget, gave an historical perspective on the Tye project, and passed out a memo detailing the historical milestones. OMB analysis had raised questions about the project's feasibility, but at the time there was no process for an independent cost analysis.
- Number 213 Richard Underkoffler, City Manager, Petersburg. Petersburg believes in Hydropower. Currently, the cost of electricity from the 48% of the load produced by hydro power in Petersburg only costs .7¢/kilowatt hour. Petersburg is concerned about 1) the Tye wholesale cost 2) the clause in the law which requires all power projects to pay a 10% annual return if \$5 billion is not paid into the fund by 1986. The Legislature should defer the cost of hydro projects over the life of the project. Front end costs are great but operation and maintenance costs are low. Power from Tye could be sold through an intertie to Ketchikan or sale to U.S Borax for their mining operation on an interruptible basis.
- Number 352 Senator Kelly asked what would an intertie with Ketchikan cost.
- Number 360 Eric Yould answered that it would cost \$600,000 - 700,000 per mile.

Ernie Haugen testified for in favor of hydro generally. Load could be increased through cheaper rates. He wanted it to be completely understood that Tyee belongs to Wrangell and Petersburg, and that Borax should only receive power in excess to the communities' needs.

Kenneth Mason stated for Wrangell that if Tyee power were not cheaper than diesel, Wrangell would be hesitant to purchase it.

Number 448

Senator Kelly asked why the engineers misestimated the project cost so badly? How do we know it won't happen again?

Number 527

Eric Yould answered that the APA won't use International again, but that they are still on the job because you can't take them off of design and keep continuity. Severe action would have hurt the project. The APA now requires a second, independent cost estimate.

Number 584

Senator Sturgulewski said that APA awarded the major Tyee contract before APA had some fundamental data for the project.

Number 594

Ernie Mueller said that they had already delayed the awarding thirty days. They didn't know at the time that they would have trouble obtaining power sales contracts.

Number 610

Senator Sturgulewski asked how we could make a viable project out of Tyee.

Ray Benish answered that there were at least four alternatives: 1) additional state equity; 2) low interest loans; 3) a grant similar in nature to power cost assistance; 4) same as three but made on a loan basis. All would require some assistance from the State. He added that it's not true that if power sales contracts were signed, that would entirely solve the problem. There is a particular problem with small communities in that they can't assume the risk.

Number 459

Chair V. Fischer adjourns the meeting at 5:00 p.m.

SENATE STATE AFFAIRS
STANDING COMMITTEE
February 26, 1983
9:00 a.m.

Members Present: Senator Vic Fischer, Chairman
Senator Arliss Sturgulewski
Senator Pat Rodey

Members Absent: Senator Bill Ray
Senator Tim Kelly

COMMITTEE CALENDAR

This purpose of this meeting was to receive public comment on the Susitna project, Senate Bills 68-71, and hydroelectric development in general.

WITNESS REGISTER

Senator Rick Halford
Alaska State Legislature
Pouch V, Juneau, Ak 99811
465-4958
Position Statement: Discusses SB 70.

Kent Wick
Homer Electric Association
No information provided.
Position Statement: Supports Susitna with conditions.

Eric Yould
Alaska Power Authority
No information provided.
Position Statement: Gave history on choice of Susitna as an energy source.

Bob Mellin
Wasilla
No information provided.
Position Statement: Testified on SB 68, 69, 70, 71.

Mike Kelly
Golden Valley Electric Association
No information provided.
Position Statement: Hoped Committee would pass out hydro bills.

Jeff Bohman
McKinley Park
No information provided.
Position Statement: Expressed concern on the long term energy

policy of the State.

Harold Pomeroy

Self

No information provided.

Position Statement: Believes in development but oil revenues are in decline.

Jeff Eustis

Self

No information provided.

Position Statement: Railbelt should bear the cost of Susitna.

Bob Penney, Chair

Energy Committee of the Alaska State Chamber of Commerce

No information provided.

Position Statement: Susitna is needed to complete the goal of hydro power.

Mano Frey

Laborers' Union Local 341 Anchorage

No information provided.

Position Statement: Spoke on SB 10.

Joseph Henry, Attorney

Resource Development Council

No information provided.

Position Statement: Testified that 10,000 members want project to go forward right away.

Jim Ayers

Self

No information provided.

Position Statement: Addressed the lack of a clear economic plan for State.

Jim Sykes

Self

No information provided.

Position Statement: Testified that we need to know final costs of Susitna project.

Doug Stark

Self

No information provided.

Position Statement: Testified that it isn't desirable to move ahead on Susitna.

George Skladal

Self

No information provided.

Position Statement: Favored hydro.

Ron Kuzek

Self

No information provided.
Position Statement: Testified that Susitna was feasible.

Bill Holton
Self
No information provided.
Position Statement: Spoke against Susitna.

Brian Boyd
Self
No information provided.
Position Statement: Related the high costs of Susitna.

Mark Beltz
Self
No information provided.
Position Statement: Related his interest in our energy future.

Earl Finkler, Director of Planning,
CSM
No information provided.
Position Statement: He was concerned about energy needs in rural Alaska.

Chuck Konigsburg
Self
No information provided.
Position Statement: Spoke on the factor of political power in relation to funding of hydro projects.

Lisa Moorehead
Self
No information provided.
Position Statement: Testified against SB 68, 69, and 71.

Paul Lowe
Self
No information provided.
Position Statement: Supported the renewable use of energy replacing non-renewable uses of energy.

Larry Underwood
Self
No information provided.
Position Statement: Spoke against Susitna.

Wayne Beckwith, Vice-Chair
Anchorage Chamber of Commerce
No information provided.
Position Statement: Spoke on power to consumer.

Budd Goodyear, Manager
Matanuska Electric Association
No information provided.

Position Statement: Gave history of MEA.

Tom Stahr, Manager
Municipal Light & Power
No information provided.

Position Statement: Testified that the load growth forecasts for
Susitna are too low.

Lee Worham
Susitna Power Now
No information provided.

Position Statement: Susitna was a window of opportunity.

Liz Gilbert
Chugack Electric Association
No information provided.

Position Statement: Read board policy adopted february 16.

Sharon Odel
Resident
No information provided.

Position Statement: Spoke in favor of Susitna.

Nancy Lee
Citizen
No information provided.

Position Statement: Expressed it was foolish to support the
bills with oil revenues declining.

Mary Pat Haberle
Self
No information provided.

Position Statement: Testified against Susitna.

Victor Mittasch
Self
No information provided.

Position Statement: Didn't oppose Susitna but does oppose
additional funding.

Keith Treseder
Self
No information provided.

Position Statement: Spoke against Susitna.

Judy Zimicki
Northern Alaska Environmental Center
No information provided.

Position Statement: Gave overview of Institute of Science and
Economic Research report.

PREVIOUS ACTION

Please refer to S. State Affairs Committee minutes dated 02/24/83.

ACTION NARRATIVE

TAPE#
Recording
Number 000

The meeting of the Senate State Affairs Committee was called to order at 9:20 a.m. with member Senators V. Fischer, Sturgulewski, Rodey present. Senators Ray and Kelly were absent. The meeting was in the Alaska Room at the Anchorage Westward Hotel. Approximately 40 people were in attendance.

Number 005

Chair V. Fischer begins the meeting and gives introductory remarks concerning the scope of the meeting and its background.

Number 081

Senator Sturgulewski gives introductory remarks concerning the need to address the tough economic and financing issues.

Number 141

Senator Rodey gives introductory remarks summarizing the bills before the committee.

Number 194

Senator Halford discusses SB 70. He relates that it is actually a system bill. This bill would reallocate Permanent Fund Dividend monies into energy fund. Susitna is the best potential for hydro power in the State.

Number 264

Eric Yould gives a history on the choice of Susitna as an energy source. The result of the two-year study by Acres American was that Susitna was feasible. The legislature has approved submittal of a FERC license and appropriated \$25.6 million for the current fiscal year for continued work and analysis. The Governor has made it clear that construction of the project will not begin until power sales contracts are in place.

Number 340

Senator Sturgulewski asked what review Mr. Yould saw necessary in the Governor's checklist. How do we get meaningful information?

Eric Yould answered that he felt it would take concerted effort between APA and the Governor's office to make review. Susitna is closely tied to the state's future oil

revenues.

Number 399

Kent Wick from Homer Electric Association related the 6% load growth expected in the Peninsula. Homer Electric supports Susitna with four caveats: 1) Bradley Lake is built according to schedule, 2) the project is feasible and costs of power are lower than alternatives, 3) prudent engineering, and 4) reasonable environmental concern. See letter 1 attached.

Number 454

Senator Sturgulewski asked what main concerns with Bradley were?

Kent Wick answered Homer Electric is concerned with the effect of the Enstar gas contracts and the way in which they affect feasibility. A base-load project of 60 MW may be more feasible than a 135 MW peaking facility.

Senator Halford asked what information Homer Electric wanted to know before they would sign a take-or-pay contract to purchase power.

Mr. Wick answered that they would want to know the cost of the power to the greatest degree possible, at least to know the finance plan and the proportions of state equity and bonds.

Bob Mellin, citizen of Wasilla, testified on SB 68, 69, 71. He is opposed on any advisory vote to amend our Constitution. To use the Constitution in this manner, he felt, was a violation of public trust. Regarding SB 69, he felt that APA had ignored alternative energy technologies. He expressed concern about the language in SB 71 that would allow revenue bonds to be backed by the resources of the state. He summed up by saying that no other state in the union has sought to bind its people to such a project as Susitna on such nebulous grounds.

Number 736

Senator Halford asked which alternative energy sources should be further explored?

Mr. Mellin answered that the steam generation plant (coal) that was proposed for Sutton in the 1960's is one example.

Number 784 Mike Kelly, general manager of Golden Valley Electric Association, spoke. He said that they support SB 69 at a cost of \$5.4 billion. He said that the 1982 load growth for G.V.E.A. was 12%. He related the power needs of the Fairbanks area. He felt that the growth was going to continue.

Number 000 CHANGE TAPE TO SIDE 2. Mike Kelly was still testifying.

Number 007 Mr. Kelly felt that to peg our future energy needs on oil, gas, etc was risky at best. He felt that predicting the cost of hydro was possible, while you can't do that for non-renewable resources. He hoped that the committee would pass the hydro bills out with good recommendations.

Number 030 Chair V. Fischer asked if GVEA would sign a take-or- pay contract.

Mr. Kelly answered that his utility would have problems with signing power contracts at this time.

Number 070 Senator Sturgulewski asked what we are going to do to market the bonds? Who is going to take the risk?

Mr. Kelly answered that the WPPSS example has been blown out of perspective. GVEA prefers not to sign any agreements with suppliers.

Senator Rodey asked what would happen when Susitna comes on line and you have existing debt on other facilities.

Mr. Kelly answered that GVEA has a number of small peaking units. They can shut down the peaking units except for actual peaking and reserve requirements.

Senator Sturgulewski asked what the plans were for the intertie before Susitna.

Number 140 Mr. Kelly answered that as soon as the intertie was developed they would want to take advantage of it to buy gas-fired power from the Anchorage area.

Number 161 Jeff Bohman, citizen of McKinley Park, expressed his concern on the long term

energy policy of the State. He disapproved of the bias of people who feel that those against Susitna are somehow shortsighted. He asked why people overlook coal and gas as alternatives. He felt that hydro power in general may be viable, but asked what was the sense of getting the cheapest power on sale if we don't need the power. He felt that the most prudent approach would be to develop our power sources in-step with our needs. For the per capita cost of Susitna McKinley Park is now able to provide alternatives, demonstrating their relative feasibility. SB 70 may be more equitable.

Senator Halford and Mr. Bohman discussed the per capita cost of Susitna.

Number 303

Mr. Harold Pomeroy said he believes in development, but that he can't get away from economic fact. Oil revenues are in decline, and we're facing an appalling state deficit. Mr. Pomeroy read from a prepared paper. See attachment #2. The State should not subsidize the Susitna project. He added that the pursuit of energy should not revolve around enthusiasm for one project. We can't commit to major expenditures when we're facing near-insolvency.

Chair V. Fischer said that the Legislature is taking a closer look at it.

Number 476

Jeff Eustis, speaking for himself, asked where should we place our money -- Susitna or elsewhere? Should Susitna be a State risk or a railbelt risk? If the railbelt wants to go ahead with the project, they should bear the cost. He questions the good sense of the project. He asked what we should do about the downturn in State revenue? Where are we going to get our money? Susitna will not produce a single dollar. It will supply needs for railbelt energy but not for further growth. Questionableness of project: 1) some of the assumptions taken into count when first considering Susitna are no longer valid; 2) when speaking on load forecasts he related that the APA doesn't even support its own conclusions on the load forecasts.

Bob Penney, Chairperson of the Energy Committee of the State Chamber of Commerce, explained that SB 68, 69, and 71 were

developed by the Chamber and introduced at their request. He felt that Susitna was needed to complete the goal of hydropower throughout the state. He said that if Susitna were finished today, the cost to the public would be the same as for natural gas. The state contribution of 1.8 billion was to make hydro competitive in the early years.

CHANGE TAPE TO TAPE 2, SIDE 1

Number 000

Bob Penney still speaking.

For Susitna and other capital projects, he suggested using the other half of the permanent fund earnings (not the dividends). He said that the Chamber is putting together a Blue Ribbon Committee to develop a finance plan--this information would be available by the next session.

Number 018

Chair V. Fischer said that inflation proofing the permanent fund was the number one priority for the legislature. He further related that the legislature was going to be very squeezed on the use of the Permanent Fund earnings. He asked Mr. Penney what he thought of foregoing housing subsidies and applying those funds to the Susitna project. Mr. Penney said that he couldn't answer for his committee. Senator Sturgulewski said that there was a study going on in Legislative Budget and Audit on debt management. Senator Sturgulewski asked if Susitna could financially stand on its own two feet, and felt that should be a major consideration when making a decision as to whether to go ahead on the Susitna project.

Number 097

Senator Halford said that he felt that inflation proofing the Permanent Fund was not a political but ideological question. He did not see the approach of using the dividend portion for Susitna as being viable.

Mano Frey, Laborers' Union Local 341 in Anchorage, spoke on SB 70. He said that the Permanent Fund Dividend program should be a permanent program. He felt that the Union membership would prefer to see it in the form of energy as it would result in more benefits for future generations. He didn't

want the State to become involved in any cost-plus contracts. He suggested that the State enter into hard core contracts because then the best workers would become involved in the Susitna project. Senator Sturgulawski wanted to know how to better utilize residents in State labor force.

Marg Frey assured her that Alaska residents would be on the highest union list.

Number 178

Joseph Henry, Anchorage attorney for the Resource Development Council, said that 10,000 members would like to see the project go forward right away. On how to fund the project, he wanted the Permanent Fund to be invested in Susitna. He doesn't think that the Permanent Fund needs to be liquid if it is used on Susitna as it would be considered an investment. He didn't feel that it would be advisable to have power districts. He questioned why FERC needs to look at Susitna at all. He thought that Susitna had already been studied to death, and said that it had been ready since 1952.

Number 240

In summation, Mr. Henry stated that he hoped the State would act quickly to put Susitna on line.

Number 258

Jim Ayers, speaking as a private citizen, addressed the lack of a clear economic plan for the state. Consideration of Susitna, he said, should assume 1) that the State has a clear economic development plan, 2) that the State has commitments from the industry to buy the power, 3) that the State has a completed Fish and Game update on the impact of the project, and 4) that the State has a plan for equitable distribution of money to railbelt citizens. Speaking on SB 70, he said inflation proofing the Permanent Fund was of utmost importance. He felt that the State should consider heavily what other State programs we would have to forgo, to invest \$230 million into hydro this year. He supported providing jobs for Alaskans, but felt that the State should be wary of plans that create jobs for the masses.

Number 364

Paul Lowe, private citizen, supported the renewable use of energy replacing non-renewable uses of energy. But he felt that this goal should not be confused with smart

planning. He said that the State can't afford Susitna. He reminded the committee that the original plan for Susitna was to pay cash which is unavailable today. He said that another reason why the State can't afford Susitna was because of what the repercussions would be on the bonding capacity of the State which would be to decrease the bonding capacity for other State projects. The bonding of Susitna would put the residents of Alaska into hock up to their ears. He also felt that we need the money for other purposes. He asked everyone there to remember that there are no free lunches. He summarized his statement by saying that a vote for Susitna was a vote to bankrupt the State of Alaska.

The morning portion of the hearing was concluded at 12:00

The hearing resumed at 1:30

TAPE 2, side 1 #557 Larry Underwood spoke against Susitna because he felt that the State can't afford it, and because he wasn't convinced that the State could predict the costs of these projects. Senator Fischer asked what alternatives Mr. Underwood would support. Mr. Underwood answered that he would support the use of coal.

Number 649

Wayne Beckwith, Vice Chair of the Anchorage Chamber of Commerce Energy Committee, spoke on power capacity, and the costs of power to the consumer. He suggested that the consumers of power would save money when hydro came on line because it would replace other inefficient means of power. He added that Susitna will be expensive but that the benefits are long-term. He supported SB 68, 69 and 71.

Number 000

CHANGE TAPE TO TAPE 2, side 2. Senator Fischer remarked on the need for creative thinking as the State's oil revenues decline. Senator Sturgulewski asked what would happen if we were to take away the black mail law? Wayne Beckwith said he had no problem with getting rid of the clause.

Number 039

Budd Goodyear, general manager of Matanuska Electric Association, gave a history of the MEA. He supported Susitna. He read a

resolution passed by MEA that gave full support. The question, he said, is whether we want price stability (Susitna) or continually-rising prices. Senator Vic Fischer asked Mr. Goodyear what the stand of MEA was concerning power sales agreements. Mr. Goodyear answered that they were considering it, but that they had no stand on it yet. Senator Vic Fischer related that it was a prerequisite, and that both the Governor and FERC would insist upon it before the Susitna project could go through.

Tom Stahr, general manager of Municipal Light and Power, said that the load growth forecasts that have been made for Susitna are too low. ML&P has had a 10% annual growth since 1950 and 12.7% in 1982. He suggested that there was no possible future scenario under which Susitna output could not be fully utilized. The State would have to commit to construct the project before utilities will sign power contracts.

Lee Worham, Susitna Power Now, said that the Susitna Dam project was a window of opportunity that must be seized now. He added that it was like a perpetual motion machine that will make money for years. He felt that it would be a crime to use fossil fuels and waste renewable resources. His view was that the key to equitable distribution was in SB 70. He said that Susitna Power Now was not ready to endorse any specific financing plan. He was opposed to an advisory vote. He also thought that it was unrealistic to expect utilities to commit to power sales agreements now; that question should only be asked after the funding mechanism and costs have been nailed down. Senator Sturgulewski asked what bills should move forward. Lee Woreham answered that they didn't support revenue bonds as the sole method of financing--only as one part.

Number 326

Liz Gilbert, Chugach Electric Association board member, read the board policy adopted on Feb. 16. "Chugach Electric Association, Inc. supports hydro power as an efficient, reliable source of power production and would be willing to consider it as a source of electrical power for our members provided it was the most efficient, low-cost,

reliable source of power available." The primary concern of Chugach Electric was for long term price stability.

Number 398

Ms. Gilbert related that hydro electric power has held down the costs for N.W. coast electricity. She believed that the take-or-pay contracts would be signed when the costs are known. She suggested that if Susitna turns out to be the lowest cost of power, then Chugach Electric would support it.

Senator Rodey returned from lunch.

Number 512

Sharon Odell, resident, spoke in favor of Susitna. She felt that it should proceed without too much delay, and that local hire should be assured.

Number 548

Nancy Lee spoke as a private citizen and expressed that it was foolish to support these bills when the funds available to the State of Alaska were decreasing at the current rate. She felt that other sources of energy were more appropriate.

Number 735

Mary Pat Haberle, resident, testified against Susitna, but generally supported the use of hydro-electric power. She felt that it fit into the State's energy needs. On Susitna, she felt that the short term job benefits did not outweigh what the costs might be. She felt that there needed to be clear cut financing.

Number 859

Keith Treseder, resident, spoke against Susitna because he felt that further study was needed. He was concerned about the costs.

Number 000

CHANGE TAPE TO TAPE 3 for 2/24/83. TAPE 3, side 1

Number 000

Victor Mittasch, speaking for himself, said that he didn't oppose Susitna as a whole, but that he did oppose additional funding--especially from the permanent fund. He felt that the permanent fund belongs to all the people of Alaska and not just those who live in the railbelt. He was also concerned that the people of Alaska didn't know the total costs of a project of such magnitude as Susitna. Senator Halford reminded Mr. Mittasch that there were energy programs and

projects in other areas of the State from which the people in Anchorage do not benefit.

Number 054

Judy Zimicki, Northern Alaska Environmental Center, testified on the latest report by the Institute of Social and Economic Research, "Sustainable Spending Levels from Alaska State Revenues." The major emphasis of her testimony was that the State will experience a fiscal crisis by the year 1988 as the State revenues fall below the State spending limit. Susitna must be considered in this light, as we prioritize expenditures.

Number 149

Jim Sykes, speaking for himself, felt that we needed to know the final costs of a project such as Susitna. He suggested that all the information on Susitna be pulled together, and that the general public be educated. He supported hydro power, but felt that each individual project must stand on its own. He opposed SB 68, 69, and 71 because he thought that they were inappropriate. He said that there were three questions that should be asked about Susitna: 1) is it needed, 2) is it economically feasible, 3) is it environmentally sound. He thought that SB 70 seemed like a good idea. He added that he would not like to attach any specific project to a service area. He felt that the public should have the final say through a binding referendum. He was against an advisory vote--this year. He suggested that Susitna may be cheaper in real terms later. He felt that the bottom line was that all the facts weren't yet in.

Number 315

George Okladal, speaking for himself, favored hydro. He wasn't sure, however, that we need hydro on such a large scale. We might be better served by incremental and decentralized facilities. We have other needs, such as education.

Doug Stark said that it's desirable to move ahead with Susitna. The utilities need to make commitments for new generation, so they need to know if the project is going or not. Exportables, like coal and gas, should be exported, while we serve our energy needs with hydro.

Number 365

Ron Kuzek, for himself, concluded that Susitna was feasible, and it should be built.

Mark Beltz related his interest in our energy future, and said that he supports Susitna.

Number 599

Bill Holton spoke against Susitna. He felt that it was too expensive, and that alternative sources of energy were more preferable options. He submitted written testimony.

Brian Boyd, speaking for himself, related the high cost of Susitna (\$12,000 per capita). He wondered what the State would do about the down turn in State revenue, and he wondered where the State was going to get the money for Susitna. He added that one of the problems with Susitna is that it won't produce one dollar. He suggested that Susitna would only provide energy for the railbelt area. He said that Susitna will probably not be a basis for further growth. He felt there were some questionable aspects of Susitna. One of his concerns was that some of the assumptions taken into consideration when first looking at Susitna were no longer valid. The bonding provisions also caused Mr. Boyd some concern. He reminded the committee that bond holders could go after the assets of the State of Alaska. He added that the bonding provisions would encumber the ability of the State to finance other projects.

Earl Finkler, director of planning for the firm CSM, was concerned about the energy needs in rural Alaska. He urged the committee to consider all state energy needs.

Number 770

Chuck Konigsburg, for himself, spoke on the factor of political power. With a project as large as Susitna, you give the responsible agency enormous political power. It then develops its own political constituency. He cited the examples of TVA and BPA.

Number 000

CHANGE TAPE 3 TO SIDE 2.

Number 025

Lisa Moorehead testified against SB 68, 69 and 71. The project should be decided on the

facts, not on popularity. The assumptions used by Acres are out-dated.

The hearing was adjourned at 3:45.

SENATE STATE AFFAIRS
STANDING COMMITTEE
Joint Meeting of State Affairs Committee
March 1, 1983
1:30 p.m.

Members Present: Senator Vic Fischer, Chair
Senator Arliss Sturgulewski
Senator Tim Kelly
Senator Bill Ray
Representative Mitch Abood
Representative Ron Larson
Representative Walt Furnace
Representative Richard Shultz
Representative Mike Miller (Juneau)
Representative John Cowdery

Members Absent: Senator Pat Rodey
Representative Tony Vaska

COMMITTEE CALENDAR

The purpose of this meeting was to review the Governor's criteria for Susitna go ahead. The two major issues for discussion today were feasibility and financing. All testimony is from invited witnesses.

WITNESS REGISTER

George Rogers
No information provided.
Position Statement: Made general remarks on hydro.

Eric Yould
Alaska Power Authority.
No address or phone provided.
Position Statement: Gave historical perspective.

Ray Benish
Alaska Power Authority
No address or phone provided.
Position Statement: Gave general remarks about financing.

Don Grimes
No information provided.
Position Statement: Testified.

Steve McAleer
No information provided.
Position Statement: Testified.

Sterling Gallagher
No information provided.
Position Statement: Testified.

Eileen Titmuss, Vice-President,
Drexel
No address or phone provided.
Position Statement: Testified.

Robert Mohn
No information provided.
Position Statement: Testified.

Tony Merritt
No information provided.
Position Statement: Testified.

Gervin Wernock
No information provided.
Position Statement: Testified.

Gregg Erickson
Erickson & Associates
No information provided.
Position Statement: Answered questions from committee members
and gave overview of report from their firm.

Lee Gorsuch
Institute of Social & Economic Research
No information provided.
Position Statement: Testified.

PREVIOUS ACTION

Please refer to S. State Affairs Committee
minutes dated 02/01/83, 02/24/83 and
02/26/83.

ACTION NARRATIVE

TAPE# 1 for 3/01/83.
Recording
Number 000

The meeting of the Senate State Affairs
Committee was called to order at 1:30 p.m.
with member Senators V. Fischer,
Sturgulewski, Kelly, Ray and Representatives
Abood, Larson, Furnace, Miller (Juneau), and
Cowdery present. Senator Rodey and
Representative Vaska were absent.

Number 001

Chair V. Fischer called meeting to order.

- Number 002 Chair V. Fischer made some introductory remarks: reviewed Governor's criteria for Susitna go ahead-- cost, financing, marketing, and common sense. The two major issues for discussion were economic feasibility and financing.
- Number 167 George Rogers, economist, made general remarks on the parameters within which to evaluate hydro projects. He discussed past proposed projects including Ramparts dam and projects as catalysts for development. Infrastructure development may not be necessary as a precondition for development and does involve opportunity costs.
- Number 398 Eric Yould, Executive Director of the Alaska Power Authority. He gave an historical perspective on how APA got to where it is today. He compared Susitna to what would occur if Susitna is not developed. He used several charts on coal alternative, gas alternative and coal/gas alternative. (The charts, in reduced form, are part of the committee record.) The Acres study, when it was completed 18 months ago, concluded that Susitna is the best alternative from a life-cycle cost perspective. Fuel cost assumptions affect the analysis, discount rate affects feasibility.
- Number 498 Senator Ray had a question relating to inflation.
- Number 502 Eric Yould responded.
- Number 510 Rep. Miller (Juneau) had a question relating to inflation.
- Number 512 Eric Yould discussed load forecast, discount rate, capital costs, fuel price escalation.
- Number 551 Senator Sturgulewski had a question on capital costs.
- Number 568 Senator Ray had a question on inflation.
- Number 590 Eric Yould discusses Susitna costs in 1982 dollars as \$3.58 billion for the Watana phase only. Watana could be on line by 1993, Devil Canyon by 2002.
- Number 641 Senator Kelly discussed APA recommendations. Susitna is economically attractive over a 60

year period.

Number 717

Senator Sturgulewski had a question concerning feasibility.

Number 722

Senator Kelly had a question on smaller scale options.

Number 730

Eric Yould testified that these options will be ready to discuss by May.

Yould reviewed the APA recommendations of April 1982: 1)continue pre-construction activities, 2)submit FERC application, 3)initiate design work.

Number 743

Ray Benish, Director of Finance for the APA, introduced APA financial advisors Don Grimes (First Southwest), Steve McAleer (First Boston), Sterling Gallagher (John Nuveen) and Tony Merritt (Acres American). He made general remarks concerning financing and listed three prerequisites: 1) a finance plan, 2) power sales agreements, and 3) resolution of the tax-exempt issue. Acres has concluded that the project would need a state appropriation of \$1.8 billion in order to provide power at a marketable price. The funding must be of a dedicated nature rather than incremental.

Number 811

Senator Ray had a question on cash requirements.

Benish listed the amount of appropriation that would be needed each year to provide the necessary state funding:

1983 \$160 million

1984 \$222 million

1985 \$276 million

1986 \$318 million

1987 \$345 million

1988 \$378 million

1989 \$120 million

Number 000

CHANGE TAPE TO SIDE 2.

- Number 046 Don Grimes testified that we must maintain State's credit rating. The rule of thumb is that only 5% of unrestricted revenues can safely be required for debt service payments. At the 30th percentile of revenues, our debt capacity for Susitna would only be \$565 million. At the 50th percentile, the capacity could be \$900 million. In addition, G.O. bonds are of limited usefulness because their payback must fall within the oil revenue curve. He recommended revenue bonds backed by a moral obligation of the state rather than general obligation. He recommended that the state put in the required "equity" before incurring debt for the project.
- Number 192 Chair V. Fischer asked Grimes for his opinion of the "double-barrel" bonds in the legislation.
- Number 200 Don Grimes doesn't recommend this type of bonding.
- Number 226 Chair V. Fischer asked what was being done to resolve the tax-exempt financing question.
- Number 230 Steve McAleer said that they were working on it.
- Number 261 Chair V. Fischer asked when a finance plan would be completed.
- Number 270 Ray Benish answered that the options have been laid out, and the APA will continue to tailor them. He emphasized the need for substantial state equity.
- Number 292 Chair V. Fischer asked if the APA would advise on where to get the required equity.
- Number 296 Ray Benish answered that that wasn't the role of the APA. They have not determined if the state can afford this project.
- Number 318 Senator Sturgulewski commented that the Dept. of Revenue is doing a debt study.
- Number 331 Sterling Gallagher testified that the State shouldn't commit more than 5% of unrestricted revenues to general obligation bond debt service.

- Number 364 Senator Sturgulewski asked if the APA needed any statute changes to facilitate bonding.
- Number 386 Don Grimes answered that they would encourage a dedicated revenue stream.
- Number 417 Rep. Abood asked if we assume worst case scenario, can we afford Susitna?
- Number 440 Don Grimes answered.
- Number 501 Rep. Abood had a question.
- Number 506 Ray Benish answered.
- Number 534 Chair V. Fischer discussed a document which projects costs.
- Number 576 Senator Sturgulewski asked what about the court decision in the Washington State power sales contract case? What makes a definitive contractual commitment?
- Number 590 Steve McAleer answered.
- Number 610 Rep. Cowdery asked how does the gas line affect feasibility?
- Number 620 Ray Benish: Can't answer.
- Number 632 Eileen Titmuss, bond analyst, vice-president, Drexel Burnham, & Lambert, New York. She addresses lessons to be learned from WPPSS (Washington Public Power Supply System). She gave a short history of WPPSS. (An edited transcript of Ms. Titmuss' testimony is attached.) WPPSS became vehicle for financing a series of nuclear plants. Bonneville Power Administration agreed to purchase power and bill through a complex procedure known as net billing. The bond market believed that the bonds carried a federal guarantee and thus gave them a warm acceptance, based on that rather than the underlying economics. Eventually buyers became aware that Bonneville did not have a direct line to the treasury. Bonneville had to raise rates to cover costs..
- Number 000 CHANGE TO TAPE 2, SIDE 1. Eileen Titmuss is still speaking on WPPSS. Rate payers were led to believe that everything was okay; actually they were simply not represented. Another problem was the fact that Bonneville

made its own forecasts, the state did not do it. The state didn't become involved until \$2.25 billion had already been spent. Because of WPPSS, bond buyers are now expected to take a severe look at the sanctity of the contracts and the underlying project economics. Titmuss suggests that participants (utilities) put money up front so they have an interest in the project. Taken into consideration should be the future credit rating of the State. The State should have its own way of monitoring changes in the needs of power. The people ultimately paying for this should be cognizant of their obligation. The liens should be understood-- who gets paid first. The State should be meticulous about monitoring the agency's activities.

Number 198

Eric Yould and Robert Mohn speak on the feasibility of Susitna. The base case assumptions last year included 2% real escalation in oil over planning period. The outlook for oil suggests a recovery over time for oil prices. The years until 1993 are important as they relate to financing Susitna. Conditions, including gas prices, have changed since last year. APA is doing an update due in May. Important are the new estimates of undiscovered Cook Inlet gas reserves. They are less than previously projected by USGS. The proven reserves will be exhausted by the year 2000. Load forecasts suggest an annual growth rate of 2%. Load growth was high last year in railbelt area.

Tony Merritt, of Acres, said that the basic substance of their analysis will not be changed. The forecast of the oil price will be consistent with their study.

Gervin Wernock, of Acres, spoke on how important it is to have accurate estimates. For Susitna they have applied a rigorous analysis of capital cost overruns. 73 - 75% chance of an under-run and only 25% chance of an overrun. He said it would be in best interest of Alaska to be prepared to proceed with Susitna.

Chair V. Fischer asked to what extent their projections have taken into consideration economic analysis.

Mr. Mohn answered that they were using ISER. They could have a rough draft by April.

- Number 468 Senator Sturgulewski said that they won't have the ability to begin construction until 1986, because of the time necessary to receive a FERC license..
- Number 495 Eric Yould related the fluctuating tendency of the economy. He said APA felt it was important to go ahead with plans.
- Number 517 Gregg Erickson, economist. (See attached edited transcript. A series of charts that were referenced are also part of the committee record). He discussed Acres American study. Susitna costs are 34¢ per kilowatt. Large power demand is necessary to make Susitna economically feasible. The cost of the project is critical as are interest rates. State's investment is not in the form of a loan and this may never be paid off. He discussed Cook Inlet gas reserves and prices.
- Number 000 CHANGE TAPE TO SIDE 2.
- Number 001 Gregg Erickson continues. He discussed cost history of APA hydro projects.
- Number 402 Senator Halford asked the question, would any hydro project have been built if we used Erickson's analysis?
- Number 420 Gregg Erickson answered that he can't make that kind of conclusion because he hasn't done the research.
- Number 440 Chair V. Fischer asked, is there an alternative way to spend 1.8 billion which would benefit the railbelt's energy needs?
- Number 460 Gregg Erickson responded that the best idea would be for the state to keep its hands off and let the marketplace choose. Then the capital costs of whatever was chosen could be subsidized.
- Number 517 Rep. Miller (Juneau) asked whether natural gas from the North Slope might be a viable alternative. Erickson answered that it was being studied.

Number 565 Lee Gorsuch, Institute of Social and Economic Research, discussed projected oil revenues. (See edited transcript.) Peak year of available revenues is 1983. Each succeeding year is substantially less. There will be a large gap in the 1990's. Wellhead oil prices could fall as low as \$12/barrel. There's an urgent need for more public information.

Number 864 Senator Sturgulewski had a question.

Number 000 CHANGE TAPE TO 3, SIDE 1.

Number 001 Lee Gorsuch response.

Number 050 Senator Halford asked what should happen with the Permanent Fund dividends.

Number 065 Lee Gorsuch answered that more revenues should be invested, and spending should be reduced...

Number 126 Chair V. Fischer adjourned meeting at 4:50 p.m.

SENATE STATE AFFAIRS
STANDING COMMITTEE
March 3, 1983
1:30 p.m.

Members Present: Senator Vic Fischer, Chair
Senator Arliss Sturgulewski
Senator Tim Kelly
Senator Bill Ray

Members Absent: Senator Pat Rodey

COMMITTEE CALENDAR

- SB 68 "An Act authorizing an advisory vote on a method of financing the Susitna river hydroelectric project; and providing for an effective date."
- SB 69 "An Act approving and authorizing the Susitna river hydroelectric project; and providing for an effective date."
- SB 70 "An Act establishing the Alaska energy dividend fund and providing for the use of Alaska permanent fund income to finance electrical generating facilities in the State; and providing for an effective date."
- SB 71 "An Act relating to bonds issued by the Alaska Power Authority; and providing for an effective date."

WITNESS REGISTER

George Matz,
Office of Management and Budget
No address or phone provided.
Position Statement: Testified.

Milt Barker
Legislative Finance Division
No information provided.
Position Statement: Discussed memo from 2/21 on funds available for capital projects.

Robert Heath, Commissioner
Department of Revenue
No information provided.
Position Statement: Testified on Administration's view of financial aspects of Susitna.

Robert Mohn
Alaska Power Authority
No information provided.
Position Statement: Spoke on marketability.

Ray Benish
Alaska Power Authority
No information provided.
Position Statement: Testified.

Harrison Call
RMI Pacific Northwest
No information provided.
Position Statement: Spoke on various types of power sales.

Carolyn Guess
Alaska Public Utilities Commission
No information provided.
Position Statement: Gave overview of Commission's role in power contracts.

Dick Emmerman
Office of Management and Budget
No information provided.
Position Statement: Summarized OMB's study to committee members.

David Rogers
Senate Advisory Council
No information provided.
Position Statement: Reviewed a list of obstacles to Susitna.

Al Carson
Department of Natural Resources
No information provided.
Position Statement: Testified that Department of Natural Resources had a Susitna Valley Land Use Planning effort.

Dennis Kelso
Department of Fish & Game
No information provided.
Position Statement: Testified that Department's role has been to provide technical data.

Jeff Weltzin
Fairbanks
No information provided.
Position Statement: Expressed concern over fish and wildlife impacts.

Terrell Berrell
Anchorage
No information provided.
Position Statement: Testified that we have other need more

important to consider before Susitna.

PREVIOUS ACTION

No previous action on these bills. For more information on hydroelectric projects particularly Susitna please refer to S. State Affairs Committee minutes dated 03/01/83, 02/26/83, 02/24/83 and 02/01/83.

ACTION NARRATIVE

TAPE# 1 for 3/3/83.
Recording
Number 000

The meeting of the Senate State Affairs Committee was called to order at 1:30 p.m. with members Senators V. Fischer, Sturgulewski, Kelly and Ray present. Senator Rodey was absent.

Number 001

Chair V. Fischer called meeting to order and made introductory remarks.

Number 053

George Matz, Office of Management and Budget gave review of feasibility studies. The studies included the Susitna Hydro Plan, 1978, Corps of Engineers; Acres - American Study, 1979; Battelle study- "Railbelt Alternatives Energy Study". The changing conditions in the energy scenario of the State are: 1) drop in the price of oil; 2) state revenues are less; 3) Susitna load forecast is less; 3) cost of thermal is less; 4) inflation is less; 5) the State's risk is higher; and 6) the State's equity (subsidy) requirements are higher. The Office of Management and Budget is trying to define an economic window for Susitna.

Number 506

Chair V. Fischer asks when up-dated information will be available?

Number 510

George Matz said load forecasts will be available by May. Capital costs estimates will come from engineering firms. Another factor is discount rates.

Number 591

Senator Sturgulewski asked what will be the role of the Office of Management and Budget review process.

Number 612

George Matz replied that the statutes set

out the review process requirements.

- Number 632 Senator Sturgulewski asked what is Office of Management and Budget's role in generation of financing plans.
- Number 650 George Matz stated that financing is a policy decision to be made by the Administration and the Legislature. OMB provides info and analysis.
- Number 660 Milt Barker, from Legislative Finance Division, discussed memo of 2/21 on funds available for capital projects. He felt that it reflected conservative estimates given trend in oil prices. He said that revenues are not adequate to fund all the proposed capital projects.
- Number 800 Commissioner Robert Heath, Department of Revenue, gave testimony on the Administration's view of the financial aspects of the Susitna project. He related that the Administration is nervous about it. He said that they really wanted to see the LB&A study on debt before they make a recommendation.
- Number 830 Senator Fischer asked what the relationship is between the state's bonding capacity and the State's credit and ability to pay back the funds.
- Number 842 Commissioner Heath answered that the Administration had just begun to look at the relationship.
- Chair V. Fischer asked when they would have that information. The answer was by April.
- Number 000 CHANGE TAPE TO SIDE 2. Senator Sturgulewski asked if the Administration had a contingency plan for falling revenues. Commissioner Heath answered that the plan was to present the legislature with the facts just as soon as they're available.
- Number 065 Robert Mohn and Ray Benish of the Alaska Power Authority spoke on marketability. Mr. Benish said that there was a willingness of utilities to keep up longterm discussions with APA over buying the electricity. From utilities' perspective they have to provide power to consumers. He felt that they would

be able to agree on an entry price.

Number 185

Senator Sturgulewski asked whether the decision was strictly an economic one on the part of utilities. Who do you turn to when discussing marketability?

Ray Benish said that they turn to the utilities, and their members in the case of co-ops. The purchaser and the provider of power both take risks when take-or-pay contracts are involved. It's critical that co-op members have input into the decision.

Number 260

Chair V. Fischer asked what the timing was for obtaining power sales contracts. When must they be signed to keep the project on track?

Ray Benish answered that they would have power sales contracts in place before going to the market. It's a long process, and in order for the utilities to sign they must have a high opinion of the data on which costs are based. World oil prices will have a lot to do with it, and Chugach will be looking very closely at the gas alternative.

Number 340

Senator Fischer asked whether a public vote on the projects should be before or after the contracts.

Mr. Benish answered that he felt that the vote should come first. The utilities will be looking for a strong commitment from the state.

Number 380

Harrison Call of RMI Pacific Northwest, a Portland, Oregon consulting firm, gave a general review of power sales contracts. He said that there were two kinds of wholesale power sales. One type was a systems sale and the other was a project specific sale. Mr. Call said that these sales are made under two basic kinds of categories, "take and pay" based on power availability and "take or pay" which obligates the utility to pay whether the power is available or not. Power sales contracts are the cornerstones to which the bondholder looks for security. Power sales contracts have not been executed in Alaska prior to construction as the state hasn't yet gone to the bond market. There are two vintages of Alaskan power sales

contracts, exemplified by Solomon Gulch and Tye. He understands that all contracts will eventually be of the take-or-pay nature of Tye. He suggested that the APA wants to sell power and that the utilities want to buy power, but they want to minimize their risks. A key point is that many people are waiting to see how much money they can get out of the state before they sign contracts. They are also concerned about the effect of future projects on rates. He felt that at some point in time HB 9 should be amended to allow for non-firm and perhaps capacity energy rates.

Number 592

Chair V. Fischer asked what happens in situations where only some utilities within a project area are willing to sign? Is there any way to get them all to sign? Mr. Call answered that it was a rather unique situation because the state was putting the project together rather than utilities. The state could direct those utilities which were its "creatures", but not the independent REA utilities.

Number 771

Carolyn Guess, Chair of the Alaska Public Utilities Commission, gave an overview of the Commission's role in approving utility contracts and rates. She believed that the Commission does have the power to review the power sales contracts. The APUC regulates all of the railbelt utilities except for the Fairbanks municipal utility. The APUC has no jurisdiction over the Power Authority.

Number 000

CHANGE TO TAPE 2. Carolyn Guess is speaking on the APUC. They must approve any result from a power sales contract.

Number 074

Senator Fischer asked who initiates a request for APUC approval. She answered that utilities usually do. A consumer may also file a complaint.

Number 302

Chair V. Fischer noted that Senator Rodey was present and had been for sometime.

Number 307

Senator Sturgulewski asked whether there was a need to make relations between APUC and APA more clear.

Carolyn Guess answered that she felt she understood the relationship.

Number 350

Dick Emmerman, Office of Management and Budget, summarized the OMB study by Stanford Research Institute on the affect of electricity price and availability on attracting industry to the railbelt. In order to attract industry, Alaska would have to match the rates available to electric intensive industries in the other parts of the United States, i.e. 3¢ per kilowatt. He said that the prospects for attracting this type of industry is low. Susitna power is too expensive (14¢ - 24¢ per kilowatt). He said that other costs, e.g. labor and transportation are also more expensive. He suggested that to attract industry, electric rates would have to be very low to offset these other costs. He related the possibility of a transmission intertie to lower 4¢ for power sales. Mr. Emmerman suggested some possibilities for the use of the power generated from the Susitna Dam. Some of the problems were that capital costs are too expensive. Not economic to electrify the Alaska Railroad. Good potential for using Susitna power for space heat in the railbelt but would quickly use up all excess capacity.

Number 526

Chair V. Fischer summarized that the conclusion of the study was that the best use of Susitna energy would be for residential use rather than for new industry.

Number 560

Robert Mohn, APA, said that the APA board will soon review the level of intensity for proceeding with Susitna. He said that 1985 was the best target date for beginning construction. Land acquisition can take two years and FERC licensure will take 2-4 years.

Number 597

Chair V. Fischer asked whether 1985 or 1986 was more realistic.

Number 620

Robert Mohn testified that they can start construction immediately after securing the license. They're attempting to fast-track the project for licensure in 1985 but that can only be met if there are no deficiencies in the application and no hearing is required. They do not plan to borrow funds until they are well into construction.

- Number 635 Chair V. Fischer asked what would be the implications of redesign or reconfiguration of the project.
- Number 643 Robert Mohn answered that it would depend on the environmental impact of the design change.
- Number 651 Senator Sturgulewski asked for clarification of what happens between now and 1986. How do we keep the data current? Do we have good models?
- Number 671 Robert Mohn said the APA was working closely with the Administration to that end.
- Number 721 Chair V. Fischer asked how much money and at what rate would it be spent between now and 1986-87?
- Number 726 Robert Mohn answered that \$20 million is needed in FY84 just to continue with the license requirements. \$47 million is needed for license requirements, design, and land acquisition. The APA board will consider at their next meeting how much to request this year.
- Number 764 David Rogers, from the Senate Advisory Council, reviewed a list of "obstacles" to Susitna that were identified last year in a study that was done by the law firm of Birch-Horton for the Senate. Robert Mohn responded to each point.
- Number 771 Concerning land acquisition problems, Robert Mohn said they needed 241 sections of land, some of which now belong to Native corporations. He further related that there was difficulty on how to deal with "state selected suspended lands".
- Number 791 David Rogers asked about water rights.
- Number 784 Robert Mohn answered that surface water rights are not a great problem. Water right application was submitted to Department of Natural Resources in 1982.
- Number 816 David Rogers asked what has APA done to insure adequate coordination between the regulatory agencies?
- Number 820 Robert Mohn answered that they were working

- on a regulatory management system.
- Number 845 David Rogers asked if the social and environmental data bases were adequate?
- Number 850 Robert Mohn said that additional data needed to be collected regarding mitigation measures.
- Number 000 CHANGE TAPE TO SIDE 2.
- Number 018 David Rogers asked if the APA had a plan to maximize public information and participation?
- Number 042 Robert Mohn said the APA had a public participation plan.
- Number 078 David Rogers asked what the policy was regarding land use in the project area.
- Number 84 Robert Mohn said that it was a difficult issue, and that they had decided to defer a decision concerning public access after construction for 10 years.
- Chair V. Fischer asked what the effects of a reduction in Watana Dam height would be. Robert Mohn said that a 200-foot reduction could result in 20% cost savings. He said that updated information on the feasibility of that option would be available in May.
- Chair V. Fischer said that testimony on resource issues would be limited to discussion of the "readiness" issue on the agenda. Consideration of detailed resource issues should be reserved for the Resources Committee.
- Number 234 Al Carson, Department of Natural Resources, testified that the Department had a Susitna Valley land use planning effort due in six months in draft form.
- Number 300 Chair V. Fischer asked if it was going to be DNR's plan or APA's plan?
- Number 304 Al Carson answered that it would be DNR's plan. However the plan is for the entire river basin, not just the dam project.
- Number 328 Chair V. Fischer asked what were the critical issues regarding land use

acquisition.

Number 337

Al Carson said that State selections being held in abeyance pending village selections.

Number 361

Chair V. Fischer asked if the lands at construction site were in state ownership?

Number 366

Al Carson answered that no, it belonged to the Cook Inlet Region, Inc.

Number 376

Chair V. Fischer asked what the problems were concerning the quantities and the qualities of water.

Al Carson answered that there is a significant need for in-stream flow studies, and that the flow release schedules were not developed in consultation with the resource agencies. They commented to the APA in January but don't know how their concerns are reflected in the FERC application.

Number 420

Chair V. Fischer asked if state agencies have input into APA planning?

Al Carson said that the vehicle was the Su-Hydro Steering Committee, the intent of which was to work with the APA in an advisory manner to head off potential problems.

Chair V. Fischer asked how useful that was.

Al Carson answered that the agencies can identify the issues among themselves but that they've been disappointed dealing with the APA. They were negotiating with the APA to strengthen the advisory role, but that's been put on hold with the new administration.

Number 485

Dennis Kelso, Alaska Department of Fish and Game, said that the Department's role has been to provide technical data as opposed to policy. He gave a short summary of their Susitna baseline data which he generally felt to be inadequate. He reviewed the salmon escapement data: escapements were 3 times as great in 1982 as in 1981, demonstrating the need for several years' worth of data. The interests of the fishermen are great. Impacts can't be known

until flow release are, and they need to know the impacts before they can plan for mitigation.

Number 610

Dennis Kelso felt mitigation planning is the most important issue from Fish and Game's standpoint. They should include preventive and supplemental mitigation for fisheries and enhancement of wildlife habitat.

Number 672

Chair V. Fischer asked whether the mitigation measures would be incorporated by the APA into their planning.

Dennis Kelso answered that some of them would be but that not all of the impacts could be discovered and therefore, there would have to be some compensatory mitigation. Fish and Game works under contract to provide technical information and has no control over how the data is used.

Chair V. Fischer invited public testimony over the teleconference system.

Jeff Weltzin, individual from Fairbanks, expressed concern over when fish and wildlife impacts would be considered. He said that the only forum seemed to be at the FERC level, and that that might result in a longer process there to compensate for the lack of state consideration. He asked what was the insurance policy if we find we can't afford Susitna, and suggested that we go forward with the Chakachamna project at the same time so that we would be ready to go with it.

Terry Berrell, Anchorage: Public utilities commonly experience high cost overruns. No one knows how much Susitna will cost. There doesn't seem to be a need for it that can't be met from other sources at less expense. We have other needs, like education and health.

Number 126

Chair V. Fischer adjourns meeting at 5 p.m.

TRANSCRIPTS OF TESTIMONY

TESTIMONY OF EILEEN TITMUSS, BOND ANALYST, DREXEL, BURNHAM AND LAMBERT, NEW YORK CITY

It is an honor to be here today and I thank you for the opportunity to come before you to speak. I'm a vice-president with Drexel Burnham Lambert, and one of my main responsibilities in my job to advise our institutional clients as to my perception of changing trends in the credit market and changing tendencies among various competitors in the capital market for access to capital. I was specifically asked to address two lines of inquiry today. I was asked to address potential implications and the lessons to be learned from the experience with the Washington Public Power Supply System and I was also asked to review briefly and assess some of the different funding mechanisms that have been suggested as potential alternatives that might be used in the Susitna program.

By way of review, I have become familiar with the Washington situation or WPPSS, as I like to call it and would like to review with you my perceptions of what happened and where we are now.

WPPSS was an agency created in 1957 by the State of Washington, by their own state legislature and empowered to, among other things, enter into long-term power sales contracts for the building of thermal generation plants. They had, at that time, owned one small hydroelectric facility and they operated an "N" reactor that was owned by the Atomic Energy Commission, now the Department of Energy. They had never had any experience up until this point in any kind of large-scale construction program and certainly, had not been involved as a construction manager of any major facilities.

In 1968, the Bonneville Power Administration, a federal agency, and the northwest delegation got congressional approval for an ambitious hydro-thermal program which envisioned construction of at least 8, and conceivably more large-scale thermal-generation projects. The first three of these were the WPPSS plans #1, #2, and #3. Because Congress had never expressly authorized Bonneville Power Administration to construct plants--in fact they were limited to the construction of transmission facilities under the 1937 Act by which they were created --they needed another vehicle for financing. And, at this point, it was decided that WPPSS would become the umbrella organization and

construction vehicle for the building of the WPPSS projects. Out of this came, what I consider to be, one of the real potential genetic flaws in the way this agency began and progressed in its construction program.

What developed was a complex billing arrangement which is known as "net billing." And, I think it's worth going into some detail here to explain this to you because I think there are a lot of lessons that can be learned from it.

Because Congress did not permit Bonneville to build, what they did permit -- and never expressly authorized, by the way, it only appears in committee reports was never actually authorized by Congress -- what happened was that Bonneville came in and agreed to purchase the capacity from the participants and they would bill it through a complex arrangement, whereby participants, who were all preference customers of Bonneville, would receive credits for what they had purchased in any one given year from the hydro system and that money would be placed directly into the debt service fund of the supply system-- and, in fact, bypasses Bonneville entirely. The idea was that, in year one, the time that payment on debt service would begin, that the participant would hopefully be purchasing an amount equal in hydro power to what they in theory would owe on their pro rata share of the construction program; so that, if in year one, they purchased \$100 million in hydro purchases from Bonneville and they owed WPPSS \$100 million, it would pass right through to the WPPSS debt service account and the account would be even. In the event that they purchased \$100 million again theoretically in hydro purchases but they owed \$120 million in debt service to WPPSS, Bonneville Power Administration was responsible for paying that difference and it was called a "net billing" deficiency that Bonneville had to guarantee to make up.

Now, there was a widespread misconception in the market place that this guarantee by Bonneville was the equivalent of a full faith and credit guarantee of the United States Government, since Bonneville was an agency of the federal government. I think this perception was perhaps compounded when, in 1974, Congress amended the Bonneville statute under the 1974 Transmission Act and created a direct Bonneville revenue fund, so that monies collected by Bonneville no longer went directly to the Treasury and were appropriated out but went directly rather to Bonneville. Bonneville was empowered, therefore, to raise its rates and to manage its own business.

Now, investors didn't understand at this time that the real

security behind these bonds was the ability of Bonneville to raise rates within its rate base and, as a result I think, that there was some unusual market acceptance of the name. It received a Triple A credit rating from both of the rating agencies, which is the highest rating and it became a widely accepted name in the credit market.

Before the net billed projects were very far under way, the supply system -- because I think it had received such generous market acceptance -- went ahead with two further projects -- WPPSS Projects 4 and 5. Now, according to the 1968 Expenditure Control Act, there was a change in what would be permitted by a federal agency in terms of tax exemption. It was no longer possible for a federal agency to contract for power or for capacity in the way that it had with the WPPSS projects and have the issuing body receive tax exemption.

Therefore, projects 4 and 5 had to go without the benefit and protection of the Bonneville guarantee. As a result, they received lower ratings in the bond market. They were rated A-1 and A+ respectively by the two rating agencies and were dependent, in terms of their marketability, upon the sanctity of their "take-or-pay" or "hell-or-high water" clauses. (This nomenclature grew out of the northwest experience on dam systems.) This was the primary security on these bonds.

Because 4 and 5 were started later, because they were lower rated, and because they came at much higher interest costs they were much more vulnerable to the impacts of inflation. These projects became very difficult to finance as there became some real market hesitation in terms of continuing to accept the name. Since they were in the market so often the portfolios of major institutional investors became saturated with the name, and it therefore became difficult for WPPSS to continue to come to the market.

In the spring of 1981, therefore, the new, or relatively new, director of the supply system, recommended to the Board that they "mothball the projects" and take them out of the market for some time. It was hoped that this would increase the market acceptability of #1, #2, and #3, as they would no longer be competing in the market place with one another for capital. In addition, it was hoped that WPPSS could demonstrate an ability to successfully complete a project.

I postulate that, even if #4 and #5 had been started at the same time, as long as they didn't enjoy the benefit of this

net billing guarantee that had a marketing and financing problem arisen that they would have been the projects to be cancelled, whether or not they were more expensive. The reason I think this is because--again getting back to my conception of the genetic flaw--there was an intrinsic weakness here and that was the buyers were less concerned --to a large extent--about the fundamental, underlying economics of the projects and were more concerned about the Bonneville guarantee. In other words, it didn't matter so much whether or not the projects made sense, whether or not they were economically viable, whether or not they were needed, whether or not there was a market for this power because there was this gilt-edge guarantee behind them; and, I think that, in some respects, not enough homework was done to examine the real project feasibility.

Now, ultimately, this misperception or misunderstanding has come home to really haunt the market place. Ultimately, people have become to understand that net billing depends on the rates collected from Bonneville -- from its participants --and since the participants are WPPSS, you're in a large circle with one another; it's really a Catch 22, because as rates have risen, demand has fallen, so that the net billing deficiencies--if you go back and look at the early (each year Bonneville submits to Congress --its not really a budget, its an estimate of what they need to raise in revenues to cover their costs)and if you look at the years following the year in which the application is filed, you see that they project zero net billing deficiencies time and time again and, if you go back and look at the actuals, you see that net billing deficiencies continue to rise over the years.

So, what buyers have now become painfully aware of is that Bonneville does not have a direct line to the Treasury for payment of net billing deficiencies; Bonneville can borrow from The Treasury for transmission facilities and under the 1980 Power Act, which was passed in December, 1980, can borrow for conservation purposes but not for coverage of net billing deficiencies. So they're now confronted with a problem very much in the papers this week--that Bonneville is proposing a new 45% rate increase to cover its costs since its revenues are substantially down from what they had hoped. They work on a fiscal year that ends in September and the first four months of this fiscal year have been devastating to them in terms of their projected revenues. They're facing a situation where, if they do raise rates to the extent that they would need to cover their costs, assuming already that they are behind in their repayment to the federal treasury on their investment in

the federal dam system, they simply can't raise rates and keep aluminum companies in business. So, what the Bonneville Power Administration has essentially had to decide to do is to curtail--after already having curtailed construction on Project #1 --to slow down construction on Project # 3 and, has stated publicly that in the event that Project #2 does go ahead and is completed on time, it's not certain whether or not they'll be able to start it up without some kind of continued negotiations for long-term contracts, probably export contracts, outside the region.

So, the underlying economics now matter terribly to the holders of these net billed bonds as they're suddenly faced with a potentially depreciated security in terms of their value in the market place, and suddenly, what seemed unworthy of attention to has become extremely important. In fact, it wasn't until the market really began to balk at the acceptance of the WPPSS name in the market place, that the State actually intervened. They put together an inquiry report which was published in January of 1981 and I would highly recommend it to the members of this committee as a working document which specifies the things that can go wrong in a public large-scale project, such as the one that is now being proposed.

There are other genetic flaws that I see inherent in the WPPSS program that I think are useful heuristically. One was that not using marginal pricing. Let's assume that the price of power from the net billed plants and from Projects 4 and 5 at some eventual point, would be melded into the existing cost structure of the federal dam system which was extremely low-cost power. This disguises the full impact of the marginal costs of these facilities which was veiled against the lower costs of the existing facilities. So that, to the consumer there was a veiling of the true cost of what these projects were really ultimately going to cost. One could argue that this caused a higher investment in very high cost facilities and mortgaged the future of existing low cost facilities which, perhaps, with better power planning, might not have occurred.

Also, I think what was of critical impact here was that on Projects 4 and 5, especially--although it was true on all plants--interest was capitalized; that is to say, interest during construction was funded out of bond proceeds during the construction phase of the program. Now, the dates at which this practice was to stop was (on the net billed projects) dates called dates certain. This was the date that BPA and WPPSS expected these plants to become operational. Those dates have long since passed and the cost of

capitalized interest has been incorporated into the rate base -- in 1977 for Project 1, in 1980 for Project 2, and in March of 1982 for Project 3. This accounts, to a large extent, for the large wholesale rate increases that Bonneville has had to enact over the last five years.

On Projects 4 and 5, it was expected that interest would continue to be funded out of bond proceeds until the plants were operational or, I believe until 1988, whichever occurred first.

When the projects were terminated, it was the first time that the 88 participants who had signed on had to ultimately put money up front. When the mothballing proposal was suggested, it required lone termination money to be raised by the participants and obviously, the promise to begin to raise rates and collect monies to fund the revenue bond fund and the interest reserve accounts of their 4 and 5 bond accounts.

What happened was that, faced with having to put money up front (that the supply system requested) WPPSS received only about one-third from the participants. The participants again balked and ultimately, the plans were terminated. It had been a painless ride up until that point as they had been issuing debt. Now putting money up front, these costs were suddenly going to be absorbed in the rate base.

Now, I think that the lack of some kind of investment up front on the part of the participants also contributed to the rate shocks that appeared in the 1980's because, as Bonneville incorporated the costs of 1, 2, and 3 into the rate base, 4 and 5 also had to be incorporated into rate base, so that in a very short period of time, you had a tremendous, tremendous increase in rates to the consumer.

The WPPSS debt did not appear on the balance sheets of the participant's financial statements of the, so the full extent of the liability was not seen to someone just taking a look at an annual report of a participant. Ultimately, what's more important is what this means to the flow of funds. By putting WPPSS costs on the income statement, it is unclear whether or not this is an operation and maintenance expense or whether it is a debt item. And if it's not a debt item, it doesn't require a vote. So, voters were circumvented in the local election process in terms of participating in WPPSS.

And ultimately, I think that what happened with WPPSS can

be largely viewed as an issue of taxation without representation as much as an issue of mismanagement of a power project; that is to say, that rate payers were suddenly faced with a large change in their expectations in terms of electric bills and believed--despite the fact that they elected many of their public utility district leaders -- that they had had very little to say about the commitment to this process.

Other genetic flaws include the fact that the State, which created the agency, never developed its own independent forecasting capability and never questioned the demand forecasts that were utilized in projecting the needs for the projects. The Pacific Northwest Utilities Conference Committee was responsible for providing forecasts that were used in making projections for these projects. The smaller utilities that were participating in this didn't have the capability of providing their own forecasting so Bonneville did it; and the State never questioned Bonneville's assumptions in preparing forecasts for these smaller utilities. Moreover, there was no elasticity in the models that were developed for projecting demand; so, there was never any account taken of the fact that, if you raise the costs of electricity, the demand was going to be less than what one might expect.

Finally, they used what's called "critical water year planning" for the basis of need which was based on drought years that, as I understand it, occur perhaps once in 50 years and that was the basis for which the need for the plants was predicated upon and the State never questioned that. The State didn't become involved in monitoring management matters internal to WPPSS in terms of contract matters and so forth until after \$2½ billion had already been expended.

Now (this was hinted at earlier) the enabling legislation that was drafted for the original contract among the 88 was not carefully researched. There are now problems facing the enforcement of these contracts. It is true for contracts in Oregon and Idaho and potentially true for Washington State as well. In answer to your question, the question of authority on the contracts in Washington State was originally ruled in a summary judgment by Judge Coleman to be a non-issue; that is to say, he found that there were not questions of authority at stake and that they would not enter into the trial. He, since that time, has reversed that decision and it has been decided that questions of authority will be raised in the trial this spring and is still not clear whether or not the Washington contracts will be found valid

and enforceable.

Obviously, the result, as we all know, is that it's possible that the supply system will be a technical default at the end of the month and will be potentially defaulting on its interest obligations any time between now and January of 1984. What is really serious here is that all bonds were issued by the same umbrella organization -- namely, the Supply System -- and despite the fact that they were issued under two separate indentures, the possibility of a cross default remains; while there are \$2½ billion outstanding for projects 4 and 5, there are approximately another \$6 billion outstanding for projects 1, 2, and 3. If WPPSS does get referred to a receiver or a trustee or some form of court receivership, this could potentially affect the bond holders of all the outstanding bonds. Obviously, the impact of this in the municipal bond market would be rather extraordinary and could cause an interest penalty to any new entrant into the market and could potentially, cause a deferral of any large scale project, such as this, that's now trying to get its feet off the ground..

So, I think that among the things that Alaska could learn from the lessons of WPPSS is that they will be competing in a tighter market if they do decide to go ahead with the Susitna project. And by tighter I mean that you will be competing for capital with other large scale project financings, such as Inter-Mountain Power Agency. There are other joint action agencies throughout the country that also have very ambitious capital programs and buyers are going to be taking a very severe look at two things: One will be the sanctity of the contracts -- how thoroughly they have been researched and how much of a possibility they stand of holding up in the courts; and second, I think more importantly, the fundamental underlying economic assumptions that have gone into planning the projects.

I'd like to go on from here and address some of the specifics of the financing proposals that I was asked to review and give my opinion.

First consider the suggestion that the state make a contribution up front, whether on a dedicated basis or on an appropriated basis. Buyers may take comfort in that and might find that this enhances the security of the issue and makes it more economically feasible and more acceptable in the market place. One observation I would make -- I think one of the things that went wrong with WPPSS, as I said before, is that the participants did not put money in up front. I would highly suggest that if the state puts money

up front that the participants do also in some kind of concerted effort together. That is to say, that if the project is deemed to be feasible and desirable by the participants who enter into it then one suggestion might be that they put money up front so that they have a stake and an interest in the project right from its inception.

SENATOR V. FISCHER - Eileen, you're speaking of the power utilities that would be the.

EILEEN TITMUSS - Yes, the ultimate persons with whom the contracts would be signed for the capacity.

(unknown) _____ The problem is that our money is their money too.

EILEEN TITMUSS. Well, they still have to decide how to use it. I would agree that the double barrelled pledge poses greatest risk, in terms of security affecting the potential bond rating of the state and would agree that the moral obligation pledge would cause less potential damage to the state's credit rating.

SENATOR STURGELEWSKI. Mr. Chairman, would you explain your parlance there. The double-barrelled security in terms of the revenue bonds?

E.TITMUSS- That would be a revenue bond that has the back up of the state as a back up guarantee. The moral obligation is a pledge to fund a reserve fund in the event that that's necessary.

Just to reiterate, if planning and engineering design funds are required, I would recommend again that the participants be asked to share in the up front commitment and that any involvement of the state be weighed against the long term implications for the state's rating as well as the market skepticism over the years of what you might call "props" to try to make a project feasible.

If the state does decide to proceed with this project, I think again that you should take a very close examination of the WPPSS inquiry report and that very tight controls should be established to monitor the internal contract management of the agency, given the large sums of money that they will be responsible for managing.

Since this is a two tiered project, another recommendation might be to try to find a way of financing so that the first stage of the financing and the second stage of the financing

are somehow legally separated so that, if, at some point down the road, you have a situation, such as WPPSS, where the later project is for some reason terminated or cancelled or there's some kind of problem in the market place then the original project would be isolated from the possibility of any kind of cross default.

Also, I think the state should have its own constant, independent monitoring of any changes in demand expectations, such that the sum costs of a project of this kind could be measured against future benefits of proceeding forward and that an independent forecasting mechanism be an ongoing part of the project.

Any money that is appropriated up front, either through the state or through the participants, I believe from a financial and not from a public policy point of view, should be voted upon. In other words, the people who ultimately who are going to have to pay for it, should be fully cognizant of the obligation that is being incurred on their behalf.

Finally, I think that the participants or the persons who would ultimately be purchasing the power from the agency should account for that obligation in some very clear, discernible fashion, whether or not it's treated as O&M or whether or not its treated as debt. Without getting into full detail, one of the lawsuits that is now in litigation over WPPSS is the question of the lien of the obligation of the participants. In other words, the participants are arguing that they have treated this as an operating expense but in fact, it's really debt and in fact, the payment of their own obligation precedes that of their payment to WPPSS. So that, in a push comes to shove situation, where they might be short of money, that they would pay down on their own system debt before paying that which is owed to WPPSS. I think there's a lesson to be learned there. I think that whatever kind of contractual arrangements are established, you want to be very clear about what the liens are and who gets paid first in the unfortunate event that there's a shortage of funds.

In short, if Alaska does determine to go ahead with this project, I think that they should carefully measure the extent to which it wishes to involve itself with state monies directly. Again, I would reiterate that if money is put up front, that it involve the participants, that you develop extremely meticulous methods for monitoring the agency's internal activities, and that you continuously update your forecasts to evaluate the project's soundness as you go

through it and ensure, to the greatest possible extent that those responsible for debt repayment are informed to the extent of their full future obligation.

Thank you very much

END OF TESTIMONY

SENATOR V. FISCHER - Eileen, thank you for a marvelously comprehensive and thorough presentation. As you were giving us the story of WPPSS which, to me, is the first time I have really had the feeling that I really understand what was happening because I've seen all the superficial reports, I kept wondering "are you going to tell us what lessons are in it for us" and you have. Are there any Committee questions at this point?

SENATOR STURGELEWSKI --Just that it was an excellent overview. I guess, that in this particular case, there's no relationship really between WPPSS and the State of Washington in terms of its credit rating or is there. Or is there? Is there a separation other than, say, a perception in the market place?

EILEEN TITMUSS- in the market place, I think there is a perception that the State created the agency and that, as such, it has a responsibility for its activities and I believe, to some extent, there are people in the market place who would believe that a state intervention in some way financially at this point would be appropriate.

TESTIMONY OF GREGG ERICKSON
ERICKSON AND ASSOCIATES, JUNEAU

[NOTE: This transcript has been edited by committee staff and was not reviewed for accuracy by Mr Erickson.]

My name is Gregg Erickson. I'm an economic consultant in Juneau with a practice throughout the state.

The best place to start is with the Acres feasibility study itself. It's a good feasibility study and summarizes the essential elements of the economic issues. I have reproduced this exactly as it appears in the Acres study.

There are really three simple lines here. [SEE chart 1, Plate 26--Annual Cost Comparison."] The top line is the

cost of power with no state subsidy of Susitna. The red line is the projected cost of power under a thermal alternative, if you don't have Susitna. And the solid blue line is the cost of power projected by the Acres and Alaska Power Authority if the state subsidizes the project in the amount of \$2.3-2.4 billion.

The numbers along the side are expressed in mills per kilowatt. You can think of those as cents per kilowatt hours simply by dropping the zero off the end of them. So this cost is 34 cents per kilowatt hour. To put that in context, the current generation cost for the Chugach Electric Association is somewhere in the neighborhood of 1.7 cents per kilowatt hour.

We can tell a number of things by looking at this chart. First, a large power demand is required to make the Susitna project economic. Without large loads, the huge fixed costs of a project as capital intensive as Susitna would have to be spread over a much smaller amount of electricity, and thus the unit costs would be substantially higher. The load forecasts are thus a critical element in this calculation of costs.

The cost of the project itself is also a critical element, because if the cost of the project is higher, again the amount of power that's to be sold from it has to cover that larger cost.

Interest rates, as discussed by the APA people, are also critical. It's important to note that the Acres analysis assumed that real interest rates--subtracting inflation from the interest rate that you actually pay--was assumed in the base case of Acres' analysis to be 3%.

The Acres sensitivity analysis indicated that if real interest rates were 5% or greater the project would be uneconomic. Today, long-term interest rates in the tax-exempt markets are about 9% and in the corporate market, about 12%. Long-term treasuries are at 11%. Inflation today is essentially at zero, which means that we have a real interest rate which is substantially higher than the base case and substantially higher than the cut-off point which Acres, in their sensitivity analysis, indicated would lead us to conclude that the project is uneconomic.

Also implicit in these numbers, particularly in the difference between the unsubsidized and subsidized projection of power costs, is the assumption that this project needs to be subsidized. This raises some real questions

about how the Alaska Power Authority, in their discussions of the project, deals with the statutory notion of "economic feasibility."

It always seemed to me that "economic feasibility" meant, per se, almost by definition, that it didn't need subsidy. However, this has been a rather confusing point, and Mr. Yould, in a letter to the editor a few weeks ago said that it has never been envisioned that the Susitna project would be constructed without some level of investment from the State. They explained fairly clearly, I think, why they believe it is necessary to lower the front-end load costs so that a project that might be feasible in the long run would, in fact, be feasible from its inception.

This notion of investment, though, is a little confusing, because I think it should be clearly understood that what is being discussed here is not a loan. I've never seen any indication in the feasibility study or in any other Acres' documents that the State's investment would be paid off, and that, I think, is one criteria for an investment. Another is that the money "invested" in fact come back to you some day, presumably with interest.

Another assumption in this graph is a very rapid rise in fuel costs shown by this very rapidly rising red line, because you can't get from 1.7¢ per kilowatt hour to 40¢ per kilowatt hour without very rapidly rising fuel costs.

There are other factors involved here, and the most important of them is that the Power Authority and Acres' analysts assume that natural gas would either not be available or would have to be phased out at a fairly early date. That would require more expensive, that is more costly in terms of capital, coal plants.

So, these two assumptions--rising fuel costs and a shortage of gas--underly this rising red line, which is the cost of generating under the thermal alternative.

Time is too short to go into all of the questions that have been raised concerning the economic feasibility of the Susitna project. I'd like to focus on three areas: the costs of the project, the availability of natural gas, and the likely costs of natural gas, and power generated from it.

The availability of gas is usually discussed in terms of reserves to production ratio. In general, reserves to production ratios in excess of 15 (that is, where you have more

than 15 times your annual consumption in reserve) are generally considered to be somewhat of a gas glut. (SEE Chart 2, "Natural Gas Reserves to Production Ratios.") As you can see, the Cook Inlet ration is about 19.

As we all know, the natural gas situation has changed fairly rapidly in the last few months. Contracts were recently signed by ENSTAR, formerly Anchorage Natural Gas, which established a base price of \$2.32 for the additional one-half trillion cubic feet of gas that was acquired in the Beluga fields.

There is provision in those contracts which provides that the price of gas will be adjusted in accordance with the price of #2 fuel oil on the Kenai Peninsula. As a proxy for the price of #2 fuel oil, we have taken the state's projection of crude oil prices--not revenues but prices--in real terms and we've applied these to the ENSTAR price. (SEE Chart 3, "Natural Gas Price Projections and Effects on Susitna Feasibility.") I've also included the severance tax, but in terms of economic feasibility analysis, that's money you take out of one pocket and put in another so it shouldn't really be in there. I've not included, however, the 35¢ deliverability charge so it's about a wash there. In any event, precision in this area is not that critical.

What is critical is that if gas prices had been factored into the Acres analysis at this level it would have resulted in a negative feasibility finding on the project. In fact, prices are going to be substantially below this level for at least the next 18 to 20 years and probably for considerably longer because, although this price covers the half trillion cubic feet that has just been acquired, there is much much lower cost gas available in the Beluga field and in the Kenai field and elsewhere that is under contract to both Chugach Electric and to the ENSTAR gas company which will, if the gas company's rate filing is followed, be rolled in. "Rolling in" means that if you start with half your gas, let's say, at 80¢ and half at \$2.00, the rolled in price is mid-way between the two.

At the present time, natural gas is costing somewhere around 1.7¢ per kilowatt hour. In the the year 2006, if we escalate the current costs of natural gas, of using combined cycle techniques, and of non-fuel costs (including depreciation, operation and maintenance, etc.) and assume that gas is going to cost roughly around \$2--and I think that's fairly high--as we indicated here that these prices start at \$2.50 and go down as oil prices decline to about \$1.73 and then gradually climb back up to \$2.00, one can assume as a

rule of thumb relatively accurately without too much precision, that every dollar per mcf of natural gas adds about a penny to the combined cycle generating costs, when used as a fuel. (SEE Chart 4, "Present and Expected Generation Costs.")

This analysis results in electricity produced from natural gas in the year 2006 costing roughly 13¢ per kilowatt hour in that year. Susitna power with a subsidy will cost roughly 24¢ per kilowatt hour in that year and without subsidies, something over 30¢ per kilowatt hour.

Now, that's a big difference and I'm gratified that Acres, or at least the Power Authority is reevaluating these figures. However, it's going to take considerable reanalysis to make this project economic, even by the relatively loose definition of that term that we've become familiar with.

The other major issue is what will Susitna really cost? And that is something that, of course, nobody really knows. We haven't started tunnelling those rocks and, as was discovered at Tyee, when you tunnel into rocks, you sometimes find conditions that you didn't anticipate. I don't know how many miles of tunnels or thousand feet of tunnels there is in Susitna but I know that it's a substantial number.

Let's just run through these costs. I think these are important because they give us the only real factual fix on what we might expect of the Susitna Power Project once it's under construction. While they certainly don't prove that Susitna costs will rise, I think they are relevant evidence in that consideration. (SEE Chart 5, "Cost History of APA Hydro Projects.")

The Solomon Lake project started at \$29 million, rose 134% to \$68 million, and then the final construction cost came down to \$53 million. That's the unique one because it does actually decline although not to the cost of the project as anticipated in the feasibility study.

The Swan Lake project increased 42% from the feasibility study to the design stage and 52% overall.

The Tyee Lake Project which you've been hearing about recently increased 53% from feasibility study to design and increased overall 217% since feasibility to its current stage and we really aren't certain what the final cost of that project will be at this time.

We've heard a lot about Tye but we haven't heard about Terror Lake which is, the real terror in terms of these cost overruns. The percentage increase from feasibility study to design was 32% and its 190% overall.

The Intertie Project, which is one that went from feasibility to design much more rapidly and is, I suppose, not as complex as building a dam, has a construction cost increase of more or less 32%.

I tend to think the suggestions that construction costs may not be rising as fast as inflation are correct, and it may well be that some of these will actually decline as later contracts are opened and if this trend does actually exist.

All of these issues raise serious questions about the feasibility of the Susitna project, but there's an important factor that they don't capture. That is the notion that we really need to be considering the possibility that we won't build Susitna and then a set of circumstances will develop along the lines of those hypothesized by the original Acres feasibility analysis with rapidly rising fossil fuel costs that will create really serious problems for us and for our children and for our children's children and way down the line.

It's certainly possible that the Department of Revenue's official price forecast may be wrong; they've been wrong in the past and all of our forecasts have at one time or another been wrong in the past. So, I think it's useful to look at the significance of what happens if it is wrong.

The unsubsidized total per capita cost of Susitna would be \$46,000 per railbelt household; \$17,000 per individual in the railbelt, and about \$12,000 for each Alaskan. (SEE Charts 6 and 7.) It's useful in the context of this issue to evaluate those costs in terms of what we're now paying for electricity. The total cost that we are paying right now for electricity in the railbelt is \$118 million, which includes generation, transmission and all other service costs. The capital cost of Susitna alone is about 42 times this figure. A rather wide ratio.

But what is really interesting is that if you take this \$118 million and divide it into the total number of people in the railbelt, you get \$627. Now, if the Anchorage scenarios play out, as they suggest they will, the generation costs will almost double.

Of the \$627 per capita that is being spent for electricity

today in the railbelt, slightly less than one-third is accounted for by generation costs or about \$211 per capita.

If you doubt that, you bring your total electricity costs up to \$627 plus \$213, or about \$830-40. Now, while that is certainly an undesirable outcome--no one wants power costs to rise--it still doesn't seem to be the catastrophic consequence of not building Susitna that has been suggested.

When I first came in contact with the Susitna project, enough years ago that it was a 200 megawatt project rather than 1620 megawatt project it is now, I was convinced that there was a sincere commitment on the part of the people involved to assess its economic feasibility. But we have seen the evidence accumulate unfavorably to the project with respect to things like real interest rates, the anticipated power demand, whether fossil fuel prices will actually rise as anticipated, whether gas will, in fact, be available. We have also seen evidence of overruns on other projects prepared or participated in by the Alaska Power Authority. It now seems to me that there has been a turning away from the notion of economic feasibility and I think that is probably demonstrated better than anything I could say by the letter that Eric Yould, the Executive Director of the Power Authority, sent to the Governor on January 17, 1983: "I believe that the decision on Susitna will have to be made primarily on instinct," the letter said. Mr. Yould then went on to indicate that he believed that his instincts and those of the Governor and and their associates were "worth the multitude of consultants' reports."

Well, I certainly don't deny that instinct is important, and that there's a whole other constellation of values that should be taken to heart when a project as major as Susitna is evaluated. There was a note in the paper the other day about a gentleman with the construction union who joined one of those organizations that are promoting Susitna. He indicated that he really didn't know what was going to come after the project, and admitted that perhaps at the end of those 17 years of construction there will be a downturn but "God bless those 17 years."

While that is not an illegitimate consideration, it becomes very dangerous when we let those kinds of factors completely override the notions of economic feasibility. Economic feasibility perhaps shouldn't be the queen of all these things, but you ignore it at your grave peril. And that's why it was very interesting for me to hear the gentleman from Petersburg talk the other day about how he really believed in hydro but there's a part of him that looks hard

and cold at the economics. Unless we look hard and cold at the economics, I think we may find ourselves in some serious trouble.

I'd like to close by reading a few lines from "A Midsummer's Night Dream": "Swift as a shadow, short as any dream, brief as the lightening in the night that in the spleen unfolds both heaven and earth and ere a man hath power to say behold the jaws of darkness can devour. So quick bright things come to confusion."

I believe that none of us has to be sad or hide our heads that we have spent \$67 million on a project that, at least at the present, doesn't look feasible. It was a noble purpose behind that but it no longer remains a noble purpose if we chase after these "quick bright confusions" to bankruptcy.

I would say finally that the fact that things look bad today for Susitna does not necessarily mean that things will look bad for Susitna forever and forever. Indeed, it may very well be that in a few years we will take another look at these numbers and decide that it is now time to start construction. The Acres study originally indicated that Susitna would make money on its own, without a subsidy if we were to delay it until the year 2006. We just don't know about the future. Until we do, I think it's important that we keep our feet on the ground.

Thank you very much, Mr. Chairman

END OF MR. ERICKSON'S TESTIMONY

SENATOR HALFORD - Assuming the considerations of per capita subsidy, whether a grant, interest rate subsidy or whatever, and assuming the same kind of time frame that you put on feasibility determinations here, are there any hydro projects in Alaska that would have been built under that scenario or would be built in the near future?

MR. ERICKSON: I can't answer that, Mr. Halford because I haven't studied all the hydro projects.

SENATOR VIC FISCHER: Gregg, have you looked at coal at all? You were talking about gas. Coal was the other area that was talked about as an alternative.

MR. ERICKSON. I have not done any client work on coal in a long, long time. In fact, the last analysis I did on coal was in 1981 and I do not pretend to be particularly familiar with it. I think I know enough that, for the imme-

diate future, it's pretty clear that natural gas is a more favorable generation fuel than coal. That may or may not continue to be the case as gas reserves become either more expensive or more scarce. And, also, I think it's well understood, in the absence of any major State subsidy, there is going to be difficulty in developing the coal resources of southcentral Alaska without an export market and I have looked at export markets and they're very, very dim right now.

SENATOR VIC FISCHER: Let's say the State were able to come up with \$1.8 billion, and wanted to help the railbelt consumer in the long run with low cost energy, is there any alternative way that that \$1.8 billion could be invested in gas or in any other development which would yield the consumer long-term benefits better than those that you describe in those charts for Susitna?

MR. ERICKSON: It would seem to me that, given the prices that we're talking about the State could probably benefit consumers most of all by keeping its hands off of the power developments in the railbelt. But if there's a political imperative to use that amount of money, I suppose that the most appropriate thing to do would be to try to analyze what kinds of generation alternatives the market would choose and then subsidize those, and to subsidize the capital costs rather than the operations costs which are relatively small. I don't think you could use up \$1.8 billion subsidizing the capital costs of a gas based electrical generation economy.

You certainly could do that with respect to coal. The wisdom of it escapes me, but I haven't analyzed it and would decline to make a judgment.

SENATOR VIC FISCHER: What would happen if the State invested \$1.8 billion, say in the bond market, to just subsidize energy prices for thermal generation in the future.

MR. ERICKSON It would depend on how you did it. But it would have a couple of effects. One is that your power demand would grow much more rapidly in Anchorage and the railbelt than it would otherwise. In effect, because it's cheaper power that would be a counter-conservation effort

We did a little analysis just like that. The total cost of Susitna is \$5.1 billion. If you invested that in high-grade securities along the lines of the permanent fund rather than put it into the dam, you'd have a stream of real income at 3%--assuming 3% real return--and actually I'm sure you'd

get much more than that at this time--of \$153 million. You'll note that that's substantially greater than the total cost of all the electricity bought in the railbelt, which was only \$118 million. (SEE Chart 7.)

SEN. HALFORD: But those times are way off because the \$5.1 billion is over a ten or twelve year period and you're talking in investments.

MR. ERICKSON: This is with yield debt in perpetuity. That's protecting the principal by putting everything else back in.

SEN. HALFORD: But the time value of money is not protected in there because the \$5.1 billion is carried forward and it's not put in all at once.

MR. ERICKSON. You're quite right and you could put it in a bit at a time and create a power subsidy fund. Funds seem to be the thing to do these days and you could have yourself a subsidy fund which would pay checks out to people much along the lines that the power cost assistance does right now and, I would say, with the same policy difficulties and the problems of runaway costs that I think we'll soon be facing.

REP. M.M. MILLER: When you talk about gas, you're primarily talking about Cook Inlet gas and southcentral gas. If the proposed gas pipeline should go gunny sack, is there any opportunity there for thermal generation at a lower cost than Susitna or is that just not a feasible alternative?

MR. ERICKSON. There is a study [Ebasco, for the APA] that is under way or may be completed by now which, I understand, addresses that issue. I haven't reviewed it but my guess is that it would be very difficult to develop a project that would stand alone on its own feasibility simply to serve the power needs, even the industrial needs, of the railbelt. That gas, if it came under those circumstances, would be very expensive. One thing that I do think is perhaps important to keep in mind with respect to that gas is that conditions with respect to world oil prices and the conditions that have made it essentially impossible to finance the Northwest natural gas line may change substantially by the year 2006. I think that it is important to us that that gas resource may in fact turn out to be coming on line, or beginning to serve some lower 48 market, at about the same time our oil revenue goes to zero. And it could very well be that that eventuality will coincide with the time when Susitna would otherwise become feasible.

TESTIMONY OF LEE GORSUCH

My name is Lee Gorsuch. I am the director of the University of Alaska's Institute of Social and Economic Research. I'm appearing here as a substitute for Professor Goldsmith, who is a faculty member of the institute and who is our resident expert on Alaska energy economics and public finance.

As the Chairman indicated, you have before you revised economic projections that the institute has prepared. These projections form the basis on which several Alaska energy demand studies have been conducted by various consultants to the state.

For background, ISER was created by the state legislature as a unit of the University of Alaska back in the early 1960s. Its principle purpose was to become a source of knowledge and information available to the general public and decision-makers on matters affecting the Alaska economy and population. I am pleased to report that ISER has established a good track record in the work we've done for the state. However, one serious error that we've made in the last several years, along with a host of other experts throughout the country, is the oil price projections we've used. I would like to call the committee's attention to a recent publication the Institute published in December entitled "The End of the OPEC Era." In this publication, Dr Arlon Tussing, an adjunct professor of the Institute warns that oil price escalation has peaked and will decline to 1978 price levels. In Alaska we could be looking at wellhead prices below \$12, with a possibility that oil prices could crash temporarily well below the \$12 wellhead price.

One challenge the Institute has is to fulfill our mandate of providing information about the Alaska economy to the general public. A recent poll conducted to assess popular support for the Susitna hydroelectric project suggests there is an urgent need for more information on the profound effects oil price changes are having on the project's economic viability.

As a citizen, I've been a supporter of the goals of the Susitna project. I felt that the project could be an opportunity to invest revenue surpluses into a renewable investment, thereby precluding the spending of surplus revenues. It could provide an economic stimulus during its construction; it could create a secure long-term source of renewable power at less cost than other alternatives; and it could enable us to export the energy resources we would otherwise consume.

While these goals may be shared by many people in Alaska, the job of the Institute is not to promote personal choices but to analyze the potentials of realizing those goals

and to assess the factors that affect their success or failure.

What I'd like to do briefly this afternoon is to share with you some of the significant effects that oil price changes have had on the Alaska economy and on some of the assumptions that have gone into some of our energy assessments such as the Susitna Project.

Perhaps the most direct and apparent consequence of falling oil prices is the direct fall in state revenues. I'm not sure that many people are aware of the magnitude of the potential loss of revenues to the State of Alaska as a result of falling oil prices. In 1981, oil price assumptions used by the state Department of Revenue produced a very substantial flow of future oil revenues to the Alaska treasury. Using the 30% probability case of the Department's December forecast, revenue losses through the year 2000 as a result of the revised forecast amounts to approximately \$115 billion. Thus, if these projections prove accurate, the State of Alaska in a very short period of time will receive substantially less revenues than it expected two years ago. This revenue loss will affect a host of economic activities that the state could have engaged in had those revenues been available.

The Governor's office has provided a fairly detailed analysis of the flow of revenues available to the State under this current December forecast. That forecast essentially suggests that the peak year for state revenues is not in the mid 1980s nor in 1990, but in FY 1983. In other words, this is the year in which we have the largest available pool of revenues based on the latest forecast.

Under the current forecast we're looking this year at the availability of approximately \$1 billion for capital and loan appropriations, and about \$2.1 billion available for capital and operating spending. If this is the year in which we have peak revenues available, with revenues in each succeeding year substantially declining (to the point where in the mid 1990s we're looking at the availability of less than half of what we currently have available), then the question is: are sufficient general fund appropriations available to support investments in projects such as Susitna? In other words, if you were to commit as much as \$1 billion this year to the Susitna project, what capital expenditures, loan programs, or operating programs would be cut, in a magnitude of \$1 billion? Each successive year financing the project will be even more difficult, requiring increasingly larger cuts in the capital and operating budget.

These revised revenue forecasts indicate that the stream of per-capita revenues available to the state of Alaska start at a high of about \$7000 per person per year

for FY 1983 and fall over the course of the projection period to a low of less than \$2000 per person. To illustrate relative magnitudes, a \$1 billion investment today represents a per capita expenditure of about \$2600. In other words about 1/3 of all current state spending would be dedicated to support the first installment of a multi-billion dollar investment in a single project.

One other issue that comes up periodically is that an implicit goal of the project was to curb the state's insatiable appetite by committing surplus revenues to a project that would provide for its own future operation and maintenance expenses and perhaps actually retire some of the potential debt associated with its construction. This goal was partially accomplished by a constitutional amendment on limiting state spending.

Last year it appeared that we had to have a constitutional amendment to hold down state spending. Our current fiscal analysis suggests that under current revenue projections Alaska will never reach the spending limits permissible under the authorized constitutional amendment. Again, FY83 represents the single most favorable year in which the state spending of available revenues could approach the spending limitation. Revenues fall substantially below the spending limitation in succeeding years.

The most important issue I'd like to raise with you regarding the potential fiscal impacts of the falling oil prices is that it creates a much larger revenue gap in the 1980s and 1990s than we have ever imagined. This projected loss of \$115 billion in nominal dollars attributable to falling oil prices simply means we have significantly fewer dollars to finance the operation of government. Furthermore there are no prospects of any kind of economic development or any form of taxation over the next ten to twenty years which would finance more than a relatively small portion of the current revenues Alaska receives from its oil royalties and taxes.

Therefore, the most significant consequence of declining oil prices is its impact on the state's fiscal outlook.

Another issue also affected by the oil price decline is how it impacts energy demand or projected in-state use of energy. These projections of demand directly affect the assessment of the viability of the Susitna Project. The 1981 revised revenue forecasts served as the basis for ISER's base forecast figures of revenues, population and employment. The revised revenue forecast directly impacts these earlier ISER projections and reduces significantly current energy demand projections.

During the forecast period to the year 2000 ISER initially projected a population growth from 400,000 persons in 1980 to 674,000 persons living in Alaska in the year 2000.

The revised revenue estimates lower that estimate by over 100,000 persons. Thus, there will be 20% fewer people in Alaska consuming energy.

Employment growth is also substantially reduced as a result of this revised economic forecast. The 1981 revenue projections produced a growth to 351,000 jobs in the year 2000 from the current 206,000 in 1980. We now estimate 75-80,000 fewer jobs as a result of this loss of oil revenues to the State of Alaska.

Revised population and employment projections significantly modify the projected in-state use of energy resources. Both the Alaska Power Authority and the Division of Energy and Power Development are currently in the process of incorporating some of these revised forecasts into their analyses of the Susitna project and I understand they will be forthcoming soon with revised projections, if preliminary results have not already been made available to the committee.

An additional effect of the revised population growth is the sobering impact it will have on investment expectations. Many major companies have expressed optimism about Alaska's future, particularly in light of the relative recession of the rest of the country. Should Alaska no longer be viewed as an investment haven the prospects for additional industrial or commercial demand for power in Alaska could be further adversely affected.

One last comment I'd like to make in terms of the effect of declining oil prices is an issue Mr Erickson has spoken to in much greater detail. In brief it means that the fall in oil prices impacts the price and relative attractiveness of many other energy resources. Although we don't have a firm grasp of how oil prices will impact coal development in Alaska, or gas prices, it's quite clear that there's a significant relationship and interaction, even though there may be substantial lag times before we see price and investment effects. There's no question in my mind that the dramatic fall in oil prices will have a significant effect on the coal prices and development which in turn will alter Pacific Rim energy markets and the relative attractiveness of Alaska's coal. It will also impact technological investments to clean up Alaska's coal to make it environmentally acceptable to Pacific Rim countries.

As Mr Erickson also indicated there's no question that the fall in oil prices will also have an impact on gas prices and development in Alaska. We've already begun to see the impacts in terms of firms retreating from gas liquifaction projects. These projects were potential industrial users for Alaska's natural gas. It is possible that Alaska will have no export markets for its natural gas in the near term and we will find ourselves in the position of having a surplus

supply of natural gas. This could be an opportunity for local utilities to negotiate a very favorable price from the producers for gas which previously we had assumed was available for export. In summary, oil price declines impose an ominous cloud of uncertainty over whether or not there are export opportunities for the non-renewable resources Alaska is currently producing.

Finally, I'd call to your attention that the fall in oil prices will also impact major producers and their interest and incentives for additional oil and gas exploration in the state of Alaska. We had the good fortune to build TAPS at a particularly propitious point in time. Oil price declines will not only affect the possible exploration and discovery of additional fields but it may also affect the development of and production from currently producing fields.

Alaska's most promising frontier oil and gas regions are on the Outer Continental Shelf. A sudden plunge in oil prices will impact companies' abilities and incentives to explore for oil and gas in expensive frontier regions, indefinitely postponing the prospects of subsequent oil and gas discoveries and exploration in the state of Alaska.

Alaska will also be impacted, though indirectly, from international and national financial and economic reactions to major price declines. There has been a great deal of news coverage about what's going to happen in many of these Third World countries that are heavily in debt. The potential impacts on the overall international recession; on inflation; and on short and long term interest rates. I have to say there is no consensus among the leading analysts as to what these indirect effects are going to be, but it's quite clear that the effects are likely to be significant. All this suggests that those who have major investment options would be well advised to keep their options open and to preserve their liquidity until these effects are better understood.

In summary, I will close by saying that Alaska has had the good fortune of riding the OPEC roller coaster at the time when the prices were soaring to all time highs. We are still on that roller coaster which now appears headed for a dramatic decline. Unless Alaska holds on dearly to those assets we have available we may face a crisis as oil prices commence a possible steep price decline.

That concludes my remarks.

Q: (Sen. Sturgulewski) On a couple of your tables, you refer to petroleum revenues vs. general fund expenditures...what am I seeing on Table 5, page 5 of the Goldsmith letter?

A: Table 3 is a side-by-side comparison of the revised petroleum revenues from '81 to '82 and a simple calculation

of the difference in those projections.

Q: Then when we look at Table 4, with the fund expenditures, why wouldn't that be the same as the revenues? What's the difference?

A: The general fund expenditures deducts essentially those mandatory set-asides such as contributions to the Permanent Fund and other outstanding debt.

I'm going to leave a number of issues of the latest ISER publication, "The Alaska Review of Social and Economic Conditions," entitled "Sustainable Spending Levels from Alaska State Revenues." In essence, this article suggests that the spending limitation doesn't get us anywhere close to the goal of sustaining a certain level of spending. If all state expenditures were rolled back to 1981 spending levels and the state was willing to invest its cash balances, we could sustain 1981 levels based on the December 30% revenue forecast. The dilemma has always been the difficulties of investing, and basically deferring pressures to spend. Therefore I'm not sure that this review will lay out a politically acceptable alternative but I think you'll find it useful. As an economic alternative, it demonstrates that a goal of sustaining spending levels, given essentially a relatively stable flow of \$3 billion in oil revenues to Alaska through the balance of the 1980s could be achieved.

Q: What do you think should happen to the Permanent Fund Dividend

A: Consistent with this article, I think that the state should be investing a good bit more. Retaining the earnings of the permanent fund would represent something similar to a reinvestment of the funds back into the permanent fund. I think much more money ought to be invested. Whether or not it takes the form of simply retaining the earnings of the permanent fund, or spending the permanent fund earnings but making larger contributions of the permanent fund is a little bit of a shell game.

I think that Alaska needs to be investing far more of its revenues. It needs to be cutting back far more of its spending, capital or operating, if in fact we're going to achieve a cushion for this rapid descent in oil prices and mitigate its impact on the loss of future public revenues.

Q:(Sen. V. Fischer) Thank you for your doomsday message.

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MEMORANDUM

February 24, 1983

To: Senate State Affairs Committee
From: Thomas Singer and Gregg Erickson
Subject: Interim Financing of Power Projects

The Tye Lake Loan

The Tye Lake Hydro Project illustrates the risks to the state inherent in the Alaska Power Authority's (APA's) present financial independence. While the state has appropriated \$82 million for Tye project, the APA has borrowed \$50 million more -- on its own. This loan comes due in 19 months. At present there is no clear indication of where the money will be found.

In its agreement with lenders, the APA agreed to refinance, by October 1, 1984, any portion of the loan then unpaid. The APA's stated intention is to sell revenue bonds secured through power sales contracts with the electric utilities in Petersburg and Wrangell.

So far, Petersburg and Wrangell have been reluctant to sign such power sales contracts. The price at which power from the project has been offered to them is much higher than the price they now pay -- or expect in the future to pay -- for power from fossil fuels, and their own small hydro facilities. Negotiations between the APA and local utilities continue. Without ironclad contracts committing the utilities to buy enough power at a price sufficient to meet annual debt payments, the bonds will be virtually impossible to sell.¹

If revenue bonds cannot be sold to refinance outstanding debt by October 1, 1984, the lenders, by terms of the loan agreement, have recourse to the "general assets" of the APA. Unfortunately, no one seems to know precisely what the term "general assets" encompasses. It may be that "general assets" include unexpended appropriations received by APA or being held in the state treasury for other projects. Or it may be that funds appropriated but not yet disbursed from the treasury are beyond the lenders reach, in which case the APA may have virtually no "general assets" apart from the uncompleted projects around the state. This is an important legal point, which the

Attorney General will undoubtedly investigate in due course.

Lenders, of course, are not likely to be very interested in taking over partially completed hydro projects, particularly in cases like these where the value of the power to be produced falls so far short of the revenue needed to service the debt. Their desire will doubtless be for the state to appropriate to the APA additional funds to repay the loan. The state is in no way legally obligated to do this, but it is clearly a possibility that the APA and the lenders had in mind from the outset: Despite the lack of legal claim on the state, the state is nevertheless prominently mentioned in the loan agreement as a possible source of repayment.²

If the legislature allows the APA to default on its Tyee loan, the ability of the state and all of its political subdivisions to borrow money would suffer. Alaska public sector credit ratings would undoubtedly fall, making loans both harder and more costly to obtain. Nevertheless, the option of allowing the APA to sink or swim on its own should not be dismissed without careful study.

A bailout of the APA by the legislature might be less painful than default, but it certainly wouldn't be painless. Increasingly scarce funds would be diverted from other uses. Worse, the legislature would be giving notice to bankers, contractors, and the APA that it is willing and able to come to the rescue, even when not legally bound to do so.

Implications for the Susitna Project

These facts raise questions about legislative intent and accountability. Did the legislature intend that the APA obligate its "general assets" (i.e. funds earmarked to other projects) to proceed with Tyee? Did the legislature intend that unforeseen problems with the project be solved by simply dipping deeper into the state treasury? We don't know, but one thing does seem beyond dispute: The legislature needs to understand and control large financial transactions of the sort illustrated by the Tyee example because it and the state as a whole ultimately may have to be responsible for them.

As legislators begin to consider the Susitna Project involving billions of dollars, it is even more essential that they understand and assume responsibility for the APA. While this independent public corporation does not yet have authority to indent the state, as a practical matter its financial actions have tremendous impact on the state's financial condition.

Answers to the following questions should help the legislature in its effort to gain understanding and control:

1. When the \$50 million Tyee loan agreement was negotiated, what did the financial advisors and Bankers Trust Company understand the APA's "general assets" to be? How much of the APA's roughly \$200 million total outstanding debt³ is secured by their "general assets" and what is covered by that term?
2. Did the financial advisors, Bankers Trust Company, and the APA consider the state treasury to be the real security for the Tyee loan? If so, why?
3. What are the current prospects that long-term revenue bonds for the project can be sold before the October 1, 1984 deadline? What is the APA planning to do if bonds cannot be sold?

We may all hope that successful negotiation of contracts for Tyee power will resolve the APA's looming financial crisis. Unfortunately, that will not resolve the underlying problem. The APA continues to operate independently. If it is able to obtain substantial "general assets", we can expect such independence to increase.

The state can undoubtedly cover a \$50 million loan. It could probably even handle problems with the entire \$200 million debt without catastrophic consequences. But the Susitna project involves billions of dollars, and is financially much more risky. While the APA and its advisors may feel that the public interest and the APA's interests are the same, we do not believe that this is always the case. If the legislature is going to be aboard for the crash landing, perhaps it ought to have some say in the takeoff.

ENDNOTES

1. Revenue bonds to repay the loan could be sold, notwithstanding the lack of power sales contracts, if the state stepped forward to backstop them. Double-barreled bonds (revenue bonds backed by the full faith and credit of the state) or even cash payments to consumers dedicated to their electric bills are examples of many possible ways the state could secure the bonds. (For a fuller discussion of the options see "Lake Tye Power Costs and Project History: Research Request 83-39," House Research Agency, February 11, 1983.)

A third party guarantee was used to secure the outstanding \$50 million loan. A major New York bank, the Bankers Trust Company, agreed to stand behind the APA (for a fee) with a \$50 million "Letter of Credit" to repay the loan if necessary.

2. The security, pledged equally to repay the loan, is (1) the project and its revenues, (2) any unspent portion of the short-term loan, (3) bond proceeds, (4) the full faith and credit of the APA, and (5) "...the proceeds of any appropriation by the State for the purpose of paying any Cost of the Project or repaying the loan or Letter of Credit."

The loan agreement releases the APA from its obligation to issue revenue bonds if it "...has deposited in the loan repayment Fund an amount at least equal to the principal of the Notes Outstanding...plus...interest."

3. The APA has borrowed additional funds - \$35 million for Swan Lake and \$115 million for Terror Lake. Our understanding is that power supply contracts which are not "take or pay" have been signed for these projects, allowing local consumers to choose not to buy power if the price is unattractive.

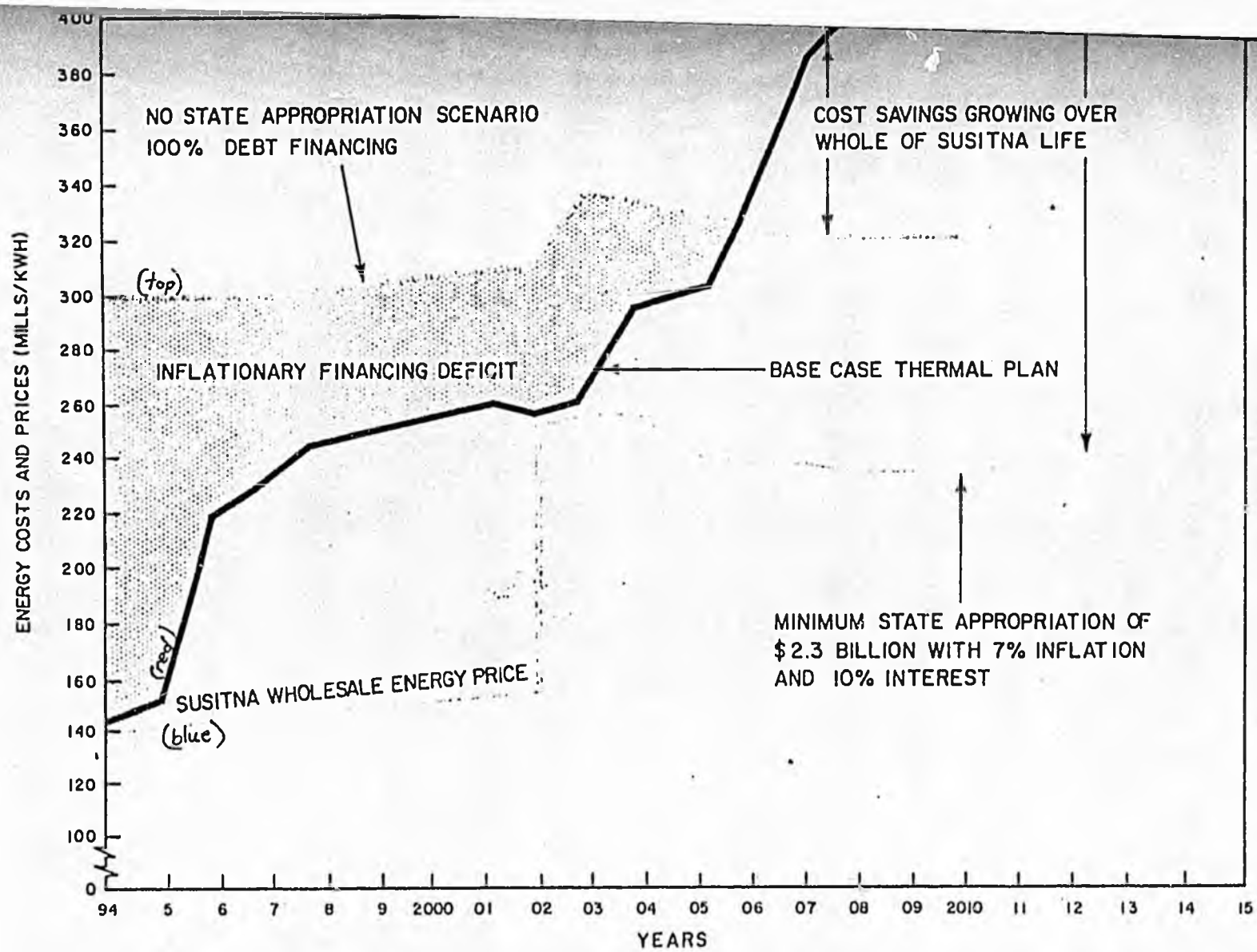
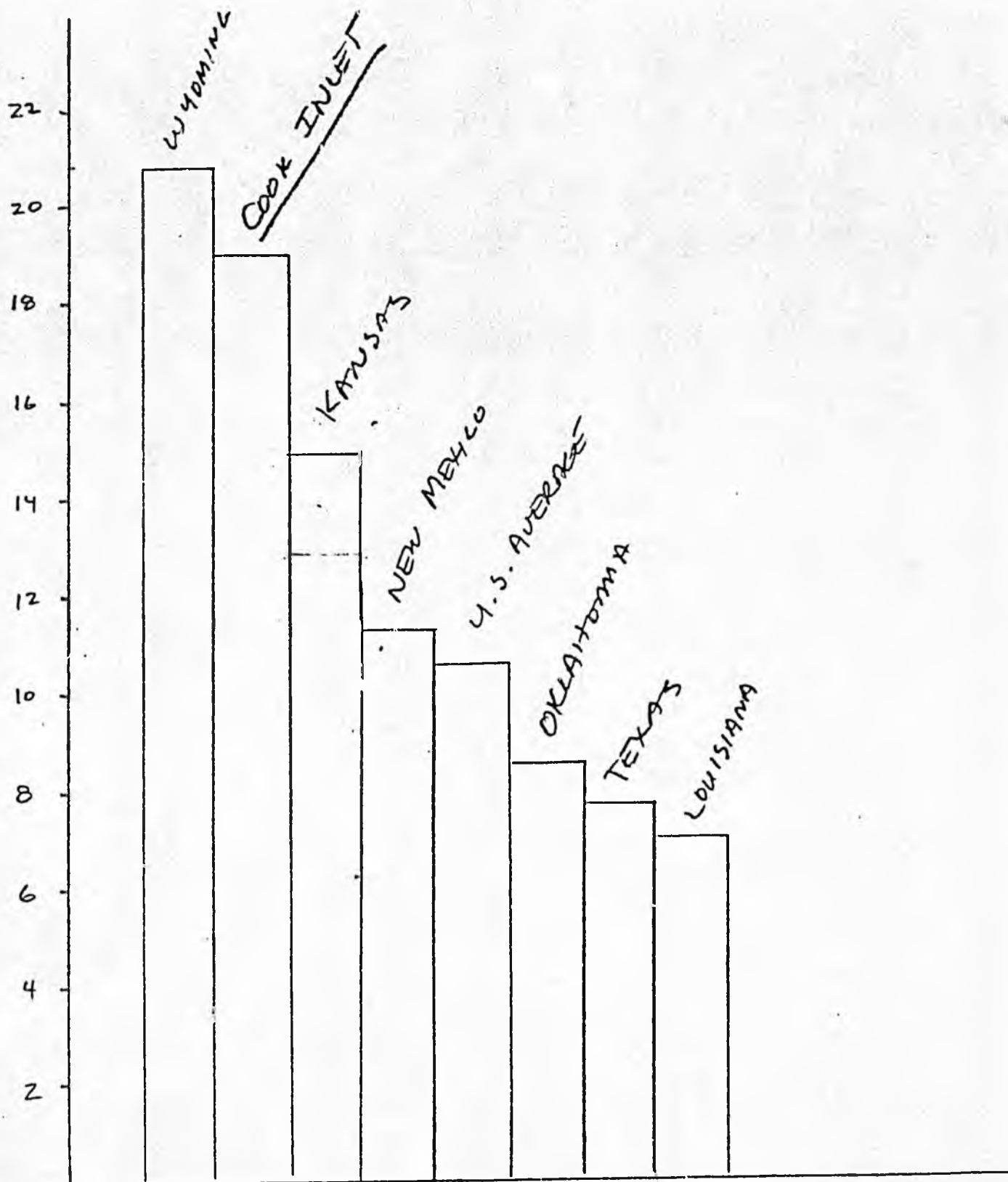


PLATE 26

ANNUAL COST COMPARISON

RATIOS, COOK INLET AND PRINCIPAL
PRODUCING REGIONS OF THE U.S.

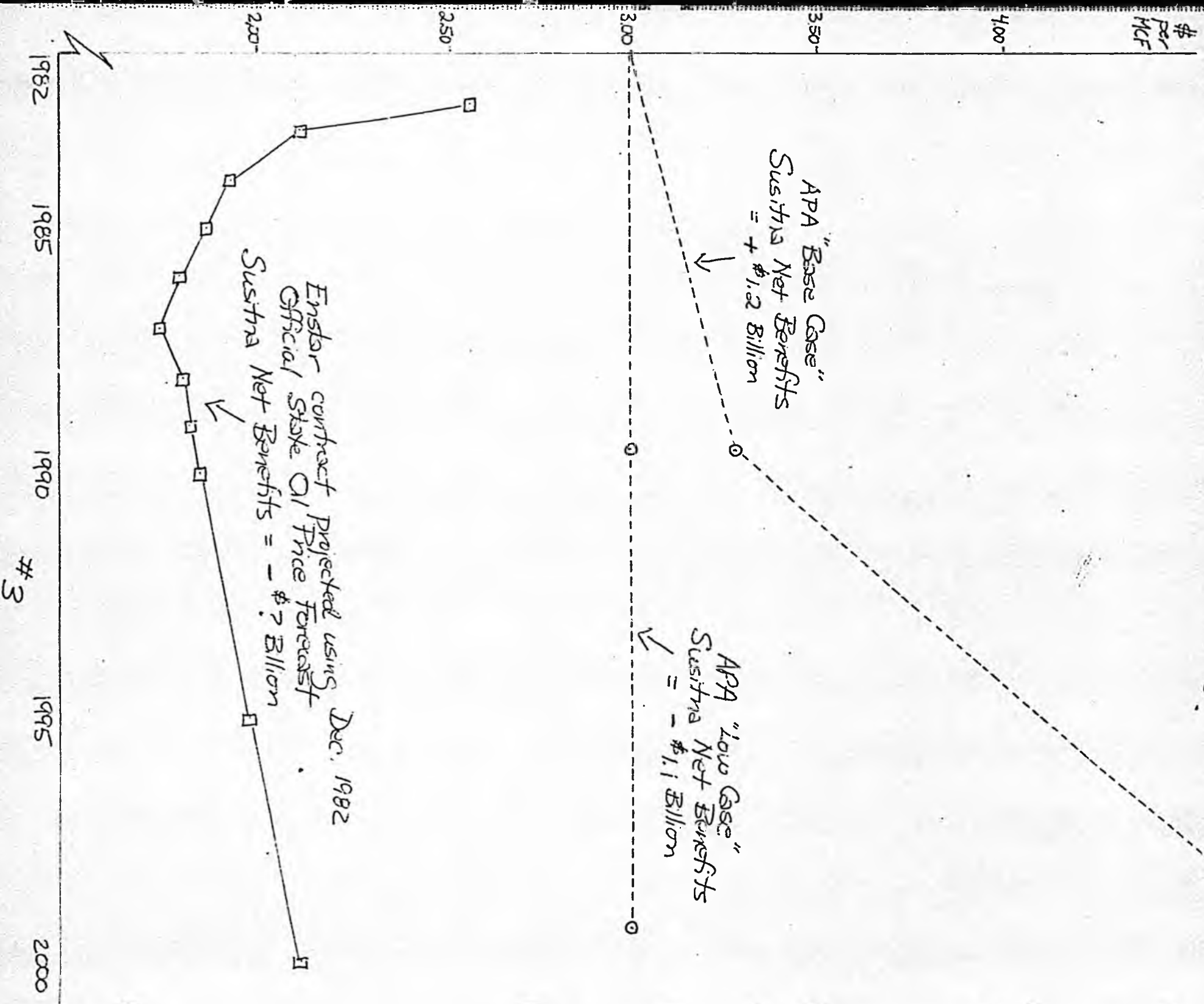
R/P
RATIO



#2

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3/1/83

Natural Gas Price Projections and Effects on Susitna Feasibility.

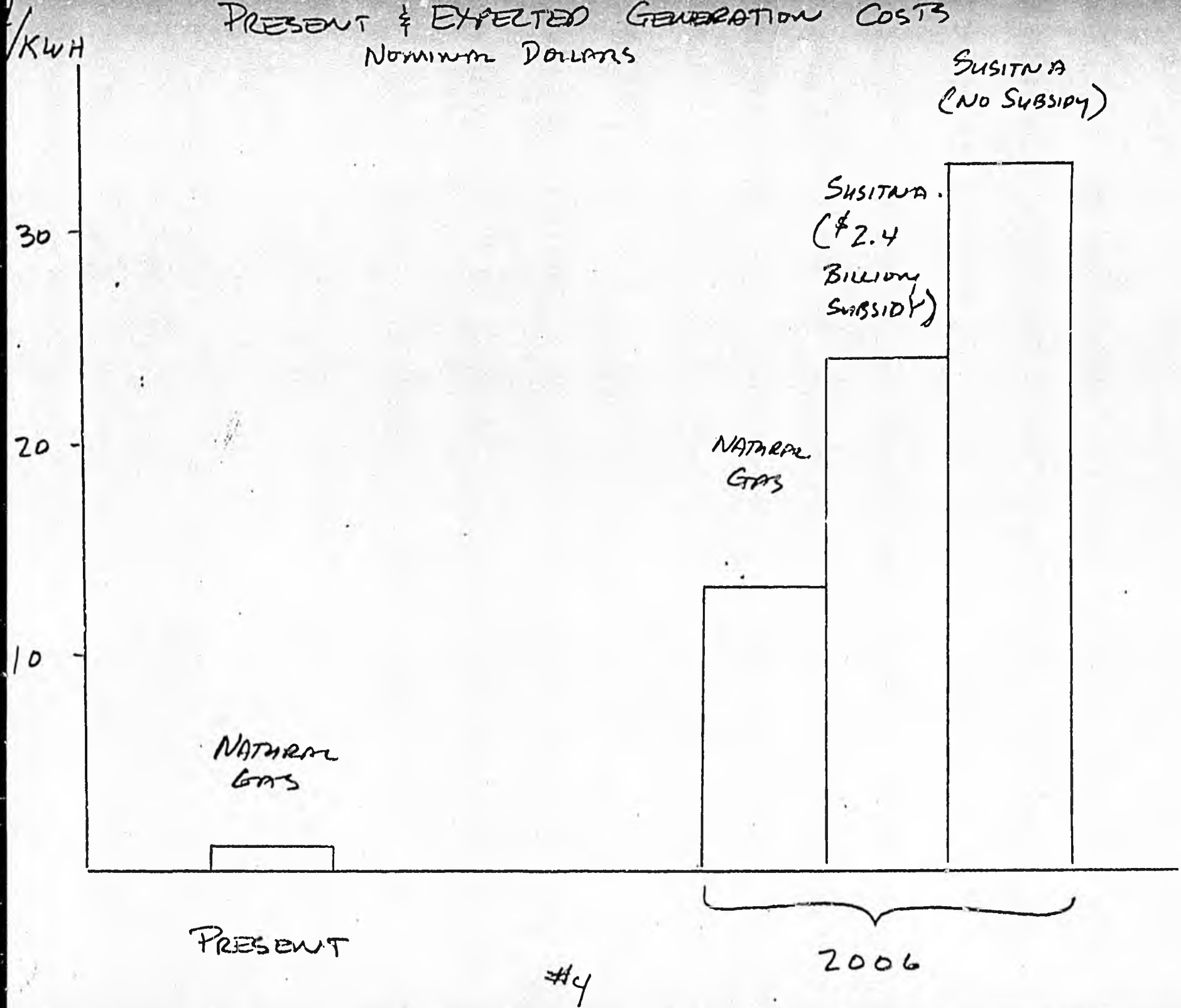


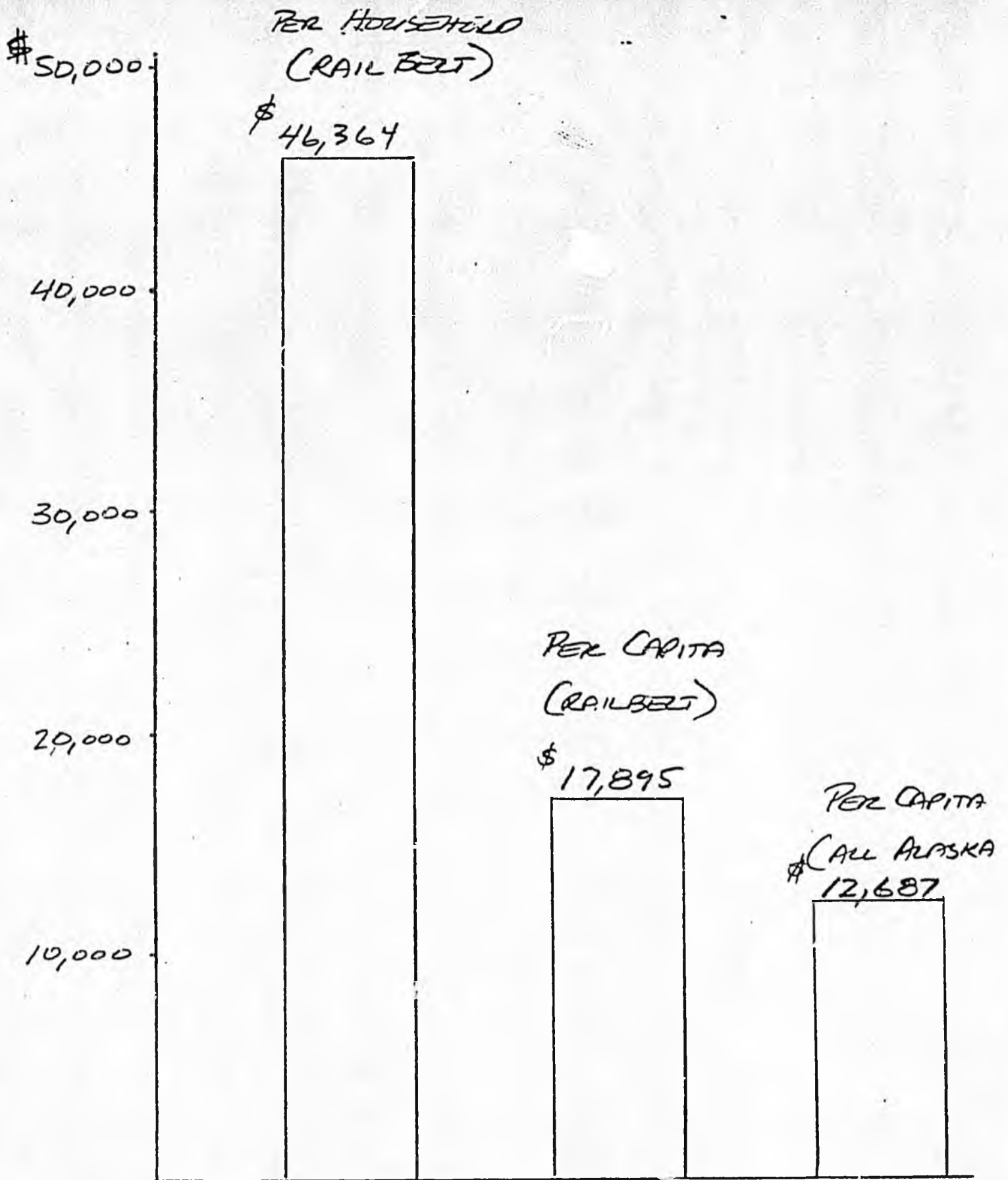
Dec. 1982

#3

PRESENT & EXPECTED GENERATION COSTS
NOMINAL DOLLARS

SUSITNA
(NO SUBSIDY)





#6

ERICKSON & ASSOC.
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COST OF
SUSITNA
\$5.1 BILLION

#5

BILLIONS
OF
1982
DOLLARS

4

3

2

1

ANNUAL
INTEREST
EARNINGS
ON SUSITNA
COST IF INVESTED
AT 3%

ANNUAL-COST
OF RAILBERT
POWER IN 1981

\$153 MILLION

\$118 MILLION

#17

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5/1/83