

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 86/2

982 SCOMM44: HOUSE POWER ALTERNATIVES STUDY COMM. 1979-80 972

Jay S. Hammond, Governor

April 9, 1979

Devil Canyon Task Force

Susitna Recommendation

Based upon the results of several recent discussions with you, certain of the Legislative leadership, the Alaska Power Authority, and ourselves, the following recommendation is offered.

Ask the Legislature for an \$8,000,000 supplemental appropriation to the Alaska Power Authority, the expenditure of which is contingent upon one of two things happening:

- or private*
1. That Senator Gravel is successful in achieving passage of legislation that would establish the Joint Federal/State Project for Susitna Development with the federal reimbursement of state expenditures for Phase I studies if the project is determined not feasible.
  2. That a reasonable alternative program is developed for accomplishing the scope of work required to produce a complete application to F.E.R.C. for a license to construct the Susitna Hydroelectric project without federal participation.

It is also the recommendation of the Task Force that the Legislature be asked to approve a supplemental appropriation of \$150,000 to the Alaska Power Authority to pay for the development of the reasonable alternative.]?

Some general comments are in order:

The scope of work necessary to develop a complete F.E.R.C. application will include such site specific work and public involvement as is required to develop a complete and comprehensive E.I.S. and economic and technical assessments. In addition, the plan will provide for an additional independent assessment of seismic effects.

It will take a minimum of four months to develop the alternate proposal in Item 2.

Perhaps an oversight committee which includes some members of the Legislature will be necessary to recommend a reasonable alternative.

Absent some completely unforeseen event occurring, the General Fund would be the only source of funds available to finance either approach but might be payed back if Gravel's plan is approved. In either proposal, the money required could become part of the project financing if the project is constructed.

The Power Authority is prepared to finalize the R.F.P. and assist the Legislature in considering the legislation.

RSH:ln

Introduced: 1/19/79  
Referred: Resources and  
Finance

IN THE SENATE

BY THE RULES COMMITTEE BY  
REQUEST OF THE GOVERNOR

COMMITTEE SUBSTITUTE FOR SENATE BILL NO. 63

IN THE LEGISLATURE OF THE STATE OF ALASKA

ELEVENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act making supplemental appropriations to the Alaska Power Authority for feasibility studies for the Susitna Hydroelectric Project; and providing for an effective date."

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

✓ \* Section 1. The sum of \$8,178,000 is appropriated from the general fund to the Alaska Power Authority for the purpose of paying costs of a portion of the Phase I feasibility studies of the Susitna Hydroelectric Project. The authority shall not expend or obligate the sum appropriated in this section unless either I(a) federal legislation is enacted providing in substance for an agreement to repay the sum appropriated (i) if the report issued as a result of the studies demonstrates that the Susitna Hydroelectric Project is not feasible, or (ii) if the report demonstrates the Project is feasible, the authority is not able to borrow money to pay construction costs of the Project, including the costs of the report, based on the security of the Project or its revenues within three years of the completion of the report, or II(b) a reasonable alternative program is developed by the authority for accomplishing the scope of work required to produce a complete application to the

✓

Federal Energy Regulatory Commission for a license to construct the Project.

*Timing*

The sum appropriated may be expended or obligated by the authority if either of the above two events occurs on or prior to January 1, 1980. The unexpended and unobligated portion of this appropriation shall lapse into the general fund on June 30, 1980.

The program to be developed pursuant to paragraph (b) shall include such specific site work and public involvement as is required to develop the necessary environmental, economic and technical information, and shall include an independent analysis of seismic potential and related design factors.

\* Sec. 2. The sum of \$150,000 is appropriated from the general fund to the Alaska Power Authority for the purpose of paying the costs of developing the program referred to in paragraph (b) of section 1 hereof.

\* Sec. 3. This Act takes effect immediately in accordance with AS 01.10.070(c).

8.178  
- .150  
-----  
8,328,000

## SUSITNA AMENDMENTS

to accompany an appropriation for the Phase I studies

Limit the appropriation to the first year, not the four-year total.

Whereas phase--

Whereas the legislature recognizes that an independent, impartial analysis of the feasibility of the proposed Susitna project and its alternatives is necessary before proceeding beyond the first year of the Phase I studies.

Resolved phrase--

Resolved that the Legislative Affairs Agency shall contract for an independent study which, with the full cooperation of the Alaska Power Authority, will analyze the assumptions and findings concerning the economic and financial feasibility of the proposed Susitna Hydroelectric Project and possible alternatives to it. These alternatives shall include but are not limited to smaller hydroelectric, coal, and gas-fired plants, including the use of royalty gas from the North Slope. A report shall be submitted to the legislature by April 15, 1980.

This needs an appropriation of \$200,000.  
#170,000

Additional, optional, resolved phrases--

Resolved that the first year of the Phase I studies be contracted to and conducted by a private engineering firm.

Resolved that the Alaska Power Authority shall submit to the legislature no later than April 15, 1980 a report detailing the first year's expenses, the data collected, and the con-

clusions drawn.

(The dates for the two reports-- first year and independent-- should be the same.)

Another possibility is making the Susitna appropriation contingent upon passage of amendments to the federal Water Resources Act which would provide a definite reimbursement of Phase I costs if the project did not proceed for any reason. The money shall be held in escrow until that guarantee is provided.

Contingent on OMB

SCOMM

#44:24

## Susitna Study Hire Decision Due Soon

The Alaska Power Authority is expected to decide next month whether the Army Corps of Engineers or a private engineering firm will be hired to conduct detailed investigations on the proposed Susitna hydroelectric project.

The work, to begin late this year, will include geotechnical investigations, biological and economic studies and some design. Electric power needs of the Southcentral Alaska railbelt area and alternative power sources also will be part of the studies, according to a prepared release from the authority.

The Legislature has appropriated \$8.1 million for the first-year study, contingent on the state's choice of either the corps of engineers or a private firm.

Three firms are competing for selection in the event the corps of engineers isn't chosen to do the work. The three firms are Acres American Inc., Harza Engineering Co. and International Engineering Co. They were selected from a list of 11 qualified firms.

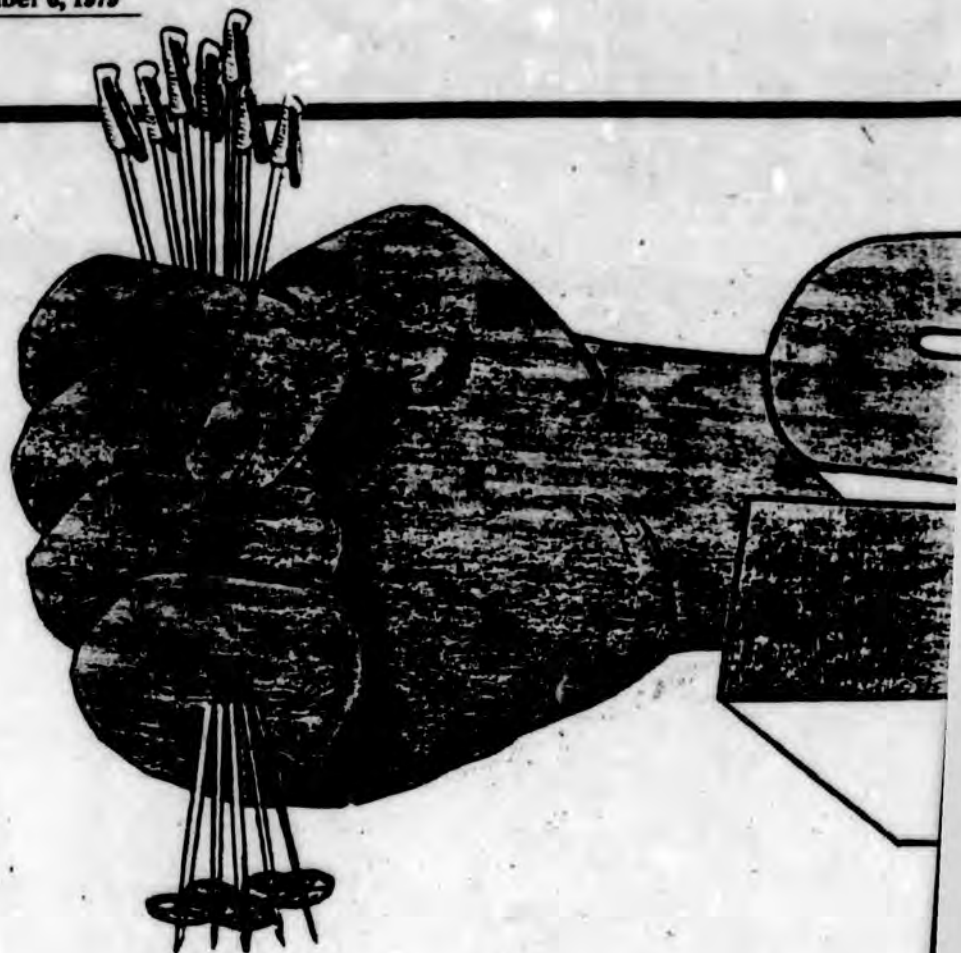
According to Eric Yould, executive director of the power authority, the selection "will be based primarily on which engineer is most qualified to formulate a technically and environmentally acceptable project."

Gov. Jay Hammond must endorse the power authority's choice before the exploratory work can begin. The initial decision will be made by the authority's board of directors.

The proposed multi-billion dollar Susitna project, located in the upper Susitna River basin northeast of Talkeetna, would provide a large part of the power needs for both Fairbanks and Anchorage.

## Household Again Extends Offer

CHICAGO (AP) — For the fourth time in less than a month, the Household Finance Corp. of Chicago has extended its offer to purchase all outstanding Wien Air Alaska stock at



*Door Busters Special*

**Kazama  
Rock Skis**

200cc Only

~~\$90<sup>00</sup>~~ **\$19<sup>95</sup>**

*Door Busters*

**Suvern  
X-C B**

~~\$75<sup>00</sup>~~ **\$4**

**DOWNHILL SKIS**

# Susitna Study Presentations to APA

9/26

You'd - Susitna project has been studied since 1950's.

Bureau of Reclamation - 1960 proposed 4 dam system

concurrent with Ramparts project

Cheap natural gas in Cook Inlet

delayed  
consideration

1972 - Stevens, State Public Works - new app. for new look at  
Corps to take

Susitna Project 800 million - 1975 report

Z-dam scheme - 95% of power, lesser impact, cost

presented in 1976 - Senators agreed federal financing not possible

State concerned At River Authority

Gravel - joint venture with Corps & state to lessen risk

- field program cost reimbursement in no project built / Sec. 203

- initial assumption of cost overruns by feds

but technical flaws with agreement - still failed to pass through

APA then approached legislative

this

decision in Nov. 1980

either Corps with federal guarantees, or private sector

Set out proposals, picked 3 firms to prepare detailed proposals.

## International Engineers -

Plan - (1) determine future demand (2) investigate available resources

(3) if Susitna test, to study project in detail.

+ feedback - also in terms of public participation. Advisory boards

- Engineering - Plan synthesis - Future energy requirements & sources

ISER to develop projection

last menu development  
various env. impacts

Comment - JELD - "citizen advisory panel" are  
of the most form of public  
participation.

APA should help set up, not organizations

Dancer & Moore - biology

UA museum - Archaeological

SERI (?) land use

a) env. impacts of various alternatives

b) complete impacts for Switna project

complete downstream effects,

transmission lines

public participation program

chronomorph fish studies

3 full years (FOG recommended 46 month minimum)

Water quality - stream flows, design floods  
downstream floods

temperature, oxygen, turbidity, chemical,  
nutrients, sedimentation

independent review of seismic

Mohr - level of effort for marketing & financing efforts

Kettner - looking to FERC license, would only be preliminary work  
only need to

extensive effort in looking at projects outside basin.

KB - we will obtain & collect info available.

Brian Rogers

Pert Wenckers - lack of consideration of its problems

# Harza

George Voland - Power Studies

issues  
alternate power sources - other hydro projection?  
other thermal, well path

Size of projection

seismic dangers

impact on fisheries and wildlife

reliability of cost estimates

socio economic impacts

Project financing

Phase I (Demand) - detail of various sizes

stage development

Portage Creek to Vee Nam area

exc. Denali den - severe env. impact

Phase II - detailed planning for one set of sites

Voland - Market, Econ  
- Financing Studies / Power Market  
Alternatives

Expansion

Econ & Financial Analysis

4 Consumer categories - based on historic patterns, with  
adjustments

Will consider land management & conservation

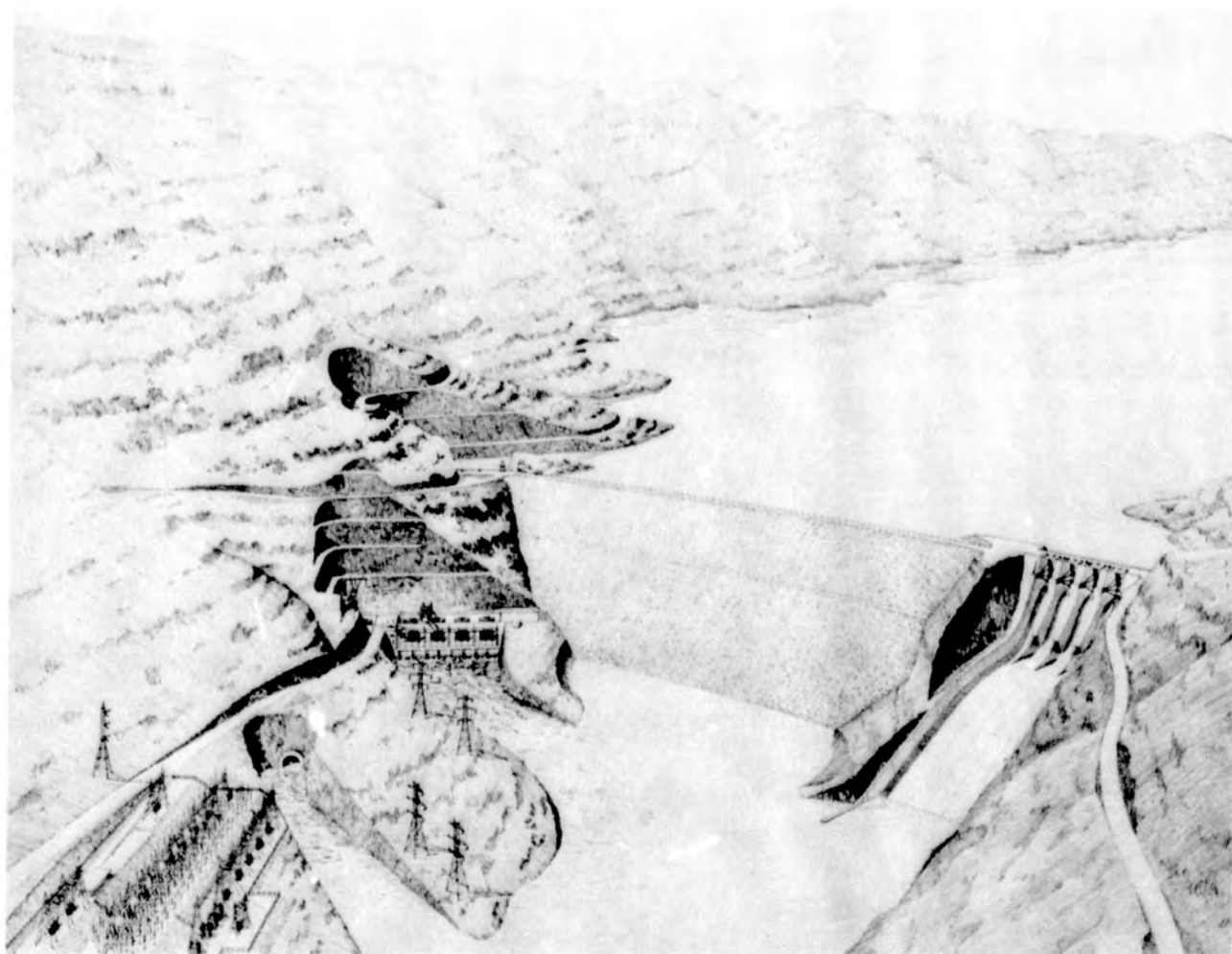
Flow services  
Analysis of  
thermal  
alternatives  
just have an evaluation  
review?

THE ALASKA POWER AUTHORITY

# Susitna Hydroelectric Project Plan of Study

Presentation by International Engineering Company

September 1979



INTERNATIONAL ENGINEERING COMPANY, INC.  
A MORRISON-KNUDSEN COMPANY

# Susitna Study Project Team

## Project Executive



R. B. Christensen - Vice President

Mr. Christensen, Vice President and Regional Manager/North America, will be responsible for administrative and financial control. He will also maintain close liaison with the management of the Alaska Power Authority. Mr. Christensen has over 25 years of engineering experience and has been the Project Executive for all North American IECO projects since 1974.

## Environmental Studies Principal-in-Charge



David H. Blau - Principal - EDAW Inc.

Mr. Blau is an experienced environmental planner and landscape architect with over 15 years of experience, principally in energy related projects. As Principal-in-Charge of Environmental Studies, he will provide direction and guidance to the Environmental Study Group to assure that environmental studies will be carried out in an efficient and orderly manner. Previous projects under his direction include the Environmental Report, Recreation Plan, and Fish and Wildlife Report for the 320-MW Stanislaus River Hydro Project, and the Environmental Report for the Pine Flat Hydro Project in California.

## Exhibit "W" Environmental Report Coordinator



John W. Everingham - Associate - EDAW Inc.

Mr. Everingham, a system ecologist who has specialized in urban and rural environmental analyses, will be responsible for the project management and coordination of all aspects of Exhibit W-related studies including work program, work product, scheduling, production, and quality control. As Project Manager with EDAW, he is currently directing the preparation of Environmental Reports for three potential hydro projects in Idaho, as well as a Fish and Wildlife Resource Study for the Wiley Hydro Project on the Snake River.

## Fish and Wildlife Resources Principal-in-Charge



James E. Hemming - Principal-in-Charge, Biological Services

Mr. Hemming, Principal-in-Charge of biological services in Alaska for Dames & Moore, will be responsible for the project management and coordination of all aspects of the biological studies for Exhibits W and S including input, scheduling, production, and quality control. He has over 17 years of experience in fish and wildlife evaluations. Having worked in Alaska since the early 1960's, he is a recognized expert on Alaskan Wildlife.

## Management Project Manager



Eric B. Kollgaard - Principal Engineer

Mr. Kollgaard, Principal Engineer and Chief of the Dam Design Department, will serve as the Project Manager. He will be in full charge of all technical services provided under the terms of the contract. This will include continuous liaison with representatives of the Alaska Power Authority and coordination of the activities of the various study and design groups involved in the Susitna Project. With over 24 years of water resources experience, Mr. Kollgaard has recently served as Project Manager for the Copper Creek Hydroelectric Project, the raising of Ross Dam, and the Windy Gap Water Supply Project.

## Deputy Project Manager



Robert W. Retherford - Vice President - Arctic District

Mr. Retherford, Arctic District Vice President and Manager, will serve as Deputy Project Manager. He will be in charge of the Public Participation Program, in addition to his duties as the project management representative in Alaska. Mr. Retherford, who has received numerous awards in recognition of his valuable contribution to advancing engineering in Alaska, has over 25 years of experience in the power industry including design, construction, operations, economics and rate analysis.

## Plan Synthesis Chief Planning Engineer



A. Ragnar Engebretsen - Principal Engineer

Mr. Engebretsen, Principal Engineer with over 30 years of experience, will be in direct charge of the Plan Formulation Studies, and the Definitive Project Studies. He serves as Chief Planning Engineer in the Water and Power Resources Planning Department and has been involved in Master Planning Studies in Peru and Bangladesh, water resources feasibility studies in the western United States, and the planning and design of hydro projects in the U.S., Australia, Taiwan, Iceland and Norway.

## Preliminary Design Design Coordinator



Ram P. Sharma - Principal Engineer

Mr. Sharma, Principal Engineer will serve as Design Coordinator. He will be in charge of design input to the Plan Formulation Studies and preliminary design of project features for inclusion in the Definitive Project Studies report. Mr. Sharma has over 27 years of experience in the field of water and land resources development with particular emphasis on the design and analysis of dams, spillways, power intake structures and other major structures associated with water resources projects.

## Technical Review Board Chairman



Archie A. Stone - Executive Vice President, Engineering

Mr. Stone, Executive Vice President, will serve as Chairman of the Technical Review Board. He will be responsible for monitoring the technical development of the project and advising the Project Manager in major decisions. His 30 years of experience in water resource development includes 16 hydroelectric projects for which he served as Design Engineer and Project Manager. Mr. Stone has served in a similar capacity on various other projects including the 12,600-MW Itaipu in Brazil.

## Hydrological Studies Principal-in-Charge



Cyril J. Chan - Chief Hydrologist

Mr. Chan, Chief Hydrologist, has conducted hydrological studies for such major projects as the 12,600-MW Itaipu Hydro Project, the 2,100-MW Itumbiara Hydro Project, and the Nicaragua Master Plan. As Principal-in-Charge he is responsible for evaluating and defining the scope of hydrologic studies required for the project; directing and coordinating the activities of the Task Group Leaders in the study group; and establishing criteria guidelines, and overall technical supervision of all hydrological studies.

## Geotechnical Studies Principal-in-Charge



Joseph S. Long - Chief Geologist

Mr. Long, Chief Geologist with over 20 years of experience in engineering geology, will serve as Principal-in-Charge of Geotechnical Studies. He will direct and review the studies undertaken by the Geotechnical Studies Group to ensure efficient execution and high quality performance of the work. Typical recent hydroelectric projects include the 12,600-MW Itaipu Project, the 2,800-MW Sao Simao Project, and the underground powerhouse and arch dam foundations at the Paute Hydro Project in Ecuador.

## Anchorage Support Operations Principal-in-Charge



Ray S. Samuelson - Deputy Manager and Administrator, Anchorage

Mr. Samuelson, Deputy Manager and Administrator of the Anchorage office, will be responsible for overall coordination of support operations to ensure that the activities are scheduled properly and executed in a timely manner. Support operations under his direction will include: office support; field camps and logistics; permit applications; real estate; surveys and mapping; and other field activities.



**International Engineering Company's Project Team for the  
Susitna Hydroelectric Project Plan of Study is composed of**

- IECO, established in 1945, a consulting engineering company specializing in water resources work throughout the world

**in association with**

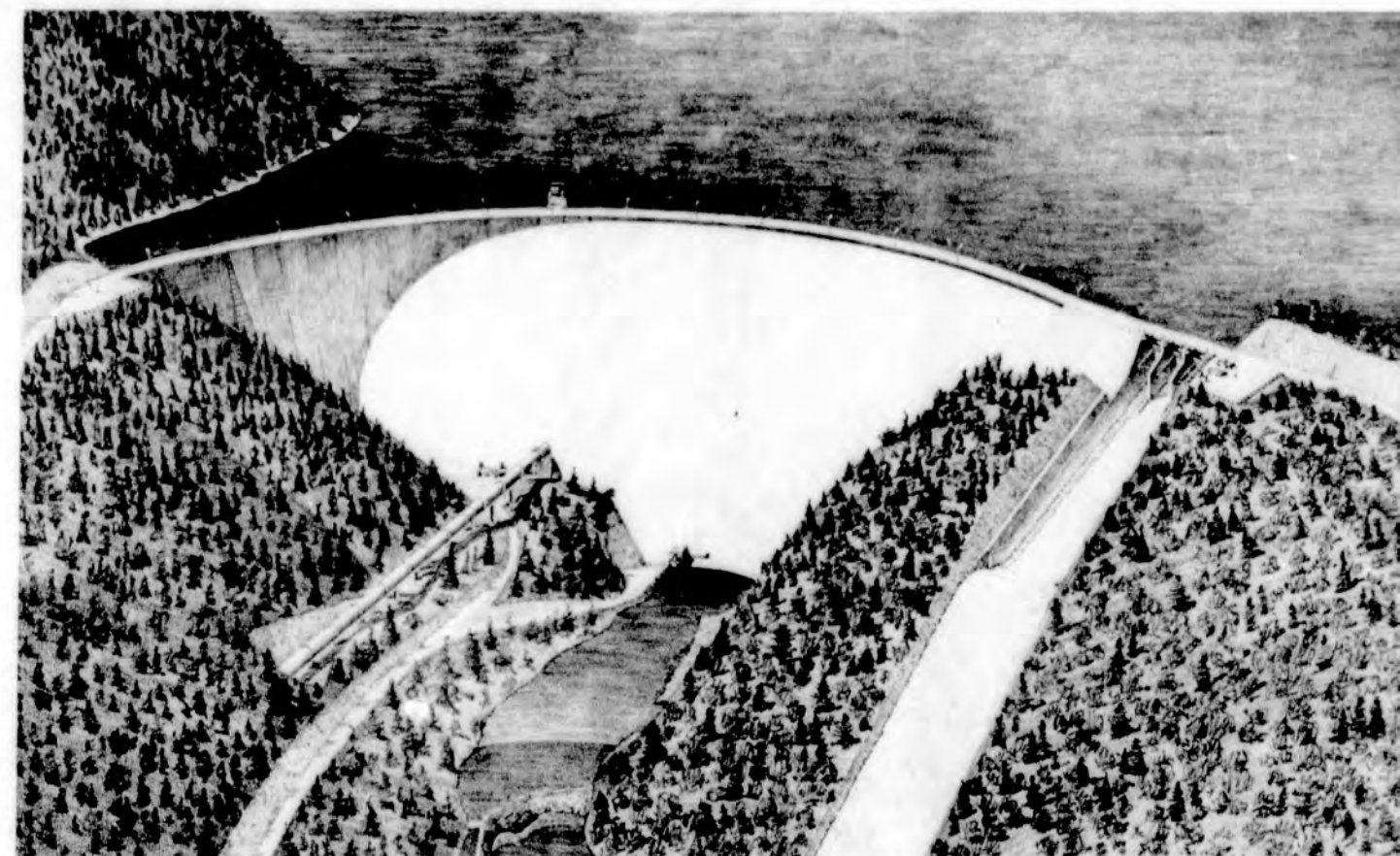
- EDAW, Inc. and Dames and Moore, consultants in the environmental sciences, with wide experience on studies for hydroelectric projects and special expertise in the Alaskan region
- Hydrocomp, Inc. specialists in computer based hydrologic analysis

**and supported in areas of their particular expertise by**

- Cook Inlet Region, Inc./Holmes and Narver Inc.
- University of Alaska's Geophysical Institute, Museum and Institute of Social and Economic Research
- Shannon & Wilson

## A World of Experience

Pioneering in the development of new engineering concepts and designs for dams and related projects is a tradition with INTERNATIONAL ENGINEERING COMPANY, INC. (IECO)... a tradition built on over 30 years of experience in more than 50 countries around the world. Our services for hydroelectric projects include everything from initial studies for site selection and feasibility, through preparing specifications for equipment procurement and final construction drawings, to construction management.



With an inventory of 23 multi-purpose water projects, 50 major dams, 170 km of tunnels, 43 hydroelectric powerhouses, 3000 km of transmission lines and 3 major pumping plants, we at IECO have a world of experience in the investigation and design of major dam and dam-related projects to offer.



**INTERNATIONAL ENGINEERING COMPANY, INC.**  
A MORRISON-KNUDSEN COMPANY

HEADQUARTERS OFFICE  
180 HOWARD ST. SAN FRANCISCO, CA 94105  
TELEX (ITT) 470040 - (RCA) 278362 - (WUD) 34-376  
CABLE INTERENGCO TELEPHONE (415) 442-7300

# SUSITNA HYDROELECTRIC PROJECT

## PLAN OF STUDY

PRESENTATION BY INTERNATIONAL ENGINEERING COMPANY

### A G E N D A

- ° INTRODUCTION - R. B. Christensen
  - 1. MANAGEMENT
    - GENERAL STUDY APPROACH - E. B. Kollgaard
    - PUBLIC PARTICIPATION - R. W. Retherford
  - 2. PLAN SYNTHESIS - A. R. Engebretsen
  - 3. ENVIRONMENTAL STUDIES
    - GENERAL APPROACH - D. Blau
    - BIOLOGICAL ASPECTS - J. Houghton
  - 4. HYDROLOGICAL STUDIES - C. J. Chan
  - 5. GEOTECHNICAL STUDIES - J. S. Long
  - 6. PRELIMINARY DESIGN - R. P. Sharma
  - 7. ANCHORAGE SUPPORT - R. S. Samuelson
  - ° EXECUTIVE OVERVIEW
    - TECHNICAL - A. A. Stone
    - BUSINESS - R. B. Christensen
-

# ALASKA POWER AUTHORITY

## AGENDA

Anchorage, Alaska

September 27, 1979

- I. Review and Approval of Minutes of the August 10, 1979 meeting in Anchorage.
- II. Opportunity for public comment.
- III. Consideration of a loan from the Power Project Revolving Loan Fund for the Mennonite Creek Hydro-electric Project.
- IV. Consideration of actions with respect to the Swan Lake Project.
- V. Selection of a consultant for the Nome/Kotzebue Study.
- VI. Consideration of the Lake Tye Letter of Understanding.
- VII. Internal Operations of the Power Authority:
  - (a) Susitna Project Management Proposals.
  - (b) Bond Counsel Contract.
  - (c) Power Authority Budgets.
  - (d) Proposed Legislation.
- VIII. Any other Business or Action which may properly come before the Board.
- IX. Actions Relative to the Susitna Project:
  - (a) The proposed agreement with Cook Inlet Native Corporations.
  - (b) Presentations by the three Engineering firms on Alternative Methods of Proceeding with the Susitna Project.

→ Adequacy of demand model:  
ability to predict future?

→ Views of Power Alternatives

→ Should Power Study be under Consultants control?

→ strong recommendation that power study be  
conducted independently

→ adequacy of consultant - what is

→ Take or pay contracts as opposed to guarantee

→ are utilities prepared to buy power beforehand?

Building incrementally

# Susitna Proposals

## Int. Engineers

begin 1/80

total budget - \$22,366,000

+

13,270,000 following

(A) environmental studies - ~~\$3,500,000~~ \$4,105,000  
~~research plan~~ includes socioeconomic

(B) Alternatives - [oil & gas - 55,000  
\* ~~Other~~ <sup>market</sup> power studies 60,000  
87,000  
202,000 ←

economics of  
project - impacts

79,000  
281,000 ←

evaluation of alternative  
structures

163,000  
444,000

(C) Public Participation - 216,000

— engineer doing alternative system has experience only  
in conventional & geothermal sources of energy

[Project proposal is well organized

by

7/80

7/80

most by  
12/80

# Susitna Proposals

ACRS

Start 1/1/80

feasibility - 19.7m

public participation 3.4m

26.2m - subsequent costs

Anticipated difficulties

a) demand seismic etc. - good coverage

Task 1 - Power Studies \$407,000 load forecast by 7/80  
alternatives by 12/80

Task 7 - Env. Studies 4.9m prelim - 7/82 through 85

Task 12 - Public Participation 657,000 7/82 final review

Power Studies - Woodward-Clyde Consultants / 276-2355

A - Load Forecasting - \$42,000 weeks 1-10 (WCC)

multiple regression models

derived demand models

B - Load Growth Scenarios - 88,000 weeks 8-26 (WCC)

analysis of demand - good range

scenarios

conservation

forecast development

design.

C - Selection of Power Alternatives - 97,000 wks. 20-35 (WCC, dc)

coal, oil path, gas conservation

consistency into alternative systems socioeconomic

D - Selection of Viable Expansion sequences - \$30,000 wks. 26-40 (ACRS)

sensitivity to scheduling concern

E - Impact \$138,000 w/ 30-45 (WCC, TES)

F - Report - 12,000 w/ 40-48 (HRC)

### Public Participation - meeting

program report,

media

report means availability

responses to questions

### Resource - ~~one~~

Comment - no one at WCC with experience -

conservation or soft path technology

# Susitna Proposal

## Harza

- less emphasis on alternatives

budget: 17.8 m + license app

4.3 app to award

27 months \$22.1 million

guidelines: environmental effect,

scale sizing, alternative concerns

Procedure:

- 1) best Susitna project
- 2) environmental assessment

3) econ. of alternatives — soft path  
— no-load growth

assume thermal generation  
best alternative

|                         |         |                                               |
|-------------------------|---------|-----------------------------------------------|
| Public Info             | 657,000 | (80-82)                                       |
| Power Market            | 68,000  | (to 9/80) <sup>update in 81</sup>             |
| Alternatives            | 265,000 | ( <sup>mid</sup> 1980 + <sup>late</sup> 1981) |
| System Expansion        | 62,000  | (late 1980 + late 81)                         |
| Econ + Finance Analyses | 112,000 | (1982)                                        |

continued  
design  
of various  
sections

"thermally" oriented

Personnel - no special alternatives experience

Env. - ??

very poor organization  
of project proposal

# ALASKA POWER AUTHORITY

June 25, 1979

*Acres American  
of Buffalo, NY  
won this  
competition.*

## SUSITNA HYDROELECTRIC PROJECT

### DETAILED FEASIBILITY ANALYSIS

#### REQUEST FOR PROPOSAL

#### A. INTRODUCTION:

The Alaska Power Authority is requesting written proposals from selected firms for a program of study leading to a license application to the Federal Energy Regulatory Commission for construction of the Susitna Hydroelectric Project. Inherent in the preparation of the license application is a definitive determination of project feasibility and an assessment of all alternative means of meeting the load requirements. The submitted proposal is to be in the form of a Plan of Study (POS). The three firms selected to receive this request for proposal are those that were determined by the Power Authority to be best qualified as evaluated on the basis of a previous submittal of qualifications and experience.

#### B. BACKGROUND:

Development of the hydroelectric potential of the Upper Susitna River Basin has been the object of extensive and long term study by federal and state agencies and some private interests. The most comprehensive analysis was a feasibility study completed by the Corps of Engineers in 1976. The recommendations contained in this report led to conditional Congressional authorization of the project pending release of the report to Congress by the Chief of Engineers. That action by the Chief of Engineers was forestalled by the Office of Management and Budget (OMB) which requested additional verification of feasibility. The additional studies were undertaken by the Corps of Engineers, and the results were presented in a 1979 Supplemental Feasibility Report. Copies of both the initial and Supplemental Feasibility Reports were provided as an attachment to the initial May 4, 1979 Request for Proposal.

The original Corps of Engineers feasibility study entailed an assessment of energy alternatives available to meet the forecasted power needs of the Railbelt area. A number of development schemes for the Upper Susitna River Basin were analyzed, and at least three were found to be economically feasible. The evaluation criteria were technical viability, economic feasibility and environmental acceptability. The recommended plan of development entailed a system for two major hydroelectric dams with transmission facilities to both Anchorage and Fairbanks. The 1979 Supplemental Studies offered additional verification of the plan's feasibility.

The Devil's Canyon Task Force, an ad hoc advisory group appointed by the Governor, concurred in the overall findings of the Corps of Engineers, but also enumerated a number of issues that needed clarification during more detailed studies. The Devil's Canyon Task Force report is attached.

## ALASKA POWER AUTHORITY

It is the intent of the State of Alaska, through the Alaska Power Authority, to undertake the detailed studies required before a definite construction decision can be made. The State has two optional ways to proceed on the funding and management of these studies. The first entails a cooperative effort with the Corps of Engineers under Section 203(e) of the Water Resources Development Act of 1976. This Legislation provides that the Corps of Engineers would conduct the detailed studies with reimbursement by the State of Alaska if the project proved feasible. Amendments to the Act are currently being sought. These amendments would expand the authorization to allow initial funding by the State with Federal reimbursement if the project is determined to be either economically infeasible or not financially.

In keeping with Section 203 approach, the Corps of Engineers at the request of the State developed a POS describing a program of detailed feasibility studies. That plan of study was designed specifically to implement Section 203, and therefore the scope of the proposed studies does not relate directly to the requirements being outlined in this Request for Proposal (RFP). The Corps of Engineers' POS was provided to you under Step 1 of the selection process.

The second option for conducting detailed feasibility studies excludes the Federal government except in a permitting role. Under this alternate approach the State of Alaska would finance the detailed studies with its own resources and contract directly with private engineering firms to actually conduct the work and to seek a license for construction. The Power Authority has been directed by the Alaska Legislature to develop a plan for implementing this second approach. The proposal being sought through this RFP is that implementing plan.

During the latter part of 1979 a decision will be made to initiate the Susitna Feasibility Study utilizing one of the two optional approaches. If the decision is to proceed without the Corps of Engineers, then the competing POS will be used as one means of evaluating the three firms under consideration. Under State legislation the Power Authority must determine if the competing private sector proposals represent a reasonable alternative to initiation of the Phase I studies using the Corps of Engineers. The Engineer selected to perform the Susitna Feasibility Studies will be required to utilize Alaskan firms as sub-contractors whenever possible. In addition the agreement between the Power Authority and the Cook Inlet Native Village Corporations requires strong affirmative action in hiring of natives and sub-contracting with native firms.

### C. PURPOSE OF THE PLAN OF STUDY:

The requested POS has a two-fold purpose.

1. Provide a description of the work required to definitively assess project feasibility and prepare a Federal Energy Regulatory License Application as an alternative program of study to that proposed by the Corps of Engineers under Section 203.

# ALASKA POWER AUTHORITY

2. Provide an additional means of evaluating the three firms previously determined to be most qualified to undertake the detailed feasibility studies and license application preparation.

The Plan of Study becomes the property of the Power Authority upon submittal, and the Power Authority reserves the right to supplement, delete portions, or otherwise alter the POS as deemed advisable. The use of all or a portion of a POS by the Power Authority does not necessarily imply the selection of the preparing firm in the conduct of the detailed studies. The POS will be an important but not the sole basis for selection.

## D. ACTIONS TO BE TAKEN UPON PLAN OF STUDY SUBMITTAL:

In keeping with the purposes of the POS, two separate actions will follow POS completion.

1. The Power Authority will recommend to the Governor, on the basis of the Plans of Study and other pertinent factors, the most appropriate method of proceeding with detailed studies and license application. Generally, the choice will be between contracting with the Corps of Engineers under Section 203 or contracting directly with a private engineering firm.
2. If the decision of the Governor is to forego the Section 203 approach and instead utilize a private engineering firm, the Power Authority will select the engineering firm on the basis of the initial submittal of qualifications, the POS, and any other appropriate means of evaluation.

## E. PROGRAM OBJECTIVES:

The POS should describe the scope, schedule and cost of the activities needed for detailed feasibility studies and license application preparation. The scope of the proposed studies should be sufficiently detailed to insure that the critical issues determining project feasibility are explored to the degree that a definite decision can be made regarding project construction. In keeping with this criteria, the work program proposed by the engineer in the POS should be designed to accomplish the following:

1. Determine the optimal plan for developing the hydroelectric potential of the Upper Susitna River Basin. The optimal plan is that plan which is most beneficial to the residents of Alaska. A multiobjective approach is to be used in plan formulation. These objectives should include, but not be limited to:
  - (a) minimizing market area electrical power costs,
  - (b) minimizing adverse environmental and social impacts while enhancing environmental values to the extent possible,

## ALASKA POWER AUTHORITY

- (c) safeguarding both life and property, and
  - (d) maximizing the likelihood of project financing and implementation.
2. Compare the selected plan for Susitna hydropower development with all other reasonable alternative means of satisfying market area power needs. The overall objective is to benefit the people of Alaska by developing that means of meeting electrical power requirements that offers a minimum of uncertainty, environmental impact and financial burden.
  3. Determine with reasonable certainty the cost of the project and cash flow requirements.
  4. Determine the physical, economic and financial risks associated with project development.
  5. Determine the nature and extent of environmental and social impact of the project, along with those mitigating measures that could be taken to minimize or offset adverse impact.
  6. Determine the estimated annual system power costs both with and without the project, study the integration of Susitna power into the Railbelt utility systems, and assess power marketability.
  7. Prepare a Federal Energy Regulatory Commission (FERC) License Application for construction.
  8. Keep interested parties and the general public informed of study progress and solicit public input as appropriate.

### F. REQUIREMENTS:

The POS should contain as a minimum the following elements:

1. A clearly defined set of objectives that specify the level of detail to be achieved by the recommended program of study. The engineer is being given only general guidance regarding the purpose of the detailed studies and the needs of the Power Authority. It is up to the engineer to define as clearly as possible how far along the path of project planning and design the detailed studies will take the project. It is clearly recognized that the estimated level of detail required to fulfill the Power Authority's needs regarding definite project construction recommendations is a matter of judgement and may differ among the three engineering firms. As a result, of course, the time required for study completion and estimated cost will vary accordingly. The Power Authority is not necessarily looking for the shortest duration or least cost program; rather the Authority is seeking that program of study which most effectively responds to the State's need for information

## ALASKA POWER AUTHORITY

sufficient to judge whether or not to proceed with construction and to fulfill the requirements of a FERC License Application. The Power Authority is seeking, through this POS, recommendations on that appropriate level of detail.

2. A general discussion of the overall study approach. This discussion should specify any study phases and intermediate decisions points, the nature and timing of reports, overall program duration, and estimated total cost. In addition a proposed budget to carry through the license to contract phase shall be provided.
3. A discussion of the personnel, equipment and other resources that will be used to accomplish the program of study. This should include supporting services as well as in-house resources. Plans for joint-ventures or sub-contracts should be specified, along with any arrangements made for study participation by Governmental agencies. Definite assignment of key personnel will be required.
4. A description of any recommended public information and/or public participation programs. In addition to addressing the involvement of the public at large, this discussion should include planned coordination with interested governmental or private interests and the use of any advisory or review bodies.
5. A summary of relative study effort among the various major disciplines. This requirement is included to allow a rapid determination of, for instance, what proportion of overall study cost is associated with environmental impact studies or geotechnical studies.
6. A detailed discussion of the separate study items or activities that comprise the proposed program. The discussion should in each case describe the activity, explain the purpose for the activity, and provide a cost estimate for the activity. The number of component activities, of course, could theoretically range anywhere from one to an infinite number. The degree to which the program is broken down into component parts is left to the judgement of the engineer. The Corps of Engineers, for instance, presented about 200 separate activities in their POS. In the Corps' view this was a reasonable breakdown for purposes of scheduling, cost estimating and program description. Estimates will also be made of the scope, nature and timing of support that will be required from the Power Authority and other agencies during the course of the feasibility studies and license application process.
7. A discussion of the logistical problems inherent in conducting the program of study and the proposed means of dealing with these problems. The engineer's plan in this regard must accommodate Bureau of Land Management and Alaska Native Corporation land use stipulations, and it must be sensitive to the needs and desires of area residents. A draft copy of the land use permit and associated stipulations is attachment 2.

## ALASKA POWER AUTHORITY

8. A schedule of program activities and an estimated quarterly budget by program and activity. The schedule should include not only work items through license application, but also estimates of time and activity up to initiation of construction. The planned initiation of the program should be no earlier than October 1, 1979. Note that \$8.178 million has been appropriated for these studies by the State of Alaska for the fiscal year beginning July 1979. Carryover of this initial year funding to subsequent fiscal years is acceptable. There are several budget items that should be included in the program and which are not subject to the discretion of the engineer. The Power Authority has agreed to pay the affected Native Corporations \$36,000 per year for use of private land and approximately \$3,000 per month for a full time inspector representing native interests in accordance with the proposed Native Corporation agreement which is attachment 3. Expenses of the Power Authority for study coordination and review in the amount of \$100,000 per year should also be included. A final required budget item is \$1 million for an independent cost estimate and seismic risk analysis to be scheduled at the discretion of the engineer.
9. In addition to the POS, each firm should provide a draft of contractual language which would permit the Power Authority and the Engineer to enter into an agreement which recognizes the various requirements and responsibilities of each party.

### G. PLAN OF STUDY FORMAT:

In order to facilitate orderly review and comparison among the Plans of Study, engineers are requested to present their proposed program in the following format. The headings generally parallel the requirements previously discussed.

1. Cover Sheet
2. Table of Contents

#### Part A. Plan of Study:

1. Program Objectives
2. Study Approach
3. Budget Summary (by discipline and by quarter).
4. Logistical Plan
5. Detailed Activity Descriptions and Cost Estimates
6. Program Schedule

#### Part B. Implementation of the Plan of Study:

1. Key Personnel Assignments
2. Organizational Structure of the Study Team
3. Coordination Procedures

# ALASKA POWER AUTHORITY

Part C. Supplemental Information. (This section should contain any information not specifically related to the POS that would be useful to the Power Authority in their deliberations.)

## H. PLAN OF STUDY SUBMISSION:

Twenty copies of the POS should be mailed or delivered in person to the following address to arrive not later than 4:30 PM, Alaska Daylight Time, September 4, 1979. An oral presentation before the Power Authority Board of Directors will be scheduled for early September. If a private firm is selected to perform Susitna feasibility studies, that firm may be required to revise and print 300 copies of the final POS.

Alaska Power Authority  
333 West 4th Avenue, Suite #31  
Anchorage, Alaska 99501

Questions concerning POS preparation may be addressed to:

Robert A. Mohn, Deputy Director for Engineering  
(907)-277-7641

The contractor and engineer is requested to meet with the Power Authority staff at an early stage of POS preparation and prior to contacting other state and federal agencies.

## I. COMPENSATION:

The engineer will be paid \$40,000 to help defray the cost of POS preparation. Payment will be made within 15 days of the POS submittal.

## J. PLAN OF STUDY EVALUATION:

This POS will provide the "reasonable alternative program for accomplishing the work required to produce a complete application to the Federal Energy Regulatory Commission for a license to construct the project" as called for in House CS for Senate Bill No. 63 (attachment 4). Should the "alternative program" be adopted, the POS will further be used as part of the available stock of information on which selection of an engineering firm to implement the alternative program will be made.

In the latter role, the POS will be evaluated on criteria such as the following:

1. Is the proposed program sufficiently comprehensive to allow the Power Authority to make the necessary determinations at the end of the study? These determinations would include the estimated project cost, the possible range of project cost, the economic feasibility of the project, the economic and financial risk associated with the project, the extent of seismic risk, the nature and degree of environmental and social impact, and the likelihood of securing the necessary financing and approvals.

## ALASKA POWER AUTHORITY

2. How well does the proposed program address the full range of generation modes available to meet the area's power needs?
3. Does the program include those elements necessary to satisfy the License Application requirements of the Federal Energy Regulatory Commission and the information requirements of the financial community?
4. Does the program represent a reasonable balance among the various disciplines of study, i.e. among hydrology, biology, seismicity, financing, etc., such that all key factors in the decision process are adequately addressed?
5. Is the logistical plan in compliance with the various land use permits and agreements, and is it sensitive to local resident desires and needs?
6. Is the program characterized by economy of time and money in achieving its objectives?
7. How effective are the proposed coordination and management mechanisms both between the Power Authority and the engineer and between the engineer and associated firms, subcontractors, advisory boards, governmental agencies, etc.?
8. How effective is the proposed public information and public participation program?
9. How flexible is the proposed program to unexpected study findings and how sensitive is the estimated study cost to such findings?
10. Does the program present an effective procedure for determining optimal basin development on the basis of the full range of planning objectives?
11. Does the program include an adequate means of assessing the need for and marketability of project power? Has sufficient effort been allotted to working with railbelt utilities to determine potential benefits and risks to them?
12. How well does the proposed program respond to the issues raised by the Governor's Devil's Canyon Task Force and by other interested parties?
13. Are the key personnel qualified and experienced in their assigned roles?

### ATTACHMENTS

1. Report of the Governor's Devil Canyon Task Force
2. BLM Land Use Permit and Stipulations
3. Draft agreement between Power Authority and Cook Inlet Native Villages
4. HCSSB # 63

A.1.1 - Introduction

This Plan of Study has been prepared by Acres American Incorporated in response to the Request for Proposal issued on June 25, 1979, by Mr. Eric Yould, Executive Director of the Alaska Power Authority. It includes significant contributions from other firms who would generally be involved as subcontractors in the event that a contract to undertake the study itself is awarded to Acres American Incorporated. Major participants in the Acres team include R&M Consultants, Inc.; Woodward Clyde Consultants; Terrestrial Environmental Specialists, Incorporated; Cook Inlet Region Incorporated/Holmes and Narver, Incorporated; Salomon Brothers; and Frank Moolin Associates.

The gestation period for giant projects tends to be long. Wild bursts of enthusiastic effort followed by periods of genuine apathy (or total despair, depending upon whose vantage point is selected) are common. Development of the Susitna River has so far followed that classic pattern.

As early as 1952, the Bureau of Reclamation published a report identifying a large number of potential hydroelectric power sites in Alaska, noting pointedly the strategic advantages enjoyed by the Susitna River because of its proximity to Anchorage and Fairbanks. Even then, Devil Canyon was perceived as the place to install a large dam. It was--and is--a steep, narrow rock walled canyon through which silt laden grayish waters swirl and churn and turn to white froth as they rush for the sea. Updates by the Bureau led to proposed authorization in 1961 of Devil Canyon and Denali--a site far up-river of Devil Canyon, astride extensive wet lands and marshy areas, where the Susitna draws strength from relative placidity before it attempts the inevitable plunge through miles and miles of canyons.

Another giant project was under active contemplation in the early sixties and its mind boggling size, together with the engineering challenges it offered, were especially exciting in a brand new state and during the space technology wars then being waged. The Rampart hydro project would have created a pool larger than the State of Connecticut if it had ever been built.

While the Rampart studies put the Susitna project in limbo for a while, a number of long time Alaskans worried about the risks of such a venture. As fate and thoughtful argument would have it, Rampart is unlikely to be built at any time in this century.

Susitna was delayed long enough, though, to allow for discovery and development of then economical natural gas production. By the time the warnings of energy doomsayers were beginning to be heard and felt in 1973, the Susitna project once again began to appear attractive. The Bureau of Reclamation updated its earlier studies in 1974, recommending a four dam system, and the U. S. Army Corps of Engineers launched a major pre-feasibility study which led to a recommendation in 1976 by the Chief of Engineers that the Susitna Project be authorized. The Corps plan recommended two high dams, the first of which would be built as a massive earthfill gravity structure 810 feet in height at the Watana site more than

**ACRES**

Sept. 79

*from Acres American proposed Susitna Plan of Study*

30 miles upstream of Devil Canyon. The second Corps dam was to be 635-foot high thin arch concrete structure which would sweep across the canyon from rock abutment to rock abutment -- essentially the same as the Bureau's Devil Canyon proposal.

By June 1978, the Corps of Engineers had prepared a Plan of Study requiring 24 million dollars and offering a program leading to completion of a detailed feasibility study. Further investigations by the Corps confirmed the adequacy of the Watana site, though they did reveal that some changes were required in particular for the spillway arrangement. As the situation now stands, provided that the necessary appropriations are made, the State of Alaska could choose to proceed along a course of action which leads to a study undertaken by the Corps and reimbursed by the State. A unique risk protection feature would permit the return of State funds in the event that feasibility is not shown.

The alternative to further federal involvement in the Susitna project is a scenario which includes selection of a private engineering firm as the State's consultant. Qualifications have been reviewed by the State for all those interested firms with strong hydroelectric development capabilities and three have been engaged to prepare a Plan of Study detailing the steps necessary to permit filing a license application to the Federal Energy Regulatory Commission (FERC). This Plan of Study describes a series of tasks and subtasks, along with reasons for these, as well as providing information regarding organizational matters and team qualifications.

#### A.1.2 - Primary Objectives of Study

- (i) Establish technical, economic and financial feasibility of the Susitna Project to meet future power needs of the Railbelt Region of the State of Alaska.
- (ii) Evaluate the environmental consequences of designing and constructing the Susitna Project.
- (iii) File a completed license application for the project with the Federal Energy Regulatory Commission.

#### A.1.3 - Specific Objectives of the Study

To meet the primary objectives of the study, the following specific objectives are proposed:

- (i) Determine the future electric power and energy needs of the Southcentral Railbelt Area.
- (ii) Assess alternative means of meeting the load requirements of the Railbelt Area.

- (iii) Prepare an optimal development plan for the Susitna Project wherein power costs and probable impacts are minimized, safety is enhanced, and financing is achievable.
- (iv) Establish a definitive estimate of the total cost of bringing power on line, together with a statement of cash flow requirements.
- (v) Evaluate the physical, economic, and financial risks of the Susitna Project and determine ways and means to avoid or minimize their consequences.
- (vi) Evaluate existing environmental and social factors as they now exist in the proposed project area, assess the impacts of the proposed project, enhance environmental values to the extent possible, and recommend mitigating measures.
- (vii) Estimate the annual system power costs in the Southcentral Railbelt Region with and without the project, study the integration of Susitna power into the Railbelt utility systems, and assess power marketability.
- (viii) Prepare a complete license application and file this with the Federal Regulatory Commission.
- (ix) Ensure that the needs and desires of the public are known, keep interested parties and the public informed, and afford an opportunity for public participation in the study process.
- (x) Determine an optimal program for achieving financing, including resolution of issues regarding tax-exempt status of bonds which may later be offered.
- (xi) Minimize the financial risks and expenditures which must be incurred by the State of Alaska in pursuit of the above objectives should development of the Susitna Project prove to be not in the best interests of the State.
- (xii) Maximize opportunities for equal employment opportunities for Alaskans and for involving in the work members of those Native Corporations in the region.

#### A.1.4. - Primary Aspects for Susitna Requiring Study

##### (i) Introduction

As with any major hydroelectric project, the number of investigations and substudies required to achieve the primary objectives noted in paragraph A.1.2 above is significant. Each of these requirements is described in terms of precise tasks and subtasks in Section A5. Even so, a number of primary aspects, particularly insofar as they address major concerns, deserve to be highlighted. Thus certain key areas of the study are highlighted in succeeding subparagraphs.

(ii) Power Studies

While this Plan of Study had necessarily to be written on the assumption that project feasibility will in fact be demonstrated, we are well aware of the importance of demonstrating that a need for significant increases in power generating capacity does truly exist in the Railbelt Area and that this need can best be satisfied by the Susitna Project. Indeed, it is clear that the absence of need or the discovery of a better means of satisfying it if it exists will represent prima facie evidence that development of the project is not in the best interests of the State. Power studies will be undertaken to examine and define a range of load forecasts and to assess possible alternatives or groups of alternatives which together could satisfy the projected demand.

We will avail ourselves of intimate knowledge of Alaska in general and the Railbelt in particular through employment of the Alaskan office of Woodward-Clyde Consultants (WCC) to undertake load forecasting studies. WCC in turn has arranged for consultation from the University of Alaska, particularly for use of their econometric models. The study of non-hydro alternatives by WCC (reviewed by Acres' Thermal Power Division) and of hydro alternatives by Acres will be enhanced through use of the General Electric Optimum Generation Program, Series V (sophisticated computer models designed to permit multiyear analysis of generation system mixes) which we have successfully used in the past for a comprehensive study of alternatives to the Dickey-Lincoln School Lakes Project in New England.

(iii) Financing Plan

Successful financing of giant projects is inevitably a complex and time-consuming task. Our own expertise in this area, as evidenced by participation in the successful financing of the Churchill Falls Project where Mr. J. G. Warnock managed the team responsible for bond support documents, will be available to our financial consultants, Salomon Brothers. This well known investment banking firm has managed or co-managed 655 issues of tax-exempt bonds in the total amount of \$48.3 billion since January 1, 1974. Dr. C. P. Chapman will manage risk analysis studies. His unique special capabilities in that area have been demonstrated time and again for large projects including some in subarctic environments.

(iv) Ice Engineering

The study of ice engineering has necessarily been an important part of Acres' efforts for past projects in recent years. Our successful involvement in hydroelectric projects throughout North America, with a total installed capacity of over 14,000,000 kW, is a matter of record. Assistance in ice engineering studies will be provided as well by R&M whose hydrologic investigations of rivers and streams throughout Alaska has been significant. Our conceptual designs for

minimizing the problems associated with frazzle ice, ice jams, ice shelving and the like will be subjected to exhaustive modeling after license application has been made and during the preparation of detailed designs. Problems associated with permafrost are also familiar to the Acres organization: our staff have extensive experience in developing unique and effective methods of dealing with such problems in connection with large power projects in subarctic regions.

(v) Earthquake Engineering

Of the many potential risks associated with the Susitna Project, those associated with seismic problems are probably the most significant. Certainly, no single area of concern is likely to have more immediate catastrophic consequences if the engineering work has not been done thoroughly and well. Not only is it important to design all structures to survive unscathed in the event of an earthquake, but it is also essential to determine the extent to which creation of reservoirs on the Susitna River will itself induce earthquakes.

Our approach to this problem is twofold: first, we have engaged the services of the California office of WCC to undertake extensive seismic studies. WCC has operated in Alaska for over ten years and has amassed a considerable data base on geological and geotechnical conditions, faulting, and seismicity of the Anchorage and Railbelt Areas. WCC have also had extensive seismic experience with major dam and power projects elsewhere. Second, we have recommended a list of eminent professional engineers whose accomplishments are recognized worldwide as the basis for selection by the Power Authority of one or more external review boards. The engineering board would be provided funds on the order of \$1 million with which to undertake confirmatory or additional seismic studies. Acres would offer coordination services and administrative support, where appropriate, to the board(s), but authority to select, remunerate, terminate and to direct their activities would remain with the Power Authority.

(vi) Project Management/Construction Management

In order to provide Alaskan-experienced project and construction management capability in the POS team, Acres will combine with its in-house resources the additional resources of the Frank Moolin and Associates, Inc. organization. This company presently operates out of Fairbanks, Alaska and provides executive project and construction management experience to the energy industry. The Moolin team provides many years of "hands-on" experience on varying sizes and types of projects, including recent responsibility for construction of the Trans-Alaska Pipeline, a \$4.2 billion effort. Members of the organization provide an unusual, multi-disciplined, combination of energy, industry and heavy construction experience. In addition, conditions unique to planning, managing and constructing projects on the Alaskan scene are familiar to all of these individuals.

SCOMM

#44:25

STATE OF ALASKA  
FIELD WARRANT

FW

| DEPT. | OFF |
|-------|-----|
| 31    | 0   |

429645 <sup>89-1</sup>/<sub>1252</sub>

PAYABLE THROUGH  
THE B.M. BEHREND'S BANK  
JUNEAU, ALASKA

| QUANTITY | ITEM DESCRIPTION                                                     | UNIT PRICE | TOTALS |
|----------|----------------------------------------------------------------------|------------|--------|
|          | House Power Alternatives Study - Honorarium for Testimony-April 1980 |            | 350.00 |

| DEPT. | OFF | ACCOUNT | OBJECT | ACTIVITY | PROJECT | * | DISTRIBUTED |
|-------|-----|---------|--------|----------|---------|---|-------------|
| 31    | 92  | 1       | 208    | 293      |         |   | 350.00      |

| VENDOR NUMBER | INVOICE DATE<br>MO DAY YEAR | INVOICE NUMBER<br>OR BRIEF DESCRIPTION | TOTAL  |
|---------------|-----------------------------|----------------------------------------|--------|
|               | 04.11.80                    | HONORARIUM                             | 350.00 |

DATE April 11, 1980

VOID AFTER 90 DAYS

AMOUNT **\*\*350.00\*\***

NOT MORE THAN \$100

PAY TO THE ORDER OF:

Amory Levins

TOTAL

02-401TC  
3/78

CERTIFYING OFFICER

1252000151 300000000000

4/8/80

**MEMORANDUM**

April 7, 1980

To: Rep. Brian Rogers *JP*

From: Janelle Parker, Special Assistant to Myrt Charney

Enclosed for your records is a copy of the signed contract between Gregg Erickson and the House Power Alternatives Study Committee. Please let me know if I can be of further assistance.

# STATE OF ALASKA THE LEGISLATURE

## LEGISLATIVE AFFAIRS AGENCY

POUCH Y - STATE CAPITOL  
JUNEAU, ALASKA 99811  
907-465-3800

### CONTRACT BETWEEN

STATE OF ALASKA - LEGISLATIVE AFFAIRS AGENCY  
Pouch Y - State Capitol  
Juneau, Alaska 99811

### AND

GREGG ERICKSON  
316 Coleman Drive  
Juneau, Alaska 99801

The parties to this agreement are the LEGISLATIVE AFFAIRS AGENCY, on behalf of the Legislative Council's House Power Alternatives Study Committee, hereinafter referred to as the "AGENCY", and GREGG ERICKSON, hereinafter referred to as the "Consultant".

THE PURPOSE OF THIS AGREEMENT is to provide the House Power Alternatives Study Committee with the consulting services of Gregg Erickson for a study of the feasibility of coal-fired power generation for the Railbelt area of Alaska.

### IT IS THEREFORE MUTUALLY AGREED THAT:

#### CLAUSE I. - STATEMENT OF WORK

- (A) The Consultant shall prepare and deliver a written report on the economic, political and technical feasibility of coal-fired power generation for the Railbelt area of Alaska. The report shall specifically address the following points:
- (1) Previous work on potential of coal-fired generation for the Railbelt.
  - (2) Potential of existing Healy operation.
  - (3) Present institutional barriers to coal generation, and their possible resolution.
  - (4) Economic, social and environmental costs and benefits of coal generation in comparison with other forms of power production.

- (5) The potential for coal generation in the Railbelt during the next twenty-five years -- how much power could coal be expected to provide, with what attendant costs?
- (6) The feasibility of coal generation with and without related coal development possibilities.

#### CLAUSE II. - PERIOD AND DATES OF PERFORMANCE

- (A) Unless extended or terminated by mutual agreement, this contract is effective March 30, 1980 and expires May 10, 1980.
- (B) A written report is to be submitted by May 2, 1980, in print-ready form. If report is not submitted by May 9, 1980, 5 p.m. PST, no payment will be made. If report is submitted between May 2, 1980 and May 9, 1980, 10% of total contract fee shall be deducted for each day the report is late.
- (C) This contract may be terminated by either party upon written notice to the other.

#### CLAUSE III. - PROJECT DIRECTORS

The Project Directors shall be Representative Brian Rogers and Representative Hugh Malone, acting on behalf of the House Power Alternatives Study Committee.

#### CLAUSE IV. - COMPENSATION AND METHOD OF PAYMENT

- (A) For the work specified in this contract, the Consultant shall be compensated at the rate of \$7,000.00 (Seven Thousand Dollars).
- (B) Payment shall be made at the completion of the report.
- (C) Total payments under this contract, including expenses shall not exceed \$7,000.00.

#### CLAUSE V. - OFFICE SPACE, EQUIPMENT

Office space, equipment of the Contractor that will be necessary to carry out his obligations under this contract shall be supplied by the Contractor at no cost to the Agency.

CLAUSE VI. - RECORDS, DOCUMENTS, AUDIT

The Consultant shall maintain accurate records, including detailed time records, as may be required by the Project Directors. The records are subject to inspection by the Agency or the Project Directors at all reasonable times. All documents, reports and writings generated as a consequence of work done under this contract shall become the property of the State of Alaska and, on completion of the work or at the termination of this contract, shall be delivered to the Project Directors.

CLAUSE VII. - REPORTS

The Consultant shall keep the Project Directors informed as to the progress of the work performed under this agreement and shall provide progress reports as specified by the Project Director.

CLAUSE VIII. - CONFLICT OF INTEREST

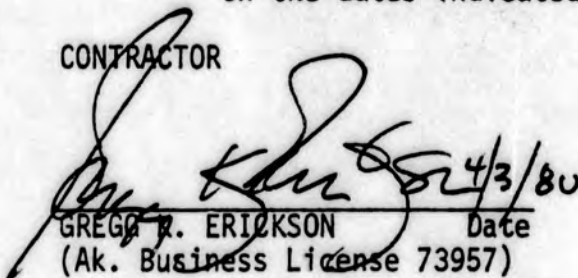
The Contractor affirms that he does not now have any consulting or professional business relationships with anyone with whom it could be construed as having a conflict of interest.

CLAUSE IX. - ALL WRITINGS CONTAINED HEREIN

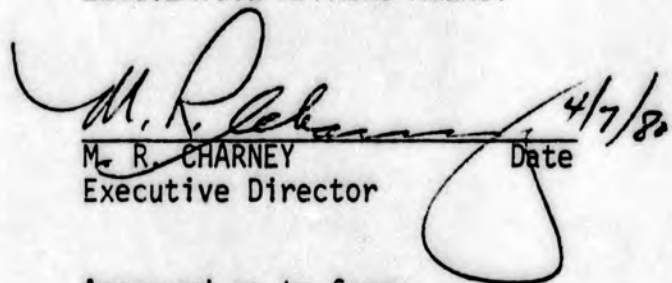
This agreement contains all the terms and conditions agreed upon by the parties. No other understanding, oral or otherwise, regarding the subject matter of this agreement shall be deemed to exist or to bind either of the parties of this agreement.

IN WITNESS WHEREOF, the parties have executed this agreement on the dates indicated.

CONTRACTOR

  
GREGOR P. ERICKSON Date 4/3/80  
(Ak. Business License 73957)

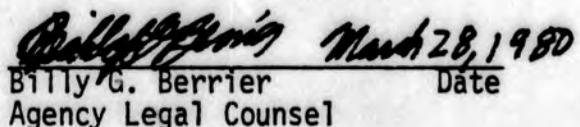
LEGISLATIVE AFFAIRS AGENCY

  
M. R. CHARNEY Date 4/7/80  
Executive Director

Accepted:

  
Rep. Brian Rogers Date 4/3/80

Approved as to form:

  
Billy G. Berrier Date March 28, 1980  
Agency Legal Counsel

  
Rep. Hugh Malone Date

**LEGISLATIVE AFFAIRS AGENCY**

**MEMORANDUM**

February 18, 1980

To: Representative Hugh Malone

From: Lynn Ager, Spec. Assist. to Myrt Charney

Enclosed for your files is a signed copy of the amendment to the contract between House Power Alternatives Study Committee and Mark Wittow.

AMENDMENT NO. 1

CONTRACT BETWEEN

STATE OF ALASKA - LEGISLATIVE AFFAIRS AGENCY

AND

MARK WITTON  
302 West 3rd Street  
Juneau, Alaska 99801

IT IS MUTUALLY AGREED THAT THE CONTRACT BETWEEN THE ABOVE PARTIES  
DATED JANUARY 18, 1980, IS HEREBY AMENDED AS FOLLOWS:

CLAUSE IV, Paragraph (A), page 2, is amended to read:

- (A) Payment for the work performed under this agreement shall be at the rate of \$2550 (Two Thousand Five Hundred Fifty Dollars) per month, to be paid before the last working day of each month for work carried out between the 15th day of the preceding month and the 15th day of the current month. Time sheets shall be approved monthly by the Project Director. Total compensation for work performed under Clause I of this agreement shall not exceed \$12,750 (Twelve Thousand Seven Hundred Fifty Dollars). The Agency shall deduct from each monthly payment income tax and other deductions required by law.

IN WITNESS WHEREOF, the parties have executed this amendment to this agreement on the dates indicated below.

CONSULTANT

LEGISLATIVE AFFAIRS AGENCY

Mark Witton 2/12/80  
MARK WITTON Date  
Ak. Bus. Lic. 98004

M.R. Charney 2/18/80  
M.R. CHARNEY Date

Accepted:

Approved as to form:

Brian Rogers 2/12/80  
Rep. Brian Rogers Date  
Co-Chairman, House Power  
Alternatives Study Committee

Billy G. Berrier 2/11/1980  
Billy G. Berrier Date  
Agency Legal Counsel

Hugh Malone 2/14/80  
Rep. Hugh Malone Date  
Co-Chairman, House Power  
Alternatives Study Committee

CONTRACT BETWEEN

STATE OF ALASKA  
LEGISLATIVE AFFAIRS AGENCY  
Pouch Y, State Capitol  
Juneau, Alaska 99811

and

ALASKA CENTER FOR POLICY STUDIES  
221 E. 7th Ave. #204  
Anchorage, Alaska 99501

The parties to this agreement are the LEGISLATIVE AFFAIRS AGENCY, on behalf of the Alaska State Legislature's House Power Alternatives Study Committee, hereinafter referred to as the AGENCY, and the Alaska Center for Policy Studies, hereinafter referred to as the CONTRACTOR.

THE ABOVE PARTIES TO THIS CONTRACT, in consideration of the covenants hereinafter contained, hereby mutually agree to the terms and conditions hereinafter set forth:

CLAUSE I - SCOPE OF WORK

(A) General Tasks - The Contractor shall accomplish the following:

1. End Use Structure -  
Establish the general end uses of energy by category for the Anchorage-Cook Inlet and Fairbanks-Tanana Valley power planning regions.
2. Potential for Energy Conservation -  
Establish the varying levels of energy savings in the Railbelt area that would be realized from conservation measures taken by utilities, consumers, businesses and government. The numbers from this portion of the study will be used in the second stage of the University of Alaska Institute of Social and Economic Research power demand analysis, also being undertaken by the AGENCY.

3. Potential for Renewable Energy sources - Establish the contribution the available renewable energy sources can make towards satisfying energy demand in the Railbelt area. The numbers from this portion of the study will be used in the second stage of the University of Alaska Institute of Social and Economic Research power demand analysis, also being undertaken by the AGENCY.
4. Policy Development and Implementation - discuss the social, political and economic measures necessary to realize the potential described in numbers 2 and 3 above. These measures would include a draft legislative package and suggestions for market incentives, consumer education and state programs. The possible role of state agencies in developing and implementing these programs will also be discussed. A discussion of the employment effects of conservation and renewable energy programs will be included in this section.
5. Prepare one or more final reports as specified by the Project Director.

(B) Phase One

CONTRACTOR shall prepare a detailed plan of study including allocation of work responsibilities, designation of any subcontractors and related activities. The detailed study will be subjected to review by the Project Director and such parties as he may designate.

(C) Phase Two

Phase Two will consist of implementation of the study plan developed in Phase One, as approved by the Project Director.

(D) Schedule

1. Phase One shall be completed by November 15, 1979.
2. Phase Two shall be commenced as soon as possible, but no later than November 15, 1979.
3. Task A(1) shall be completed by February 1, 1980.
4. Tasks A(2) and A(3) shall be completed by March 1, 1980.
5. Tasks A(4) and A(5) shall be completed by April 2, 1980.

The draft legislative package shall be submitted to the Project Director or his designee by January 7, 1980.

CLAUSE II - PERIOD OF PERFORMANCE

The Period of Performance shall be October 1, 1979 through June 30, 1980.

CLAUSE III - TERMINATION

This contract may be terminated by either party upon 30 days notice to the other party.

CLAUSE IV - PROJECT DIRECTOR

The Project Director shall be the Honorable Brian Rogers, Co-Chairman of the House Power Alternatives Study Committee.

CLAUSE V - PRINCIPAL INVESTIGATOR

The principal investigator shall be Vic Fishcher.

CLAUSE VI- COMPENSATION AND METHOD OF PAYMENT

- (A) Total compensation shall not exceed \$68,500.
- (B) Payment for Clause I(B) shall not exceed \$8,500.00 and shall be payable immediately upon billing by the CONTRACTOR.
- (C) Payment for Clause I(C) shall not exceed \$60,000, and shall be on the basis of monthly billing.
- (D) The CONTRACTOR shall receive no payment in addition to that specified in Clause VI(A) for travel and related expenses unless the Project Director requests that the CONTRACTOR travel between the CONTRACTOR'S place of business and Juneau.

CLAUSE VII - RECORDS, DOCUMENTS, AUDIT

The CONTRACTOR shall maintain accurate records, including detailed time records, as may be required by the AGENCY. The records are subject to inspection by the Project Director of the AGENCY at all reasonable times. All documents, reports and writings produced in the course of the work performed under this contract are, upon delivery to the Project Director or the AGENCY or at termination of this agreement, the property of the AGENCY, and/or in the public domain; provided that the CONTRACTOR will have the right to use any such materials for purposes of writing about or discussing the issues.

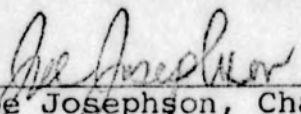
CLAUSE VII - ALL WRITINGS CONTAINED HEREIN

This agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this agreement shall be deemed to exist or to bind either of the parties to this agreement.

IN WITNESS WHEREOF, the parties have executed this agreement on the dates indicated.

CONTRACTOR

LEGISLATIVE AFFAIRS AGENCY

 Oct 19/1979.  
Joe Josephson, Chairman Date  
Board of Directors, Alaska  
Center for Policy Studies

\_\_\_\_\_  
Myrton R. Charney Date  
Executive Director

Accepted:

Approved as to Form:

 10/23/79  
Rep. Brian Rogers Date  
Co-Chairman, House Power Alternatives  
Study Committee

\_\_\_\_\_  
Agency Legal Counsel Date

PLEASE NOTE: THE FOLLOWING PAGES WERE TREATED  
AS A UNIT IN THE ORIGINAL DOCUMENT.

draft

CONTRACT BETWEEN

STATE OF ALASKA  
LEGISLATIVE AFFAIRS AGENCY  
Pouch Y, State Capitol  
Juneau, Alaska 99811

and

UNIVERSITY OF ALASKA  
INSTITUTE OF SOCIAL AND ECONOMIC RESEARCH  
700 "A" St.  
Anchorage, Alaska 99501

The parties to this agreement are the LEGISLATIVE AFFAIRS AGENCY, on behalf of the Alaska State Legislature's House Power Alternatives Study Committee, hereinafter referred to as the AGENCY, and the University of Alaska Institute of Social and Economic Research, hereinafter referred to as the CONTRACTOR.

THE ABOVE PARTIES TO THIS CONTRACT, in consideration of the covenants hereinafter contained, hereby mutually agree to the terms and conditions hereinafter set forth:

CLAUSE I - STATEMENT OF WORK

(A) Scope of Work

Set out in Attachment A

(B) Work Products

1. A detailed work plan of I(A) shall be completed by November 15, 1979.
2. A Workshop on the input assumptions, as described in 1(C) of Attachment A, shall be held on approximately December 11, 1979 for the purpose of gauging the validity of those assumptions
3. A draft report shall be completed by March 1, 1980.
4. A final report, as described in 1(G) of Attachment A, shall be completed by May 15, 1980.

April 1

May 1

4 round-trips  
Toronto & Alaska

CLAUSE II - PERIOD OF PERFORMANCE

The Period of Performance shall be October 1, 1979 through June 30, 1980.

CLAUSE III - TERMINATION

This contract may be terminated by mutual consent.

CLAUSE IV - PROJECT DIRECTOR

The Project Director shall be the Honorable Brian Rogers, co-Chairman of the House Power Alternatives Study Committee.

CLAUSE V - COMPENSATION AND METHOD OF PAYMENT

- (A) The CONTRACTOR shall be compensated \$60,000 for the work specified in Clause I of this Agreement.
- (B) Payment shall be on the basis of monthly billings of not more than \$7,000.
- (C) The CONTRACTOR shall receive no payment in addition to that specified in Clause V (A) for travel and related expenses unless the Project Director requires more than four total trips between the CONTRACTOR'S place of business and Juneau, Alaska. The four trips may be four trips by one individual, two trips by two individuals, etc.

CLAUSE VI - RECORDS, DOCUMENTS, AUDIT

The CONTRACTOR shall maintain accurate records, including detailed time records, as may be required by the AGENCY. The records are subject to inspection by the Project Director or the AGENCY at all reasonable times. All documents, reports and writings produced in the course of the work performed under this contract are, upon delivery to the Project Director or the AGENCY or at termination of this agreement, the property of the AGENCY, and/or in the public domain; provided that the CONTRACTOR will have the right to use any such materials for purposes of writing about or discussing the issues.

CLAUSE VII - ALL WRITINGS CONTAINED HEREIN

This agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this agreement shall be deemed to exist or to bind either of the parties to this agreement. IN WITNESS WHEREOF, the parties have executed this agreement on the dates indicated.

CONTRACTOR

LEGISLATIVE AFFAIRS AGENCY

\_\_\_\_\_  
Lee Gorsuch                      Date  
Director, Institute of Social  
and Economic Research

\_\_\_\_\_  
Myrton R. Charney                      Date  
Executive Director

\_\_\_\_\_  
Howard Cutler                      Date  
Chancellor, University of Alaska

Accepted:

Approved as to Form:

\_\_\_\_\_  
Rep. Brian Rogers                      Date  
Co-Chairman, House Power  
Alternatives Committee

\_\_\_\_\_  
Agency Legal Counsel                      Date

## ATTACHMENT A

### 1. Scope of Work

#### A. Methodological Review and Data Collection

Review methods available for projecting the level of economic activity in the railbelt and for estimating the level of electricity consumption. Review the existing work on both subjects with special reference to strengths and shortcomings and relevance to present study. Prepare a detailed work plan for review by the Project Director or consultant of his choice.

Collect the economic and electricity consumption data required for the study. The economic data is readily available to the Institute, and it is only required that it be properly formatted for this study. The Institute has a large amount of historical data on electric power consumption in Alaska through 1974 which must be updated through more recent years. This data will be obtained directly from the utilities, the Alaska Public Utilities Commission, and the Federal Energy Regulatory Commission.

#### B. Economic Model Specification

Incorporate 1978 economic data into the Man-in-the-Arctic Program (MAP) econometric model which will be used to project economic activity in Alaska and the railbelt regions. The most recent economic data is important for providing the best information on the structure of the economy.

Develop a procedure which regionalizes the economic projections in a manner consistent with the three potential service areas of a Susitna hydroelectric facility. These regions will be:

1. Anchorage-Cook Inlet
2. Fairbanks-Tanana Valley
3. Glennallen-Valdez

#### C. Economic Projections

Develop the input scenarios required to run the economic model. Specify the assumptions upon which each scenario is built. Several alternative scenarios will be generated which will provide both a most likely case as well as a likely range of outcomes. The scenarios will include not only estimates of exogenous basic sector activity but also of state government activity. A workshop will be held in early December to familiarize the Project Director with the scenarios and to obtain suggestions regarding corrections and additions to scenarios from invited experts on the various sectors of the Alaskan economy.

Generate the economic projections from the scenarios. The projections will be by region and will be through the year 2005. The sensitivity of the results to both variations in the scenarios as well as the specification of the equations will be tested and reported.

#### D. Assessment of Interfuel Substitution Possibilities

Conduct an econometric analysis of the sensitivity of electricity consumption to changes in prices of fuels and of income. This analysis will concentrate on the residential sector for which the best data is

available. It is recognized that severe technical problems exist in attempting to estimate a "demand function" for electricity within Alaska, but the best and most appropriate techniques will be applied to this analysis. The results will be interpreted in relation to their relevance for the overall study objective.

Conduct a case study-type analysis of interfuel substitution possibilities, again concentrating primarily on the residential component use. This study will attempt to define the relative fuel prices at which it becomes economically rational for consumers to substitute among fuels for various purposes. It will further attempt, on the basis of present and future inventories of durable goods used in energy-related functions, to determine the aggregate electricity-use impact such interfuel substitution could have. This analysis will concentrate on space heating which is the largest energy user in the home and which can be supplied by a variety of energy sources. It will attempt to define the limits of substitution possibilities by investigating the extreme cases of all electric space heating and all gas (or other nonelectric alternative) space heating in the residential sector. This study will attempt to draw upon and integrate previous work done on this subject in Alaska and elsewhere.

#### E. Electricity Use Projections

Develop electricity use projections for the following categories of consumers:

1. Residential
2. Commercial
3. Non-self-supplied industrial

4. Self-supplied industrial, presently operating in railbelt market areas
5. Potential industrial consumers, not presently operating in the railbelt area
6. Residential and commercial electricity users who cannot be integrated into the urban power grid.

The projections, through the year 2005, will be for total kilowatt hours of electricity consumed. They will not include projections of peak load, capacity requirements, or the load curve over the year or for representative days during the year. Projections will be provided for each of the market areas described in Task B. Several electricity-use projections will necessarily be developed in order to incorporate the results of the analysis of interfuel substitutability. The sensitivity of projection results to this factor as well as to other factors affecting per-customer usage will be analyzed.

The analysis of electricity consumption requirements of potential industrial consumers will not be directly integrated into the results for other sectors since this is recognized to be a highly speculative and uncertain component of demand. Probable electric power requirements for more likely alternatives will be identified, but "scenarios" for such industrial development will not be generated. In this category will also fall estimates of energy requirements for unconventional uses of electricity such as railroad electrification.

The projections will be constructed in such a way that estimates of the impact of various conservation measures could be integrated into the analysis. Such measures would derive from other studies.

F. Assess Projection Probabilities

Subjectively evaluate the probability of each of the projections generated by a combination of an economic projection and an electricity-use projection. Choose a most likely case and analyze the sensitivity of that case to key economic and energy-use factors. Compare the results of the analysis to previous work.

G. Prepare Final Report

The final report will be written in nontechnical language with appendixes containing the required technical backup information necessary not only to critically evaluate the work but to serve as a guide for updating the analysis periodically. As Tasks A and C are completed, a draft of each will be written and made available to the Project Director.

The final report will include a discussion of all tasks outlined in the Scope of Work. It will specifically document the choice of methodology for the analysis including not only a discussion of its strengths but also of its weaknesses and indicating the proper interpretation of results that these weaknesses require.

2. Additional Considerations

A. Coordination

This analysis of electricity requirements forms a portion of a larger study of alternatives for supplying electricity to the railbelt market in future years. It is important for this analysis to be consistent with the requirements of this larger study and also for the methodology

and assumptions used in the analysis to have as broad a consensus as possible. Thus, the Institute will seek to coordinate with the following groups and solicit suggestions and criticisms of methods and assumptions from them. Final decision on all matters discussed with regard to these efforts will remain with the Institute.

1. The Army Corps of Engineers (or their representative) or Acres American Incorporated (or their representative) - review of methodologies used in economic projections and demand analysis.
2. Energy Probe (or other consultants of the Project Director's choosing) - review of methodologies used in economic projections and demand analysis.
3. Dr. Bradford Tuck (or other consultants of the Project Director's choosing) - review the economic assumptions underlying the econometric model and the demand analysis.
4. Other consultants of the Project Director's choosing.
5. Alaskan utilities - consultation concerning electricity demand projections.
6. Center for Policy Studies - consultation concerning conservation possibilities.

In addition, the study will coordinate with the Alaska Power Authority and the Division of Energy and Power Development through the Project Director or his representative.

#### B. Updating

The analysis will be conducted in a manner which, as much as possible, will allow for updating of the results in a straightforward and consistent manner as factors affecting the projections change over time. All relevant methodological steps will be outlined in technical appendixes to the final report.

PLEASE NOTE: THE PRECEDING PAGES WERE TREATED  
AS A UNIT IN THE ORIGINAL DOCUMENT.

CONTRACT BETWEEN  
LEGISLATIVE AFFAIRS AGENCY  
AND  
GREGG K. ERICKSON

The parties to this agreement are the LEGISLATIVE AFFAIRS AGENCY, Pouch Y, Juneau, Alaska 99811, on behalf of the Alaska State Legislature, hereinafter referred to as the "Agency," and GREGG K. ERICKSON, 316 Coleman Drive, Juneau, Alaska 99801, hereinafter referred to as the "Contractor."

IT IS MUTUALLY AGREED THAT:

CLAUSE I. STATEMENT OF WORK

A. The Contractor shall be responsible for preparation and submission to the Project Director of a written report on the economic, political, and technical feasibility of future development of a natural gas based electrical economy in the railbelt area of Alaska. The report shall specifically address the following points:

1. The constraints on natural gas usage imposed by the federal "Powerplant and Industrial Fuel Use Act of 1978," and associated administrative regulation.
2. The constraints imposed by the act on the use of state-owned royalty natural gas.
3. The strategies of utilities, both in and outside of Alaska, for obtaining exemptions from the Act.
4. The status and effects of federal natural gas price regulation on the prices of natural gas produced and consumed in Alaska.
5. The effects of pipeline investments which make existing sources of Alaska natural gas available to demand centers in the state.
6. The prospects for, and effect of new gas discoveries on natural gas prices.
7. The significance for future gas prices of existing price escalation provisions in current electrical utility natural gas contracts.
8. The extent to which Alaska gas prices can be expected to respond to changes in world energy price levels.

9. The technical alternatives for implementing a natural gas based electrical economy, and the thermal efficiency to be expected from them, with the implications of these for electrical energy costs.

10. The extent to which electrical demand growth could be moderated by substitution of natural gas for electricity in direct consumer applications, including on-site power generation, with separate consideration of those areas already served by gas utilities and those where gas service is prospective.

11. The institutional and economic means of implementing decisions to substitute natural gas powered generation for other forms of generation.

12. Identification of additional studies that may be appropriate in addressing the viability of an electrical economy based on natural gas.

B. The Contractor shall, at the request of the Project Director, provide up to four days of additional work to be specified by the Project Director. It is contemplated that this work would include testimony for legislative committees on the subject matter of the report prepared under Paragraph (A) of this clause, and related subjects.

#### CLAUSE II. PERIOD AND DATES OF PERFORMANCE

A. This contract shall commence on 1 December 1979 and shall terminate on 30 June 1980, unless terminated earlier by mutual written agreement of the Contractor and the Agency.

B. A preliminary draft of the report described in Clause I(A) shall be submitted to the Project Director on or before 31 January 1980. The final report shall be submitted to the Project Director on or before 7 March 1980.

#### CLAUSE III. COMPENSATION AND PAYMENT

A. Total payments for the work described in Clause I shall be \$20,000, inclusive of all expenses and costs, including travel expenses.

B. Payments to the Contractor shall be made in three installments. The first of these shall be in the amount of \$6,000 due on the date this contract is executed by the Agency. The second and third installments shall be of \$7,000 each, and shall be due on submission of the preliminary and final reports, respectively.

CLAUSE IV. PROJECT DIRECTOR

The Project Director shall be Representative Brian Rogers, Box K, Fairbanks, Alaska 99708, or his designee.

CLAUSE V. COORDINATION WITH OTHER WORK

The Contractor shall be responsible for insuring the maximum degree of coordination between the work described in this contract and related work being carried out by Arlon R. Tussing and Associates, Inc., and by other contractors working under the direction of Rep. Rogers. The Contractor shall consult with Tussing, coordinate research and writing with him, and so far as practical, endeavor to make the reports submitted by Contractor and Tussing consistent in assumptions and complementary in scope.

CLAUSE VI. OFFICE SPACE, EQUIPMENT, CLERICAL SUPPORT

A. Office space, equipment, clerical support and all other goods and services necessary to carry out the Contractor's obligations under this contract shall be supplied by the Contractor at no cost to the Agency.

CLAUSE VII. RECORDS, DOCUMENTS, AUDIT

A. The Contractor shall maintain accurate records as may be required by the Project Director. The records are subject to inspection by the Agency or the Project Director at all reasonable times. All documents, reports and writings generated as a consequence of work done under this contract shall become the property of the State of Alaska, and on completion of the work or at the termination of this contract shall be delivered to the Agency. The Contractor shall keep the Project Director informed as to the progress of the work performed under this agreement and shall provide progress reports as specified by the Project Director.

CLAUSE VIII. CONFLICT OF INTEREST

A. The Contractor affirms that he is not now engaged in any professional business relationship that could reasonably be construed to constitute a conflict of interest relative to this obligation under this contract, and that he will notify the Project Director before undertaking any such professional business relationship.

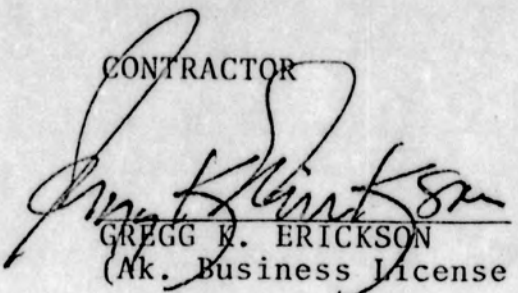
CLAUSE IX. ALL WRITINGS CONTAINED HEREIN

A. This agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this agreement shall be deemed to exist or to bind either of the parties of this agreement.

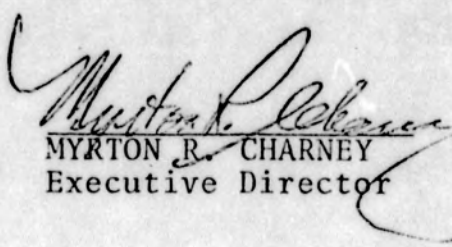
IN WITNESS WHEREOF, the parties have executed this agreement on the dates noted.

CONTRACTOR

LEGISLATIVE AFFAIRS AGENCY

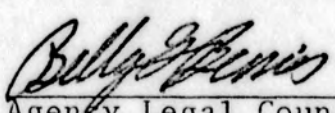
  
GREGG E. ERICKSON  
(Ak. Business License 73957)

11/5/77  
Date

  
MYRTON R. CHARNEY  
Executive Director

11/20/77  
Date

Approved as to form:

  
Agency Legal Counsel

11/20/77  
Date

Accepted:

  
Rep. Brian Rogers

11/15/77  
Date

Energy Probe,  
43 Queen's Park Crescent East,  
Toronto, Ontario,  
M5S 2C3.

January 29, 1980.

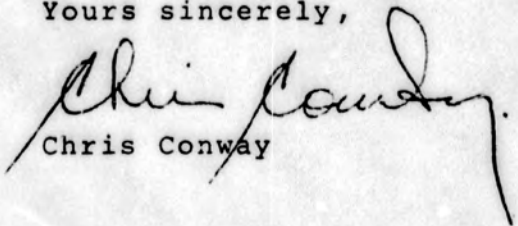
Representative Brian Rogers,  
Co-Chairman,  
House Power Alternatives Study  
Committee,  
Alaska State Legislature,  
Pouch V,  
Juneau, Alaska,  
99811.

Dear Representative Rogers,

With respect to the payment of state taxes resulting from Energy Probe's contract with HPASC, this is to indicate that the total salaries payable to Energy Probe staff in the performance of its contract while in the State of Alaska, will, in our estimation, not exceed \$2000 (US), or about 17% of the total value of the contract.

Upon completion of the contract, we will be able to provide a final figure.

Yours sincerely,

  
Chris Conway

Energy Probe,  
43 Queen's Park Crescent East,  
Toronto, Ontario,  
M5S 2C3.

January 29, 1980.

Mr. Mark Wittow,  
c/o Rep. Brian Rogers,  
Alaska State Legislature,  
Pouch V,  
Juneau, Alaska,  
99811.

Dear Mark,

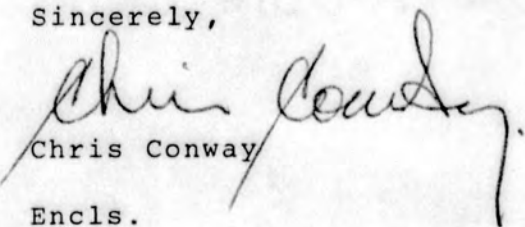
Enclosed are the materials relating to Energy Probe's  
contract with HPASC:

- (a) an application for an Alaska Business License;
- (b) a cheque for \$25 (US) or \$29 (Cdn) to accompany  
application;
- (c) the signed contract;
- (d) a letter in respect of payment of state taxes;
- (e) a billing for Part (A) and (B) of the contract.

Because some of the costs for this contract were  
incurred as long ago as November, we hope that it will  
be possible to arrange prompt payment for Parts (A) and  
(B).

I look forward to meeting with you when we return to  
Alaska in, I believe, late February or early March.

Sincerely,

  
Chris Conway

Encls.

Energy Probe,  
43 Queen's Park Crescent East,  
Toronto, Ontario,  
M5S 2C3.

January 29, 1980.

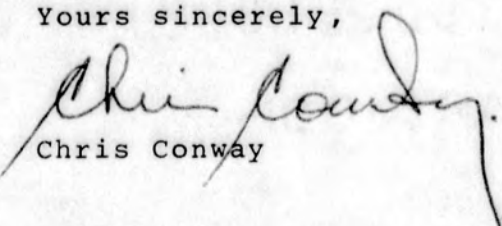
Representative Brian Rogers,  
Co-Chairman,  
House Power Alternatives Study  
Committee,  
Alaska State Legislature,  
Pouch V,  
Juneau, Alaska,  
99811.

Dear Representative Rogers,

With respect to the payment of state taxes resulting from Energy Probe's contract with HPASC, this is to indicate that the total salaries payable to Energy Probe staff in the performance of its contract while in the State of Alaska, will, in our estimation, not exceed \$2000 (US), or about 17% of the total value of the contract.

Upon completion of the contract, we will be able to provide a final figure.

Yours sincerely,

  
Chris Conway

Memo to Mr. Mark Wittow and/or Department of Revenue

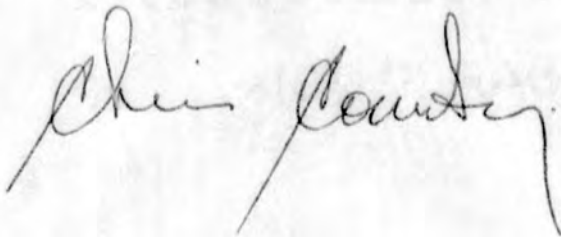
Energy Probe is a project of The Pollution Probe Foundation, a registered charitable Canadian foundation (Registration # 0384750 - 53 - 13). Funded jointly by private organizations, membership revenue and government agencies, a portion of Foundation revenue is derived from the performance of contracts for various provincial, national and in this case, foreign governments.

Energy Probe does not and will not conduct activities of a business nature in the State of Alaska except those directly related to the performance of a contract with The House Power Alternatives Study Committee, Alaska State Legislature, Co-chairman Representative Brian Rogers.

I have completed the Business License Application to the extent that the questions are related to the above considerations, and have attached a cheque in the amount of \$29 (Cdn), \$25 (US).

I have stated that the "New Business - Date Started" is December 31, 1979, which is the date above the name of Brian Rogers on the said contract.

If my responses to any of the questions are inadequate, and if the appropriate response can be derived from the above information, I hereby authorize Mr. Mark Wittow to make appropriate changes to the form before forwarding it to The Department of Revenue.

A handwritten signature in cursive script, appearing to read "Chris Caudy". The signature is written in dark ink on a light-colored background.

CONTRACT BETWEEN  
LEGISLATIVE AFFAIRS AGENCY  
AND

ARLON R. TUSSING & ASSOCIATES, INC.

The parties to this agreement are the LEGISLATIVE AFFAIRS AGENCY, Pouch Y, Juneau, Alaska 99811, on behalf of the Alaska State Legislature, hereinafter referred to as the "Agency," and ARLON R. TUSSING & ASSOCIATES, INC., 880 H Street, Suite 208, Anchorage, Alaska 99501.

IT IS MUTUALLY AGREED THAT:

SECTION I. STATEMENT OF WORK

A. Contractor will submit a report to Representatives Brian Rogers and Hugh Malone on the technical, economic, financial, legal, and policy issues that Alaskans should consider in connection with the Susitna hydroelectric project or alternative measures for meeting the anticipated demand for electric power. The report will:

1. Survey and relate the policy issues that concern Alaskans with regard to the Susitna project or possible alternatives. The issues to be considered include but need not be limited to:

a. The availability, reliability, and cost of electricity to meet projected residential, commercial, and industrial demand;

b. Opportunities to substitute electricity in residential, commercial, and industrial energy applications that would otherwise require more costly, less reliable, or environmentally inferior fossil fuels;

c. Opportunities to use the availability of electrical power to attract new industry to Alaska; and

d. The cost and risks to the state treasury, demands on the administrative capabilities of state government, the effectiveness and economic impact of various forms of state support for construction and operation of electrical generating facilities (or for alternative measures such as conservation).

2. Identify the different technologies available to meet the expected growth of demand for electricity in the market area that would be served by the proposed Susitna hydroelectric project. The technologies and measures considered will include but need not be limited to:

- a. Major hydro plants;
- b. Small hydro plants;
- c. Nuclear, coal, oil, gas, and biomass-fired steam generation plants;
- d. Oil, gas, and biomass-fired combustion turbines (including combined-cycle plants);
- e. Unconventional electrical generation technologies, including solar, geothermal, tidal, and wind power;
- f. Conservation by load management;
- g. Conservation by rate design; and
- h. Conservation by other means, including regulation and growth management.

3. Describe and relate the factors and principles that govern the planning of electrical generation and distribution systems, including the choice of generation technologies, and relate them to the market area that would be served by the proposed Susitna hydroelectric project. Factors to be considered include but need not be limited to:

- a. Expected growth of demand, and the degree of uncertainty in projections of demand growth;

- b. Current and expected load profiles (peaking, etc.);
- c. Scale and nature of existing plant;
- d. Scale, capital costs, and fuel requirements for different generating technologies;
- e. Expected availability and prices for different fuels;
- f. Likelihood of adverse engineering or environmental surprises, licensing and permitting difficulties, litigation, and other causes of delay, cost overruns, or non-completion, for different generating technologies; and
- g. Operational reliability of different generating technologies.

4. Describe and relate the factors and principles governing the organization and financing of electrical generating and distribution systems, with particular reference to options for the Alaska Power Authority and the utilities currently serving the areas that would be served by the Susitna project. Factors to be considered include but need not be limited to:

- a. Characteristics, advantages and disadvantages of various forms of business organization (investor-owned utilities, cooperatives, government agencies, government-owned corporations, etc.);
- b. Characteristics, advantages and disadvantages of various financing arrangements (conventional balance sheet financing, project financing, leveraged leasing, joint ventures, etc.);
- c. Capital structure (proportions of various forms of debt and equity), and the cost of capital;
- d. Tax liabilities, if any;
- e. Accounting practices (treatment of depreciation, taxes, and earnings, etc.);

- f. Implications for rates and rate structures;
- g. Costs and risks to the state treasury; demands on the policy-making and administrative capabilities of state government, the Alaska Power Authority, or existing utilities; the effectiveness and economic implications of various forms of state assistance to construction or operation of electrical generation facilities;
- h. Relevance to current deliberations over institutions for the distribution or management of surplus state revenues (Alaska, Inc., AGSOC, the Permanent Fund, etc.); and
- i. Relation to energy credit proposals and other proposals for energy subsidies.

The report will not necessarily involve any original technical research or quantitative engineering or cost analyses, and the topics listed need not be presented in the order set out above. The report is to be as brief as is compatible with its scope, and written in plain English with a minimum of technical jargon.

B. Contractor shall be available during the term of the contract for:

- 1. General consulting services to Representatives Rogers and Malone concerning electrical facilities planning and related topics; and
- 2. Appearances at the request of Representatives Rogers and Malone before appropriate bodies of the Legislature concerning the report and related topics.

In the event that the Agency awards a contract to Gregg K. Erickson during the term of this contract, regarding a natural gas-based electric economy in South-central Alaska (or some related topic), Contractor shall consult with Erickson, coordinate research and writing with him, and so far as practical, endeavor to make the reports submitted by Contractor and Erickson consistent in assumptions and complementary in scope.

## SECTION II. PERIOD AND DATES OF PERFORMANCE

A. This contract shall have retroactive effect as of 15 October, 1979, and work under this contract shall be accomplished between that date and 30 June, 1980.

B. This contract terminates on 30 June, 1980, unless terminated earlier in accordance with subsection (C) of this section.

C. This contract may be terminated on written notice of the terminating party to the terminated party at the address stated in this agreement.

D. Contractor shall submit a review draft of the report described in section I(A) to the Project Director not later than 31 December, 1979, and a final photoready version not later than February 15, 1980.

## SECTION III. PROJECT DIRECTOR

A. The Project Director shall be Representative Brian Rogers, Box K, College, Alaska 99708.

## SECTION IV. COMPENSATION AND METHOD OF PAYMENT

A. The Contractor shall be compensated at a rate of \$85.00 per hour, but not more than \$680.00 shall be payable for any 24 hour period, regardless of the number of hours worked under this contract during that period.

B. The Contractor shall submit time statements with each billing on which there shall be certified the time worked under this contract, the subject of the work, and the starting and ending time of the work to the nearest one-tenth of an hour. The Contractor shall certify that the time billed under this contract has not been billed to or paid for by any other party.

C. The Contractor is authorized to commence billing for services under this contract at the time he submits the review draft pursuant to Section II(D), and thereafter at monthly intervals.

D. The costs of necessary and appropriate travel shall be reimbursable to the Contractor on the basis of state per diem rates and coach class air fare.

E. Total compensation for work performed under Section I of this contract, inclusive of travel costs, shall not exceed \$12,500.00.

SECTION V. OFFICE SPACE, EQUIPMENT, CLERICAL SUPPORT

A. Office space, equipment and clerical support necessary to carry out the Contractor's obligations under this contract shall be supplied by the Contractor at no cost to the Agency.

SECTION VI. RECORDS, DOCUMENTS, AUDIT

A. The Contractor shall maintain accurate records as may be required by the Project Director. The records are subject to inspection by the Agency or the Project Director at all reasonable times. All documents, reports and writings generated as a consequence of work done under this contract shall become the property of the State of Alaska, and on completion of the work or at the termination of this contract shall be delivered to the Agency. The Contractor shall keep the Project Director informed as to the progress of the work performed under this agreement and shall provide progress reports as specified by the Project Director.

SECTION VII. CONFLICT OF INTEREST

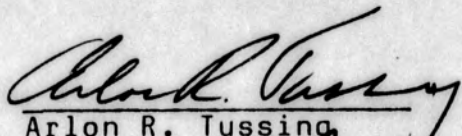
A. The Contractor affirms that he is not now engaged in any professional business relationship that could reasonably be construed to constitute a conflict of interest relative to this obligation under this contract, and that he will notify the Project Director before undertaking any such professional business relationship.

SECTION VIII. ALL WRITINGS CONTAINED HEREIN

A. This agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this agreement shall be deemed to exist or to bind either of the parties of this agreement.

IN WITNESS WHEREOF, the parties have executed this agreement.

CONTRACTOR

  
Arlon R. Tussing  
Date: 23 Oct, 1979

LEGISLATIVE AFFAIRS AGENCY

  
Representative Brian Rogers  
Project Director  
Date: 4/1/79

\_\_\_\_\_  
Myrt Charney  
Executive Director  
Date: \_\_\_\_\_

LEGISLATIVE AFFAIRS AGENCY

MEMORANDUM

February 11, 1980

FEB 13 RECD

To: Representative Brian Rogers

From: Lynn Ager

*Mark*

Enclosed is a copy for your records of the executed contract with ENERGY PROBE. Please let us know if we can be of further assistance.

CONTRACT BETWEEN

STATE OF ALASKA  
LEGISLATIVE AFFAIRS AGENCY  
Pouch Y, State Capitol  
Juneau, Alaska 99811

and

ENERGY PROBE  
43 Queens Park Cres. E.  
Toronto, Ontario M5S 2C3

The parties to this agreement are the LEGISLATIVE AFFAIRS AGENCY, on behalf of the Alaska State Legislature's House Power Alternatives Study Committee, hereinafter referred to as the AGENCY, and ENERGY PROBE, hereinafter referred to as the CONTRACTOR.

THE ABOVE PARTIES TO THIS CONTRACT, in consideration of the covenants hereinafter contained, hereby mutually agree to the terms and conditions hereinafter set forth:

CLAUSE I - STATEMENT OF WORK

(A) Scope of Work

Set out in Attachment A

(B) Schedule

1. Task 1(A) of Attachment A shall be completed by December 10, 1979.
2. Task 1(B) of Attachment A shall be completed by January 7, 1980.
3. Task 1(C) of Attachment A shall be completed by April 1, 1980.
4. Task 1(D) of Attachment A shall be completed by May 1, 1980.

CLAUSE II - PERIOD OF PERFORMANCE

The period of Performance shall be retroactive to November 1, 1979, and terminate on July 1, 1980.

CLAUSE III - TERMINATION

This contract may be terminated by either party upon 30 days notice to the other party.

#### CLAUSE IV - PROJECT DIRECTOR

The Project Director shall be the Honorable Brian Rogers, Co-Chairman of the House Power Alternatives Study Committee.

#### CLAUSE V - COMPENSATION AND METHOD OF PAYMENT

- (A) Payment for Task 1(A) and 1(B) of Attachment A shall not exceed U.S.\$4,000.00 and shall be payable immediately upon billing by the CONTRACTOR.
- (B) Payment for Task 1(C) of Attachment A shall not exceed U.S.\$4,000.00 and shall be payable immediately upon billing by the CONTRACTOR.
- (C) Payment for Task 1(D) of Attachment A shall not exceed U.S.\$2,000.00 and shall be payable immediately upon billing by the CONTRACTOR.
- (D) Total compensation shall not exceed U.S.\$10,000.00.
- (E) The CONTRACTOR shall receive no payment in addition to that specified in Clause V(D) for travel and related expenses unless the Project Director requests that the CONTRACTOR travel between the CONTRACTOR'S place of business and Juneau.

#### CLAUSE VI - RECORDS, DOCUMENTS, AUDITS

The CONTRACTOR shall maintain accurate records, including detailed time records, as may be required by the AGENCY. The records are subject to inspection by the Project Director of the AGENCY at all reasonable times. All documents, reports and writings produced in the course of the work performed under this contract are, upon delivery to the Project Director or the AGENCY or at termination of this agreement, the property of the AGENCY, and/or in the public domain; provided that the CONTRACTOR will have the right to use any such materials for purposes of writing about or discussing the issues.

#### CLAUSE VII - ALL WRITING CONTAINED HEREIN

This agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this agreement shall be deemed to exist or to bind either of the parties to this agreement.

IN WITNESS WHEREOF, the parties have executed this agreement on the dates indicated.

CONTRACTOR

LEGISLATIVE AFFAIRS AGENCY

Chris Conway  
Chris Conway  
Energy Probe

Jan 25/80  
Date

Myrton R. Charney  
Myrton R. Charney  
Executive Director

7/1/80  
Date

Accepted:

Approved as to Form:

Brian Rogers  
Rep. Brian Rogers  
Co-Chairman, House Power  
Alternatives Study Committee

12/31/79  
Date

Billy G. Evans  
Agency Legal Counsel

7/11/1980  
Date

## ATTACHMENT A

### 1. Scope of Work

A. Examine current state and structure of the ISER electricity demand forecast. Collect data and information in order to perform a more detailed investigation of the forecast in conjunction with ISER forecasting personnel.

B. Prepare report to ISER forecasting staff which states an evaluation of the current model, identifying areas in which it should be revised and improved. Outline any additional data requirement necessary for an in-depth analysis of the forecast.

C. Maintain an ongoing analysis and development of alternative coefficient and independent variable values and an ongoing analysis of structural adequacy of model.

Continue involvement and discussions with ISER personnel resulting in development and evaluation of alternative model structure and components.

Perform a sensitivity analysis on electricity demand as it relates to different market share and efficiency assumptions.

D. Examine normative context within which the ISER forecast will be introduced, with specific reference to the effects of proposed or potential policies on electricity growth and the impact of these policies on preferred model structure and interpretation.

Submit final report outlining: the revisions (if any) that were made to the ISER forecast during the course of Energy Probe's involvement and the rationale for these revisions, changes that were recommended by Energy Probe but which were not incorporated into the model and the effects (if any) of these, the appropriate role and interpretations of the model results given these revisions.

### 2. Other Considerations

A. CONTRACTOR may provide additional services upon the request of the Project Director.

B. Scope of Work will include travel for 4 round-trips between Toronto and Alaska.

## CONTRACT

STATE OF ALASKA  
LEGISLATIVE AFFAIRS AGENCY  
Pouch Y, State Capitol  
Juneau, Alaska 99811

and

Sim Van der Ryn  
P. O. Box 605  
Inverness, California 94937

The parties of this agreement are the LEGISLATIVE AFFAIRS AGENCY, on behalf of the Alaska State Legislature's House Power Alternatives Study Committee, hereinafter referred to as the AGENCY, and SIM VAN DER RYN, hereinafter referred to as the CONTRACTOR.

THE ABOVE PARTIES TO THIS CONTRACT, in consideration of the covenants hereinafter contained, hereby mutually agree to the terms and conditions hereinafter set forth:

### CLAUSE I - STATEMENT OF WORK

- (A) The Contractor shall provide the committee with professional consulting services with regard to issues relating to energy conservation.

### CLAUSE II - PERIOD OF PERFORMANCE

The Period of Performance shall be November 8, 1979 through November 11, 1979.

### CLAUSE III - TERMINATION

This contract may be terminated by either party on written notice to the other.

### CLAUSE IV - PROJECT DIRECTOR

The Project Director shall be the Honorable Brian Rogers, Co-Chairman of the House Power Alternatives Study Committee.

### CLAUSE V - COMPENSATION AND METHOD OF PAYMENT

- (A) Total compensation under this contract, inclusive of all expenses, shall not exceed \$2,000.

- (B) The CONTRACTOR shall be compensated at the rate of \$500 per day for two days, November 9 and 10, 1979, for his services.
- (C) The CONTRACTOR shall be reimbursed for all expenses incurred which are authorized in advance by the Project Director. The CONTRACTOR shall be reimbursed on the basis of coach class airfare and prevailing state employee per diem rates for all travel expenses authorized in advance by the Project Director. Travel expense claims shall be submitted on forms provided by the Agency.

CLAUSE VI - RECORDS, DOCUMENTS, AUDIT

The CONTRACTOR shall maintain accurate records, including detailed time records, as may be required by the AGENCY. The records are subject to inspection by the Project Director of the AGENCY at all reasonable times. All documents, reports and writings produced in the course of the work performed under this contract are, upon delivery to the Project Director or the AGENCY or at termination of this agreement, the property of the AGENCY, and/or in the public domain; provided that the CONTRACTOR will have the right to use any such materials for purposes of writing about or discussing the issues.

CLAUSE VII - ALL WRITINGS CONTAINED HEREIN

This agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this agreement shall be deemed to exist or to bind either of the parties to this agreement.

IN WITNESS WHEREOF, the parties have executed this agreement on the dates indicated.

CONTRACTOR

LEGISLATIVE AFFAIRS AGENCY

\_\_\_\_\_  
Sim Van der Ryn Date

\_\_\_\_\_  
Myrton R. Charney Date  
Executive Director

Accepted:

Approved as to Form:

\_\_\_\_\_  
  
Rep. Brian Rogers Date  
Co-Chairman, House Power  
Alternatives Study Committee

\_\_\_\_\_  
Agency Legal Counsel Date

CONTRACT BETWEEN

STATE OF ALASKA  
LEGISLATIVE AFFAIRS AGENCY  
Pouch Y, State Capitol  
Juneau, Alaska 99811

and

BRADFORD H. TUCK  
1822 CINDYLEE LANE  
ANCHORAGE, ALASKA 99507

The parties to this agreement are the LEGISLATIVE AFFAIRS AGENCY, on behalf of the Alaska State Legislature's House Power Alternatives Study Committee, hereinafter referred to as the AGENCY, and Bradford H. Tuck, hereinafter referred to as the CONTRACTOR.

THE ABOVE PARTIES TO THIS CONTRACT, in consideration of the covenants hereinafter contained, hereby mutually agree to the terms and conditions hereinafter set forth:

CLAUSE I - SCOPE OF WORK

(A) General Tasks - The Contractor shall accomplish the following:

1. Review of forecasts of future electric power demand in areas potentially served by the Susitna Hydroelectric Project. Specific forecasts to be reviewed: work done by the Alaska Power Authority, forecasts contained in the Interim Feasibility Report for the Susitna Project, forecasts by ISER, and other forecasts that may be relevant. Particular emphasis will be given to ISER forecasts that will be under development concurrently with this study. Special attention will be given to the properties of the MAP model and to the data scenarios used to generate the forecasts.
2. Review criteria will include type of forecast and methodology used, quality and reliability of input data, critical assumptions, and level of detail in components of demand, and consideration of price elasticity and conservation.
3. Synopsis of findings and usefulness of findings for a decision concerning the Susitna Hydroelectric Project.

(B) Schedule

1. Interim report due January 21, 1979
2. Final report to be completed by March 1, 1980.

CLAUSE II - PERIOD OF PERFORMANCE

The Period of Performance shall be November 1, 1979 through June 30, 1980.

CLAUSE III - TERMINATION

This contract may be terminated by either party on written notice to the other.

CLAUSE IV - PROJECT DIRECTOR

The Project Director shall be the Honorable Brian Rogers, Co-Chairman of the House Power Alternatives Study Committee.

CLAUSE V - COMPENSATION AND METHOD OF PAYMENT

- (A) The CONTRACTOR shall be compensated \$5,500 for the work specified in Clause I of this agreement.
- (B) Payment shall be payable upon completion of work specified in Clause I of this agreement.
- (C) The CONTRACTOR shall be reimbursed on the basis of coach class airfare and prevailing state employee per diem rates for all travel expenses authorized in advance by the Project Director. Travel expense claims shall be submitted on forms provided by the AGENCY.
- (D) Total compensation under this contract, inclusive of all expenses, shall not exceed \$6,000.

CLAUSE VI - RECORDS, DOCUMENTS, AUDIT

The CONTRACTOR shall maintain accurate records, including detailed time records, as may be required by the AGENCY. The records are subject to inspection by the Project Director of the AGENCY at all reasonable times. All documents, reports and writings produced in the course of the work performed under this contract are, upon delivery to the Project Director or the AGENCY or at termination of this agreement, the property of the AGENCY, and/or in the public domain; provided that the CONTRACTOR will have the right to use any such materials for purposes of writing about or discussing the issues.

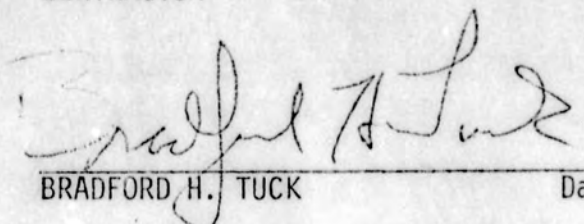
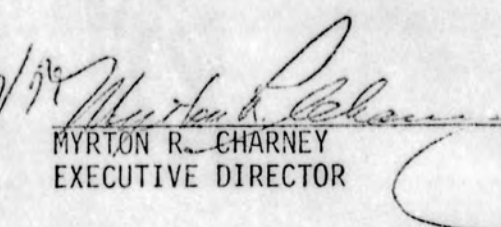
CLAUSE VII - ALL WRITINGS CONTAINED HEREIN

This agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this agreement shall be deemed to exist or to bind either of the parties to this agreement.

IN WITNESS WHEREOF, the parties have executed this agreement on the dates indicated.

CONTRACTOR

LEGISLATIVE AFFAIRS AGENCY

|                                                                                   |         |                                                                                    |          |
|-----------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------|----------|
|  | 11/9/79 |  | 11/14/79 |
| BRADFORD H. TUCK                                                                  | Date    | MYRTON R. CHARNEY<br>EXECUTIVE DIRECTOR                                            | Date     |

Accepted:

Approved as to Form:

|                                                                                     |         |
|-------------------------------------------------------------------------------------|---------|
|  | 11/1/79 |
| REP. BRIAN ROGERS                                                                   | DATE    |
| CO-CHAIRMAN, HOUSE POWER<br>ALTERNATIVES STUDY COMMITTEE                            |         |

|                                                                                      |          |
|--------------------------------------------------------------------------------------|----------|
|  | 11/14/79 |
| AGENCY LEGAL COUNSEL                                                                 | DATE     |

STATE OF ALASKA  
THE LEGISLATURE

LEGISLATIVE AFFAIRS AGENCY

POUCH Y, STATE CAPITOL  
JUNEAU, ALASKA 99811  
465-3800

INTER-AGENCY ROUTING SLIP

TO

Rep. Rogers

REMARKS:

*For your information  
& Feb.*

FROM

John Landy

DATE

12-28-79

# STATE OF ALASKA THE LEGISLATURE

POUCH Y - STATE CAPITOL  
JUNEAU, ALASKA 99811  
907-465-3800

## LEGISLATIVE AFFAIRS AGENCY

CONTRACT BETWEEN

STATE OF ALASKA - LEGISLATIVE AFFAIRS AGENCY  
Pouch Y - State Capitol  
Juneau, Alaska 99811

AND

ARLON R. TUSSING & ASSOCIATES, INC.  
880 H Street, Suite 208  
Anchorage, Alaska 99501

The parties to this agreement are the LEGISLATIVE AFFAIRS AGENCY, on behalf of the House Power Alternatives Project, hereinafter referred to as the "AGENCY," and ARLON R. TUSSING & ASSOCIATES, hereinafter referred to as the "CONSULTANT."

THE PURPOSE OF THIS AGREEMENT is to provide the Legislature with consulting services related to the electric utility industry currently serving the Railbelt area of Alaska, the state and federal governmental agencies that promote, plan and regulate the generation and distribution of electricity in Alaska, the history and status of the proposed Susitna hydroelectric project, and related topics.

IT IS THEREFORE MUTUALLY AGREED THAT:

### CLAUSE I - STATEMENT OF WORK

The Consultant will prepare a report intended as a background document for legislative staff, consultants and contractors in a brief, concise, and nontechnical format; the report is not intended for public distribution in the form produced pursuant to this contract. The report shall contain the following:

- (A) Description of the major electric utilities of the Railbelt area of Alaska with regard to type of organization/ownership; size, character and growth of market; generating facilities in existence, under construction or planned; interties; identity of decision-makers on rate policy and new construction; utility policies and management philosophy.
- (B) Description of the main characteristics of different types of utility organization and ownership with respect to administration and management; regulation; access to capital and other pertinent distinctions.
- (C) Description of the regulatory framework for the electric utility industry in Alaska with respect to the Federal Energy Regulatory Commission, the Alaska Public Utilities Commission, the Economic Regulatory Administration and other significant agencies.