SB 246

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 1/19/08

FURTHER: Finance

Date of 5-Day Notice: _____
(in accordance with Uniform Rule 23)

DATE TURNED IN TO OFFICE: 2/28/08

Resources Committee considered SENATE BILL NO. 246

SB 246 SUSITNA HYDRO WORKING GROUP; REPORT

"An Act establishing a working group to analyze the potential of a hydroelectric power project on the Susitna River; and providing for an effective date."

and recommends:

[✓] be **replaced** with [ ] **SCS** or [✓] **CS** SB 246 (RES)

[ ] adopt **previous** [ ] **SCS** or [ ] **CS** _____ (_____)

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

SENATE BILL:
[ ] Same Title
[✓] New Title

HOUSE BILL:
[ ] Same Title
[ ] Technical Title Change
[ ] New Title w/ SCR #_____

NEW FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#
CED	2/11/08	✓			

PREVIOUS FISCAL NOTE(S):

Department	Date	Fiscal	Indet.	Zero	FN#

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
Thomas W. Wagoner	WAGONER			✓	
	wielechowski			✓	
	STEDMAN			✓	
	McGuire			✓	
	STEVENS			X	
CHAIR:		X			

FISCAL NOTE

STATE OF ALASKA
2008 LEGISLATIVE SESSION

Fiscal Note Number
Bill Version: SB 246
() Publish Date

Identifier (file name): SB246-CED-AEA-02-11-08
Title: Susitna Hydro Working Group Report
Dept Affected
RDU: AEA (453)
Component: Statewide Project Development
Sponsor: Thomas
Requester: Senate Resources
Component Number: 2888

Expenditures/Revenues (Thousands of Dollars)

Note Amounts do not include inflation unless otherwise noted below

	Appropriation Required	Information					
OPERATING EXPENDITURES	**FY 2009**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**
Personal Services							
Travel							
Contractual							
Supplies							
Equipment							
Land & Structures							
Grants & Claims							
Miscellaneous							
TOTAL OPERATING	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CAPITAL EXPENDITURES	**2,800.0**		**1,500.0**				
CHANGE IN REVENUES ( )							

FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF	2,800.0		1,500.0				
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	**2,800.0**	**0.0**	**1,500.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimate of any current year (FY2008) cost:

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: *(Attach a separate page if necessary)*

This legislation requires the Governor to establish a working group to analyze the hydroelectric potential of the Susitna River. It is assumed that the Alaska Energy Authority will take the lead on this analysis and coordinate the working group and consult with railbelt utilities, native corporations, other landowners, and various regional economic development council.

This legislation requires the working group to prepare a report by January 1, 2009 to address a list of items; however, due to the complexity of the required report this fiscal note assumes that the work will continue through June 2010. The following pages detail the estimated cost of the report.

Prepared by: Sara Fisher-Goad, Acting Executive Director — Phone 907.771.3012
Division: Alaska Energy Authority — Date/Time 2/11/08 1:49 PM
Approved by: Emil R. Notti, Commissioner — Date 2/11/2008
Commerce, Community, and Economic Development

(Revised 11/19/2007 OMB)

ANALYSIS CONTINUATION

The work tasks and goals are envisioned to complete the objectives of this legislation; the timeline is provided for each task to illustrate work tasks that could be done in parallel rather than sequentially.

SB 246 objectives 2,3,5,9,13

Work Task 1: Feasibility Study and Estimate of Plant and of Generated Power Costs

The 1984 estimates for construction of the Susitna Hydro project will be updated for current costs as well as current construction and design technology. Constructability and logistics will be key components of this update. Additionally a review of engineering and technical risks including seismic design will be identified. The design of this facility is such that there are minimal size reductions that can be done. While there may be a need for 700 MW of generating capacity the constraints of the Susitna site may allow for options of 300 MW, 1000 MW, and 1,620 MW only. The study therefore will examine the possible size options that are inherent in the 1984 estimate and provide capital, operating and maintenance costs and subsequent costs of power over the lifetime of the facility for those options. Additionally, modifications and estimates for upgrades of the Railbelt Electrical Grid to allow use of this new generation capacity will be developed. Timelines for design, permitting, and construction for each option will be developed.

Estimated Cost: $1,500,000

Schedule: 30 June 2008 – 30 September 2009

SB 246 objectives 7,8,10,11

Work Task 2: Environmental/Socio-economic Impact Study

Environmental permitting and the socio-economic impact on the affected area is a key component of this study and will have the most impact on the feasibility of this study. A review of necessary permits, licenses and an analysis of potential impacts to the area will be done. Economic impacts and opportunities, including construction and operation jobs, which will result from a project of this size and generating capacity will be determined.

Estimated Cost: $500,000

Schedule: 30 January 2009 – 30 September 2009

SB 246 objective 4

Work Task 3: Cost of Power for Selected Alternatives

An estimate of approximate costs of alternative power generation that would be accessible to the Railbelt will be made. Options will consider the appropriate use of coal, natural gas, wind, geothermal, tidal and an alternate source of hydro. These estimates will be used to compare the reasonability of power generation from Susitna as well as the displacement opportunity of other fuels this project will enable. An important outcome of this activity will the determination of the costs/values of emissions each generating option will provide, this will include such things as carbon emissions/capture and mercury emissions.

Estimated Cost: $800,000

Schedule: 30 March 2009 – 31 December 2009

SB 246 objective 6

Work Task 4: Financing Options

The size of this single generation will be in excess of $5 billion and while it may provide a competitive cost of power, the ability to finance the costs may be the limiting factor. An analysis of potential financing options will be developed.

Estimated Cost: $200,000

Schedule: 30 January 2009 – 30 September 2009

ANALYSIS CONTINUATION

SB 246 objectives 1,2,3,12

Work Task 5: Integrated System Energy Plan for the Railbelt

A strategic energy plan for the Railbelt area will be developed. This will examine projected energy demands under a variety of different future scenarios that will examine growth in population, potential new industrial demands, changes in air and water regulations, fuel costs, development of new energy technologies, as well as risks of the variety of generating options. The objective of this plan is to provide balanced view of energy needs and opportunities to allow for informed decisions on energy projects.

Estimated Cost: $1,000,000

Schedule: 30 June 2008 – 30 January 2010

SB 246, section 2(b)

Creation of a Project Advisory Group

An advisory group to provide feedback to the study team and provide insight and information from their perspective will be created. Led by the Alaska Energy Authority representatives from the Departments of Natural Resources; Environmental Conservation; Fish and Game; Labor and Workforce Development; and Commerce, Community and Economic Development will be empanelled to assist in the study effort.

Estimated Cost: $50,000

Schedule: 30 September 2008 – 30 June 2010

SB 246 objectives 8,10,11

Field Work

Limited field work is envisioned; however there may be need for helicopter access to the location of the proposed dam sites as well as limited amount of field work including terrain, river conditions and potential construction camp sites and lay down areas.

Estimated Cost: $250,000

Schedule: 30 June 2008 – 30 September 2009

Proposal Summary

Total Estimated Susitna Study Cost: $3,300,000

Total Estimated Cost with Railbelt Energy Plan: $4,300,000

FY 09 - $2,800,000

FY 10 - $1,500,000

It is anticipated that this work will take approximately two years, with the draft report available in January 2010 and a final report including a Railbelt energy plan available in June 2010. Over the course of the project interim reports will be issued and specific decision gates on proceeding with phases of the project will be developed. If at anytime the feasibility of the Susitna Dam project becomes non-viable the project will be curtailed.

SB 246 Susitna Hydro Work Group Report
February 27, 2008
[2/20/08 Heard & Held]
[2/13/08 Heard & Held]

passed out
2 SRES 2-27-2008

SB 246 Sponsor Substitute vs/E
SB 246 vs/A

1. Fiscal Notes
2. Sponsor Statements
   - On Sponsor Substitute
   - On Original SB 246
3. Sectional Analysis
   - On Sponsor Substitute
   - On Original SB 246
4. Map: Dam Locations
5. Graphs
6. Potential of Susitna Hydroelectric Project
7. Railbelt Energy Suppliers
8. Chugach Generation Sources
9. Fairbanks Energy: FEDCO
10. Support/ Resolutions/ Letters/ Emails
    - GVEA
    - Mat-Su Resource Conservation & Dev.
    - Matanuska Electric Assn, Inc
11.
12. Former Meeting Participants
    - 2/20/2008

SB 246 Susitna Hydro Work Group Report
February 27, 2008
[2/20/08 Heard & Held]
[2/13/08 Heard & Held]

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    - 2/20/2008

Amendment 2-27-08

SB 246 Vs E

1) page 3 line 6
add "fish" befor
"wildlife & land use"

Fiscal note?

25-LS1358\E
Kane
2 18 08

SPONSOR SUBSTITUTE FOR SENATE BILL NO. 246

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-FIFTH LEGISLATURE - SECOND SESSION

BY SENATORS THOMAS, Therriault, Wilken

Introduced:
Referred:

A BILL

FOR AN ACT ENTITLED

"An Act directing the Alaska Energy Authority to analyze the potential of a hydroelectric power project on the Susitna River; and providing for an effective date."

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

*** Section 1.** The uncodified law of the State of Alaska is amended by adding a new section to read:

LEGISLATIVE FINDINGS. The legislature finds that

(1) the high cost of energy in Alaska inhibits economic growth and is a rapidly increasing burden to families in Alaska;

(2) combustion turbines in the Railbelt are over 30 years old and will need to be replaced within the next 10 years at a cost between $1,000,000,000 and $2,500,000,000;

(3) the operational life of a hydroelectric project can exceed 100 years, while power plants producing electricity from gas, oil, or coal need to be replaced or retrofitted several times during that time period; and

(4) the operating and maintenance costs of renewable hydroelectric power are

stable and predictable in comparison to the operating and maintenance costs of power generated from fossil fuels.

* **Sec. 2.** The uncodified law of the State of Alaska is amended by adding a new section to read:

SUSITNA RIVER HYDROELECTRIC POWER ANALYSIS. (a) The governor shall direct the Alaska Energy Authority to analyze the hydroelectric potential of the Susitna River.

(b) In conducting the analysis, the Alaska Energy Authority shall consult with

(1) representatives from each of the following departments:

(A) the Department of Natural Resources;

(B) the Department of Environmental Conservation;

(C) the Department of Fish and Game;

(D) the Department of Labor and Workforce Development; and

(E) the Department of Commerce, Community, and Economic Development;

(2) Railbelt electric utilities;

(3) Native corporations and other landowners in the affected area;

(4) Mat-Su Resource, Conservation, and Development Council, Inc.;

(5) the Fairbanks Economic Development Corporation and the Anchorage Economic Development Corporation; and

(6) the Army Corps of Engineers.

(c) The Alaska Energy Authority shall prepare a report that includes

(1) the projected midrange and long-range electric energy supply and demand in the Railbelt;

(2) the appropriate size and design of a project to meet the energy needs of the Railbelt;

(3) the type of transmission lines recommended for reliable delivery of power;

(4) the extent to which hydroelectric power could be substituted for power generated using other fuels in the Railbelt, and the amount of other fuels that could be made available to other regions of the state;

(5) a comparison of the construction, operation, and maintenance costs over the life of the project to the costs of other power sources over the same time period;

(6) financing options;

(7) a comparison of emissions from hydroelectric power generation to emissions from other methods of power generation;

(8) government permitting and licensing requirements for the project;

(9) the timeline for design, permitting, and construction of the project;

(10) the effect of the project on wildlife and land use;

(11) the number and types of direct and indirect jobs that would be created by construction and operation of the project;

(12) the potential of power from the project to stimulate new industries and economic activity; and

(13) a review of previous government studies of Susitna hydroelectric power.

(d) The governor shall submit a report of the findings of the Alaska Energy Authority and shall make recommendations regarding construction of a Susitna hydroelectric project to the legislature not later than June 1, 2010.

*** Sec. 3.** This Act is repealed July 1, 2010.

*** Sec. 4.** This Act takes effect immediately under AS 01.10.070(c).

SENATE BILL NO. 246

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-FIFTH LEGISLATURE - SECOND SESSION

BY SENATORS THOMAS, Therriault, Wilken

Introduced: 1/19/08
Referred: Resources, Finance

A BILL

FOR AN ACT ENTITLED

"An Act establishing a working group to analyze the potential of a hydroelectric power project on the Susitna River; and providing for an effective date."

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

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(2) combustion turbines in the Railbelt are over 30 years old and will need to be replaced within the next 10 years at a cost between $1,000,000,000 and $2,500,000,000;

(3) the operational life of a hydroelectric project can exceed 100 years, while power plants producing electricity from gas, oil, or coal need to be replaced or retrofitted several times during that time period; and

(4) the operating and maintenance costs of renewable hydroelectric power are

stable and predictable in comparison to the operating and maintenance costs of power generated from fossil fuels.

* **Sec. 2.** The uncodified law of the State of Alaska is amended by adding a new section to read:

SUSITNA RIVER HYDROELECTRIC POWER ANALYSIS. (a) The governor shall establish a working group to analyze the hydroelectric potential of the Susitna River.

(b) The working group established in (a) of this section shall consist of at least one representative from each of the following:

(1) the Department of Natural Resources;

(2) the Department of Environmental Conservation;

(3) the Department of Fish and Game;

(4) the Alaska Energy Authority;

(5) the Department of Labor and Workforce Development; and

(6) the Department of Commerce, Community, and Economic Development.

(c) In conducting the analysis, the working group established in (a) of this section shall consult with

(1) Railbelt electric utilities;

(2) Native corporations and other landowners in the affected area;

(3) Mat-Su Resource, Conservation, and Development Council, Inc.; and

(4) the Fairbanks Economic Development Corporation and the Anchorage Economic Development Corporation.

(d) The working group established in (a) of this section shall prepare a report that includes

(1) the projected midrange and long-range electric energy supply and demand in the Railbelt;

(2) the appropriate size and design of a project to meet the energy needs of the Railbelt;

(3) the type of transmission lines recommended for reliable delivery of power;

(4) the extent to which hydroelectric power could be substituted for power generated using other fuels in the Railbelt, and the amount of other fuels that could be made available to other regions of the state;

(5) a comparison of the construction, operation, and maintenance costs over the life of the project to the costs of other power sources over the same time period;

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(8) government permitting and licensing requirements for the project;

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(12) the potential of power from the project to stimulate new industries and economic activity; and

(13) a review of previous government studies of Susitna hydroelectric power.

(e) The governor shall submit a report of the findings of the working group and shall make recommendations regarding construction of a Susitna hydroelectric project to the legislature not later than January 1, 2009.

*** Sec. 3.** This Act is repealed February 1, 2009.

*** Sec. 4.** This Act takes effect immediately under AS 01.10.070(c).

ALASKA STATE LEGISLATURE

SENATOR JOE THOMAS

on Substitute vs \E

Sponsor Statement – SS for SB 246

An act directing the Alaska Energy Authority to analyze the potential of a hydroelectric power project on the Susitna River.

Senate Bill 246 will direct the governor to have the Alaska Energy Authority analyze the hydroelectric potential of the Susitna River. The AEA will review and update the studies done in the past, evaluate cost analysis, financing options, current and future demand and other critical issues to determine the feasibility of the project. The governor will submit a final report to the legislature no later the July 1st, 2010.

In recent years, Alaskans have seen their energy costs skyrocket. These ever rising costs and uncertain supplies not only make it difficult for Alaskans across the state to make ends meet, but also have an adverse impact on economic growth.

The energy produced by a hydroelectric facility is predictable, stable, clean and low cost. Currently, the Bradley Lake hydroelectric dam produces energy for the Railbelt at just $.05 per kWh, far below the $.176 per kWh that the Interior is currently paying.

In addition to these factors, the majority of our combustion turbine power plants along the Railbelt are over 30 years old and all will need retrofitting and replacement that will cost between $1 billion and $2.5 billion over the next ten years. Once these replacements begin, we will continue with the same rising energy costs, fluctuating operating expenses and high polluting facilities that the citizens of the state have experienced in the past.

Twenty five years ago, when a dam along the Susitna River was last looked at, Cook Inlet Gas cost $.21 per million cubic feet, the population and energy demand along the Railbelt was substantially less then today, and energy costs were no where near what they are today. I believe all these factors, along with the environmental and long term energy considerations merit a reopening of the Susitna discussion.

Nothing is as comprehensive of an approach to reducing costs, emissions and dependence on finite, non-renewable energy production for the Railbelt and adjacent areas as a Susitna Dam project.

I urge you to support the passage of SB 246.

January – May: State Capitol – Juneau, Alaska 99801 – (907) 465-2327 – 1 (800) 336-7383 – Fax (907) 465-5241
June – December: 1292 Sadler Way Ste 203 – Fairbanks, Alaska 99701 – (907) 456-8161 – Fax (907) 456-8163
Senator.Joe.Thomas@legis.state.ak.us

Sectional Analysis for SS for Senate Bill 246

Section 1: Legislative Findings

This bill states that the legislature finds several critical issues regarding energy and economic environment in Alaska today requesting re-opening and re-evaluating the Susitna Dam studies.

These findings include increasing energy costs for Alaskans and Alaskan businesses, Railbelt combustion turbine replacement costs, operational lifetime of a hydroelectric project, energy and operating costs for a hydroelectric project and its stable and predicable nature.

Section 2: Working Group Established by the Governor

Senate Bill 246 directs the Governor to charge the Alaska Energy Authority with analyzing the hydroelectric potential of the Susitna River.

The AEA will consult with representatives from departments within the Administration including the Departments of Natural Resources, Environmental Conservation, Fish and Game, Labor and Workforce Development, and Commerce Community and Economic Development.

The AEA will also consult with the Railbelt electric utilities, native corporations, the Mat-Su Resource, Conservation and Development Council, the Fairbanks and Anchorage Economic Development Corporations and private land owners in the affected areas. The Army Corps of Engineers may also be consulted with due to their experience with the original studies and knowledge of large scale hydroelectric projects.

Section 2 further outlines what the AEA will evaluate in order to reach a conclusion on the feasibility of the project.

Section 2 details 13 different issues to be incorporated in the report. These include, but are not limited to, the projected midrange and long range energy supply and demand along the Railbelt, appropriate size and design of a hydroelectric project to meet these needs, to what extent hydroelectric power can be substituted for power generated by other means, financing options, permitting requirements, timeline, environmental concerns and a review of previous studies on Susitna H[illegible] electric power.

These 13 points allow the AEA an outline and general direction of what the legislature wants to see. They do not supply a restrictive or exclusionary list.

Lastly, this section sets the January 1st, 2010 date for reporting back to the legislature on the working group's findings; with a date of July 1st, 2010 for final study

ALASKA STATE LEGISLATURE

on vs/A

SENATOR JOE THOMAS

Sponsor Statement – 246

Establishing a working group to analyze the potential of a hydroelectric power project on the Susitna River; and providing for an effective date

Senate Bill 246 will direct the governor to designate a lead agency and establish a working group who will consult with the interested organizations and departments, to analyze the hydroelectric potential of the Susitna River. This agency will review and update the studies done in the past, bringing current feasibility, demand and cost analysis back to the legislature at a designated date.

In recent years, Alaskans have seen their energy costs skyrocket. These ever rising costs and uncertain supplies not only make it difficult for Alaskans across the state to make ends meet, but also have an adverse impact on economic growth.

The energy produced by a hydroelectric facility is predictable, stable, clean and low cost. Currently, the Bradley Lake hydroelectric dam produces energy for the Railbelt at just $.04 per kWh, far below the $.176 per kWh that the Interior is currently paying.

In addition to these factors, the majority of our combustion turbine power plants along the Railbelt are over 30 years old and all will need retrofitting and replacement that will cost between $1 billion and $2.5 billion over the next ten years. Once these replacements begin, we will continue with the same rising energy costs, fluctuating operating expenses and high polluting facilities that the citizens of the state have experienced in the past.

Twenty five years ago, when a dam along the Susitna River was last looked at, Cook Inlet Gas cost $.25 per million cubic feet, the population and energy demand along the Railbelt was substantially less then today, and energy costs were no were substantially less then what they are today. I believe all these factors, along with the environmental and long term energy considerations merit a reopening of the Susitna discussion.

Nothing is as comprehensive of an approach to reducing costs, emissions and dependence on finite, non-renewable energy production for the Railbelt and adjacent areas as a Susitna Dam project.

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Sectional Analysis for SS for Senate Bill 246

on vs E

Section 1: Legislative Findings

This bill states that the legislature finds several critical issues regarding energy and economic environment in Alaska today requesting re-opening and re-evaluating the Susitna Dam studies.

These findings include increasing energy costs for Alaskans and Alaskan businesses, Railbelt combustion turbine replacement costs, operational lifetime of a hydroelectric project, energy and operating costs for a hydroelectric project and its stable and predicable nature.

Section 2: Working Group Established by the Governor

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The AEA will consult with representatives from departments within the Administration including the Departments of Natural Resources, Environmental Conservation, Fish and Game, Labor and Workforce Development, and Commerce Community and Economic Development.

The AEA will also consult with the Railbelt electric utilities, native corporations, the Mat-Su Resource, Conservation and Development Council, the Fairbanks and Anchorage Economic Development Corporations and private land owners in the affected areas. The Army Corps of Engineers may also be consulted with due to their experience with the original studies and knowledge of large scale hydroelectric projects.

Section 2 further outlines what the AEA will evaluate in order to reach a conclusion on the feasibility of the project.

Section 2 details 13 different issues to be incorporated in the report. These include, but are not limited to, the projected midrange and long range energy supply and demand along the Railbelt, appropriate size and design of a hydroelectric project to meet these needs, to what extent hydroelectric power can be substituted for power generated by other means, financing options, permitting requirements, timeline, environmental concerns and a review of previous studies on Susitna Hydro electric power.

These 13 points allow the AEA an outline and general direction of what the legislature wants to see. They do not supply a restrictive or exclusionary list.

Lastly, this section sets the January 1st, 2010 date for reporting back to the legislature on the working group's findings; with a date of July 1st, 2010 for final study

on VS\A

Sectional Analysis for Senate Bill 246

Section 1: Legislative Findings

This bill states that the legislature finds several critical issues regarding energy and economic development in Alaska today that suggest re-opening and re-evaluating the Susitna Dam studies.

These findings include dramatically increasing energy costs for Alaskans and Alaskan businesses, Railbelt combustion turbine replacement costs, operational lifetime of a hydroelectric project, energy and operating costs for a hydroelectric project and its stable and predicable nature.

Section 2: Working Group Established by the Governor

Senate Bill 246 directs the Governor to designate a lead agency and establish a working group to analyze the hydroelectric potential of the Susitna River.

The governor will give the directive to a single entity, such as AEA, who will analyze existing Susitna studies and consult with interested groups and departments creating an updated study for the governor and legislature to review.

The departments to be consulted with the Departments of Natural Resources, Environmental Conservation, Fish and Game, Labor and Workforce Development, and Commerce Community and Economic Development.

Also included as parties that discussions should involve would be the Railbelt electric utilities, native corporations and private land owners in the affected areas. The Mat-Su Resource, Conservation and Development Council and the Fairbanks and Anchorage Economic Development Corporations will also be involved. We anticipate the Army Corps of Engineers would be involved due to their prominent role in the original study.

Section 2 also details specific goals and issues to be addressed in order to give the agency direction for what the legislature is hoping to see from the report.

There are 13 different points cited in SB 246 to be incorporated in the report. These points cover a wide, yet important, range of issues. Points 1, 2 and 12 are extremely important in examining the viability of a large scale Susitna hydro project but are more abstract and outside the immediate scope of updating the study from the 1980s.

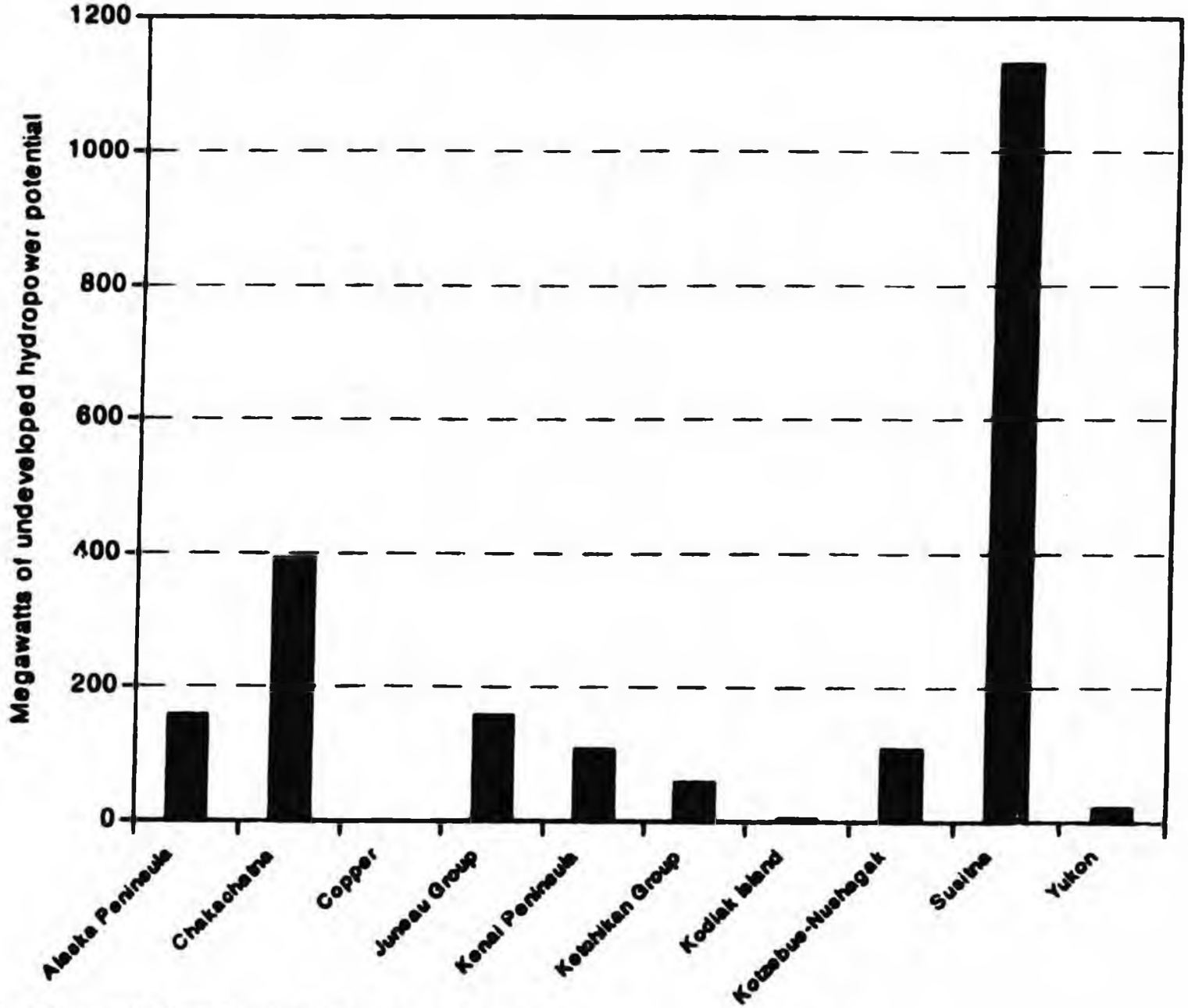
Included in these points are projected midrange and long range energy supply and demand along the Railbelt, appropriate size and design of a hydroelectric project to meet these needs, to what extent hydroelectric power can substituted for power generated by other means, financing options, permitting requirements, timeline, environmental concerns and a review of previous studies on Susitna Hydro electric power.

These 13 points allow the working group an outline and general direction of what the legislature wants to see. They do not supply a restrictive or exclusionary list.

Lastly, this section sets the January 1st, 2009 date for reporting back to the legislature on the working group's findings.

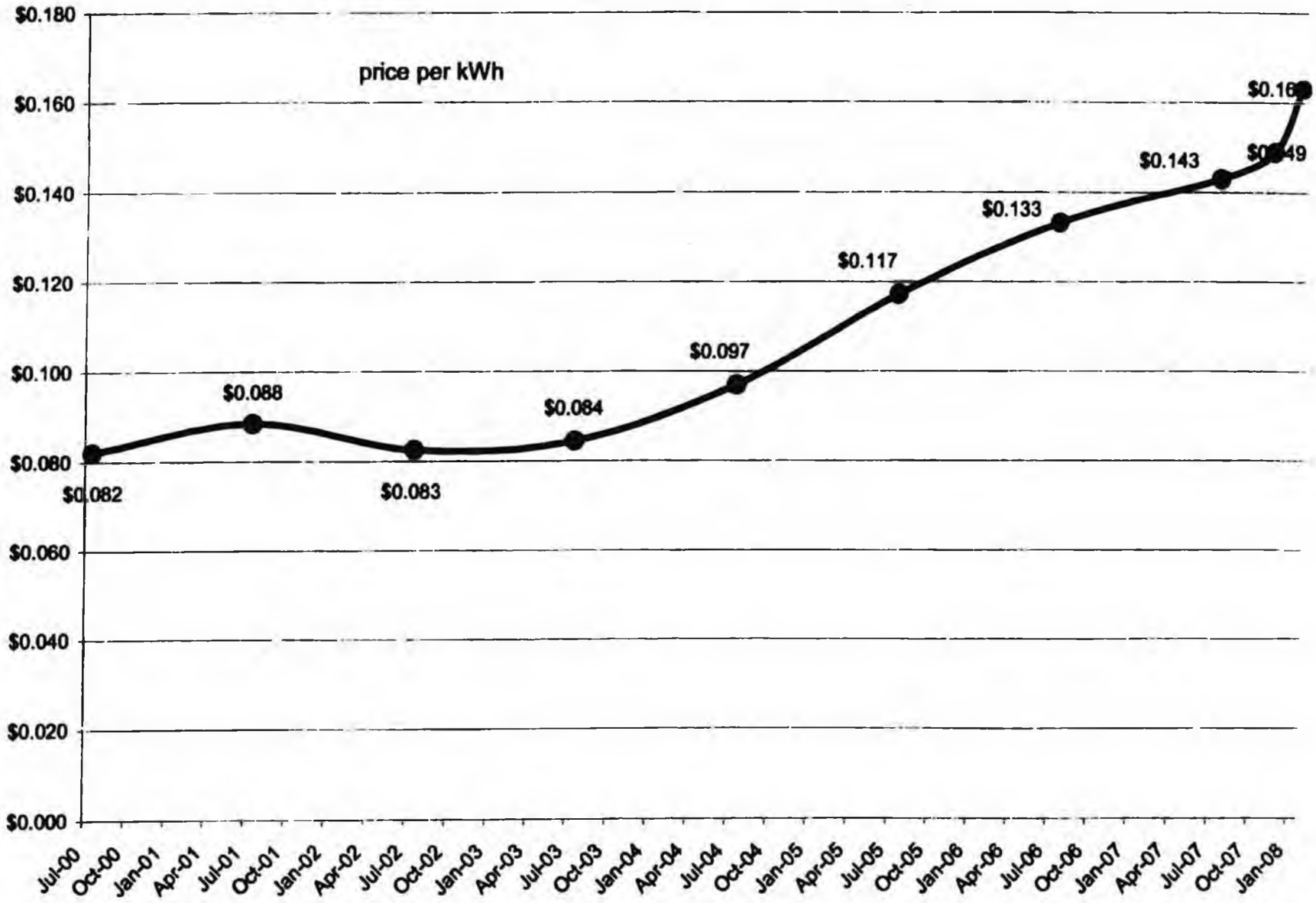
Figure 1.--Upper Susitna block, Susitna River basin.

Undeveloped Hydroelectric Potential in Alaska in MW



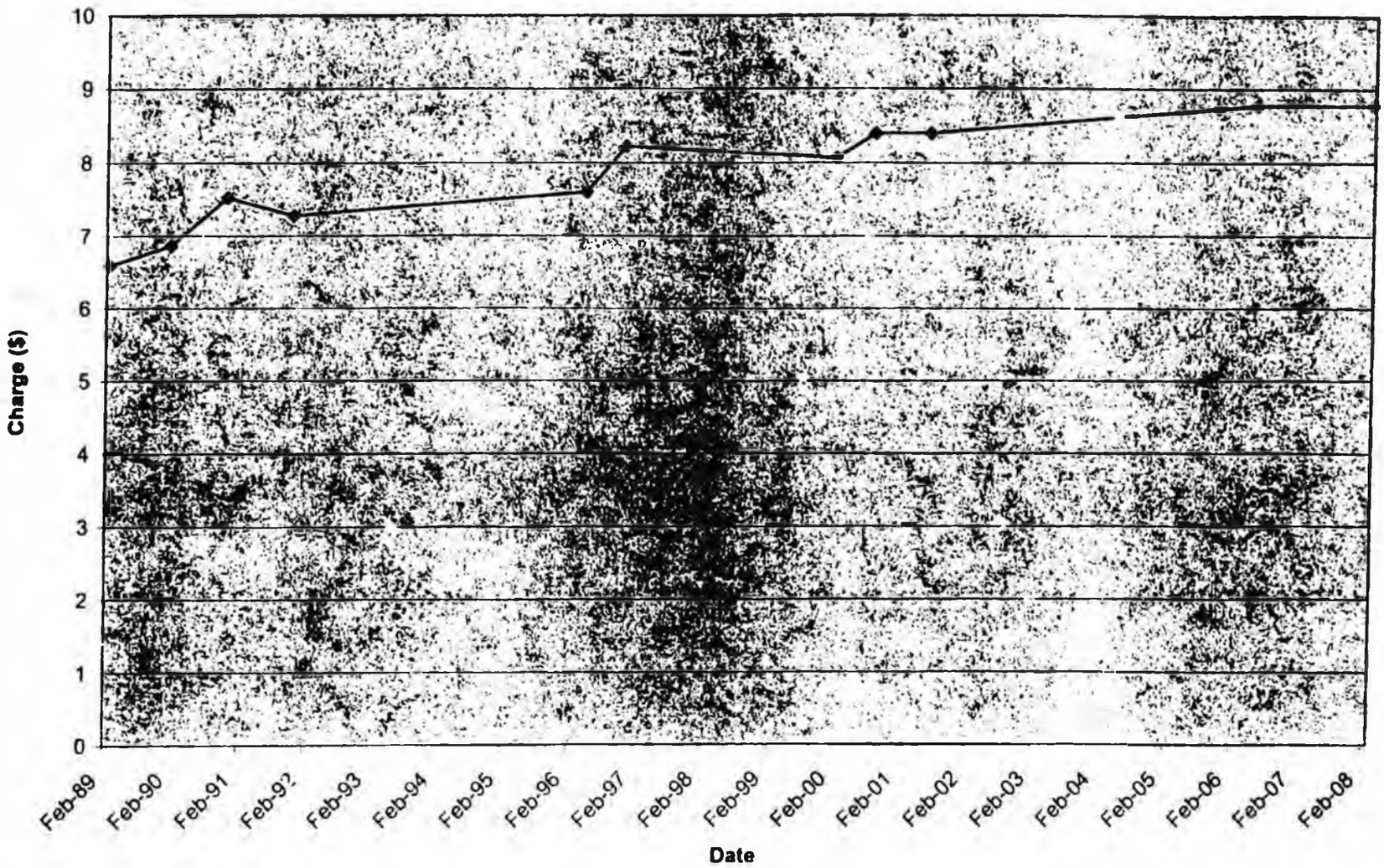
Data from U.S. Hydropower Resource Assessment for Alaska, November 1997 by Idaho National Engineering and Environmental Laboratory for the U.S. Department of Energy

GVEA Residential kWh charges



Courtesy of Todd Hoener, GVEA Energy Efficiency Specialist

AEL&P Average Residential kWh Charge



Courtesy of AEL&P

Information on the Potential of a Susitna Hydroelectric project

- A large scale hydroelectric project could provide a substantial portion of the Railbelt's energy needs through one clean, predictable, renewable, low cost source.
- Located centrally along the Railbelt making intertie needs substantially lower.
- With hydroelectric projects there is a substantial up front capital cost. However once hydro projects are up and running, their low and predictable costs facilitate a reasonable pay off schedule.
- The nature of their input supply, continuously running water provides a stable energy supply with very low operating expenses. This been coined "flat power."
- Operating costs were estimated to be $.008 per kWh
- These projects, because of their few moving parts and renewable power source can supply power to a region for generations. These projects have operational life spans of over 100 years. Alaska has hydroelectric projects dating from the Gold Rush days.
- The current power sources along the Railbelt are aging rapidly. Chugach Electric Association's Beluga plant's natural gas turbines are all between 30 and 40 years old. Their Bernice Lake plant's turbines are 27 to 37 years old. GVEA's largest power plant was built in 1975, and the Healy Clean Coal Plant is not in operation.
- With a hydroelectric project there are no emissions, waste or hazardous byproducts. The amount of energy provided by a single project can be adjusted to meet only the current needs of a region, while, with planning in the early stages, still be substantially expandable.
- Hydroelectric projects obviously are not powered by fossil fuels. This eliminates the fluctuating, and usually rising, cost of energy on consumers and industry. This makes long term financial planning much more predictable and effective for both large scale businesses, families, and the state.
- The estimated per kWh charge from a 600 MW Susitna project is $.056 for the lifetime of the project, adjusted for inflation.
- By utilizing hydroelectric power as a significant energy source for the Railbelt's needs, other non-renewable energy sources could be sold. This would result in increasing revenue to the state making money available for other necessary services and economic development.

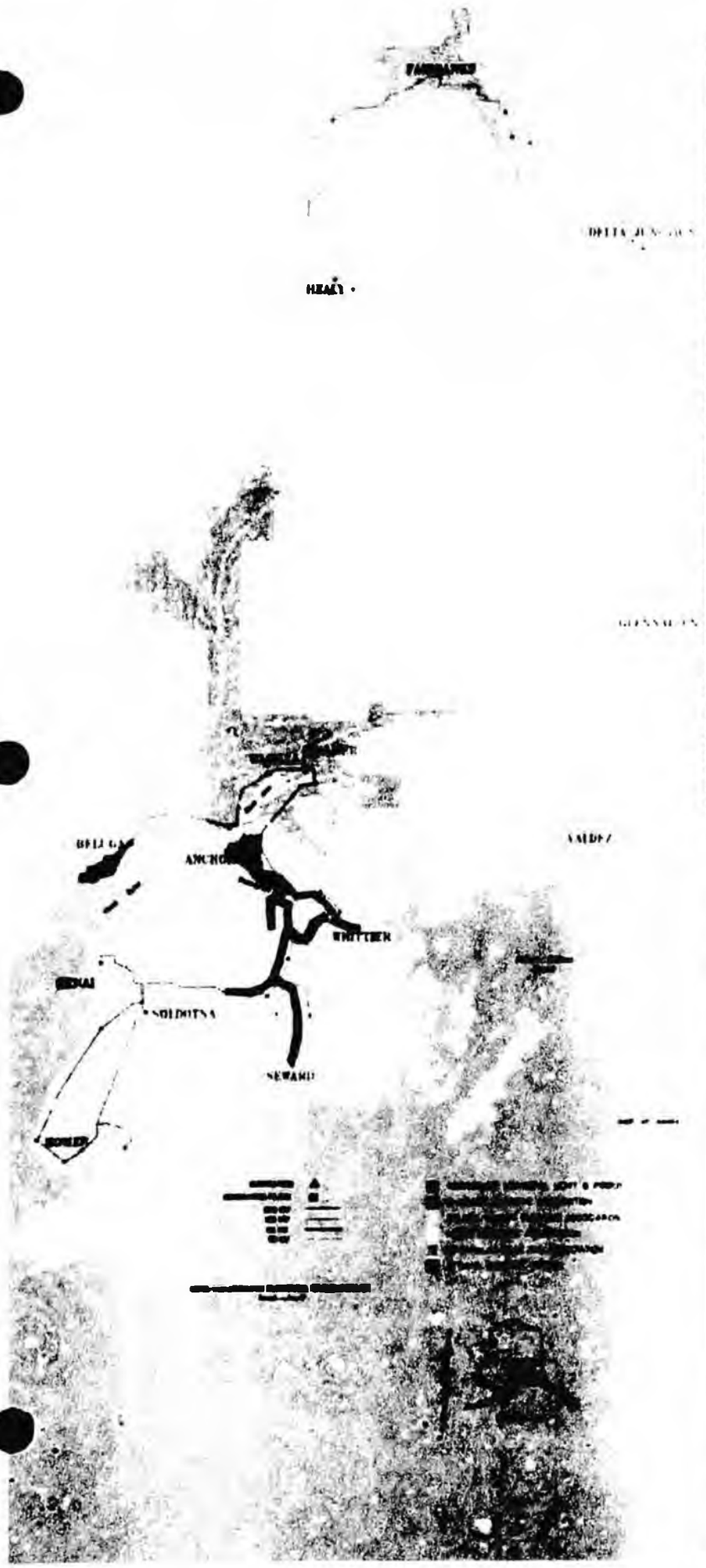
Two of Alaska's Current Hydroelectric Projects

Bradley Lake

Bradley Lake Hydroelectric project is located 25 miles North of Homer. It was first turned on in 1991 and has been distributing its power along the Railbelt, as far away as GVEA in Fairbanks. This 126 MW project cost $328 Million to build, was $43 million dollars below early estimates and took five years to construct. The state originally put in $175 million in cash and 6 other entities bonded for the remaining $165 million and should be paid off in approximately 13 years. Currently the Homer Electric association is operating the dam and seeing power generated at $.04 per kWh.

Snettisham Hydroelectric Project

This 78,210 kW hydroelectric project currently powers over 80% of the Juneau-Douglas area through AEL&P. It has been supplying this area with a stable, low cost, source of power for well over 40 years. This project was purchased by AIDEA in 1998 from the Alaska Power Authority, currently known as the Alaska Energy Authority, and has been performing well and maintenance needs are going as expected. Surplus energy from this project are diverted to Princess cruise ships and have resulted in lower rates, reduced pollution and noise, economic benefits to the local economy and a more complete use of the Snettisham potential. The current energy cost charged by AEL&P is 8.775 and has increased only 33% since 1989.



Chugach power flows to nearly three fourths of Alaska's population. Chugach serves nearly 80,000 metered retail locations in a service territory extending from Anchorage to the Northern Kenai Peninsula, and from Whittier on Prince William Sound to Tyonek on the west side of Cook Inlet. Chugach regularly provides power for Alaskans from Homer to Fairbanks through wholesale and economy energy sales to Homer Electric Association, the City of Seward, Matanuska Electric Association and Golden Valley Electric Association. On occasion, Chugach sells to or buys energy from Anchorage Municipal Light & Power.

Chugach has 530.10 megawatts of installed generation capacity at five power plants. Chugach operates 2,190 miles of energized line (including leased and partially owned transmission lines) made up of 533 miles of transmission line, 924 miles of overhead distribution line and 733 miles of underground distribution line.

Chugach's 2006 system peak load of 457 megawatts occurred between 5 and 6 p.m on Nov. 26. Power sales for the year totaled 2.8 billion kilowatt-hours. Chugach finished 2006 with total revenues and non-operating margins of $267.5 million, expenses of $258.9 million and margins of $10 million.

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Photos by Chris Arend Photography and Chugach staff
Publishing and production by Northwest Strategies

Generation **Resources**

Chugach uses various generation resources to [illegible] has 530.10 megawatts of installed capacity, [illegible] Fahrenheit. Chugach also takes power from the [illegible] project near Homer. In 2006, 90 percent of the [illegible] natural gas units and the other 10 percent [illegible]

Beluga

Located on the west side of Cook Inlet near Tyonek, combustion turbines, unit Nos. 1-3 and 5-7 are fueled by natural gas; Unit 8 is a steam turbine

Units	Commissioned	Power Rating (megawatts
No. 1	1968	19.0
No. 2	1968	19.0
No. 3	1972	64.8
No. 5	1975	68.7
No. 6	1975	79.2
No. 7	1978	80.1
No. 8	1981	53.0
	TOTAL	365.0

Cooper Lake

Located near Cooper Landing on the Kenai Peninsula, units are hydro-turbines

Units	Commissioned	Power Rating (megawatts
No. 1	1960	9.5
No. 2	1960	9.5
	TOTAL	19.0

Bernice Lake

Located near Nikiski on the Kenai Peninsula; units are natural gas combustion turbines

Units	Commissioned	Power Rating (megawatts
No. 2	1971	19.0
No. 3	1978	26.0
No. 4	1981	22.5
	TOTAL	67.5

Fairbanks Energy

November 2007

Strategic Business Plan

This document contains confidential and proprietary information belonging exclusively to:

Fairbanks Economic Development Corporation
301 Cushman Street, Suite 301
Fairbanks, Alaska 99701
U.S.A.
(907) 452-2185

The best time to plant a tree was 20 years ago. The second best time is today.
-Chinese Proverb-

Hydroelectric Subsection of the Energy Task Force

Participants: John Davies, Mike Wright, Karl Monetti, Dave Van Den Berg

Hydroelectric Workgroup Proposal
Consider the installation of a 600-megawatt Susitna Hydroelectric project that would supply the electrical needs of the Railbelt. Construction of multiple transmission lines to Fairbanks and Anchorage would also be required for the reliable "firm" delivery of the Susitna energy.

Delivery of electrical power from Susitna to rural Alaska would likely not be economic, but Susitna energy could augment or power the production of Fischer-Tropsch liquid fuels for delivery to rural Alaska that would be used in existing infrastructure.

In the long-term, a 20 to 50-year timeframe, once the technology is commercially available, electricity from Susitna could be used to power electrolyzers for the creation of hydrogen. Hydrogen would be delivered locally for use in home fuel cells for heat and electric cogeneration and car fuel cells for transportation. This is idealistic; zero-emission renewable energy used in a technology that only produces energy and distilled water.

Discussion
Hydroelectric power has been an important source of electrical power throughout the World for decades. Regions have developed and grown from the construction of hydro projects, many of which were constructed with Federal governmental support.

Hydroelectric projects typically have very high initial capital costs to construct the original dams and generators. The operations and maintenance costs that typically are predictable with increases linked to inflation. The predictability of the very stable hydroelectric costs, over 100-year plus project lives, has coined the phrase "flat power".

In the 1930's through the 1950's, when most of the large federal projects were built, the National Environmental Policy Act (NEPA) was not in existence. The goal of these projects was to provide jobs, abundant and cheap power to regions for economic growth. After the passage of NEPA, the rules governing the evaluation of projects and their effects on the environment were developed and clarified into the current day, Environmental Impact Statement (EIS).

All the legacy combustion turbines in the Railbelt are over thirty years old, and will need to be replaced within the next ten years. The cost of replacing these aging electric generators is approximated to be in the range of $1.5 billion to $2.5 billion. The general approach to the aging generation situation will be the replacement of the combustion turbines with new more efficient combustion turbines or with low cost fuel options such as coal power plants. Financially, once the new turbines have been installed and the investment has been made the turbines are expected to be operated and emit some level of pollutants and carbon dioxide for their economic life of about thirty years. Fuel

switching or changing to hydroelectric is a only viable option before commitment to the construction of the replacement turbines. Environmentally, the carbon-based power plants will emit varying amounts of oxides of sulfur, oxides of nitrogen, particulate matter and carbon dioxide. Hydroelectric generation will provide a renewable alternative to combustion technology that will emit near zero emission. Hydroelectric emissions are considered near zero rather than zero due to recent discussions of methane released from submerged biomass due decomposition from the creation of the lake behind the dam. There is little data on this topic in northern regions but it is suspected that the potential release of the quantity of methane released would have much less impact as a green house gas than the carbon dioxide release from even the most efficient combustion turbine using natural gas as a fuel. In addition, logging and clearing the area to be inundated prior to filling the reservoir can greatly reduce the quantities of methane released after the reservoir is completed.

Cost of hydroelectric Construction and Operation
The capital cost of a 600,000-kilowatt Susitna project was estimated at $5,000/kilowatt for a hydroelectric capital cost of $3,000,000,000. The electrical transmission lines for inclusion were 20 miles and 300 miles if line at a cost of $1,000,000 and $1,500,000., respectively, for a total transmission line cost of $470,000.

The State of Alaska provided a September 13, 2005 memo on an update of the cost estimate for the Susitna project, from the 1984 Update Study adjusted to 2005, at a cost of $10.5 billion. The reason for this 3 fold increase in price are not known, but needs to be examined and evaluated. The scope of this project is not known and needs to be verified to ensure the proper cost estimate. The full 1,600-kilowatt project was referenced in the FERC application but in the later stages of the project there were discussions of a reduced scope Susitna Project. More research needs to be conducted on the project scope. A former Alaska Power Authority employee involved in the project estimated the Watana dam to be 4/5 of the project costs.

Operation and maintenance cost were estimated at $0.008/kWh, based on a DOE Large Hydro report.

Recommendations for next steps:
Analysis should be done on the appropriate sizing of the dam to power both the mid-term and long-term energy of the Railbelt.

The hydrological design should be reviewed once the sizing has been completed.

System security should also be analyzed to ensure power supplies in the Railbelt would continue following any common mode failure or natural disaster. Peaking units could be maintained at each load center to ensure continuity of energy supply if the hydroelectric was unavailable. The existing aging generators may provide many years of emergency power at a realistic price. Delivery of the electric energy of high-voltage transmission lines can be secured through multiple transmission lines, which are separated by distance to reduce one cause removing multiple lines from service.

The timing of permitting and licensing should be reviewed to identify the effect of re-filing the existing FERC license for Susitna, or modifying the dam design, which may require additional environmental field studies.

Golden Valley Electric Association
PO Box 71249, Fairbanks, AK 99707-1249 • (907) 452-1151 • www.gvea.com
Your Touchstone Energy® Cooperative

RESOLUTION NO. 102-08

A RESOLUTION OF THE BOARD OF DIRECTORS TO SUPPORT THE STUDY OF A SUSITNA HYDRO ELECTRIC PROJECT

WHEREAS, the Golden Valley Electric Association, Inc. ("Golden Valley") Board recognizes that renewable energy plays an important role in Alaska's energy supply; and

WHEREAS, the Railbelt relies heavily on fossil fuel, which is subject to high and volatile pricing; and

WHEREAS, the electric production from hydro electric projects emit no CO2; and

WHEREAS, the Susitna Hydro Electric Project was studied extensively in the 1970s and substantial progress was made on the project; and

WHEREAS, the size and financing of the project need to be determined;

BE IT RESOLVED that the Board of Directors of Golden Valley hereby supports efforts to further advance the Susitna Hydro Electric Project.

CERTIFICATION

I, William D. Digan, do hereby certify that I am the Secretary of Golden Valley Electric Association, Inc., an electric non-profit cooperative membership corporation organized and existing under the laws of the State of Alaska; that the foregoing is a complete and correct copy of a resolution adopted at a regular meeting of the Board of Directors of this corporation, duly and properly called and held on the 28th day of January, 2008; that a quorum was present at the meeting; that the resolution is set forth in the minutes of the meeting and has not been rescinded or modified.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed the seal of the corporation this 28th day of January, 2008.

(SEAL)

GOLDEN VALLEY ELECTRIC ASSN INC SEAL ALASKA

William D. Digan

William D. Digan, Secretary

Mat-Su Resource Conservation & Development

"Fostering Responsible Resource Conservation and Economic Development in the Matanuska-Susitna Borough"

Resolution 001-08

A RESOLUTION OF THE MAT-SU RESOUCE CONSERVATION AND DEVELOPMENT COUNCIL, INC. TO SUPPORT THE STUDY OF A SUSITNA HYDRO ELECTRIC PROJECT.

WHEREAS, the Mat-Su Resource Conservation & Development Council, Inc. is a Nonprofit Corporation in the State of Alaska; and

WHEREAS, the Mat-Su Resource Conservation & Development Council, Inc recognizes that renewable energy plays an important role in the future development of the State of Alaska; and,

WHEREAS, the Matanuska Susitna Borough and surrounding areas rely heavily on fossil fuels, whose pricing is highly volatile in today's market; and,

WHEREAS, the electric production of hydro electric projects emit no CO2; and,

WHEREAS, substantial progress has been made on the Susitna Hydro Electric project since it was first studied in the 1970s; and

WHEREAS, the size and financing of this project is yet to be determined:

HEREBY BE IT RESOLVED that on this day February 5, 2008.
The Mat-Su Resource Conservation & Development Council, Inc supports the further advancement of the Susitna Hydro Electric Project.

Attest:

Roger Purcell
Roger Purcell, Vice-President

Darcie Salmon
Darcie Salmon, President

NRCS

1700 East Bogard Rd Suite 203A • Wasilla, Alaska 99654 • www.matsurcd.com

Phone: 907-373-1062 ext 108 • Fax: 907-373-1064 • matsurcd@mtaonline.net

MEA Synergy Works.

Matanuska Electric Association, Inc.

P.O. Box 2929
Palmer, Alaska 99645-2929
Telephone: (907) 745-3231
Fax: (907) 761-9368

February 20, 2008

Senator Charlie Huggins
State Capitol
Juneau, AK 99801

Dear Senator Huggins:

Thank you for the opportunity to provide comments in support of **SB 246, Susitna Hydro Working Group; Report.**

Matanuska Electric Association (MEA) is the oldest and second largest electric utility cooperative in the state. MEA serves more than 53,000 customers in the Matanuska-Susitna Valley and Chugiak-Eagle River areas of Alaska.

On February 11, MEA's Board of Directors unanimously passed a resolution supporting a similar piece of legislation, HB 336. As soon as a formal, signed copy is available, I will forward it to you.

Similarly, MEA supports SB 246 and your efforts to encourage the development of renewable energy projects in our service territory that would benefit the entire Railbelt. Last year, MEA expressed its desire to see the remaining balance of the Railbelt Energy Fund be dedicated to Southcentral Railbelt renewable energy projects.

Reviewing existing studies on the Susitna Hydro Project will spark important conversations about long-term energy policy for Alaska. While the actual development of a Susitna hydro project may take decades to complete, MEA is encouraged by the forward thinking laid out in SB 246.

Sincerely,

Lorali M. Carter
Manager of Government & Corporate Communications

cc: Senator Joe Thomas, Sponsor, SB 246

Enclosure: MEA Press Release on Railbelt Energy Fund Dedication

FINAL RELEASE

News for Immediate Release @ Friday, June 29, 2007

from Matanuska Electric Association with offices in Palmer, Wasilla and Eagle River, Alaska

For Further Information, Contact: Lorali Carter 761-9266, Manager of Government and Corporate Communications *Web site: www.mea coop*

PALIN VETOS RAILBELT ENERGY FUND: MEA'S RESPONSE–

"Put it all toward renewable energy projects."

PALMER – "While MEA is disappointed the Governor has rejected the recommendations of the Legislature, MEA respects the fact that the Governor may have a different policy agenda and understands that she has every right to veto the appropriations," said MEA General Manager Wayne Carmony.

"Despite several meetings with the administration, the governor's representatives didn't really know what her views were on the Railbelt Energy Fund. It would have been helpful if the administration's position had been known. If the Governor had shared her policy views earlier, MEA would have been happy to work with her," explained Tuckerman Babcock, Assistant General Manager.

MEA General Manager Wayne Carmony announced he will be recommending that the state should dedicate the Railbelt Energy Fund - approximately $75 million - to Southcentral Railbelt renewable energy projects. An ideal vehicle for the appropriation is the Renewable Energy Fund legislation pending before the Legislature.

As for the proposed transmission lines vetoed by Governor Palin, MEA members will simply have to step up and pay the extra $26.5 million. Carmony observed, "MEA has always been willing to pay our own way, however with the state handing out subsidies to Southeast, Rural, and Fairbanks ratepayers, MEA believed Mat-Su and Eagle River ratepayers deserved a fair share of state support."

"MEA hopes she will decide to support dedicating the Railbelt Energy Fund for small to medium renewable energy projects which are otherwise so difficult for utilities to sponsor and subsidize."

Governor Palin vetoed $20 million for transmission to Fire Island for a wind farm, $12.5 million for transmission in the core area of the Mat-Su, 12.5 million for transmission on the Kenai Peninsula, $14 million for transmission in the Susitna Valley to protect MEA members from the effects of changes to the Alaska Intertie and $12.5 million to get the state-owned Healy Clean Coal project running.

The Railbelt Energy Fund has historically been the source of windfall appropriations for the customers of Golden Valley Electric in Fairbanks ($80 million in state subsidies). No other Railbelt utility has received a fair share, and only $75 million remains in the fund.

Both the 2006 and the 2007 legislatures have now tried unsuccessfully to rebalance the benefits of the fund to allow the other Railbelt utility customers to receive a fair share. The Administration took no position on the appropriations during the legislative session and made no recommendations as to how the fund should be appropriated.

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Matanuska Electric Association, Inc.

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Palmer, Alaska 99645-2929
Telephone: (907) 745-3231
Fax: (907) 761-9368

FEB 2 1 2008

February 20, 2008

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State Capitol
Juneau, AK 99801

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Reviewing existing studies on the Susitna Hydro Project will spark important conversations about long-term energy policy for Alaska. While the actual development of a Susitna hydro project may take decades to complete, MEA is encouraged by the forward thinking laid out in SB 246.

Sincerely,

Lorali M. Carter
Manager of Government & Corporate Communications

cc: Senator Joe Thomas, Sponsor, SB 246

Enclosure: MEA Press Release on Railbelt Energy Fund Dedication

SRES Testimony Submitted by J. McCutcheon.

Amending SB 246 Susitna Hydroelectric Project to CSSB 246

President Bush's last term in office will be ending in less than a year. I cannot over stress the need to have Susitna finances reviewed, rewritten, republished to FERC standards and resubmitted to FERC before President Bush leaves office. While I am lifetime democrat there is need to face up to the realities of the situation. The resubmission of Susitna's EIS to FERC for FERC's reapproval, was said by those who working on Susitna when Susitna was shelved, that it would take 33 months for FERC's reapproval under a Jimmy Carter Administration. The Presidential candidates both democratics and republican John McCain will change the landscape of the federal government.

I would like to think that President Bush could be prevailed upon to ask both the Army Corp's of Engineers and FERC to handle Susitna on expedited bases; not to cut corners but to see that Susitna goes to the head of the line. Every day that that Susitna construction is delayed the costs to the Railbelt is at least a million dollars and the State even more. If President Bush does not request Susitna's be reviewed be expedited, then the Railbelt will just have to suffer the consequences and Susitna would proceed as normal.

I suggest the Army Corps of Engineers because they have had Susitna and did most of locating and structural design engineering before Susitna was politically taken away from the Corps thus the Corps are familiar with Susitna. Second, it was conceded, by those who took Susitna from the Corps, that nobody in the world knows more about hydroelectric than the Corps. Third, the Corps work is bankable thus if Susitna received a favorable review Susitna is bondable. That is not true of the sorted State agencies. Fourth, a restudy of Susitna's finances goes to the heart of what is need to expedite Susitna, the legislature can always quit if the legislature has doubts about the direction Susitna is headed and the legislature can always look at other things while Susitna is being restudied by the Corps and review by FERC for FERC's reacceptance and repermitting. Thus I suggest the following committee substitute or a new bill if the committee wishes to accomplish things other than expediting Susitna.

CSSB 246 Title change

"An Act requesting the Army Corps of Engineer to conduct a restudy of the Susitna Hydroelectric Power Project Finances; and providing for an effective date."

The bill tile in the Finance Committee also needs to be retiled.

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

* Section 1. The uncodified law of the State of Alaska is amended by adding a new section.

1. The Army Corps of Engineers is appropriated $150,000 from the Railbelt
Energy Fund to restudy the finances of Susitna Hydroelectric Project.

2. The Army Corps of Engineers is appropriated $200,000 from the Railbelt
Energy Fund to publish the Army Corps of Engineers' restudy of the Susitna Hydroelectric Project to FERC standards and resubmit the Susitna Hydroelectric project's EIS to FERC for FERC's reapproval.

Jerry McCutcheon susitnahydronow@yahoo.com

Susitna Hydroelectric Project Started life as a Serra Club and Bureau Of Reclamation project.

The committee is approaching Susitna in exactly the wrong way!

The correct way is to request that the Army Corps of Engineers, who once had Susitna until politics took it away from the Corps. Even those who took Susitna from the Corp, admitted nobody in the world knew more about hydroelectric dams than the Corps.

Susitna's $158 million EIS has been thru FERC once and been accepted and design was underway. I consider The Alaska Energy Authority or what ever name they want fly under a collection of screw ups and hangers on of the kind that over stated the cost of by 25% Susitna shelved Susitna. I call them the blind alley boys who make there living studding things.

Bradley Lake has an installed capacity of 128 MW but can only reach 90 MW because of vibrational problems in water in take. It has gone uncorrected all of the yeas because they either cannot get their act together or do not want to get their act together for it would call attention to the fact that they allowed it to be constructed incorrectly.

The legislature can get the Corps to restudy the finances of Susitna for $150,000 and if is a 'Go' for the legislature then another $200,000 to publish the restudy to FERC standards for resubmission to FERC.

Susitna is not on a Fault as ANGDA and some others would have you believe; it is Chakachamna that is on the Castle Mountain fault not Susitna. Chakachamna has so many things wrong with it that they only spent $300,000 on Chakachamna before stop the study.

The Susitna project consist of two dams; the Devil Canyon Dam, 600 plus feet high with 4 Francis turbines for a total of 600 MW and backs up a very narrow lake some 26 miles to about where the Watana Dam is located. Watana is 800 plus feet high with 4 Francis turbins for a total of 1000 MW, which backs up a lake of 47 miles or so. The power houses are inside the mountains and the difference in power is do to the height of water column.

There are no fish that spawn within 14 miles of the lower dam and only 1% of the fish that

spawn in the Susitna or its tributaries would be affected by the flow of the Susitna project. Only 19% of the water at mouth of Susitna would be impounded by the Susitna dams.

The commitee fails to realize how far along Susitna and the committee has confused install capacity with name plate capacity of a gas or coal fired power plants there is considerable difference. While the install capacity of Susitna is 1600 MW one could easily make it 2400 MW but that would not change the fact that firm power is only 600 or 700 MW and in worse case 500 MW, lack of precipitation.

Susitna EIS is platinum plated and has been recognized all over the world and come to Anchorage to use Susitna's EIS as a model. At one time ADF&G had a half time librarian assigned to the ARLIS library just to use Susitna EIS they used it so much. The ESI was beautify indexed, ARLIS library's words not mine, but not cataloged thus one could pick up Any volume and locate what wanted provide you picked up the correct volume of the more than 60 feet of shelf space. The use of Susitna EIS was so heavy the the ARLIS library spent $50,000 to catalogue Susitna EIS.

Kaiser Aluminum, came Anchorage and took the Corps 4 dam plans which they obtained from the Bureau of Reclamation and holed up in the Anchorage Westward Hotel for two weeks. Kaiser and the gave Susitna back to the Corps as two dams pronouncing Susitna as very good low, medium cost power, which should be constructed but not by Kaiser because Kaiser was looking for low, low cost power.

SB 246

Matanuska Electric Association, Inc.

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Sincerely,

Lorali M. Carter
Manager of Government & Corporate Communications

cc: Senator Joe Thomas, Sponsor, SB 246

Enclosure: MEA Press Release on Railbelt Energy Fund Dedication

SB 344
testimony

[redacted]

New Bill

"An Act requesting the Army Corps of Engineer to conduct a restudy of the Susitna Hydroelectric Power Project Finances; and providing for an effective date."

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2. The Army Corps of Engineers is appropriated $200,000 from the Railbelt Energy Fund to publish the Army Corps of Engineers' restudy of the Susitna Hydroelectric Project to FERC standards and resubmit the Susitna Hydroelectric project's EIS to FERC for FERC's reapproval.

Jerry McCutcheon susitnahydronow@yahoo.com

The testimony of Jerry McCutcheon

I cannot stress enough the need for legislature to get the Susitna Hydroelectric Project back into hands of the Army Corps of Engineers and on to FERC while President Bush is still in office. Not to cut corners but simply to expedite the process. I say that as life long democrat. Back into the Corps hands total independently and without the entanglement of the incompetent State of Alaska Energy Agencies and their political hangeroners.

Senator Thomas in his introductory statements stated that the power consumption of the Railbelt was now about 600 MW and would grow by 40% in the next 10 years or to ~~840 MW~~ by 2018. 600 MW maybe 700 MW is about all the power that both Susitna's dams, Watana and Devil Canyon could produce on a firm basis and that is with both dams fully functional and their reservoirs full. If the 1000 Watana Dam were constructed starting today and were completed in 10 years, Watana's firm power would most likely not exceed 300 MW, because the Devil Canyon Dam would be missing, assuming Watana reservoir was instantaneously full on completion, Watana's peeking power would still be 1000 MW.

The 600 MW of firm power would have await the completion of the Devil Canyon Dam and its reservoir to fill. Watana's interim 300 MW would only represent 1/3 of Sen. Thomas' projected demand again assuming Watana's reservoir was instantaneously full. Watana even if was handled expeditiously, optimistically, it would be another 15 years, 2023, to completion before it would be able to provide 300 MW of firm power while the power demand would then be over 1000 MW.

The full 600 MW of firm power would have to wait another 10 years, or 2033, until the completion of the Devil Canyon Dam and filling of its reservoir to reach the full capacity of 600 MW of firm power. With another 40% growth in the period from 2018 to 2028 and another 20 % from 2028 to 2033, the time Devil Canyon Dam would be completed, the projected Railbelt power demand would be 1100 MW to 1200 MW.

As you can see the Railbelt will be short of power when the Watana Dam is completed and still short of power still short of power when the Devil Canyon Dam is completed.

Looking at Susitna realistically, if the Army Corps of Engineers were the undertake restudy of Susitna finances this summer on an expedited basis and FERC were handle the resubmission of Susitna finances and EIS on expedited basis optimistically it would probably be at least 15 years before Watana could be line with 300 MW of firm power. By which time the power demand of the Railbelt would be over 1000 MW and Watana would represent only a 30% of the power demand. Remember, Watana would be able to provide 1000 MW of peeking power but not for very long.

The above power projections do not include providing power for TAPS, the oil line, a gasline nor any mines and other large developments.

Again, I cannot stress enough to take action while President Bush is still in office not to cut corners but to put Susitna at head of the FERC line and handle Susitna on an expedited basis.

If the statements are correct that the electrical energy costs in the Fairbanks area are $176 million a year and if even at half that cost on a per capita basis were projected on Anchorage, MatSu and the Kenai then it is reasonable to assume that every day of delay of the Susitna Hydroelectric Project will cost the Railbelt a million dollars a day

SB246 Lack of integrity in Senator Thomas's Susitna handouts

Misdirection by Sen. Thomas in stating they could not 'Mandate' the Army Corps of Engineers to restudy the finances of the Susitna Hydroelectric Project, some how implies that the Corps could not be asked. The last time I talked to the Corps they would be love to have Susitna back and were disappointed when Susitna was politically taken from the Corps and Susitna's economics were so misconstrued so as to result in the shelving of Susitna.

Asserting that you cannot ask because you cannot Mandate is like saying a man cannot ask woman to marry him because he cannot mandate her to marry him. That gentlemen is absurd!

Addressing Sen. Thomas' Hand outs. Starting with the Section analysis of SB 246
Last paragraph of the first page , last sentence .

Simply not true, nothing could be could be further from the truth. That was the purpose of the $158 million EIS , which occupies more than 60 feet of shelf space in just the ARLIS library and that FERC had accepted the EIS and for which design was underway.

Hand out Map:
Sen. Thomas left out the Chulitna River which is as large as the Susitna. Of the water comes out of the Susitna's mouth at Cook Inlet, only 19% would be impounded by the Susitna dams. No fish spawn within 14 miles of the lower dam, Devil Canyon, and only 1% of the fish that spawn in the Susitna and its tributaries would be affected by the rise and fall of Susitna River as a result of the functioning of the Susitna Hydroelectric Project..

Hand out Bar Graph:

Over states the Chakachamna's installed capacity by 100 MW and fails to note that Chakachamna is on the Castle Mountain Fault. The graph understates Susitna installed capacity by 450 MW. Sen. Thomas' graph total misrepresents the power capacity of the

Yukon River, which if developed would one largest in the world. Rampart Dam would have produced power at $0.003 / KW.

Sen. Thomas' bar graph lists the Copper River as not having power potential, the Wood River Canyon alone is larger than Susitna.

Hand out Information on the potential of a Susitna Hydroelectric Project

Third Bullet : to that I'll add ' low interest rates are the mother milk of hydroelectric projects'. Had Susitna been constructed when Susitna was shelved and refinanced when interest rate where low the Railbelt would now be enjoying power at $0.03 / KW.

Sixth Bullet The life would be more than 500 years. The wooden dam at Port Nelly Juan was constructed in 1913 or before and the log dam on Nugget Creek must have been constructed around 1900 Both are sound except for the wood, which is alternately wet and dry, which has deteriorated but the wood that has been wet is harder the new .

Eight Bullet is misleading, If you under build you generally cannot rebuild except at considerable expense to remove what has been constructed which may exceed the original cost of construction. The Corps had to examine smaller sizing as an alternative under the EIS. The best alternative was to construct ½ height Watana Dam and then construct the full Devil Canyon Dam. After the completion of the Devil Canyon Dam the Watana was constructed to its full height. That added $0.5 billion to the cost of the Watana Dam. However, now, because of the improvements earth moving equipment any undersized development, the additional cost would probably exceed a billion dollars. Not smart when all of Susitna power will be needed well before any portion of Susitna is completed.

For example: The Watana Dam is 92 million cubic yards of rock and gravel. A big truck back then was 20 tons now they are 440 tons, or 22 times the size, that is 9 railroad cars and there are loaders that load the 440 ton trucks in 3 scoops. That is why some engineers say it would not cost any more to construct Watana Dam today, if as much, as it did back then.

Second, the source rock and gravel for the Watana Dam is from the Susitna River bottom hill sides, which would be under water with a ½ Watana thus another source of rock would have to be found. And where would that be without leaving an ugly scar?

Third, if one only constructed ½ Watana then those 440 ton trucks, loaders and other equipment would have to dismantled, sold and ship back S48. Then to finish the Watana, all of equipment would have to be repurchased, reshipped and reassembled. Basically, under constructing is very dumb thing to do. Under sizing, dumb idea!

However, one cam make provisions for additional turbines in the power houses, which are inside the mountains, for peeking power but remember you do not obtain more total power over the year. For example I suggest that an additional two turbines be added to both power houses of Susitna bring the total installed capacity from 1600 MW to 2400 MW for additional peeking power, again the additional turbines do not add to the total

power. As the Railbelt grows, the peeking power needs will also grow and peeking power is best handled by hydroelectric. Hydroelectric also works well backstopping wind, tidal and other intermittent sources of power.

Tenth Bullet: Sen. Thomas states power "600 WM" of "firm" power would be adequate for the Railbelt. Well, 600 MW maybe 700 MW is about all of the firm power one could expect out of Susitna and it could be down to 500 MW in the worst case, lack of precipitation.

Hand out Title Two of Alaska's current Hydroelectric Projects

Bradley Lake is not 25 miles North of Homer as Sen. Thomas describes but East of Homer up Kachemak Bay on the other side of the Bay.

Again the legislature is confronted with disinformation and misleading information. Note how Sen. Thomas states "below early cost estimates" not final cost estimates before construction. The final cost estimates were well over $400 million. Here Sen. Thomas is trying to get around the fact that not only was Bradley Lake saddled with additional 25% but also was Susitna. Susitna costs were calculated with 10% interest rate and the extra 25% was added on top of that. Interest rates are mothers milk of hydro.

Second, Sen. Thomas states the installed capacity of Bradley Lake is 126 MW, whether it is 126 or 128 MW is not material, but what is material is the fact Sen. Thomas left out the fact the Bradley Lake cannot produce more than 90 MW because of faulty engineering without encountering sever vibrational problems with the water intake. Thus Bradley Lake's already installed power capacity could produce 42% more peeking power had the water intake been constructed correctly or had been corrected but the correction would be an admission of engineering failure along with the deliberate cost over estimations. So much for Alaska's incompetent State agencies to whom some want to now refer Susitna.

Fire Island: Some want to back stop the Fire Island windmills with Bradley Lake, but Bradley because it does not have its full peeking potential, short 42%, cannot back up Fire Island wind sites if the wind sites were to be developed to their full potential. Thus they want under size the windmills they install on Fire Island. To cover up for failure correctly engineer Bradley's water intake. Dumb! Once the windmills are installed, it is extremely expensive to reinstall new windmills of larger capacity. It will be more expensive than if no windmills had been installed at all.

Bradley Lake should be taken from the Alaska Energy Authority, or who ever has control of Bradley Lake for the State and given to the Corps for redesign and reconstruction of the water intake so Bradley can reach its is full potential, 42% more power for peeking power production.

Hand out Fairbanks Energy Strategic Business Plan

At the bottom of the page is the following

The best time to plant a tree was 20 years ago. The second best time is today. Chinese Proverb-

I agree the best time to have constructed Susitna as it was planned 24 year ago and had Susitna been refinanced when interest rates were low the Railbelt would be enjoying power at $0.03 / KW; the second best time to construct Susitna is now without unnecessary political delay, obstruction and State entanglements.

Hand out Page tiled Hydroelectric subsection of the Energy Task Force.

Paragraph one ---
Consider the installation of a 600 megawatt Susitna Hydroelectric project. To supply the electrical needs of the Railbelt. ... reliable "firm" delivery of the Susitna energy.

Well, again 600 MW maybe 700 MW is all you are going obtain from a full scale Susitna and that is 25 years from now when the Railbelt power demand will probably be 1200 MW . Sen. Thomas seems to want confuse installed capacity with firm energy so he can have an excuse to consider down sizing Susitna to put Susitna in the hands of political hangeroners which will result in consulting contracts from which flow campaign contributions.

25 years or so ago I was in Juneau during the hay day of Southeastern hydro. I went the Forest Service Office to look their reconnaissance hand book to look up a project of my own interest. And Forest Service supervisor stated the legislative hydro consultants were using the reconnaissance book and spend 4 hours embellishing the Forest Service work and charging $200,000 to $250,000 for their efforts. That would be like $400,000 to $500,000 for an afternoons work. I see the same thing happening again .

SB246 Lack of integrity in Senator Thomas's Susitna handouts

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file SB 246

Karen Sawyer

Subject: FW: Testimony for today-SB246
Importance: High

From: Karen Sawyer
Sent: Wednesday, February 13, 2008 1:39 PM
To: Sharon Long
Subject: Testimony for today-SB246
Importance: High

Jean Woods, a constituent called to say she had planned to testify from the LIO, but now cannot make it.

WOODS, JEAN H
PO BOX 827
PALMER AK 99645-0827
District: 16-175

Here is what she wanted to say:

The Mat-Su Borough's population is currently at 80,056. Neil Fried predicted that the population of the Borough would increase by 44% by the year 2020, which would bring it to approximately 115,000 people.

Although we may not need the full capacity of the Susitna power plant now, there will be a much greater demand for electricity and natural gas very soon (in the next 12 years). The project will benefit one-half the population of the State. Please support this project.

Karen Sawyer, Staff
Office of Senator Charlie Huggins
~~~~~~~~
907-465-3878 Main
907-465-3265 Fax
State Capitol, Room 119
Juneau AK 99801
~~~~~~~~

Sharon Long

From: Grier Hopkins
Sent: Tuesday, February 12, 2008 2:46 PM
To: Sharon Long
Subject: Testifying list

People to Testify in order: SB 246 Susitna Hydro

Sara Fisher-Goad- *Acting Executive Director of AEA*

James Hemsath – Deputy Director of Development at AEA

Eric Marchegiani – speaking as a citizen

Steve Haagenson – Citizen

John Davies – Citizen

Eric Yould - Citizen

Grier Hopkins
Office of Sen. Joe Thomas
Office: (907) 465-2327
Fax (907) 465-5241
Cell (907) 347-2101

Before Senate Resources Committee, Senator Huggins, Chair

Testimony of John Davies, February 13, 2008

1998 Kittiwake Drive, Fairbanks, AK 99709

john@cchrc.org or jdavies@alaska.net

(H) 907-474-4927, (W) 907-457-3454, (C) 907-388-0193

RE: Senate Bill No. 246, "An Act Establishing a working group to analyze the potential of a hydroelectric power project on the Susitna River; and providing for an effective date."

Good afternoon. My name is John Davies (above address). I am currently employed as the Research Director at the Cold Climate Housing Research Center (CCHRC). I also volunteer on the Cost of Energy Task Force under the Interior Issues Council, and on the Golden Valley Electric Association's (GVEA) Green Power Advisory Committee (GPAC). My testimony is my own and does not necessarily represent the position of any of the above entities.

However, I would note that it is part of the mission of CCHRC to seek sustainable shelter which includes consideration of energy sources. The Cost of Energy Task Force has recommended a 600 MW hydroelectric power plant on the Susitna River as part of its Fairbanks Energy Plan (available on the Fairbanks Economic Development Corporation's (FEDC) website www.investfairbanks.com). And GVEA has adopted a Green Power Pledge to obtain 20% of its power from green energy sources by 2014. It plans to meet this goal by a combination of demand-side conservation measures, small-scale renewable energy (SNAP) producers, and hydroelectric and wind power projects.

I support this bill for the following reasons:

(1) I concur with the bill's findings that we will need to replace or upgrade a significant number of the existing power plants of the Railbelt Utilities in the next decade or so, in addition to adding capacity to meet new demand.
(2) I think that hydroelectric power, while it has its impacts, is one of the best options available to us in both economic and environmental terms. We should start with a statewide program to reduce demand by improving the efficiency with which we use electric (and other forms of) energy, but we will still have to add significant new and replacement capacity.
(3) The sooner we transition to renewable sources of energy the better. It will be less expensive, less polluting, more secure, and will create local jobs.

(4) It is my understanding that this project and the associated transmission lines could be financed without large outlays of state cash; although some state contribution would be welcome.
(5) A related advantage to adding more hydropower and a more redundant and robust transmission line system is that it could improve our ability to add wind power to the system.

Thank you for this opportunity to testify on SB 246. I would be happy to try to field any questions you may have of me.

FAIRBANKS
Economic Development
CORPORATION

301 Cushman St., Suite 301, Fairbanks, AK 9970

February 11, 2008

Senator Joe Thomas
Alaska State Legislature
State Capitol
Juneau, Alaska 99801

Alaska is facing a growing and unanswered energy crisis. Within the next 10 years Alaska's Railbelt communities well need to replace 100% of their current power generation. In Rural Alaska the energy crisis is threatening to close communities that have existed hundreds of years.

Finding affordable, sustainable and environmentally friendly energy solutions for Alaska is the right investment in Alaska's future. Moving beyond an economy dependent on Federal spending and the price of oil will require leadership from both the State of Alaska Legislature and our Governor. We must make investments in Alaska that will contribute to our more self –dependent economic future.

We urge the Alaska State Legislature and the Governor of the State of Alaska to support Senate Bill 246 and create a task force to analyze the potential

Sincerely,

Jim Dodson
President & CEO
Fairbanks Economic Development Corporation

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