

ALASKA STATE LEGISLATURE

SESSION

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SENATOR BERT K. STEDMAN

SPONSOR STATEMENT

SB 132 SOUTHEAST ENERGY FUND

SB 132 provides a funding mechanism for construction of power generation projects in Southeast and for completion of the regional electrical grid. The state's goal should be to provide low-cost, renewable energy to all Alaskans and natural gas doesn't satisfy the energy needs of every region of the state. The communities in Southeast have a long history of working towards the long-term goal of energy independence by collaborating on power generation and transmission. However, most communities in the region are not on hydro power and the majority still burn oil to generate electricity and heat. In addition, many of the hydroelectric assets in Southeast are at or near capacity which severely limits regional economic growth opportunities.

While hydroelectric projects provide low-cost, renewable power over the long-term, they are extremely capital intensive. The state has a critical role to play in capitalizing these projects on the front end. The cost to complete the Southeast Alaska electric grid could be as high as \$1.5 billion.

SB 132 broadens the authority of the existing Southeast energy fund to provide a mechanism for distributing capital funds to expand regional power generation and ultimately complete an electrical grid that interconnects Southeast communities.

DISTRICT A

Ketchikan • Sitka • Petersburg • Wrangell
Pelican • Elfin Cove • Port Alexander • Saxman • Meyers Chuck • Thorne Bay • Coffman Cove • Hollis

The list of critical hydroelectric projects that may be funded through the Southeast Energy Fund include:

- Ketchikan-Whitman Lake Hydroelectric Project
- Petersburg-Ruth Lake Hydroelectric Project
- Sitka-Takatz Lake Hydroelectric Project
- Metlakatla Intertie to Ketchikan
- Sitka-Blue Lake Hydroelectric Project
- Prince of Wales Island Intertie
- Reynolds Creek Hydroelectric Project
- Falls Creek Hydroelectric Project
- Kake-Petersburg Intertie
- Metlakatla-Triangle Lake Hydroelectric Project

The communities in Southeast have spent years evaluating renewable energy options in the region. These projects have been vetted through a public process and most of them were specifically authorized by Congress as part of the 2001 Southeast Intertie Plan in P.L. 106-511.

SENATE BILL NO. 132

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-SIXTH LEGISLATURE - FIRST SESSION

BY SENATORS STEDMAN, Elton

Introduced: 2/27/09

Referred: Senate Special Committee on Energy, Resources, Finance

A BILL

FOR AN ACT ENTITLED

1 **"An Act relating to the Southeast energy fund."**

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

3 *** Section 1.** AS 42.45.040 is repealed and reenacted to read:

4 **Sec. 42.45.040. Southeast energy fund.** (a) The Southeast energy fund is
5 established as a separate fund. The fund consists of money appropriated to the fund by
6 the legislature, including

7 (1) money transferred to it under former AS 42.45.050;

8 (2) gifts, bequests, contributions from other sources, and federal
9 money; and

10 (3) interest earned on the fund balance.

11 (b) The fund is not a dedicated fund.

12 (c) The authority may make grants from the Southeast energy fund for power
13 projects, repayment of loans, and payments on bonds

14 (1) for hydroelectric projects serving Southeast Alaska; or

15 (2) for other projects or programs designated by the legislature, to

1 assist in meeting the energy needs of Southeast Alaska.

2 (d) An appropriation from the fund for a project described in (c) of this section
3 lapses back into the fund if substantial, ongoing work on the project has not begun
4 within five years after the effective date of the appropriation.

FISCAL NOTE

STATE OF ALASKA
2009 LEGISLATIVE SESSION

Fiscal Note Number: _____

Bill Version: _____

SB 132

() Publish Date: _____

Identifier (file name): SB132-CED-AEA-03-12-09

Dept. Affected: **DCCED**

Title **Southeast Energy Fund**

RDU **Alaska Energy Authority**

Component **Rural Energy Operations**

Sponsor **Senator Stedman**

Requester **Senate Special Committee on Energy**

Component Number **2600**

Expenditures/Revenues

(Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

	Appropriation Required	Information					
OPERATING EXPENDITURES	FY 2010	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
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							
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CHANGE IN REVENUES ()							
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FUND SOURCE

(Thousands of Dollars)

1002 Federal Receipts							
1003 GF Match							
1004 GF							
1005 GF/Program Receipts							
1037 GF/Mental Health							
Other Interagency Receipts							
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2009) cost: _____

POSITIONS

Full-time							
Part-time							
Temporary							

ANALYSIS: (Attach a separate page if necessary)

Senate Bill 132 proposes to broaden the authority of the existing Southeast Energy Fund managed by the Alaska Energy Authority. From this fund AEA could award grants for hydroelectric projects serving Southeast Alaska or "for other projects or programs designated by the legislature, to assist in meeting the energy needs of Southeast Alaska."

AEA does not foresee additional operating expenses from this bill as is. Depending on the capitalization of this fund AEA would need to draft regulations and develop a process to administer grants including an allocation method for the various types of eligible projects which would bring additional expenses.

Prepared by: Linda MacMillan, AEA and AIDEA Finance - Project Accountant

Division: Alaska Energy Authority

Approved by: Emil Notti, Commissioner

Department of Commerce, Community and Economic Development

Phone 771-3029

Date/Time 3/12/09- 4:00pm

Date 3/12/2009

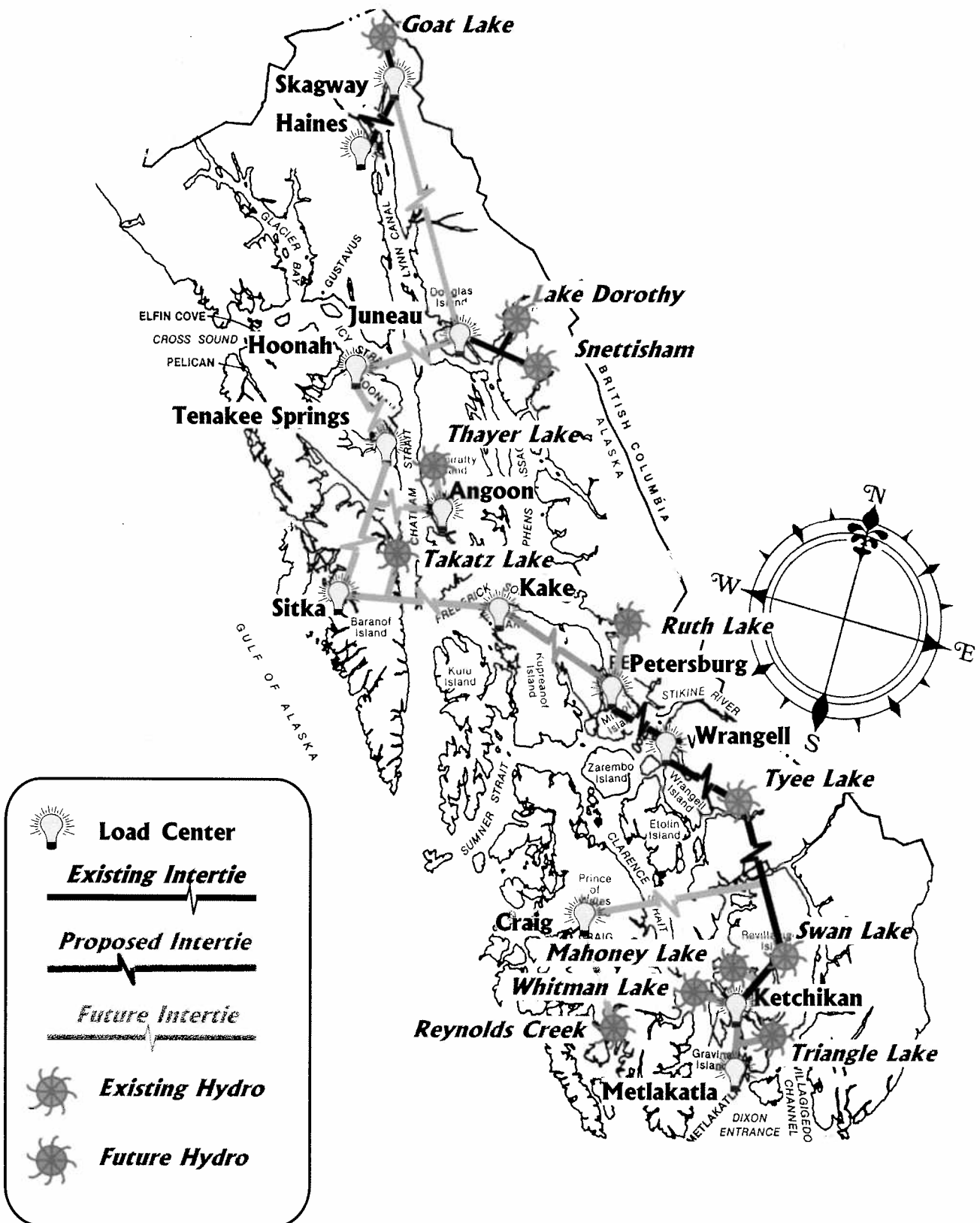
Why the Southeast Intertie?

- ▶ Immediate purpose is to provide lower cost hydroelectric generation to communities supplied with diesel-generated electricity.
- ▶ An integrated grid system can allow for the development of resources on a regional basis.
- ▶ As surplus energy is developed and rates lowered, economic development ventures will emerge.
- ▶ The Intertie system will be an enabler of other renewable resource development.

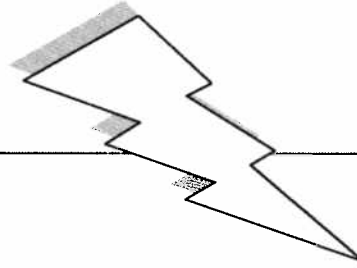
Southeast's Hydros = "Bullet Line"

Hydroelectric Site	Location	Planned Capacity	Community/Utility
Anita-Kunk Lakes	Wrangell	8.0 MW	Wrangell
Cascade Creek	Thomas Bay	80.0 MW	Cascade Creek, LLC
Connelly Lake	Haines Borough	10.0 MW	Alaska Power and Telephone
Connell Lake	Ketchikan	2.0 MW	Ketchikan Public Utilities
Elephant Falls	Hoonah	.6 MW	
Gartina Creek	Hoonah	.6 MW	
Kasidaya Creek*	Skagway	2.0 MW	Alaska Power and Telephone
Katlan River	Sitka	7.0 MW	
Lake 3160	Lace River	4.0 MW	Alaska Power and Telephone
Lake Dorothy*	Juneau	15.0 MW	Alaska Electric Light and Power
Lake Dorothy	Juneau	32.0 MW	Alaska Electric Light and Power
Mahoney Lake	Ketchikan	9.6 MW	Ketchikan Public Utilities
Neck Lake	Whale Pass	.3 MW	Alaska Power and Telephone
Reynolds Creek*	Prince of Wales Island	5.0 MW	Halda Corp.
Ruth Lake	Thomas Bay	20.0 MW	Multiple pending FERC applications
Scenery Creek	Thomas Bay	40.0 MW	Pending FERC application
Soule River	Hyder	42.0 MW	Alaska Power and Telephone
Sunrise Lake	Wrangell	4.0 MW	
Takatz Lake	Sitka	28.0 MW	City and Borough of Sitka
Thayer Creek	Angeon	1.0 MW	Kootznouwo, Inc.
Thoms Lake	Wrangell	7.5 MW	
Triangle Lake	Metlakatla	4.0 MW	Metlakatla Power and Light
Tyee Lake expansion	Wrangell	11.5 MW	Southeast Alaska Power Agency
Water Supply Creek	Hoonah	.6 MW	
Whitman Lake	Ketchikan	4.6 MW	Ketchikan Public Utilities
TOTAL		339+ MW	

SOUTHEAST ALASKA ELECTRICAL INTERTIE



Southeast Conference Energy Program



Legislative Report – January 2009



Southeast Conference

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Mike Korsmo: SEC Board President
Shelly Wright: SEC Executive Director
J.C. Conley: SEC Energy Committee Chair
Robert Venables: SEC Energy Coordinator

Executive Summary

MISSION STATEMENT

The mission of Southeast Conference is to undertake and support activities that promote strong economies, healthy communities, and a quality environment in Southeast Alaska.

Southeast Conference is a private membership organization that works to advance the collective interests of the people, communities, and businesses of Southeast Alaska. It is the Alaska Regional Development Organization (ARDOR), Federal Economic Development District (EDD), and USDA Resource Conservation and Development (RC&D) Council for the region.

ENERGY COMMITTEE MISSION

Our vision for Southeast Alaska is to reduce, to the maximum extent possible, the use of diesel as a primary fuel source for the generation of electricity.

This will be accomplished through the utilization of the regions plentiful hydroelectric potential and the development of an interconnected transmission system to share these resources throughout the region.

ACCOMPLISHMENTS:

The Southeast Conference, working with its member communities and utilities, has been successful in developing regional plans and obtaining state and federal funds for many energy projects in the region. Our energy committee represents communities, organizations and utilities throughout the region. This is a 'working committee' dedicated to working together to solve the region's energy problems.

Plans and Organizational Work

- Completed an engineering/economic analysis of the entire Southeast Alaska Intertie Project (**ACRES REPORT, 1998 AND D. HITTLE & ASSOCIATES, 2003 & 2005**).
- Secured U.S. Congressional Authorization for SE Electrical Intertie System Plan (PL 106-511).
- Took a lead role in the formation of Kwaan Electric Transmission Intertie Cooperative (KWETICO), potential owner/operator of portions of the SE Intertie.
- Worked with AEA to develop the Southeast Alaska Energy Export Study (2007).
- Kake-Petersburg Transmission Intertie Study Update (due March 2009).

Current Utility Projects Underway

- Kasidaya Hydro Project near Haines/Skagway (Project operational, 2008).
- Juneau to Hoonah Intertie Segment (Project partially completed to Greens Creek).
- Swan-Tyee Intertie Segment (Project on schedule for completion October 2009).
- Kake-Petersburg Intertie Segment (Planning Study/Economic Analysis, update in progress, joint design/permitting project with AKDOT&PF and AEA).
- Reynolds Creek, Haida Corp. (partially funded, ready to construct this year).
- Prince of Wales Intertie (partially funded, ready to construct).
- Elfin Cove Utility Commission (in final design for hydroelectric facility).
- Gustavus Falls Creek Hydro (operational 2009, final phase ready to construct).

Southeast Conference Energy Program FY10

FUNDING OVERVIEW

To maintain its Energy program, Southeast Conference (SEC) is working to locate short-term funding and to identify long-term (and sustained) sources of income. The immediate goal is to secure funding for two years to maximize the effectiveness of the energy program and assist communities in their ongoing efforts to reduce energy costs and increase efficiencies.

PROGRAM GOALS

- Reduce dependence on fossil fuels. This is critical in light of the recent volatility in oil prices.
- Bring affordable hydro power to communities where this is technically and economically feasible.
- Develop a regional electrical grid interconnecting Southeast communities and utilities with hydroelectric generation.
- Work with member communities and utilities to develop adequate energy infrastructure including alternative energy sources to meet current and future needs.
- Lower costs to rate payers and communities and increase economic development opportunities.

PRIORITIES / TASKS

- Secure funding for permitting and design for Kake-Petersburg Intertie (\$4.3 million).
- Work with IPEC and rural communities on solutions for their energy needs.
- Support Haida Corporation's efforts to advance the Reynolds Creek Hydro to completion.
- Begin working with federal and state funding agencies to construct the Kake-Petersburg Intertie.
- Facilitate efforts in Southeast to develop a regional Intertie and projects that increase hydro capacity.
- Work with member communities and utilities in their efforts to secure permits and funding for hydro and other alternative energy project development.
- Study alternative energy sources – biomass, hydrogen, wind, geo-thermal, tidal, and waste-to-energy.

Southeast Conference feels it is essential to develop and implement a regional energy plan for Southeast Alaska. We are working with the Alaska Energy Authority (AEA) and the Tlingit & Haida Energy Department to develop a regional energy plan and working with the communities to implement the opportunities that exist in their areas. Substantial and measurable progress has been made over the past couple of years, and it is important to keep the momentum of this program moving forward. The Southeast Conference Board of Directors has voted to maintain its energy coordinator position and its energy program as a core program within Southeast Conference and voted to support its staff in the pursuit of these goals. The position is currently being funded from reserves.

The following information is intended to demonstrate many areas where the State of Alaska can make an investment with significant impact and benefits to the region. These projects come from the communities and have been vetted through the public process. It is a work in progress and will be updated as more information comes to us from the communities.

Southeast Alaska Energy Projects with Estimated Funding Needs

Facilities and Infrastructure Construction Needs

- **Metlakatla Intertie to Ketchikan:** This is the southernmost leg of the SE Intertie system and is designed to transmit surplus hydroelectricity (approx. 8,500,000kW per year) to Ketchikan where the energy will be used to offset diesel generation (about 580,000 gallons). **CONSTRUCTION READY AT A PROJECT COST OF \$7,652,000.**
- **POW Island Intertie:** AP&T proposes to construct a 48 mile line extension to the communities of Coffman Cove and Naukati Bay (both use 100% diesel generated power). This project will place these communities onto the POW grid which is supplied by hydroelectric power. This intertie will reduce fossil fuel consumption by 71,082 gallons per year and reduce the electrical rate by up to 60%. **CONSTRUCTION READY, PARTIALLY FUNDED, AP&T HAS REQUESTED \$3,752,181 TO COMPLETE.**
- **Reynolds Creek Hydroelectric Power Project:** This 5 MW hydro facility is located 10 miles east of Hydaburg and is a joint venture between Haida Corporation and AP&T. The development of this resource is essential to meet the electrical needs of the POW Island as it grows and will prevent the use of supplemental diesel power. **CONSTRUCTION READY, PARTIALLY FUNDED, HAIDA POWER REQUESTING \$13,720,000 TO COMPLETE.**
- **Gustavus Electric:** The Falls Creek Hydro Electric Project is an 800 kWh run-of-river hydroelectric facility which will provide electric power to the community of Gustavus. The project will displace existing diesel generation. Construction of the project is approximately 90% complete and will provide 90% of the community's electric needs. **FUNDING REQUESTED BY GUSTAVUS FOR COMPLETION, \$750,000.**
- **Kake – Petersburg Intertie:** This is a high priority need in the region. Funding has been identified through HB 152 for final design and permitting. Detailed construction cost estimates will be available in March, but the project is estimated to cost between **\$25-34 MILLION** and could be funded in phases. The AK DOT&PF has begun field work and is an active partner in the development of this project.

Capacity Development Projects: Final Design and Permitting

Ketchikan - Whitman Lake: The proposed Whitman Lake Hydroelectric Project is located approximately four miles east of Ketchikan, Alaska. KPU proposes to install 4.6 MW of hydropower generating capacity at the existing Whitman Lake Dam to provide an additional source of clean renewable energy to the city of Ketchikan and the Borough area including Saxman Village, while also enhancing the conversion of oil heat to electric heat and displacing expensive and nonrenewable diesel generation. Phases 1 & 2 are complete. **FUNDING FOR FINAL DESIGN IS REQUESTED BY KPU AT \$1,300,000 (KPU MATCH, \$320K).**

Sitka- Blue Lake Hydroelectric Project: This project will raise the height of the dam by 83 feet and expand the plant's capacity from 8MW to 18MW of capacity. Sitka has nearly maxed out available hydro resources. Multiple funding partners are expected to participate in order to bring this facility on line by 2015. The City and Borough of Sitka **REQUESTS FINANCIAL ASSISTANCE IN FY2010 OF \$7,500,000.**

Hoonah Energy Needs: With the costs of the proposed Juneau to Hoonah intertie escalating to an estimated \$40 million, Alaska Energy Authority (AEA) commissioned a conceptual study of the hydroelectric resources in the immediate area of Hoonah along with an analysis of the power plant needs that should be addressed concurrently. The findings are as follows:

- \$4,061,317 Power Plant Replacement (2,600kW @ \$1,562/kW)
- \$4,558,500 Gartina Creek Hydroelectric Project (600kW)
- \$3,946,500 Water Supply Creek Hydroelectric Project (600kW)
- \$4,393,500 Elephant Falls Hydroelectric Project (600kW)

The development of any one of the three proposed hydro facilities would offset approx. 30% of Hoonah's projected annual demand. This would result in a savings of approx. 129,000 gallons of diesel fuel per year (saving approx. \$380,000 using an est. fuel cost of \$3.00/gallon). The development of any two of the three proposed hydroelectric facilities would offset about 50% of Hoonah's annual demand, with an approx. savings of \$640K. No formal request has yet been made, **CAPITAL NEEDS ABOVE TOTAL, \$16,959,817.** These projects will benefit the community significantly but will not meet all of Hoonah's energy needs. The Juneau to Hoonah Intertie Project is construction-ready and is still a long-term objective as part of the regional electrical grid network.

Elfin Cove Utility Commission: This hydroelectric power plant and associated infrastructure for access and connection will serve the community of Elfin Cove. Upon completion, the hydroelectric facility will include: a 1,000-foot long diversion conduit; a 1,300-foot long penstock to tidewater; and upgrades to the hydro power house. **FUNDING REQUEST BY ELFIN COVE FOR FINAL DESIGN AND FERC PERMITTING IS \$395,200.**

Community Planning Efforts: Feasibility and Assessment

Petersburg – Ruth Lake: This Project would develop the hydro potential at Ruth Lake, with a total installed capacity of the powerhouse of 20 MW. The proposed Ruth Lake Hydroelectric Project would be interconnected to the existing transmission infrastructure currently owned and operated by the FDPPA. Ruth Lake would be a major addition to the energy resources to serve communities in an interconnected Southern Southeast Alaska grid. **PHASE 1 FUNDING REQUEST FROM THE CITY OF PETERSBURG FOR PRE-FEASIBILITY IS \$160,000 AND PHASE 2 PERMITTING IS \$2 MILLION.** Petersburg is providing matching funds of \$540,000 for the two phases.

Metlakatla – Triangle Lake: This proposed 4MW hydroelectric project is located along the proposed transmission line intertie to Ketchikan. The Triangle Lake project will provide additional hydro power to Metlakatla and will offset diesel power generated in Ketchikan. **FUNDING REQUESTED BY METLAKATLA FOR FEASIBILITY ANALYSIS AND CONCEPTUAL DESIGN IS \$500,000.**

Sitka – Takatz Lake: Sitka is engaged in a long range strategy to decrease its dependence on oil by developing its renewable energy resources, particularly the known hydroelectric resources on Baranof Island. This project is the study and investigation phase of developing Sitka's hydroelectric resources to determine the feasibility of developing the estimated 28MW Takatz Lake Hydroelectric Project. **THE ESTIMATED COST OF THIS STUDY AND INVESTIGATION OF THE HYDROELECTRIC POTENTIAL OF TAKATZ LAKE IS \$2,000,000.**

This is a compilation of community projects that have gone through the public process. Most are part of the Southeast Intertie Plan authorized by Congress in 2001. More detailed information is available upon request. Other projects, such as Thayer Creek in Angoon will be added to this list as information becomes available.

Attachments to this report:

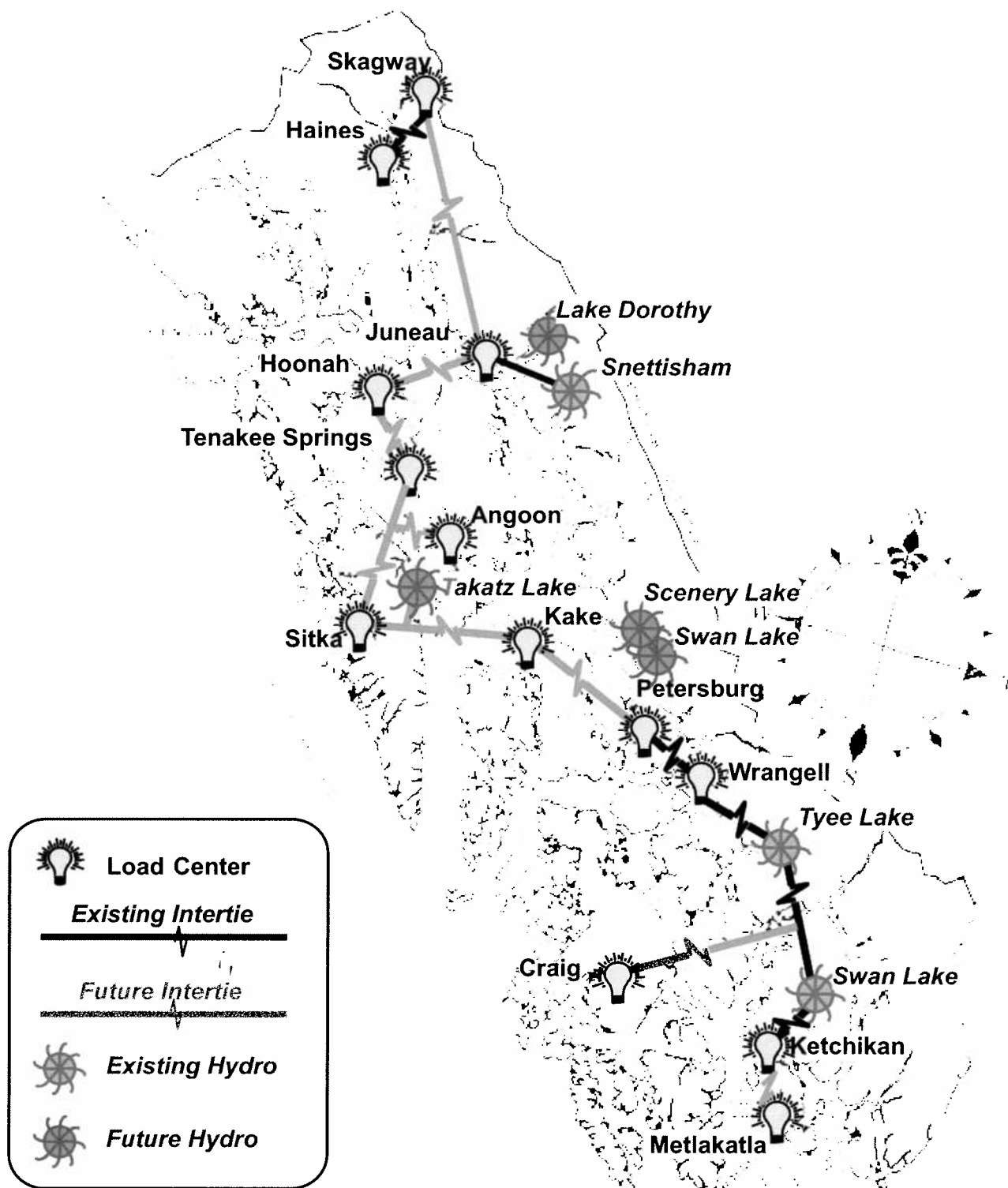
Map1_1997 Electrical Intertie System Plan

Map2_Kupreanof Island

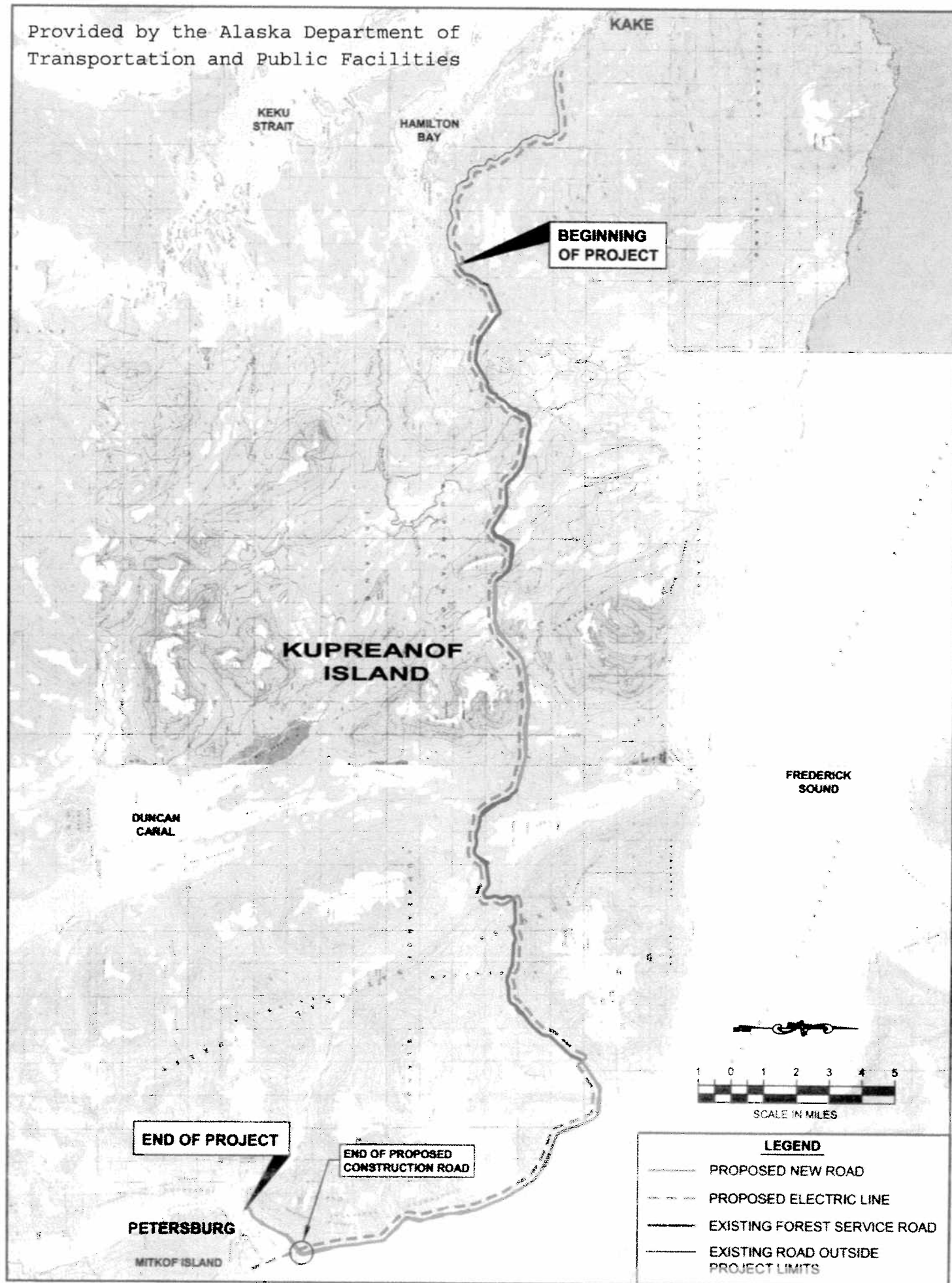
Map3_POW & Reynolds Creek

Map4_Ruth Lake Hydroelectric Project

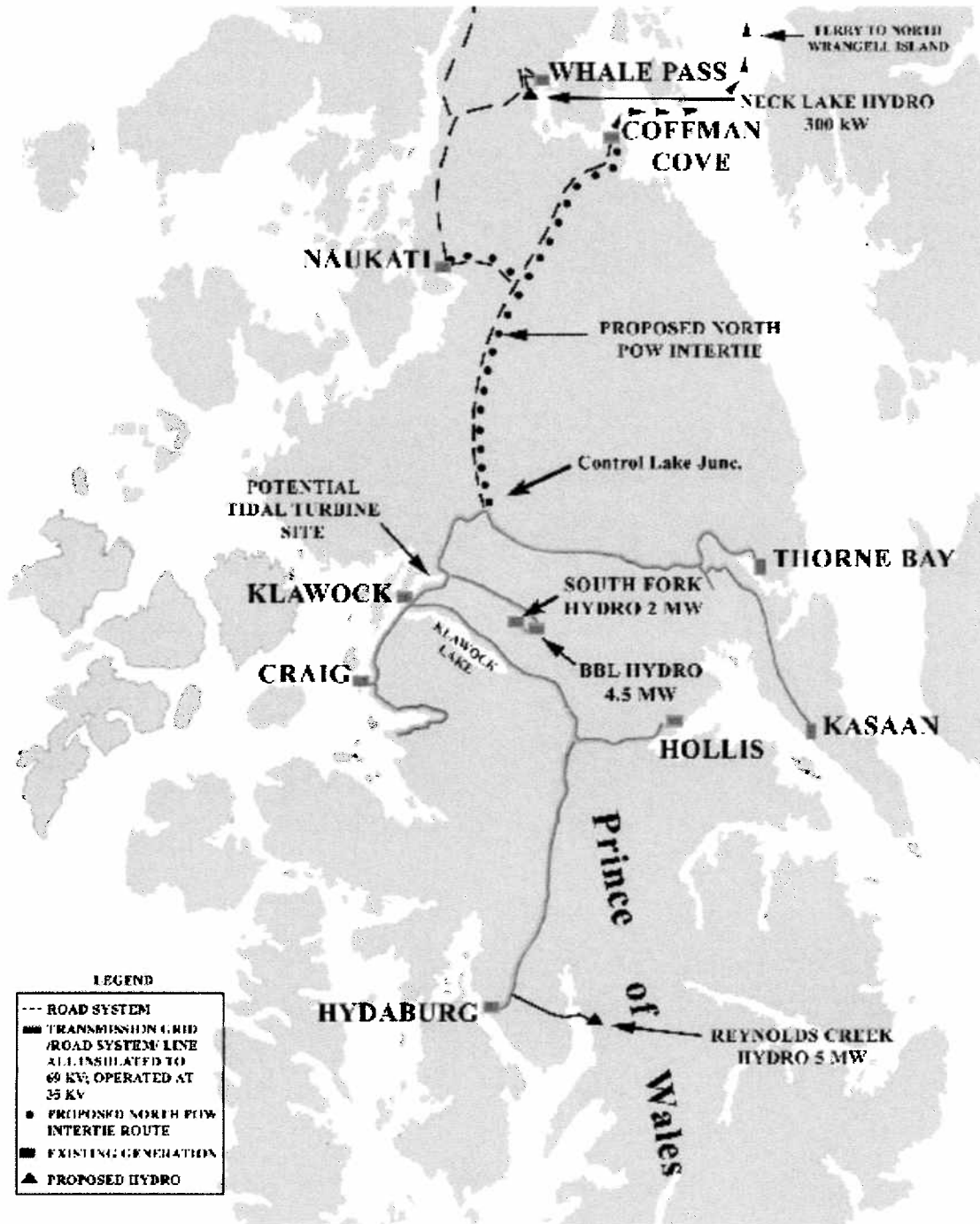
Map5_Upper Lynn Canal Regional Energy Infrastructure



Provided by the Alaska Department of
Transportation and Public Facilities



Prince of Wales Island Intertie & Reynolds Creek Electrical System



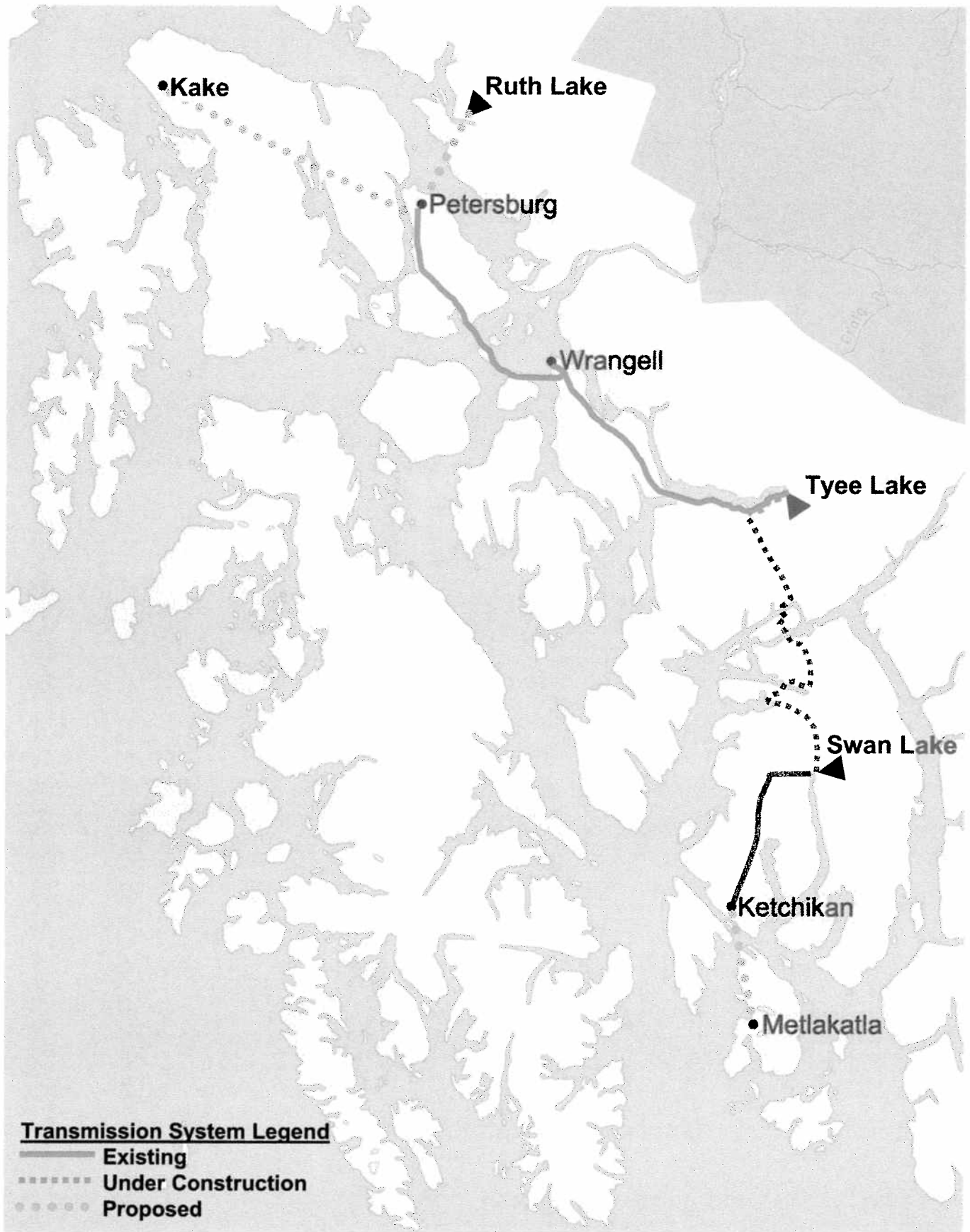


Exhibit F.2
Ruth Lake Hydroelectric Project
Southern SE Alaska Transmission System

UPPER LYNN CANAL REGIONAL ENERGY INFRASTRUCTURE

