

02/28/14
Presenta-
tion:
Alaska
Power
Associa-
tion

<TARGET><BILL></BILL><SUBJECT>02-28-14 Presentation Alaska
Power Association</SUBJECT><COMM>HENE28</COMM></TARGET>

**Alaska Legislature
House Special Committee on Energy**



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Agenda

**Friday, February 28, 2014
8:00 – 10:00 a.m.
Barnes Committee Room (124)**

1. APA, Crystal Enkvist, Director of Member & Public Relations
APA background
2. Review of APA Resolutions, focusing on rural energy issues, Clay Koplín, CEO, Cordova Electric Cooperative
Renewable Energy Grant Fund
Emerging Energy Technology Fund
Power Cost Equalization
Denali Commission Funding of Energy Infrastructure
3. Review of APA Resolutions focusing on Railbelt energy issues, Joe Griffith, General Manager, Matanuska Electric Association

- * First hearing in first committee of referral
- + Teleconferenced
- = Bill previously heard/scheduled

###

Alaska Power Association 2014 Legislative Priorities



Presented to the House Special Committee
on Energy by:

Clay Koplín, Cordova Electric Cooperative,
Joe Griffith, Matanuska Electric Association,
and Crystal Enkvist, Alaska Power Association

What Will Be Covered



- Alaska Power Association background
- Development of APA's legislative priorities
- Legislative Priorities
- Questions

Alaska Power Association

- Trade association for electric utility industry
- Electric cooperatives, municipals, joint action agencies and investor-owned utilities
- Statewide membership



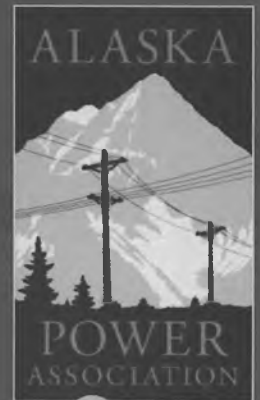
APA members provide power to
a majority of Alaskans



Development of Legislative Priorities



- Diverse electric utility membership comes together to speak with one voice
- Positions reflect the challenges and opportunities of providing safe, reliable and affordable electric power
- Statewide issues as well as rural- and Railbelt-focused issues



Resolutions Process

- Issues brought forward by APA members
- Resolutions and Government Affairs Steering Committee
 - Chair: Rick Schikora, Golden Valley Electric Association
- APA Managers' Forum
 - Co-Chairs: Clay Koplun, Cordova Electric, and Brad Evans, Chugach Electric
- Review by APA Board of Directors
 - President: Ben Frantz, Barrow Utilities & Electric

APA State Legislative Resolutions

- A Resolution Urging the Creation of an Urgent Implementation Plan for Alaska Energy Policy
- A Resolution Urging Capital Funding in Support of Alaska Energy Policy
- A Resolution Supporting Full Funding for Power Cost Equalization
- A Resolution Addressing Unaffordable Energy in Rural Alaska
- A Resolution Urging Continued Funding of the Emerging Energy Technology Fund
- A Resolution Urging the State of Alaska to Provide a Match to Denali Commission Funding of Energy Infrastructure
- A Resolution Supporting Construction of an Alaska Natural Gas Pipeline
- A Resolution Supporting Funding for Projects Recommended by the Alaska Energy Authority for the Renewable Energy Grant Fund
- A Resolution Urging the Legislature to Support Utility Efforts to Create a Unified Transmission System for the Railbelt
- A Resolution Urging the Legislature to Use the Bradley Lake Model for Financing Additional State-owned Hydroelectric Projects
- A Resolution Urging the Legislature to Support Legislation to Address Metals Theft

APA State Legislative Resolutions



Presented by

Clay Koplín, Cordova Electric Cooperative
Joe Griffith, Matanuska Electric Association

Renewable Energy Grant Fund

A Resolution Supporting Funding for Projects Recommended by the Alaska Energy Authority for the Renewable Energy Grant Fund

- Provide appropriation sufficient to cover the projects and funding levels recommended by AEA
- Renewable energy projects benefit Alaskans in many ways
- Projects recommended for funding help advance Alaska's goal of producing 50 percent of the state's power with renewable energy by 2025

Emerging Energy Technology Fund

A Resolution Urging Continued Funding of the Emerging Energy Technology Fund

- Continue funding the EETF
- Alternative Energy Source
 - Research
 - Development
 - Application



Full Funding for PCE

A Resolution Supporting Full Funding for Power Cost Equalization

- Residential rates in rural Alaska range from .018/kWh to \$1.30/kWh
- High energy costs are crippling rural Alaska
- Fully fund Power Cost Equalization in the Administration's FY15 operating budget.



State Funding Match for Denali Commission

*A Resolution Urging the State of Alaska to Provide a Match to
Denali Commission Funding of Energy Infrastructure*

- Established in 1998 to establish code-compliant energy facilities in rural Alaska
- Intended to be joint State-Federal partnership
- Provide 200 percent matching State funds
- Safe, code-compliant electric generation and bulk fuel tank farm facilities for rural Alaska



Implementation Plan for Alaska Energy Policy

*A Resolution Urging the Creation of an Urgent Implementation Plan
for Alaska Energy Policy*

- Create an energy policy implementation plan
- Provide support and funding sources to short-, mid-, and long-term generation and transmission facilities
- Fund fuel development and storage infrastructure projects

Capital Funding for Energy Projects

A Resolution Urging Capital Funding in Support of Alaska Energy Policy

- Direct appropriations toward major energy projects
- Capitalize the Power Project Loan Fund
- Implement the State-funded and administered revolving loan fund (AIDEA Sustainable Energy Program) for financing infrastructure



Construction of Natural Gas Pipeline

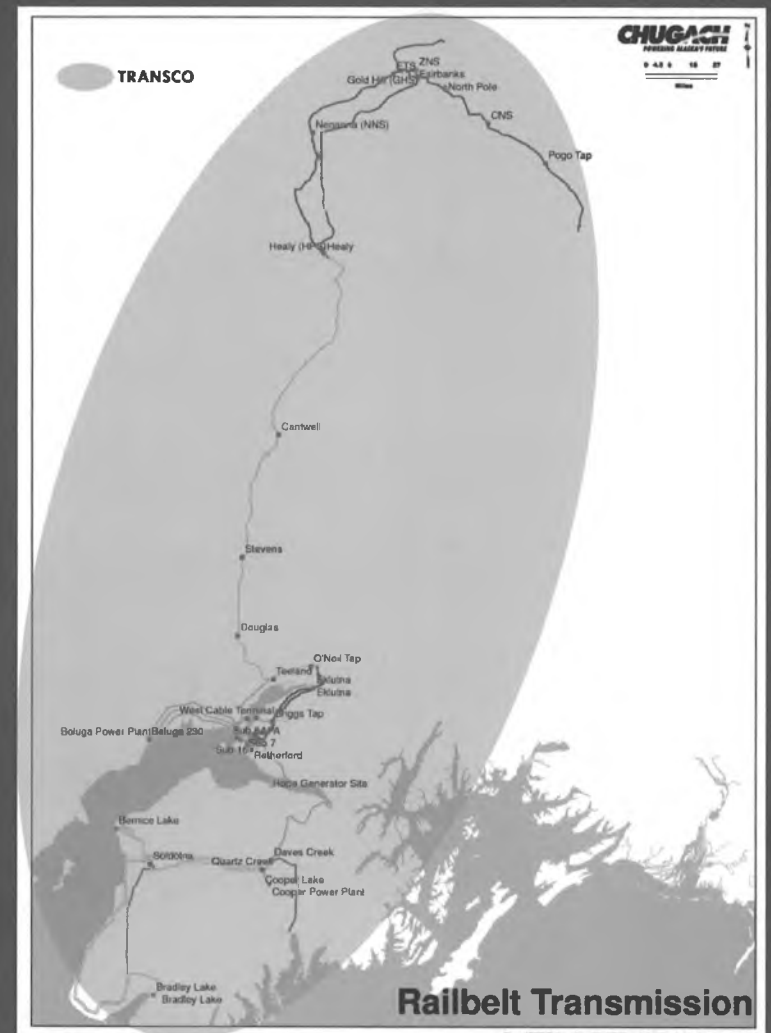
A Resolution Supporting Construction of an Alaska Natural Gas Pipeline

- Natural gas accounts for just over one-half of Alaska's electricity generation
- Facilitate the prudent development of an Alaska Natural Gas pipeline that will bring North Slope natural gas to market immediately
- Encourage the use of Alaska royalty natural gas in communities along the pipeline route

Unified Transmission System for the Railbelt

A Resolution Urging the Legislature to Support Utility Efforts to Create a Unified Transmission System for the Railbelt

- Support efforts by the Railbelt electric utilities to unify the regional transmission system
- Alaska's Raibelt "grid" not robust. Utilities studying successful Lower 48 models.
- Working together to develop, operate and maintain a rational regional transmission system



Bradley Lake Financing Model

A Resolution Urging the Legislature to Use the Bradley Lake Model for Financing Additional State-owned Hydroelectric Projects

■ Bradley Lake Hydro financing



- 50 percent equity contribution from the State
- 50 percent debt through State-issued bonds
- Proven itself fair and equitable for the State of Alaska and the ratepayers of the region
- Use this model for financing additional State-owned hydro electric projects



Metals Theft Legislation

A Resolution Urging the Legislature to Support Legislation to Address Metals Theft

- Several APA members have experienced metals theft
- Results: power outages, lost productivity and needless expenses to electric customers
- APA part of stakeholder group led by Associated General Contractors
- Legislation being drafted with assistance from AG's office



Questions?



APA State Legislative Resolutions

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Alaska Power Association Government Relations Team

Marilyn Leland, Executive Director

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LEGISLATIVE RESOLUTIONS 2014

State Resolutions

A Resolution Urging the Creation of an Urgent Implementation Plan for Alaska Energy Policy (14-1).....1

A Resolution Urging Capital Funding in Support of Alaska Energy Policy (14-2).....2

A Resolution Supporting Full Funding for Power Cost Equalization (14-3)3

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A Resolution Urging the State of Alaska to Provide a Match to Denali Commission Funding of Energy
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Regulations (14-14).....14

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ALASKA POWER ASSOCIATION

R E S O L U T I O N

A Resolution Urging the Creation of an Urgent Implementation Plan for Alaska Energy Policy (14-1)

Alaska is in the midst of an energy crisis. Communities statewide are faced with aging generation and transmission facilities. The unstable price and supply of fuel is increasingly impacting Alaskans everywhere.

The Alaska Power Association membership urges the creation of an implementation plan that provides support and funding sources to short-, mid-, and long-term generation and transmission facilities, and facilitates fuel development and storage infrastructure projects with financial commitments from the State.

Alaska Power Association urges the 28th Alaska Legislature and the Parnell Administration to make the implementation plan of energy policy the highest priority for the 2014 legislative session.

APA further urges the State to develop and maintain current Alaska power statistics that demonstrate quantifiable progress towards the goals established in the plan.

(Adopted Dec. 2009; updated Dec. 2011; updated Dec. 2012; updated Dec. 2013)

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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Urging Capital Funding in Support of Alaska Energy Policy (14-2)

In light of the ambitious and aggressive goals set forth in the Alaska Sustainable Energy Act and State Energy Policy, the Alaska electric utility sector needs sources of capital for infrastructure and transmission.

Alaska Power Association urges the Alaska Legislature to fully support the following funding mechanisms:

- Direct appropriations toward major energy projects;
- Properly capitalize the Power Project Loan Fund, enabling meaningful funding for infrastructure projects; and
- Implement the State of Alaska-funded and administered revolving loan fund (AIDEA Sustainable Energy Program) for the financing of infrastructure projects.

(Adopted Dec. 2010; updated Dec. 2011; updated Dec. 2012; updated Dec. 2013)

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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Supporting Full Funding for Power Cost Equalization (14-3)

Alaska Power Association strongly supports full funding for Power Cost Equalization. APA appreciates the Alaska State Legislature's full funding of the PCE benefit at 100 percent for FY14. We urge the legislature to fully fund PCE in the Administration's FY15 operating budget.

(Adopted Dec. 2005; updated Dec. 2008; updated Dec. 2009; updated Dec. 2010; updated Dec. 2011; updated Dec. 2012; updated Dec. 2013)

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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Addressing Unaffordable Energy in Rural Alaska (14-4)

Alaska's citizens are subject to the most extreme disparity in the cost of energy for homes and businesses of any state in the union. Electricity to a homeowner can cost as little as 10 cents a kilowatt-hour (kWh) and as much as \$1.20 per kWh. Heating fuel can cost as little as \$9 per million BTU (natural gas in Anchorage) and as much as \$75 or more in rural Alaska.

The cost of energy in rural Alaska has resulted in a tremendous financial burden on virtually every resident and business in these remote communities. New businesses are stymied due to the crippling cost of energy. Existing businesses are crippled and frequently forced into closure due to the high cost of energy. Schools must apply ever increasing percentages of their operating revenues towards energy costs, diverting funds from essential educational needs. Industry is unable to compete with low energy costs in the Pacific Northwest or the rest of the world, resulting in high-paying processing and value-added jobs being exported along with Alaska raw materials and products.

The survival of rural Alaska depends upon immediate and real relief from the cost of energy needed for electricity, heat and transportation. Rural Alaskans, despite their geographic location, should nonetheless expect reasonably priced energy equivalent to what it costs in urban Alaska.

The State of Alaska is strongly urged to take immediate, meaningful steps to ensure that every Alaskan has access to affordable, reliable energy for their electricity, heating and transportation needs.

(Adopted Dec. 2009; updated Dec, 2012; updated Dec. 2013)

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ALASKA POWER ASSOCIATION

R E S O L U T I O N

A Resolution Urging Continued Funding of the Emerging Energy Technology Fund (14-5)

Alaska Power Association members are facing the challenge of providing reliable and cost-effective electric power service while paying rapidly escalating costs for fuel with no substantial financial relief in sight.

This unfortunate reality, coupled with advances in the application of alternative energy technology in cold weather climates, is moving the consideration of distributed generation and renewable energy sources to the forefront of many electric utilities' long-term strategic plans. The Alaska Power Association Board of Directors recognizes that established renewable energy projects such as wind farms and alternative energy sources such as nuclear may play an important role in Alaska's future energy supply.

Without a funding mechanism to assist Alaska's electric utilities with researching and developing renewable energy generation, whether it be in the form of alternative energy project grants, low interest loans or production tax credits, the utilities are forced to decide between either not pursuing such opportunities due to their extraordinarily high capital costs or raising electric rates to help offset the cost of adding new generation into the energy portfolio. Alaska's electric utilities will pursue renewable energy projects as long as they make economic sense on behalf of the consumers.

Alaska Power Association urges the Legislature to continue funding the Emerging Energy Technology Fund to assist with the research, development and eventual application of alternative energy sources into the Alaska electric utility generation portfolio.

(Adopted March 2006; updated Oct. 2007; updated Nov. 2009; updated Dec. 2011)

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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Urging the State of Alaska to Provide a Match to Denali Commission Funding of Energy Infrastructure (14-6)

The Denali Commission was established by Congress in 1998 with the objective of establishing code-compliant energy facilities in rural Alaska. The commission was intended to be a joint State-Federal partnership in this endeavor.

Since inception, the Denali Commission has provided more than \$500 million in federal energy grants to upgrade rural fuel storage and energy production facilities. As Alaska's congressional influence evolves, it is critical that the State of Alaska recognize the importance of this program to the sustainability of rural Alaska. In doing so, the State provides much needed funding while illustrating to Congress the priority of this program to Alaska.

Alaska Power Association urges the State of Alaska to provide 200 percent matching State funds to assist the Denali Commission in achieving the mission of providing safe, code-compliant electric generation and bulk fuel tank farm facilities to serve the rural citizens of Alaska.

(Adopted Dec. 2009; updated Dec. 2010; updated Dec. 2011; updated Dec. 2012; updated Dec. 2013)

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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Supporting Construction of an Alaska Natural Gas Pipeline (14-7)

Alaska Power Association strongly encourages our Governor, Congressional Delegation, and Legislature to take all reasonable actions to facilitate, and, if it is in the State's best interests, actively participate in the prudent development of an Alaska Natural Gas pipeline that will bring North Slope natural gas to market immediately. Alaska Power Association further encourages the use of Alaska royalty natural gas in communities along the pipeline route.

(Adopted Dec. 2004; updated 2006; updated Nov. 2009; updated Dec. 2010; updated Dec. 2011)

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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Supporting Funding for Projects Recommended by the Alaska Energy Authority for the Renewable Energy Grant Fund (14-8)

Regarding the capital appropriation for the Renewable Energy Grant Fund, Alaska Power Association supports funding for the list of projects recommended by the Alaska Energy Authority through its review process. AEA has developed and applied a professional process to screen projects in determining its recommended list.

Renewable energy projects benefit Alaskans in many ways, including reducing dependence upon fossil fuels. The projects recommended for funding through the REGF help advance Alaska's goal of producing 50 percent of the state's power with renewable energy by 2025.

Accordingly, APA urges the 28th Legislature to provide an appropriation sufficient to cover the projects and funding levels recommended by AEA.

(Adopted Feb. 2013)

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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Urging the Legislature to Support Utility Efforts to Create a Unified Transmission System for the Railbelt (14-9)

The Railbelt electric transmission system is comprised of hundreds of miles of lines owned by a number of entities, including utilities and the State of Alaska. The system is not nearly as robust as grids in the Lower 48. Limitations affect both the reliability and the cost of electric energy in the region.

A 2012 study by the Alaska Energy Authority determined that there are Railbelt transmission restrictions that result in significantly higher energy costs in the region. The AEA study determined that more than \$900 million of transmission projects are needed to resolve existing problems. Although it is clear that the region would benefit from these necessary improvements, it is unlikely to be financed by utility ratepayers under the current operating model.

Absent a clear path to implement AEA study results, the Railbelt needs to consider a different approach to grid management.

In the Lower 48, a series of geographic Regional Transmission Organizations or Independent System Operators have been developed to address similar problems. Railbelt electric utilities have begun working together to study successful Lower 48 models and consider how best to develop, operate and maintain a rational regional transmission system.

Alaska Power Association urges the Alaska State Legislature to support efforts by the Railbelt electric utilities to unify the regional transmission system.

(Adopted Dec. 2013)

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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Urging the Legislature to Use the Bradley Lake Model for Financing Additional State-owned Hydroelectric Projects (14-10)

The Alaska Energy Authority has been advancing the concept of a new, major hydropower resource in the Railbelt. Also under consideration is a diversion project that will increase production from the existing Bradley Lake Hydroelectric Project. The financing of major energy projects such as these will be critical to the eventual price of power paid by consumers. Alaskans and their economy will reap long-term benefits from following a financing model that results in stable, affordable electric energy.

The Bradley Lake Hydroelectric Project was financed by a combination of 50 percent equity contribution from the State of Alaska and 50 percent debt through state-issues bonds. In exchange for power from the project, the electric utilities of the Railbelt pay the annual debt service on the bonds. These payments will continue to be made to the State after the bonds are retired, in recognition of its initial equity contribution.

The Bradley Lake financing model has proven itself fair and equitable for both the State of Alaska and the ratepayers of the region. Today, low-priced energy from Bradley Lake flows to Alaskans throughout the Railbelt on a non-discriminatory basis, providing an economic benefit that will be in place for decades to come.

The Alaska Power Association urges the Alaska State Legislature to use the Bradley Lake model for financing additional State-owned hydroelectric projects.

(Adopted Dec. 2013)

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Alaska Power & Telephone
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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Urging the Legislature to Support Legislation to Address Metals Theft (14-11)

The theft of metals and subsequent sale as scrap is a growing problem across the nation and for Alaska utilities and contractors. These metal thefts result in power outages, lost productivity and needless expenses to all electrical customers. Further, the theft of ground wires creates dangerous conditions for workers and the public.

Many states have enacted laws to allow legal scrap metal recycling while minimizing metal theft by requiring identification of all customers, trackable payments, and between two and seven years of recordkeeping of all businesses purchasing scrap metal.

Alaska Power Association urges the Alaska State Legislature to support legislation to address metals theft.

(Adopted Dec. 2013)

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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Objecting to the “One Size Fits All” Approach of Federal Regulations (14-12)

Alaska is a state of spatial, geographic and climatic extremes, comprising 20 percent of the US landmass, 50 percent of its coastline, 100 percent of its arctic lands and 0.2 percent of its population. These characteristics render the federal government’s “One Size Fits All” regulatory approach incompatible and impractical in Alaska. Complex regulations developed to address concerns in the contiguous United States have tremendous unintended consequences when applied indiscriminately to Alaska.

APA urges the federal government to tailor regulations regarding Ultra Low Sulfur Diesel, Air Quality Permitting, Endangered Species Act, Federal Energy Regulatory Commission, Roadless Rule, etc. to recognize the severe impacts such actions have on Alaskans.

The costs to Alaskans from impacts of federal regulations pose significant economic hardships, far in excess of purported benefits of such regulations. The absence of an electric grid necessitates hundreds of generation plants across the state, with most serving less than 500 customers. Even the largest utilities serve only thousands of customers, not millions as in the contiguous US. All Alaska utilities should be classified as “small” as none of them exceed the Small Business Administration threshold of electricity sales of four million megawatt hours.

The following effects should be assessed before extending regulations to Alaska:

- Impact on availability and affordability of electricity
- Impact on availability and affordability of all sources of energy
- Impact on Alaska communities’ economic viability and wellbeing
- Impact on small, stand-alone public utilities

APA further urges that federal permitting processes such as those implemented by FERC be required to provide immediate feedback to applicants during the permitting process, to ensure that very short construction windows can be optimized. Project delays caused by lengthy permitting processes cost millions of dollars and result in the loss of years of benefits.

APA further urges that human populations be afforded priority over endangered and/or threatened flora and fauna species and that historical rights-of-way to deliver electricity to communities be restored and maintained.

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(Adopted Dec. 2013)



ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Urging Congress to Adopt Energy, Economic and Regulatory Improvement Policies for Hydropower (14-13)

Association Members

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Hydroelectric power is a proven source of reliable, renewable electricity in Alaska and across the nation. Hydropower currently accounts for 25 percent of Alaska's electricity generation. However, the need for additional hydropower generation continues to grow as fossil fuels decrease in availability, increase in price, and are the focus of ever increasing environmental regulation.

The continued dependence of the United States on foreign supplies of oil (still the generation fuel for many of Alaska's rural communities) remains both a national energy security issue and an economic concern for Alaska families and businesses. In recent years, diesel oil has drastically increased in price, resulting in electric rates higher than \$1 per kilowatt-hour for some rural communities in Alaska.

The State of Alaska and many Alaska Power Association members are striving to develop viable forms of renewable and alternative energy such as hydropower, wind, and geothermal.

However, the development of Alaska hydropower, in particular, is severely impeded when hydropower is not recognized as a renewable or alternative energy source in some federal laws and programs.

Alaska Power Association supports policies that provide incentives and regulatory policy support that improve the market for hydropower project development. APA calls on Congress to:

1. Broaden the inclusion of hydropower as a renewable and clean energy resource in federal energy policies. This includes, but is not limited to, a federal RES or CES, and all federal procurement requirements for renewable or clean energy resources.
2. Improve the federal licensing process to expedite project deployment timelines, allowing hydropower projects to compete with other energy resources, such as wind and natural gas.
3. Adopt and extend for the long term tax and other economic incentives for hydropower projects.
4. Increase R&D funding for advancements in hydropower technology and operations, as well as project demonstrations in Alaska.

(Adopted Dec. 2010; updated Dec. 2011; updated Dec. 2012)



ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Encouraging EPA to Consider Alaska's Unique Circumstances in Proposed Environmental Regulations (14-14)

Alaska's unique circumstances are not conducive to a one-size-fits-all national environmental policy approach. Basic infrastructure assumed to be available throughout the United States, such as roads, interconnected utilities, or waste disposal facilities, is limited or nonexistent in most of Alaska. Access to renewable power and natural gas is regionally-specific, and non-existent or cost prohibitive in many parts of the state. These factors, as well as Alaska's extreme weather, limited construction season, and the extremely high cost of goods and transportation, result in Alaskans paying some of the highest electric bills in the nation.

When the Environmental Protection Agency does not consider Alaska's unique circumstances, the resulting regulations can make the cost of producing electricity too expensive for a local economy to sustain. Alaska utilities are distinctly different than those in the rest of the nation, and these significant differences must be considered when proposing new environmental regulations. For example, it is not reasonable to require Alaska facilities to ship coal ash to the Lower 48 for disposal in hazardous waste landfills, nor is it reasonable to put rural communities at risk with ammonia storage for negligible NOx emission reduction.

All Alaskans deserve to live in a healthy and productive community, yet the approach to improving environmental conditions must be practical, achievable, and cost-effective.

Alaska Power Association (APA) commends EPA for recognizing Alaska's unique limitations when they redefined Generally Available Control Technology for engines subject to the new RICE NESHAP Subpart ZZZZ requirements. In keeping with this theme, APA encourages EPA to continue its acknowledgment of Alaska's unique obstacles when drafting environmental regulation, and to continue providing conditional exemptions or Alaska-specific standards.

(Adopted Dec. 2010; updated Dec. 2012; updated Dec. 2013)

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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Recommending the Elimination of Impediments to the Development of Hydroelectric Power Projects and Other Sources of Renewable Energy Within National Forests (14-15)

Government at all levels, including the federal Administration, electric utilities, and our consumers are embracing development of renewable energy sources for the production of electricity. Renewable energy sources have environmental, economic and social benefits that are well documented. Hydroelectric and geothermal energy are among the cleanest of all renewable resources and the most cost effective during the long, low-maintenance lives of the projects.

Alaska is blessed with an abundance of hydro resources from its lakes and streams that can be built with minimal environmental impact. Most new hydro development in Alaska replaces costly, finite and less environmentally benign fossil generation fuels, specifically diesel, coal and natural gas. Geothermal resources are also abundant in Alaska and replace fossil fuels at low cost.

Special use permits necessary for federal approval of hydro projects withdrawn by the Federal Energy Regulatory Commission (FERC) under the Federal Power Act of 1920 that are within Inventoried Roadless Areas (IRAs) of national forests must be individually signed by the Secretary of the United States Department of Agriculture (USDA). Roads needed to move equipment from tidewater to areas withdrawn for hydro projects by the FERC that pass through IRAs are prohibited by the 2001 Roadless Rule. 36 C.F.R. § 294.12 (a). Transmission lines through IRAs and roads needed to maintain them are likewise prohibited, adding cost to hydro projects that are authorized.

Projects which must be permitted under the Mineral Leasing Act, including geothermal resources, that were not in existence on January 12, 2001, are prohibited by the 2001 Roadless Rule. 36 C.F.R. § 294.12 (b). (See also 66 Fed. Reg. 3244, at 3256 January 12, 2001).

Prior rights-of-way, easements and other authorizations issued or managed by the United States Forest Service may need to be modified to not impede the development of otherwise acceptable projects that pass through IRAs. The 2001 Roadless Rule will either prohibit or add time to the hydro project approval process at the Federal Energy Regulatory Commission (FERC), seriously jeopardizing the three-year timeframe within which applicants are bound to perfect their FERC permits. The 2001 Roadless Rule also creates impediments to the accessibility and expansion of existing hydropower project facilities.

Alaska Power Association urges Alaska's Congressional delegation and their fellow members of Congress, the Governor's Office, the federal Administration and federal agencies such as USDA and FERC to work collaboratively and expeditiously to eliminate the burdensome and, in some cases, fatal impediments to hydro and geothermal development caused by the 2001 Roadless Rule and the need for the Secretary for Agriculture's personal signature on Roadless Rule designation special use permits and mandatory forest plan amendments, where national forest lands are involved.

APA further urges the highest level of support from the above-mentioned lawmakers and agencies for ensuring that the US Forest Service works cooperatively with project proponents and others to eliminate unnecessary impediments to project development and continued maintenance and expansion of existing hydropower created by prior use authorizations.

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ALASKA POWER ASSOCIATION R E S O L U T I O N

A Resolution Urging Support for the USDA Rural Utilities Service High Energy Cost Grant Program (14-17)

The USDA Rural Utilities Service High Energy Cost Grant Program provides grants for rural communities with extremely high energy costs (where the average residential expenditure for home energy is at least 275 percent of the national average) to acquire, construct, extend, upgrade, and otherwise improve energy generation, transmission, or distribution facilities.

The High Energy Cost Grant Program was authorized by Congress in the 2000 Rural Electrification Act because it covered a gap in programs that desperately needed to be filled. The funds are dispersed via a national competitive process.

The program was funded at \$30 million in FY 2003. Since then, annual funding has decreased dramatically and funding for the next fiscal year is in jeopardy. Reducing the program will not only constrain economic activity in rural areas but also worsen the nation's overall economy and unemployment, and contribute to unaffordable energy costs in rural areas where the per capita income is already the lowest in the country. Furthermore, an enormous amount of work remains to be done in Alaska to bring rural power plants up to acceptable national standards.

Alaska Power Association urges Congress and the federal Administration to restore funding for the USDA High Energy Cost Grant Program to \$30 million.

(Adopted Dec. 2009; updated Dec. 2010; updated Dec. 2011; updated Dec. 2012)

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LAWS OF ALASKA

2012

Source

SCS CSHB 250(FIN)

Chapter No.

AN ACT

Relating to the renewable energy grant fund and recommendation program; and providing for an effective date.

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

THE ACT FOLLOWS ON PAGE 1

AN ACT

1 Relating to the renewable energy grant fund and recommendation program; and providing for
2 an effective date.

3

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

6 LEGISLATIVE INTENT. It is the intent of the legislature that, each fiscal year for the
7 next 10 fiscal years, \$50,000,000 be appropriated to the renewable energy grant fund for
8 projects recommended by the Alaska Energy Authority under AS 42.45.045.

9 * **Sec. 2.** AS 42.45.045(i) is amended to read:

10 (i) An advisory committee is established and consists of **nine** [SEVEN]
11 members, appointed as follows:

12 (1) five members shall be appointed by the governor to staggered
13 three-year terms, with one representative to be appointed from each of the following
14 groups:

- 1 (A) small Alaska rural electric utilities;
2 (B) large Alaska urban electric utilities;
3 (C) Alaska Native organizations;
4 (D) businesses or organizations engaged in the renewable
5 energy sector; and
6 (E) the Denali Commission established under P.L. 105-277, 42
7 U.S.C. 3121 note;

8 (2) two members [ONE MEMBER] of the house of representatives
9 shall be appointed by the speaker of the house of representatives; and

10 (3) two members [ONE MEMBER] of the senate shall be appointed
11 by the president of the senate.

12 * **Sec. 3.** Section 5, ch. 31, SLA 2008, is amended to read:

13 Sec. 5. AS 42.45.045 is repealed June 30, 2023 [2013].

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

Emerging Energy Technology Fund Round 1 Project Status Updates

The Alaska State Legislature created the Emerging Energy Technology Fund (EETF) in 2010 to promote the expansion of energy sources available to Alaskans. EETF grants are for demonstration projects of technologies that have a reasonable expectation of becoming commercially viable within five years. Projects can either:

- Test emerging energy technologies or methods of conserving energy
- Improve an existing technology
- Deploy an existing technology that has not previously been demonstrated in the state

For the EETF, energy technology is defined as technology that promotes, enhances, or expands the diversity of available energy supply sources or means of transmission, increases energy efficiency, or reduces negative energy-related environmental effects. Energy technology can include technologies related to renewable sources of energy, conservation of energy, enabling technologies, efficient and effective use of hydrocarbons and integrated systems.

The following fifteen projects have begun work on EETF demonstration projects. A sixteenth project selected for funding was cancelled before a grant was issued.

Project	EETF Award	Committed Match
Biomass Reforestation for Boreal Forests	\$ 45,000	\$ 45,000
Arctic Thermal Shutters & Doors	\$ 136,000	\$ 34,000
Ultra-Efficient Generators and Diesel-Electric Propulsion	\$ 247,036	\$ 302,317
Cold Climate Heat Pump Demonstration	\$ 119,467	\$ 24,311
Enhanced Condensation for Organic Rankine Cycle	\$ 166,044	\$ 30,168
Safe and Efficient Exhaust Thimble	\$ 87,889	\$ 5,793
High Capacity Airborne Wind Turbine	\$ 740,115	\$ 620,010
Oceana In-Stream Hydrokinetic Device Evaluation	\$ 1,230,945	\$ 620,000
RivGen Power System Commercialization Project	\$ 1,491,750	\$ 379,889
Application of Composite Flywheels	\$ 672,500	\$ 517,000
Small Community Self-Regulating Grid	\$ 465,634	\$ 20,000
Wind-Diesel Battery Hybrid for Kwigillingok	\$ 1,025,750	\$ 30,000
BRI Cyclo-Turbine Energy Production	\$ 728,630	\$ 141,360
High Efficiency Diesel Electric Generator Set	\$ 677,508	\$ 75,278
Arctic Field Testing of the Eocycle 25/12 Wind Turbine	\$ 293,300	\$ 55,000

Arctic Field Testing of the Eocycle EO-25/12 Wind Turbine

Project Lead: Northwest Arctic Borough

Award Amount: \$293,300

Location: Kotzebue

Match Committed: \$55,000

The Northwest Arctic Borough is demonstrating the cold weather capabilities of a 25 kW wind turbine at the Kotzebue wind farm. The turbine is mounted on a tilt-up monopole tower that uses a winch to raise and lower the unit during installation and for maintenance, eliminating the need for a crane.

Year 1 Progress

The turbine and tilt-up tower arrived at Kotzebue on the last barge of the year. The project team was able to take advantage of an existing unused tower foundation; the tower and turbine are now fully assembled and mounted. The turbine is currently in the final stages of commissioning.



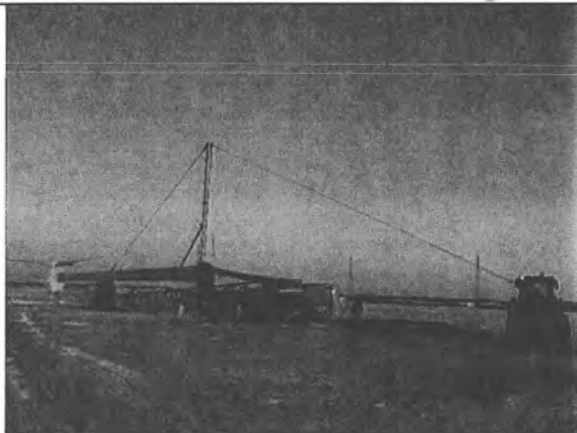
Assembling the tower



Installing turbine blades

What's Next

After the turbine has been fully commissioned, performance data will be collected for one year. A fully instrumented meteorological tower will be installed within five rotor-lengths of the tower to collect baseline wind data as the turbine generates electricity.



Tower tilted down



Raising the tower

Photos from Northwest Arctic Borough and Kotzebue Electric Association.

Ultra-Efficient Generators & Diesel Electric Propulsion

Project Lead: Genesis Machining & Fabrication

Award Amount: \$247,036

Location: Kodiak

Match Committed: \$302,317

Genesis Machining and Fabrication is demonstrating its two core technologies, the Power Dense Motor and Universal Modular Inverter Controller, for use in both stationary power generation and propulsion applications. The technologies are being concurrently developed and demonstrated in stages using prototypes of increasing in size and capacity that will be used to power electric vehicles and gensets of varying sizes.

Year 1 Progress

In the first year, the team demonstrated the functionality of the inverter in an electric vehicle testbed which has logged over 1,000 Kodiak road miles. A proof-of-concept 15 kW load matching genset which delivers power via the inverter was also built and demonstrated. Now that functionality has been confirmed, next efforts will focus on documenting the efficiency of the systems.



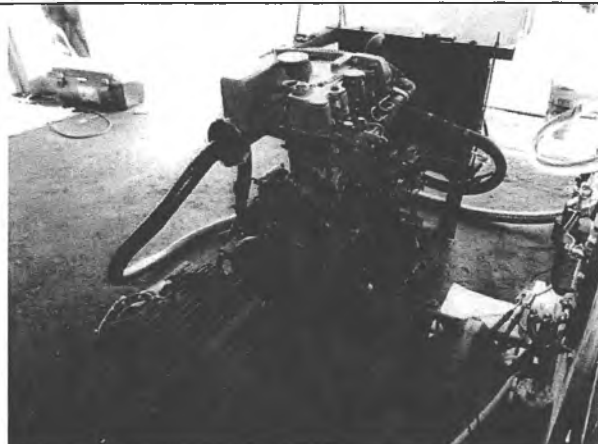
Converted '97 Eagle Talon EV testbed



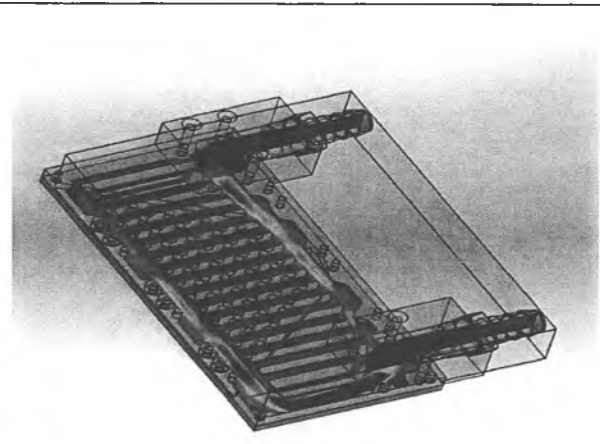
Monitoring performance in the EV testbed

What's Next

In the second year of the project, the team will focus on efficiency testing and demonstrate the next prototype iteration in a Diesel-Electric bus testbed. The testbed will house a 150 kW genset and employ both the Power Dense Motor and Universal Modular Inverter Controller technologies for propulsion and stationary power generation.



Modified 15 kW genset



Designing the controller heat sink

Photos from Genesis Machining and Fabrication.

Arctic Thermal Shutters & Doors

Project Lead: Arctic Sun, LLC

Award Amount: \$136,000

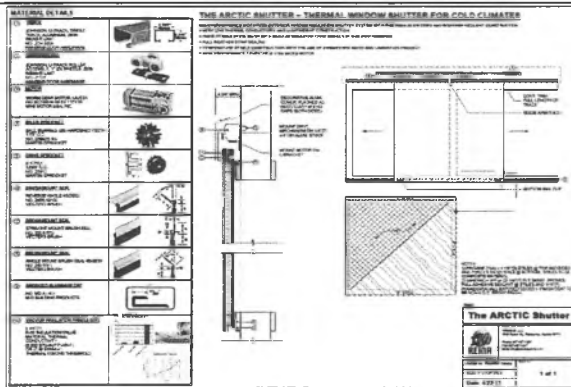
Location: Fairbanks

Match Committed: \$34,000

Arctic Sun, LLC is demonstrating energy efficiency improvements of homes in colder climates using arctic doors, arctic shutters and blown-in insulation shutters. Maintaining climate control in arctic high-efficiency housing has been challenging because of high condensation on doors and windows. The technological improvements proposed by Arctic Sun include improving R-values in the arctic doors; creating exterior arctic shutters that are controlled by an electric drive and use air-tight weather stripping; and shutters for retrofitted fixed-pane windows that can be automatically filled and emptied with insulating beads.

Year 1 Progress

In the first year, the project team completed design, component selection, and prototype construction of the arctic door and two shutter types. A fully instrumented dedicated testing structure was also designed and constructed into which the technology components will be installed and monitored. Collection of baseline data for the test box has begun in advance of installation of the shutters and doors. For the blown-in shutter cavity, solid extruded polystyrene (EPS) beads were selected as the fill material, and subjected to ultra-violet resistance testing over the course of the summer.



Arctic shutter design



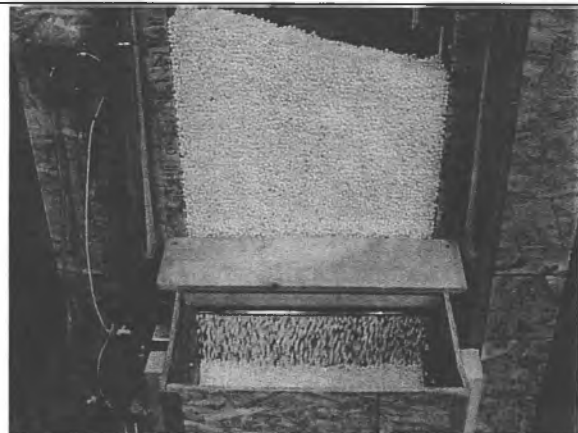
Testing box under construction

What's Next

The second year of the project will be devoted to installation of the technology types in the test box and into actual residences and collection of performance data. The units will be installed and tested individually in the testing box.



UV stability test of the EPS beads



Testing the blown-in shutter

Cold Climate Heat Pump Demonstration

Project Lead: Cold Climate Housing Research Center

Award Amount: \$119,467

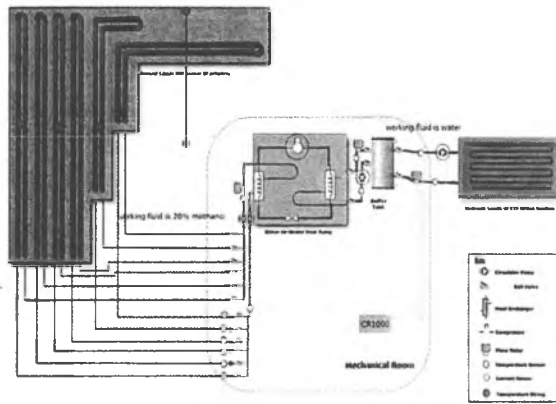
Location: Fairbanks

Match Committed: \$24,311

The Cold Climate Housing Research Center (CCHRC) is demonstrating the potential for ground source heat pumps (GSHPs) as an efficient and economic heat source in colder climates. This project will install a GSHP at the Cold Climate Housing Research Center’s research and testing facility in Fairbanks in a narrow band of thawed ground. Several different surface treatments will be modeled and tested to maximize surface heat capture during summer months and to prevent winter heat loss.

Year 1 Progress

The horizontal loop field was installed and buried along with a network of thermocouples at varying depths. The heat pump unit was then installed and fully commissioned. Different surface treatments have been installed above selected areas of the ground loop including several gravel types and grass; a fence has been installed around the area to minimize snow compaction and maximize wintertime insulation.



System layout



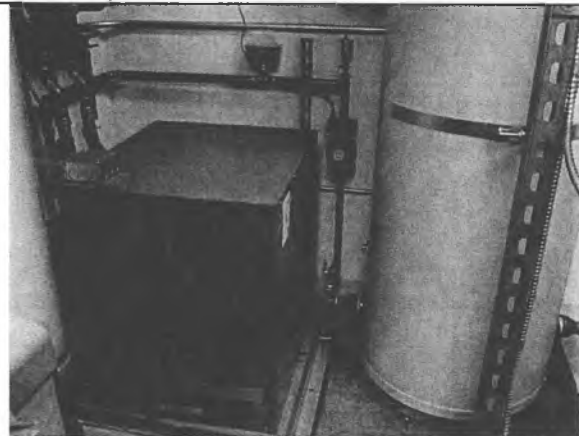
Digging the trench for the coil

What’s Next

With installation complete, the remainder of the project will consist of data collection of the system’s performance, monitoring the loop field for thermal degradation, and comparison of the effect of the different surface treatments on the thermal health of the loop field.



Installation of the slinky loop



Installed 3 ton heat pump

Photos from Cold Climate Housing Research Center.

Safe and Efficient Exhaust Thimble

Project Lead: UAF - Institute of Northern Engineering

Award Amount: \$87,889

Location: Fairbanks

Match Committed: \$5,793

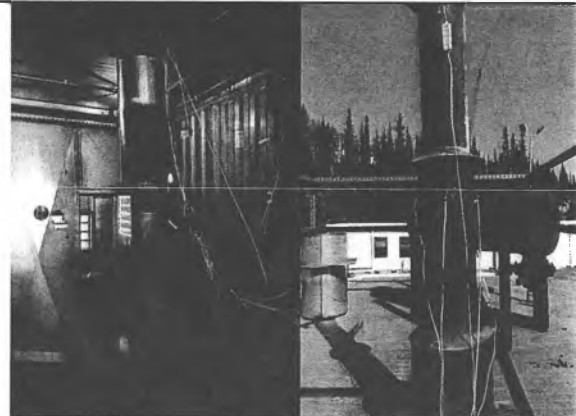
The Institute of Northern Engineering is demonstrating a new design of ventilated exhaust thimbles for wood stoves, oil-fired furnaces, diesel generators and other high-temperature exhaust-generating sources. Stove thimbles prevent wood framing from igniting from the hot exhaust as it passes through the chimney. In this project, the traditional thimble will be replaced with one that relies on thermal siphoning for passive cooling. The new design eliminates heat loss that accompanies traditional thimbles by maintaining integrity of the building's envelop.

Year 1 Progress

The project team has completed final design and computational fluid dynamics modeling of the exhaust thimble, modified a conex container for testing, and constructed prototypes of varying sizes. Testing of the smallest, 2-inch diameter thimble is underway.



Modelled airflow and temperature distribution



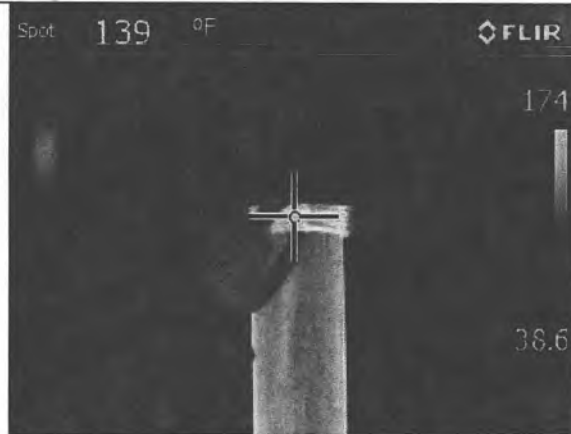
Instrumented prototype

What's Next

The project team will continue testing with the remaining 4, 6, 8, and 10 inch thimble sizes.



Thimble in operation



Infrared image

Images from UAF. Photo credit Stephen Gemmel.

Wind-Diesel Battery Hybrid for Kwigillingok

Project Lead: Intelligent Energy Systems

Award Amount: \$1,025,750

Location: Kwigillingok

Match Committed: \$30,000

Intelligent Energy Systems is demonstrating the use of high-performance lithium ion batteries, similar to those found in some electric vehicles, to provide short-term energy storage in Kwigillingok's wind-diesel electrical system.

Year 1 Progress

After a comparison of batteries from several well-known manufacturers, a lithium ion battery was selected and procured from LG Chem and delivered to Anchorage. After acceptance testing, the battery was barged to Kwigillingok. The unit was successfully unloaded from the barge, but an abnormally warm winter delayed freeze-up, and transport to the installation site was impossible across the muddy terrain. Severe storms also contributed to the poor conditions, bringing other projects in the area to a stop.



Battery and enclosure awaiting freeze up



Early winter storm aftermath

What's Next

While commissioning was delayed due to site conditions, LG Chem approached the project team with an offer to replace the battery at no cost with a newer model capable of faster charging and able to deliver a higher number of both short and deep cycles. The new battery will be flown in and commissioned this spring.



Site mats positioned awaiting the battery



Counterpoise installation

Photos from Intelligent Energy Systems.

Biomass Reforestation of Boreal Forests

Project Lead: Alaska Division of Forestry

Award Amount: \$45,000

Location: Palmer and Delta

Match Committed: \$45,000

The Alaska Division of Forestry is demonstrating a low cost planting technique intended for forest regeneration after a biomass harvest that uses un-rooted poplar tree stem-cuttings. Although less energy-dense than other biomass fuel stocks, poplars have much faster growth rates. The technique involves the wintertime collection of branch cuttings that are stored and then planted as stems after snowmelt. Stooling beds will also be planted to facilitate future stem harvests of species that are found to thrive over the course of the project.

Year 1 Progress

The project team harvested cuttings during the winter of 2013 which then underwent a pre-soak treatment in advance of planting in the late spring at sites in the Matanuska-Susitna Valley and near Delta. Unfortunately, abnormally hot and dry conditions during the summer of 2013 resulted in a very high mortality rate of the planted cuttings. However, cuttings at the wettest site fared significantly better, and the project team noted higher survival rates among hybrid species.



Winter poplar cuttings



Pre-soaking cuttings in preparation for planting

What's Next

In the second year of the project, the team will focus on more drought resistant varieties for a second round of planting, both at the Delta and Palmer sites and also at a rural village site that currently harvests for biomass. All plantations will be evaluated for growth at the end of the 2014 and 2015 growing seasons.



Mat-Su field site



First year poplar growth

Photos from AK Division of Forestry.

BRI Cyclo-Turbine Energy Production

Project Lead: Boschma Research, Inc.

Award Amount: \$728,630

Location: Igiugig

Match Committed: \$141,360

Boschma Research, Inc. (BRI) plans to demonstrate a 5 kW River In-Stream Energy Conversion (RISEC) device in the Kvichak River at Igiugig. The cycloidal turbine is housed within an open-ended venturi enclosure with a fish/debris guard at the entrance. Intended to be mounted on the river bottom in shallow water, the device's frame uses buoyancy chambers for river transport which are filled with water to submerge the device to its final position.

Year 1 Progress

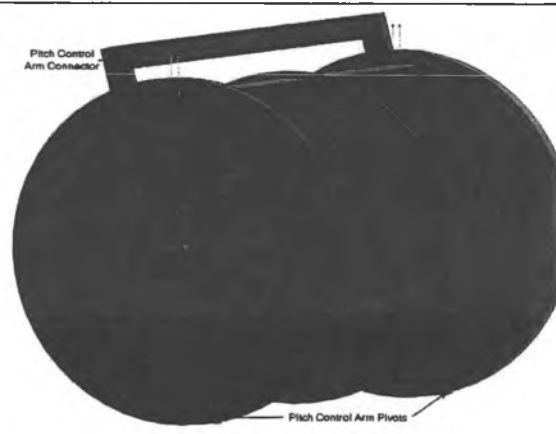
BRI has fabricated and assembled components that make up the venturi support box and mechanical components of the turbine assembly, and conducted an initial deployment and retrieval test in shallow water.

What's Next

Prior to shipping the device to Igiugig, the project team will demonstrate complete deployment, operation, and retrieval of the device in the Tennessee River. Deployment in the Kvichak River is scheduled for the summer of 2014.



Assembled venturi box and ballasts



Turbine assembly sketch

Photos from Boschma Research, Inc.

Application of Composite Flywheels

Project Lead: Hatch

Location: Fairbanks

Hatch is demonstrating a high-efficiency and lightweight flywheel which could be used to provide grid stability in wind-diesel systems.

Year 1 Progress

One month's worth of high resolution baseline data has been collected at Nome's wind-diesel system which will be used to assist in modelling and controller programming. The project team is identifying and procuring components that will be used to lab-test the flywheel.

What's Next

The unit will be extensively tested at UAF's Power Systems lab prior to deployment in a village.

RivGen Power System Commercialization Project

Project Lead: ORPC Alaska, LLC

Award Amount: \$1,491,750

Location: Nikiski, Igiugig

Match Committed: \$379,889

ORPC proposes to demonstrate the RivGen hydrokinetic device, a river bottom-mounted River In-Stream Energy Conversion (RISEC) device. The device will be mounted on a redesigned pontoon support structure, which consists of a mounting frame which rests on buoyancy chambers which can be filled and emptied of air for controlled submerging during deployment and floatation during retrieval.

Year 1 Progress

ORPC has refurbished and dry-tested its first generation RivGen prototype and completed modeling and redesign of the support structure (shown below prior to redesign) that will be used to deploy and retrieve the turbine.

What's Next

The project team will complete construction of the Pontoon Support Structure; deployment and retrieval of the structure will be tested in Cook Inlet in the spring of 2014 where incoming tides will provide a river like environment with the benefit of a slack tide for troubleshooting. When deployment and retrieval has been successfully demonstrated, the entire unit will be shipped for deployment and operation in the Kvichak River.



RivGen unit being refurbished



Early testing of the 1st gen support structure

Photos from ORPC.

High Efficiency Diesel Electric Generator Set

Project Lead: Marsh Creek, LLC

Award Amount: \$677,508

Location: Anchorage, Fairbanks

Match Committed: \$75,278

Marsh Creek is demonstrating the use of a permanent magnet "soft clutch" coupling in a diesel genset to facilitate engine operation at speeds of both 1200 and 1800 rpm. Operating at a lower rotational speed when power demand is low could significantly increase fuel efficiency.

Year 1 Progress

The project team has modelled performance, designed the test system, and established plans for testing at different speeds and loads.

What's Next

After baseline testing, the team will conduct a battery of tests in their Anchorage facility to characterize the modified system. The unit will then be sent for performance validation test at the UAF's Power Systems Integration lab.

Enhanced Condensation for Organic Rankine Cycle

Project Lead: UAF - Institute of Northern Engineering

Award Amount: \$166,044

Location: Fairbanks

Match Committed: \$30,168

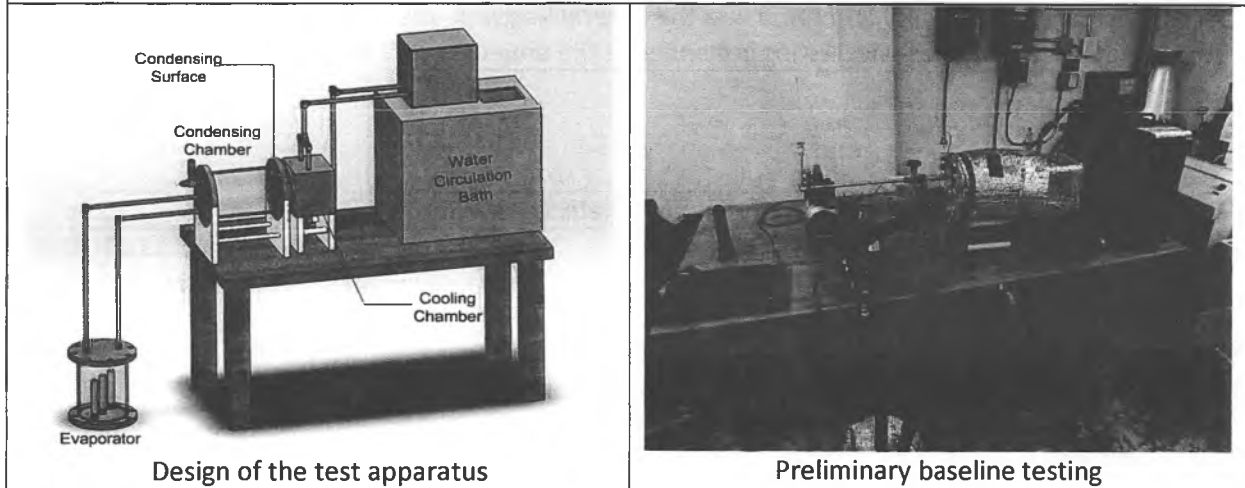
The Institute of Northern Engineering seeks to demonstrate a technology that could improve the efficiency of Organic Rankine Cycle (ORC) systems by increasing the heat transfer rate of the condenser. A hydrophobic coating will be patterned onto the condenser to create a heterogeneous surface, reducing film formation on the condensing surface.

Year 1 Progress

The project team has completed design and construction of a testing apparatus that will be used to measure the efficacy of the hydrophobic coating that will be applied to give the condenser a heterogeneous surface. Instrumentation calibration and preliminary baseline testing of the apparatus has begun.

What's Next

When instrumentation has been calibrated and baseline data collection completed, the effect of different hydrophobic coatings on heat transfer coefficient will be demonstrated.



Photos from the Institute of Northern Engineering.

Small Community Self-Regulating Grid

Project Lead: Intelligent Energy Systems

Award Amount: \$465,634

Location: Tuntutuliak

Match Committed: \$20,000

Intelligent Energy Systems (IES) is demonstrating a method of electrical grid stabilization using an advanced control system with ceramic electrical heating units. A distributed network of Steffes heaters in the community will be equipped with modified controllers that respond individually to grid frequency, providing grid stability during times of high wind penetration rates.

Year 1 Progress

A modified controller has been independently tested and the team is preparing for field installations.

What's Next

Approximately 30 units will be retrofitted with the new controller and tested during 2014.

High Capacity Airborne Wind Turbine	
Project Lead: Altaeros Energies, Inc.	Award Amount: \$740,115
Location: Fairbanks	Match Committed: \$620,010
Altaeros Energies, Inc. proposes to demonstrate a 30 kilowatt (kW) wind turbine suspended 1,000 feet above ground in a helium-filled shell. The project seeks to take advantage of higher and more consistent wind speeds and to demonstrate an improved capacity factor relative to tower-mounted wind turbines. By tethering to a portable trailer, a substantial decrease in installed capital costs is expected. Altaeros plans to commercialize both 30 and 100 kW models.	
Year 1 Progress	
Altaeros has identified candidate sites throughout Alaska, visited a selection of sites, and tentatively selected the Eva Creek wind farm as the deployment site. In Maine, construction and testing of a half-scale prototype has progressed in advance of full-scale construction.	
What's Next	
Permitting from FAA is the critical next step for the project. The agency has been drafting policy regarding airborne wind energy system deployment, and extended testing of any system cannot be permitted until the new policy is entered into the Federal Register. Meanwhile, deployment, retrieval, and limited operational testing is planned at the project team's Maine facility.	

Oceana In-Stream Hydrokinetic Device Evaluation	
Project Lead: Oceana Energy Company	Award Amount: \$1,230,945
Location: Nenana	Match Committed: \$620,000
The Oceana Energy Company is demonstrating a barge-mounted River In-Stream Energy Conversion (RISEC) device in the Tanana River. Originally intended for tidal power applications, the demonstration will verify performance under harsh the conditions typical of Alaska rivers. The turbine uses an open ring design, with blades located on both the inside and outside of the structural ring.	
Year 1 Progress	
After a delayed start, the project team is finishing a redesign of the first generation prototype (built and tested prior to this project) and has begun procurement and assembly of some components.	
What's Next	
Assembly of the redesigned unit will occur in the remaining winter and spring months, with testing scheduled in May and June using a tow carriage in the Carderock David Taylor Model Basin in Maryland. After initial testing, the device will be shipped to Nenana for testing at UAF's hydrokinetic test bed in the Tanana River.	

Emerging Energy Technology Fund Grants

As of December 31, 2013

Award No.	Project No.	Grantee Name	Grant Title	Grant Budget	Grant Expenditures	Grant Encumbrances	Remaining Balance
7310003	413002	Alaska Division of Forestry	Biomass Reforestation for Boreal Forests	\$45,000.00	\$18,251.99	\$26,748.01	\$0.00
7310006	413003	Arctic Sun, LLC	Arctic Thermal Shutters and Doors	\$136,000.00	\$45,000.00	\$91,000.00	\$0.00
7310009	413004	Genesis Machining and Fabrication	Ultra-Efficient Generator and Diesel-Electric Propulsion	\$247,036.00	\$57,406.65	\$189,629.35	\$0.00
7310026	413005	Cold Climate Housing Research Center	Cold Climate Heat Pump Demonstration	\$119,467.00	\$66,395.25	\$53,071.75	\$0.00
7310028	413006	UAF- Institute of the Northern Engineering	Enhanced Condensation for Organic Rankine Cycle	\$166,044.00	\$48,564.55	\$117,479.45	\$0.00
7310029	413007	UAF Institute of Northern Engineering	Safe and Efficient Exhaust Thimble	\$87,889.00	\$5,771.40	\$82,117.60	\$0.00
7310035	413008	Altaeros Energies, Inc.	High Capacity Airborne Wind Turbine	\$740,115.00	\$149,685.00	\$590,430.00	\$0.00
7310037	413009	Oceana Energy Company	Oceana In-Stream Hydrokinetic Device Evaluation	\$1,230,945.00	\$0.00	\$1,230,945.00	\$0.00
7310043	413010	ORPC Alaska, LLC	RivGen Power System Commercialization Project	\$1,491,750.00	\$379,676.25	\$1,112,073.75	\$0.00
7310045	413016	Hatch	Application of Composite Flywheels	\$672,500.00	\$126,252.00	\$546,248.00	\$0.00
7310049	413011	Intelligent Energy Systems	Small Community Self-Regulating Grid	\$465,634.00	\$155,783.17	\$309,850.83	\$0.00
7310051	413012	Intelligent Energy Systems	Wind-Diesel Battery Hybrid for Kwigillingok	\$1,025,750.00	\$475,500.00	\$550,250.00	\$0.00
7310058	413013	Boschma Research, Inc	BRI Cylo-Turbine Energy Production	\$728,630.00	\$387,281.00	\$341,349.00	\$0.00
7310061	413014	Marsh Creek, LLC	High Efficiency Diesel Electric Generator Set	\$677,508.00	\$116,292.50	\$561,215.50	\$0.00
7310071	413015	Northwest Arctic Borough	Arctic Field Testing of the Eocycle EO-25/12 Wind Turbine	\$293,300.00	\$171,061.50	\$122,238.50	\$0.00
				\$8,127,568.00	\$2,202,921.26	\$5,924,646.74	\$0.00
RECAP:							
Fund Capitalization-Round 1				\$8,900,000.00			
Grant Budgets				-\$8,127,568.00			
Remaining Balance				\$772,432.00			
Less DC Award for Data Collection - Round 2				-\$345,000.00			
Fund Capitalization-Round 2				\$2,000,000.00			
Total Available for Grants				\$2,427,432.00 *			
* DC funds in the amount of \$10,839 remain uncommitted for Round 1. State funds of \$2,416,593 are available for Round 2 grants.							