

Welcome to the

2004 Alaska Rural Energy Conference!

Conference Schedule

Tuesday, April 27, 2004

7:30am Continental Breakfast

Registration Hotel Lobby

8:30am KEYNOTE ADDRESSES - Utilizing Alaska's Resources Foraker Room

(Chair: Mike Harper, Alaska Industrial Development & Export Authority / Alaska Energy Authority)

Welcoming Remarks Edgar Blatchford, Commissioner, AIDEA/AEA Co-Chair

Alaska Dept. of Community & Economic Development

Energy in Rural Areas Frank Murkowski, Governor, State of Alaska

(via video)

Resources in Rural Alaska Rod Combellick, Acting State Geologist

Alaska DNR Geological and Geophysical Surveys

Denali Commission Update Jeff Staser, Federal Co-Chair

Denali Commission

Regulating Utilities in Alaska Mark Johnson, Commissioner, Chair

Regulatory Commission of Alaska

10:00am BREAK

10:15am PLENARY SESSION 1

(Chair: Mike Harper, Alaska Industrial Development & Export Authority / Alaska Energy Authority)

Alaska Native corporations discuss energy needs for rural villages and resource development projects.

Cook Inlet Regional Corporation Carl Marrs, President & CEO

NANA Regional Corporation Walter Sampson, Vice President

Calista Corporation Matthew Nicolai, President & CEO

Doyon, Ltd. Orie Williams, President & CEO

12:00pm LUNCH Bistro

Cook Inlet Regional Gas Study Report Foraker Room

Charles Thomas, SAIC

1:30pm TECHNICAL SESSION I

A - Utility Management & Financing Ptarmigan Room

(Session Chair: Scott Ruby, Alaska Dept. of Community & Economic Development RUBA)

This session is designed for utility managers. Learn about the best practices, especially in developing and maintaining new bulk fuel storage facilities.

Rural Utility Business Advisor Program Greg Gould, Alaska Dept. of Community &

Training Opportunities Economic Development

Economic Development Training for Ann Campbell, Aurora Consulting

Management of Bulk Fuel Facilities

Tuesday, April 27, 2004 (Cont'd.)

B – Diesel Engines Caribou Room

(Session Chair: Chuen-Sin Lin, University of Alaska Fairbanks)

Discuss current state-of-the-art diesel electric technology, and improvements that are expected in the next few years.

Recent Experience with Diesel Engines Eric Marchegiani, Alaska Village Electric Cooperative

New Technology at Detroit Diesel Mike Atchley, Pacific Detroit Diesel-Allison

New Technology at Caterpillar Vigo Anderson, NC Power Systems

New Technology at Cummins Troy Lockes, Cummins Northwest, Inc.

C – Wind & Wind Hybrids Foraker Room

(Session Chair: Brad Reeve, Kotzebue Electric Association)

Grid-connected wind power is becoming common throughout the Lower 48 and the world, as wind system costs fall and technology improves. However, most small villages in Alaska are not tied to a larger grid, so matching generation and load is required for wind power to work in these areas. This session will discuss the challenges and opportunities for wind-diesel systems in small, isolated communities.

Operating Experience with NorthWind 100/19 Jesse Stowell, Northern Power Systems

AOC 15/50 Update Malcolm Lodge, Atlantic Orient Corporation

Estimating the Economic Value of Wind Power Myles O'Kelly, Independence Power & Energy

Consulting, LLC

2:30pm BREAK – Sponsored by Matanuska Electric Association

3:00pm TECHNICAL SESSION 2

A – Data Acquisition & Control Ptarmigan Room

(Session Chair: Dennis Meiners, Powercorp Alaska, LLC)

New computer and Internet technologies allow utilities to monitor, control, and manage remote generation sites. Learn about the new technologies, their current and proposed uses, and the changes coming to the electric industry in Alaska.

Remote Monitoring and Data Collection at Lenny Landis, Alaska Energy Authority

Alaska Energy Authority

Monitoring Data Collection and Remote Don Eller, Tanana Power

Reporting in Tanana

Experience with Control Systems Alan Langworthy, Powercorp Group

Automatic Meter Reading Systems John Andress, Ed Swartz, ABB/Elester

B – Heat Recovery Caribou Room

(Session Chair: Brent Petrie, Alaska Village Electric Cooperative)

Electrical power generation nearly always creates heat as a by-product. In remote areas where fuel costs are significantly higher than in urban areas, this heat can be very valuable, especially if it can be recovered to displace fuel used for heating and cooling. This session focuses on the technology and economics of heat recovery systems.

Capture of Heat Energy Chuen-Sen Lin, University of Alaska Fairbanks

Design Tips for Heat Recovery Systems Steve Stassel, Alaska Energy & Engineering

Absorption Chilling and Ice Production Jim Dakoozian, Locher Interests

Tuesday, April 27, 2004

C – Fuel Cells & Hydrogen Foraker Room

(Session Chair: Dennis Witmer, University of Alaska Fairbanks)

Fuel cells have been championed as a clean, highly efficient, reliable way of generating electricity. Examine the current state of development of this technology.

Demonstration Program for a 5 kW Gary Allen, Fuel Cell Technologies, Ltd.

SOFC System (Fairbanks, AK)

Reformation of High Sulfur Diesel Fuels Lyman Frost, Idaho National Engineering & for Fuel Cells Environmental Laboratory

Accumentrics Solid Oxide Fuel Cell Jim Buckley, Energy Alternatives

Demonstration at Exit Glacier

Methanol PEM Fuel Cell Project at UAF Dennis Witmer, University of Alaska Fairbanks

4:00-5:00pm IDEA SESSION Foraker Room

6:00-9:00pm Reception Lobby

Wednesday, April 28, 2004

7:30am Continental Breakfast

Registration Hotel Lobby

8:30am PLENARY SESSION 2 – Perspectives on Energy Policy Foraker Room

(Chair: Dennis Witmer, University of Alaska Fairbanks)

Focus on national and Alaskan programs that address both long-term research needs and immediate infrastructure needs for rural Alaska.

Energy for Rural Alaska: Work at the Eric Knox, Senior Policy Advisor,

US Department of Energy US Department of Energy

Remarks to the Alaska Rural Energy Lisa Murkowski, US Senator-Alaska

Conference (via video)

Challenges of Electric Utilities in Eric Yould, Executive Director

Rural Alaska Alaska Power Association

USDA Priorities in Rural Alaska Bill Allen, State Director,

USDA – Rural Development

10:30am TECHNICAL SESSION 3

A – Power Cost Equalization Program Ptarmigan Room

(Session Chair: Terri Harper, Alaska Energy Authority)

Utilities are steadily squeezing more kilowatt-hours from each gallon of diesel and increasing the use of local energy sources. However, non-fuel cost per kilowatt-hour continues to increase. This session focuses on these non-fuel costs and opportunities for more efficient operation.

Non-Fuel Efficiency Steve Colt, University of Alaska Anchorage

Non-Fuel Efficiency G. Nanette (Nan) Thompson, Regulatory

Commission of Alaska

Non-Fuel Efficiency Eric Yould, Alaska Power Association

Wednesday, April 28, 2004

B – Bulk Fuels Caribou Room

(Session Chair: David Lockard, Alaska Energy Authority)

Operating diesel electric generators in rural Alaska requires the management of large quantities of fuel, since barge access to villages can be limited to a few months each year. Bulk fuel storage requires significant investment and risk, since fuel leaks may cause significant damage to local water supplies, while clean-up costs are very high. This session will address the various aspects of management of these bulk fuel facilities.

The Business of Tank Farms Chris Mello, Alaska Energy Authority

Opportunities for Participation in RAFS Del Conrad, Rural Alaska Fuel Services

Bulk Fuel Design and Innovations Brian Gray, Alaska Energy & Engineering

C – Remote Power, Hybrid Systems, Storage Foraker Room

(Session Chair: Ron Johnson, University of Alaska Fairbanks)

What kind of power system best meets the goals of a community? What combination of diesel, wind, solar, and other resources makes the most sense? This session provides an update on tools that can help communities and utilities make decisions on designing and upgrading their energy systems.

Simulink Model for Economic Analysis & Richard Wies, University of Alaska Fairbanks

Environmental Impacts of a Photovoltaic System

Electric Power Quality of Distributed Richard Wies, University of Alaska Fairbanks

Generation Systems in Rural Alaskan Villages

Modeling Software for Wind & Renewable Ian Baring-Gould, National Renewable Energy Lab

Solar Battery Hybrid System in Lime Village David Trujillo, Sandia National Labs

Alaska Village Power Performance Project Ron Johnson, University of Alaska Fairbanks

12:00pm LUNCH Bistro

Status of European Wind Technology Development

Steve Gilbert, Chugach Electric Association Foraker Room

1:30pm TECHNICAL SESSION 4

A – Green Power Pricing Ptarmigan Room

(Session Chair: Steve Colt, University of Alaska Anchorage)

Consumer demand for Green Power has been demonstrated in the Lower 48. However, Green Power is often more expensive to produce than conventional power. This session will discuss the public support for Green Power Pricing programs, and the way that utilities can meet the demand for this product.

Policy/Economic Incentives for Renewables Lori Bird, National Renewable Energy Laboratory

Green Power at GVEA Association Kate Lamal, Golden Valley Electric

Green Pricing Study at Chugach Electric Peter Poray, Chugach Electric Association

B – Hydro Caribou Room

(Session Chair: Earl Ausman, Polarconsult Alaska, Inc.)

Hydroelectric is Alaska's chief source of renewable energy. This session addresses technical, economic, and regulatory aspects of developing small hydro projects.

Small Hydro in Alaska Robert Grimm, Alaska Power & Telephone

McRobert's Creek Hydroelectric Facility David Ausman, Polarconsult Alaska, Inc.

Small Hydroelectric Licensing Program Keven Kleweno, Regulatory Commission of Alaska

Wednesday, April 28, 2004

C – Biomass Foraker Room

(Session Chair: Peter Crimp, Alaska Energy Authority)

Wood remains a key energy source in the rural North. This session updates activities aimed at expanding wood energy and biofuels production in Alaska and Siberia.

Converting Wood Waste to heat Schools, David Nicholls, USDA Forest Service

Dry Kilns, and Other Facilities

Challenges for Rural Energy in Siberia and Tom Miles, TR Miles Technical Consultant

Far East Russia

Biomass to Ethanol in Southeast--an Update Fran Ferraro, Merrick & Company

2:30pm BREAK

3:00pm TECHNICAL SESSION 5

A – Large Scale & Regional Projects Ptarmigan Room

(Session Chair: Brent Sheets, US Department of Energy)

Large-scale mining operations require significant amounts of electrical power, and options other than diesel electric generators should be considered. The focus of this session is on several large-scale mining and regional power needs and proposed projects.

4S as a Suitable Energy Source for Rural Yoshiaki Sakashita, Toshiba Corporation

Areas

Galena Electric Power Options Study Marvin Yoder, City of Galena

Northwest Arctic Infrastructure Project Noel Janda, Comtec Business Systems

Southwestern Alaska Power Project Wes Nason, VECO Alaska, Inc.

B – New Fuels Caribou Room

(Session Chair: Clint Farr, Alaska Department of Environmental Conservation)

New EPA regulations for low sulfur fuels have caused concern among Alaskan utility managers about potentially higher fuel costs and changes in engine performance. This session updates fuel production trials and tests for suitability in diesel generators.

Clean Diesel Fuels Steve Bergin, ICRC

Diesel Fuels Test Stand at UAF Dennis Witmer, University of Alaska Fairbanks

Demonstrating the Use of Alaska Fish Oil John Steigers, Steigers Corporation

As Feedstock for the Commercial Production

of Biodiesel

C – Efficiency Foraker Room

(Session Chair: Rebecca Garrett, Alaska Energy Authority)

Energy costs can be significantly reduced through efforts to improve efficiency, especially on the user side. This session will focus on several programs intended to encourage reduced energy consumption while maintaining or improving level of service.

Rebuild America Program Heather Mulligan, US Department of Energy

Performance Contracting Joel St. Aubin, Alaska Department of

Transportation

Residential Efficiency Scott Waterman, Alaska Housing Finance Corp.

Wednesday, April 28, 2004

4:00-5:00pm IDEA SESSION Foraker Room

5:00-8:00pm Trade Show & Poster Session Hotel Lobby

Thursday, April 29, 2004

7:30am Continental Breakfast

Registration Hotel Lobby

8:30am PLENARY SESSION 3 Foraker Room

Challenges in Rural Energy Generation

(Chair: Mike Harper, Alaska Industrial Development & Export Authority / Alaska Energy Authority)

Remote regions of Russia, Australia, and Canada have many similarities to rural Alaska in areas such as energy supply, logistics, local capacity, renewable energy, and diesel fuel storage.

Russian Perspective on Remote & Rural Energy Lev Shtilman, Advisor to the Governor on Energy

Issues, Chukotka Autonomous Okrug

The Australian Experience Alan Langworthy, Managing Director, Powercorp

Canadian Perspective on Rural Power John Maissan, President, Leading Edge Projects

Operating a Utility in Rural Alaska William Igkurak, Utilities Director, Kwig Power Co.

10:00am BREAK

10:30am TECHNICAL SESSION 6

A – Village Scale Management Ptarmigan Room

(Session Chair: Jolene John, Alaska Energy Authority)

All small villages in Alaska must decide how to manage their local utilities. Some villages elect to manage their own systems, while others depend on larger regional utility companies for their services. Presentations in this session will be by both village and regional managers.

Village Scale Management in Kwigillingok William Igkurak, Kwig Power Company

Village Scale Management at Alaska Power Robert Grimm, Alaska Power & Telephone
& Telephone

Utility Management in Venetie Lance Whitwell, Native Village of Venetie
Tribal Government

B – Coal and Coalbed Methane Caribou Room

(Session Chair: Charles Thomas, SAIC)

Alaska has significant coal and coalbed methane (CBM) resources. However, to date these known resources have not been utilized in rural Alaska. This session will discuss several possible projects under consideration in rural Alaska.

Coal Resources in Alaska for Remote Villages Robert B. Stiles, DRven Corporation

Coalbed Methane in Fort Yukon Jim Clough, Alaska Dept. of Natural Resources

Microbore Technology for Small Scale Natural Virginia Weyland, National Energy
Technology

Gas Development Laboratory

Thursday, April 29, 2004

C – Future Technologies Foraker Room

(Session Chair: Nicholas Goodman, TDX Power, Inc.)

This session explores the technical and economic promise of developing untapped geothermal, hydrogen, and solar energy potential.

Geothermal Power in Dutch Harbor Jack Wood, Wood Family Trust (Geothermal/H2)

The Northwest Hydrogen Program Fred Brown, Department of Labor

Solar Power Heather Mulligan, US Department of Energy

D – Wind Energy Issues (2nd Session) TBA

(Session Chair: Reuben Loewen, Alaska Energy Authority)

This session will be a continuation of the wind discussions from Tuesday.

Alaska Wind Resource Assessment Program Reuben Loewen, Alaska Energy Authority

Yukon Wind Experience John Maissan, Leading Edge Projects, Inc.

Wind-Avian Issues Ellen Lance, US Fish & Wildlife Service

National Renewable Energy Laboratory Wind Lawrence T. Flowers, National Renewable
Program Update Energy Lab

12:00 IDEA SESSION & BOX LUNCH Foraker Room

(Session Chair: Jolene John, Alaska Energy Authority)

This session is a large group discussion of the ideas generated during the conference.

3:00pm WRAP-UP and ADJOURN Foraker Room