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Developing an Implementation Plan for the Alaskan MSRI Coalition

Workshop Summary - Final Report

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Workshop Summary - Final Report

Prepared by the
Florida Solar Energy Center and Sandia National Laboratories
June 6, 2001

Workshop Information:

Date: May 23-24, 2001
Time: 8:30 a.m. - 4:30 p.m.
Location: Alaska Cooperative Extension Service
2221 East Northern Lights Blvd., Suite 118
Anchorage, Alaska 99508

Attendees:

Larry Beaudry, Alaska Battery
Cary Bolling, Alaska Housing Finance Corporation
Mimi Burbage, Alaska Housing Finance Corporation
B.J. Compton, Polar Wire Products
Greg Egan, Alaska Renewable Energy
Jack Hanson, Evergreen Lodge
Brian Hirsch, Earth Energy Systems
Todd Hoener, Golden Valley Electric Association
Marvin Kuentzel, Polar Wire Products
Phil Loudon
George Menard, Invertech Alaska
Ginny Moore, Alaska Building Science Network
Mike Nelson, Western Solar Utilities Network
Jack Schmid, University of Alaska Fairbanks
Rich Seifert, Alaska Cooperative Extension, University of Alaska Fairbanks
David Stannard
Scott Waterman, Alaska Housing Finance Corporation
Conrad Zipperian

U.S. Department of Energy Representatives:

Heather Mulligan, Seattle Regional Office

Instructors:

Hal Post, Sandia National Laboratories
Jennifer Szaro, Florida Solar Energy Center

Jerry Ventre, Florida Solar Energy Center

Guest Speakers:
Tom Tongas, Kenai Fjords Tours, Solar Experience
Mike Nelson, Western Solar Utilities Network
Marvin Kuentzel, BP Solar Products
Brian Hirsch, Earth Energy Systems Ltd.

Reference Materials:

1. Workshop Manual entitled *Implementing a State Photovoltaic Buildings Program*, Florida Solar Energy Center, Cocoa, Florida, March 2000.

2. *Florida Photovoltaic Buildings Program: Status Report, Observations and Lessons Learned, FSEC-CR-1150-00,* prepared for Sandia National Laboratories, Florida Solar Energy Center, Cocoa, Florida, March 1, 2000.

Section 1. Basic Partnership Information

1) ***What are your goals?***

- The overall partnership goal is to install 500 solar systems by 2010, with the focus being on PV installations.
- Because of the far northern latitudes of Alaska, installations will not be limited to rooftop application to achieve the goal.
- The partnership may consider alternative methods of calculating the number of systems installed. It may prove more efficient to work with the PV industry to track installed capacity in kilowatts.

2) ***What are your financial resources?***

At the workshop, no significant sources of funds to subsidize the installation of solar systems were identified. Cary Bolling indicated that a revolving loan program was on the books, but currently is not funded.

3) ***Who are your utilities?***

- Workshop participants indicated that there are approximately 85 utilities in Alaska, including at least one investor-owned utility in Juneau. A more accurate count is

required.

- The City of Anchorage has one municipal utility and one rural electric cooperative.
- The City of Fairbanks has one rural electric cooperative, Golden Valley Electric Association.

4) ***Do you have partners representing the financial community?***

- Wells Fargo and Alaska USA provides low interest loans for solar systems as part of mortgage financing.
- Leasing packages are also available from BP Solar and Wells Fargo.

5) ***Do you have solar industry in the state?***

The solar industry in Alaska was well represented at the workshop, including five partners.

6) ***Is the coalition targeting both solar thermal and PV?***

- The emphasis is on PV and PV-wind hybrid systems.
- Solar thermal applications are limited. One possible application involves preheating ventilation air using solar walls.

7) ***Who are your advocates in the state legislature?***

No names were provided at the workshop.

8) ***What solar system applications do you currently have installed?***

- No estimates on the number of systems or installed capacity were suggested. Participants agreed that an inventory of existing systems, to the extent possible, would be useful.
- Essentially all of the existing applications were thought to be stand-alone or hybrid.

9) ***Is there technical support available in Alaska?***

- Yes, through the University of Alaska Cooperative Extension Service, which offers workshops, publishes a newsletter, responds to inquiries, and has developed a design manual.
- Technical support can also be provided by representatives of the solar industry. Marvin Kuentzel indicated that he would be offering PV training programs through BP Solar and Xantrex in the near future.

10) ***Does Alaska have uniform requirements for interconnecting to the electric utility grid?***

- The Alaska Public Utilities Commission oversees all utilities in the state, but has not yet addressed the issue of interconnecting small PV systems to the electric utility grid.
- The rural electric cooperatives can opt out of regulatory control of the interconnection process and establish their own interconnection requirements.
- Golden Valley Electric Association has established standards and requirements for interconnection.

11) ***Are there licensing and/or certification requirements for solar practitioners in Alaska?***

Neither currently exist in the state.

12) ***Does Alaska have widespread public information for solar?***

Public information is available through the Cooperative Extension Service.

13) ***Is there any solar curriculum in the schools?***

There is some solar energy curriculum in Anchorage.

14) ***Does the Alaska MSRI coalition have a web site?***

No, not yet.

15) ***Who are your major state-based corporations, and will they participate in the coalition?***

- The oil and gas industries are potential partners and should be approached.
- Native American corporations may also participate.

Section 2. Setting Goals

Topics Presented:

See reference 1, section 1, pp. 3-4, 36-37, and reference 2, pp. 7-8.

Participant Response:

- Alaska has established an MSRI goal of 500 solar system installations by 2010.
- Several enabling objectives were suggested, but the only relevant, measurable goal suggested was the one above.

Recommendations:

- Establish a realistic, achievable goal for solar installations over the next two to three years (say 40-100 systems) as a near term focus for the coalition.
- Actively pursue a solar for schools program, with assistance from local school districts, utilities, the Cooperative Extension Service, and the Alaska Department of Education. Among other things, this program should include the installation of grid-tied PV systems on schools.
- Perform an inventory of existing solar systems throughout the state.
- Identify success stories about solar applications and significantly increase the public's awareness of these applications using print and broadcast media.
- Develop strategically located showcase projects at parks, recreation facilities, tourist destinations, and tribal villages. Develop and distribute brochures and use a coalition web site to promote the benefits of these applications.
- Encourage state and local government to assume a leadership role in using solar energy systems on their buildings and facilities.

Section 3. Identifying Applications and Potential End Users

Topics Presented:

See reference 1, section 1, pp. 7-25, and reference 2, pp. 2-3, 8-14.

Participant Responses:

- Applications identified included tourist habitats and facilities, schools, lighting, telecommunications, recreation facilities, village power, weather stations, railroad crossings, and grid-tied systems.
- End users identified included the tourist industry, National Park Service, Coast Guard, Native American villages, utilities, schools, and government agencies (federal, state, local).

Recommendations:

- Alaska should pursue applications involving solar systems on schools because of the high visibility and because of the value added by the curriculum component that can be introduced into the classroom. Utilities and private corporations in other states have been receptive to supporting these applications. Curricula, teaching materials, and teacher training opportunities are readily available.
- Alaska and local government agencies should take the lead in pursuing solar installations on public facilities and buildings. This sends a clear message to the public of the importance and

high priority associated with pursuing clean, renewable energy.

- Application should be made for FEMP funds for solar installations on federal facilities and buildings, including the national parks. The DOE Seattle Regional Office can assist in this effort, as well as in identifying information on how to buy a PV system.
- Utilities should be strongly encouraged to buy, install, operate and maintain PV and PV-hybrid systems as part of distributed generation efforts.
- Although the majority of applications in the past have been stand-alone PV systems, the coalition is encouraged to actively pursue grid-tied applications. Even though there is a poor match between seasonal demand for electricity and PV production, grid-tied systems are simpler, less expensive, better serve the larger population centers, reduce the consumption of valuable fossil fuels, and reduce both pollution and carbon emissions. In addition, grid-tied systems with net metering and carry-forward credits accrued during the spring and summer months may appeal to homeowners, especially if additional subsidies are provided through proposed system benefit funds.

Section 4. Overcoming Barriers

Topics Presented:

See Reference 1, section 1, pp. 9-11, 36-37, section 3 (entire), and reference 2, pp. 4-5, 17.

Participant Responses:

The following issues and barriers were discussed: installed system prices; interconnection requirements; utility acceptance, participation and programs; various forms of rebates and subsidies; green programs; codes, covenants and restrictions; and the need for public education and the marketing of solar applications.

Recommendations:

- The coalition should actively pursue expansion of membership to include multiple utility partners, and collaboration with the oil and gas industry.
- Utility green programs should be strongly pursued, and net metering with provisions to carry forward credits for excess electricity delivered to the grid should be investigated.
- A state fund to subsidize the cost of alternative energy use should be pursued by the coalition and included in their implementation plan.

Section 5. Ensuring and Improving Quality

Topics Presented:

See reference 1, section 1, pp. 26-28, sections 4, 5, 6, 7 and 9 (entire), and reference 2, pp. 5-6, 17-19.

Participant Responses:

- Quality measures discussed included: module testing and rating; system design review and approval; installer training and certification; acceptance testing; and permitting and inspection.
- The quality measure that elicited the strongest favorable response was installer training and certification.

Recommendations:

- The Alaska coalition should continue to offer training opportunities for solar practitioners.
- As the market expands, consideration should be given to establishing a voluntary practitioner certification program. Standards for practitioner certification are presently being developed by the North American Board of Certified Energy Practitioners.
- If and when a grid-tied market develops, a more comprehensive program for quality control should be implemented, and should include both hardware and practitioner certification, and the training of code officials.

Collecting Information, Sharing and Improving

Topics Presented:

See reference 1, section 1, pp. 29-37, sections 8 and 10 (entire), and reference 2, pp. 6-7, 19-21.

Participant Responses:

- Topics discussed included monitoring performance and collecting reliability and cost data.
- Also discussed was the use of databases, web pages, the Internet and attractive brochures and publications to make information more accessible and usable to larger audiences.

Recommendations:

- Alaska should proceed with plans to develop a web site for the coalition to facilitate networking and sharing information and lessons learned.
- In the interim, information and data from the following web sites should prove useful to the coalition:

Million Solar Roofs Initiative (**www.eren.doe.gov/millionroofs**)
Sandia National Laboratories (**www.sandia.gov**)
National Renewable Energy Laboratory (**www.nrel.gov**)
Interstate Renewable Energy Council (**www.irecusa.org**)
Green Power Network (**www.eren.doe.gov/greenpower**)
Florida Solar Energy Center (**www.fsec.ucf.edu**)

Section 8. Action Items

1) ***Action:*** Establish an identity.
Responsible: Entire coalition.
Deliverable: As of May 24, 2001, the coalition adopted as their new name the *Alaska Sun*.

2) ***Action:*** Research solar access, including codes, covenants and restrictions, and solar loan programs.
Responsible: Cary Bolling
Deliverable: Status report due June 15, 2001.

3) ***Action:*** Prepare an implementation plan.
Responsible: Todd Hoener
Deliverable: Draft plan due June 30, 2001.

4) ***Action:*** Develop a plan to coordinate technical training.
Responsible: Marvin Kuentzel
Deliverable: Status report due July 15, 2001.

5) ***Action:*** Perform an inventory of existing and new applications.
Responsible: Rich Seifert, Todd Hoener, Marvin Kuentzel
Deliverable: Status report due September 1, 2001

6) ***Action:*** Perform a market survey.
Responsible: Todd Hoener
Deliverable: Status report due October 31, 2001

7) ***Action:*** Develop public education, outreach program, and web site.
Responsible: Rich Seifert and Greg Egan.
Deliverable: Status report due ??.

8) ***Action:*** Endorse the establishment of a systems benefit fund to support renewable energy development.

Responsible: Todd Hoener
Deliverable: Status report due ??.