

DC Award Description:

This award of \$153,000 is a continuation of the original Remote Monitoring and Metering project from expired award 0048-DC-2002-11 (Alaska Energy Authority project number 403004). The Remote Monitoring and Metering project provides support for the development of reliable communications and data capture for Powerhouse Modules constructed in rural Alaska under the RPSU program

Intended Deliverables:

1. Upgrade existing and install new software, hardware and connectivity in support of the Supervisory Control and Data Acquisition (SCADA) systems for diesel and renewable power in rural independent utilities.
 - a. Develop open and robust hardware platform in the switchgear for SCADA implementation.
 - b. Upgrade the existing Supervisory and Control (the “S” and “C” in SCADA) software and hardware. Drivers are first and continued cost, reliability, ease of use for operators and technicians.
 - c. Improve reliability and throughput of internet connectivity to rural powerhouses.
 - d. Develop a new Data Acquisition system (the “D” and “A” in SCADA) to capture, store and report on energy information. The trended data will be used to track efficiency and reliability. It will assist in preventive and reactive maintenance. Detailed and accurate information on energy demand is needed to properly developed and specify viable renewable energy systems. The information will also provide long term measurement and verification of an energy projects performance.

Activities Undertaken:

1. Make evolutionary changes in the switchgear hardware
2. Independent engineering evaluation of existing SCADA software
3. Solicit and retain SCADA programming contractor
4. Procure data storage server
5. Make evolutionary improvements in the supervisory and control software
6. Install new and upgrade existing internet connectivity to powerhouses
7. Develop an alpha version of data acquisition software
8. Develop monitoring system to integrate with the new electronically controlled engines
9. Review dynamic domain name service (DDNS) options and begin migration

Pending Tasks:

1. Review and select connectivity monitoring software
2. Setup and deploy data store server
3. Deploy connectivity monitoring software
4. Complete migration to DDNS
5. Make revolutionary improvements in the supervisory and control software
6. Continue development of data acquisition software to beta version
7. Develop data acquisition reporting
8. Make energy data available to selected entities and then to general public
9. Migrate responsibility of monthly connectivity invoices to utilities

Anticipated Completion:

3/31/2011