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Alaska Energy Authority Program Fact Sheet:

Rural Power Systems Upgrade Program

Current Status:

Fifty one communities have benefited from powerhouse and distribution upgrades from 2000 to December 2011. Nine additional community powerhouses are currently under construction or scheduled for FY2012. Eleven additional communities are in conceptual design or final design stage. Unalakleet, Chignik Bay (distribution) and Tazimina (hydro) are the latest projects to be completed. Hoonah, McGrath, Ruby, Takotna (distribution), and Yakutat currently under active construction with crews on site.

In an effort to prioritize the power system upgrades AEA has begun a project to update the evaluation inventory of rural power systems throughout the state. It is expected this will be completed in FY2013.

Program Background:

The Rural Power System Upgrade (RPSU) program concentrates on power production and delivery, including diesel powerhouses, hydroelectric, and electrical distribution. Typical projects include powerhouse upgrades or replacements, distribution line assessments and upgrades, line extensions to new customers, demand-side improvements and repairs to generation and distribution systems. Efficiency, reliability, safety and sustainability are primary drivers throughout the conceptual design, final design and construction process. Identification, development and integration of available renewable energy sources is a high priority. It is not uncommon to see a 30% - 40% increase in fuel savings after a new powerhouse project is completed.

The program effort includes:

- Rebuilding or replacement of old, hazardous, worn out, inefficient and non-code compliant diesel generation, hydroelectric turbines and distribution systems;
- Inclusion, integration and collaboration with heat recovery systems and viable renewable energy projects;
- Utilization of local force account labor and technical assistance to rural communities through AEA personnel and/or contractors with experience in rural construction.

Program Progress:

Electricity provides for lighting, communications, heat and power necessary to operate infrastructure that supports all other elements needed in any community to permit safe and healthy living conditions. In rural communities throughout Alaska, electricity is generated by a small local "system" (generation

and distribution) using diesel fuel at a cost that is three to five times higher than in urban parts of the state. Of the 200 rural communities, approximately half are served by cooperatives or another multi-site utility that performs under a well-established organization. Others are served by very small single-site utilities, many which experience technical and administrative problems due to lack of economies of scale and/or lack of specialized skills in the community. The RPSU program targets these smaller entities.