Organic Rankine Cycle Field Testing

Grantees	University of Alaska Fairbanks (Non Profit Entity)
Technology Type	HEAT RECOVERY
Region	Railbelt
AEDG Project Code	10234

REF Grants Received

Round	App	Grant Title	Grant #	AEA Project #	Phase	Start Date	End Date	Status
4	658	Organic Rankine Cycle Field Testing	7040046	403054	Feasibility	7/1/11	12/31/13	Closed

Grant 7040046: Organic Rankine Cycle Field Testing

Project Scope: The Alaska Center for Energy and Power will conduct the installation and field testing for a 50 kW pre-commercial ORC unit to understand the efficacy of generating power using recovered waste heat from a mid-sized rural power plant. The first phase of this project (funded through the Denali Commission and AEA) performed laboratory testing of the 50 kW unit. The field testing will include: performance data collection and analysis; evaluation of operation and maintenance requirements; economic analysis of potential power generation / cost savings; establish guidelines for future ORC applications throughout rural Alaska; and develop a methodology for selecting appropriate village sites. The analysis of the 50 kW unit will be compared to a 250 kW ORC unit presently being tested in Cordova. The 250 kW ORC unit testing is funded through a separate program.

Data will be collected and analyzed in the following areas: Overall efficiency of the system relative to fuel consumption and power output under varying load and environmental conditions, operational/maintenance requirements, number, type, and frequency of unit failures and required repairs, economic feasibility, measured reduction in fuel consumptions, measured effect on emissions and GHG production.

Prerequisites for AEA grant reimbursement are acceptance of the final report from the laboratory testing of the 50 kW pre-commercial ORC unit and the operational plan for the 50 kW unit to include the time after the field testing is conducted.

Project Status: The University of Alaska Fairbanks - Alaska Center for Energy and Power (ACEP) has submitted the final report for this project, and the grant is closed.

As of Nov. 30, 2013	Budget	Expenditures
Renewable Energy Funding	$472,787.00	$472,787.00
Other State Funding	$0.00	$0.00
Total State	**$472,787.00**	**$472,787.00**
Required Local Match	$0.00	$0.00
Federal Grant Funding	$0.00	$0.00
Total Project Costs	**$472,787.00**	**$472,787.00**