

Cordova Heat Recovery

Grantees	Cordova Electric Cooperative (Utility-Cooperative)
Technology Type	HEAT RECOVERY
Region	Copper River/Chugach
AEDG Project Code	10025

REF Grants Received

Round	App	Grant Title	Grant #	AEA Project #	Phase	Start Date	End Date	Status
1	22	Cordova Heat Recovery Construction	2195407	403028	Construction	8/20/08	6/30/13	Closed

Grant 2195407: Cordova Heat Recovery Construction

Project Scope: The project is to capture waste heat by installing an Organic Rankine Cycle (ORC) heat recovery unit on a new high-efficiency, low-emissions diesel generator, which will increase diesel generator electrical production by an additional 4-6%.

The average electric production efficiency of CEC's Orca Power Plant is 13.65 kWh/gallon of diesel. CEC has already placed a deposit on and will purchase and install the new, efficient generator (characteristics: 3.6 MW rated, EMD 710 series, 20-cylinder). The efficiency of the new generator is expected to peak at 15 kWh/gallon. The addition of the ORC will increase the generator's fuel efficiency by nearly 20% over CEC's average fuel efficiency. The new generator will supplement CEC's existing fuel generators and meet emergency redundancy needs.

Marsh Creek Energy Systems has been selected to design and manage construction of expansion of the Orca Power Plant to accommodate a new generator and heat recovery unit including installation of both units.

Project Status: Since start-up, Cordova Electric has been operating almost exclusively on hydroelectric power with just short runs of the diesel system. The Organic Rankine Cycle only functions during extended runs of the diesel system and has not been required.

As of Nov. 30, 2013	Budget	Expenditures
Renewable Energy Funding	\$1,780,000.00	\$1,780,000.00
Other State Funding	\$0.00	\$0.00
Total State	\$1,780,000.00	\$1,780,000.00
Required Local Match	\$1,990,000.00	\$2,017,652.00
Federal Grant Funding	\$0.00	\$0.00
Total Project Costs	\$3,770,000.00	\$3,797,652.00