

Agency: Commerce, Community and Economic Development

Grants to Unincorporated Communities (AS 37.05.317)

Grant Recipient: Chalkyitsik

Project Title:

Project Type: Equipment and Materials

Chalkyitsik - Energy Efficient Diesel Generator Installation

State Funding Requested: \$26,000

House District: 6 / C

One-Time Need

Brief Project Description:

To provide match to a DOE federal grant to install an advanced energy efficient diesel generator in power house. This is Chalkyitsik 2nd. priority.

Funding Plan:

Total Cost of Project: \$64,000

	<u>Funding Secured</u>		<u>Other Pending Requests</u>		<u>Anticipated Future Need</u>	
	<i>Amount</i>	<i>FY</i>	<i>Amount</i>	<i>FY</i>	<i>Amount</i>	<i>FY</i>
Federal Funds	\$38,000	2010				
State Funds					\$26,000	
Total	\$38,000				\$26,000	

Detailed Project Description and Justification:

Chalkyitsik Traditional Council applied and received a Department of Energy Energy Efficiency Conservation Block Grant (EECBG) in the amount \$38,000 for the purposes on installing a fuel efficient diesel generator. An additional \$26,000 is required to cover freight and installation which is described below:

I. Project Description: The Chalkyitsik Traditional Council will administer the EECBG funds for the purchase and installation of a new 117kW fuel efficient diesel generator set for the village-owned powerplant. This equipment will replace an old generator set that has reached the end of its life, cannot meet village loads and has poor fuel efficiencies.

It is critical that this engine be replaced as soon as possible and before the beginning of winter when overall fuel consumption increases. Last year the average cost of fuel delivered to the community was \$4.48 per gallon, which can only be delivered to Chalkyitsik by air in small quantities.

In recent years small diesel generator set fuel efficiency has improved significantly through the use of electronic control and aftercoolers on the engines. This means better fuel consumption is maintained over a wider spectrum of kW output than in earlier diesel engines. "Wet stacking" of a lightly loaded generator set becomes less of a problem. Wet stacking translates to increased maintenance.

It is estimated that the village can save \$9,500 - \$10,500 annually.

For use by Co-chair Staff Only:

\$26,000
Approved

5:21 PM 5/4/2010

II. Funds Leveraged: Chalkyitsik Village Council will leverage \$26,000 (CIP request) toward the project.

III. Action Items

- A) Request for Proposals for Supply and Installation of a New 117KW Diesel Generator Set
- B) Communicate to community the purpose and process for the project to set expectations
- C) Administer the Diesel Generator Supplier contract.
- D) Install the new generator set and related accessories.
- E) Close out project and meet initial reporting requirements
- F) Attend to additional EECBG reporting requirements

IV. Metrics and Accountability

Actual powerplant kWh generated and fuel used will be compared to historical baseline data already available from the prior 12 months. A goal of 7%-9% in reduction in the powerplant's fuel diesel consumption can be achieved.

Budget breakdown:

Generator Purchase: \$38,000
 Installation: \$18,000
 Freight: \$ 8,000

 Total: \$64,000

Project Timeline:

With approval of this CIP, installation and operation will be accomplished by fall, 2010.

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

CTC owns and operates the electrical utility.

Grant Recipient Contact Information:

Name: Chalkyitsik Traditional Council
 Address: P.O. Box 57
 Chalkyitsik , AK 99788
 Phone Number: (907)848-8117
 Email: willie_salmon07@yahoo.com

Has this project been through a public review process at the local level and is it a community priority? Yes No

For use by Co-chair Staff Only:

5:21 PM 5/4/2010

BUDGETARY NEW GENERATOR SET COST ESTIMATE

ITEM	Notes
117Kw Deere 4045HF485 179HP	
117kW Marathon 431RSL4005 Generator	Alt. Model 431CSL6202 Magnaplug + PMG
3.3" x 5/8 Mag P/U, bushing, plug	
PV100 to interface w/GCP-31(EFI only)	
Hoffman Box, Din Rail, etc for V/R & PV100	
Paralleling CT's	
Wiring Harness	
Crydom Starter Relay D1D40L	
30A DC C/B, Cooper # BP/CB185-30 or =	
A/F Vacuum sensor, Noshok 100-30V-1-1-2-7	
A/F Temp sensor, Noshok 800-20/240-1-1-8-8-025-6	
Donaldson A/C: G150092 (6090 & 6081) G090250 (4045)	
A/C Indicator X002251	
A/C bands, bonnets	
A/Cleaners hose/tube/clamps	
Murphy L129CK1 Oil level gauge	
Murphy EL150K1 Coolant switchgauge	
EGT, Eustis RHB6B2010	
VDO H2O switch 323478D 805/1/4	
VDO O/P switch 360410D 32/1	
Silencers, DCK2 4"(425), 5"(626), & 6"(789)	reuse existing
Rain Caps-SS, 4, 5, & 6" NPT	reuse existing
Exhaust Flex	
5' Fuel Lines A/Quip (2 ea)	
Oil Drain Line A/Quip	
Glycol Filter 24019 & 24069	
Coolant Lines including Misc Hose/Fittings	
2" Steel Tube Coolant Extensions	
Caldyne Isolators (RJC 2)	reuse existing
Pulley Guards	
Drip Pan 14 GA	
Batteries 8D's (2 for 24V)	
Battery cables (Need 12" jumper for 24V)	
Battery rack (2 for 24V)	reuse existing
Charles Charger AA2420-H-L-P-R (12V marine)	
12 each O/F	
4 each F/F	
3 each A/F P150692 \$46) & (26)	
(Wix 46770 for 6081 & 6090)	
4 each 24069 glycol filters	
O & M Parts Manual	
O & M Operators Manual	
Deere Service Manual	
O & M Copies/reproduction	
Skid Frame	
Paint and Misc. Materials	
Testing; Fuel	
Oil & Fluids	
Labor	
Packaging	
Diesel Radiator Charge Air Cooler	
Load Share Module 9907-252	
VFD for CAC control	
Autostart Module	
BUDGETARY AEQUIPMENT AND MATERIALS ESTIMATE	\$41,000

BUDGETARY NEW GENERATOR SET COST ESTIMATE

INSTALLATION ESTIMATE	\$17,620

INSTALLATION (Estimate Only)

CAC Piping

Misc parts (C/B disconnect for CAC)

Labor (10 days x 12 hours/day)

Assumes good village help to remove existing, etc.

Freight-Tools (1K #)

Freight-Genset (5K #)

Airfare

PDiem

Customer furnished room

TOTAL COST ESTIMATE	\$58,620