

Agency: Commerce, Community and Economic Development

Grants to Named Recipients (AS 37.05.316)

Grant Recipient: Tatitlek IRA Council

Federal Tax ID: 92-0071372

Project Title:

Project Type: Equipment and Materials

Tatitlek IRA Council - Power Generators Repairs and Replacement

State Funding Requested: \$26,605

House District: 5 / C

One-Time Need

Brief Project Description:

Project includes the replacement of a failing generator with a new fuel efficient diesel generator. Project also includes repairs to the two remaining generators.

Funding Plan:

Total Cost of Project: \$64,405

	<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	\$37,800	2009				
Total	\$37,800					

Detailed Project Description and Justification:

The Tatitlek IRA Council has secured funding from the US Dept of Energy through the Energy Efficiency Conservation Block Grant program in the amount of \$37,800. The project is to fund the replacement of the oldest diesel power generator with a new, more fuel efficient diesel power generator. It is estimated that Tatitelk will save between 3,000 and 5,000 gallons of diesel fuel annually with this new generator.

The Tatitlek IRA Council is requesting \$18,445 to address the matching costs for this generator replacement project over the amount received from DOE.

In addition, repairmen have been called in this winter to address more immediate problems with this older generator in order to keep it running in the interim period before the new generator can be ordered. Upon their arrival to the Tatitlek power plant, it was discovered that additional work would need to be completed before the new generator could be installed and that repairs to the two remaining generators would be necessary to enable Tatitlek to rely on them as back-ups. Amount requested for these repairs and modification is \$8,160.

Total Project Cost: \$64,405

Federal Grant: \$37,800

State Request: \$26,605

Project Timeline:

This project will be completed by the second week of October 2010.

For use by Co-chair Staff Only:

\$26,600
Approved

6:26 PM 5/4/2010

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

Tatitlek Electric Utility

Grant Recipient Contact Information:

Name: David Totemoff
Address: P.O. Box 171
Tatitlek, AK 99677
Phone Number: 325-2311
Email: totemoffdavid@yahoo.com

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

Feb 11, 2010

Tatitlek Electric Utility

Job# TE05321001

Received call from Curtis in Tatitlek (plant operator) that they has many problems with their gensets, and the tech that they usually have perform work for them was unavailable. He needed a tech to travel to the village, troubleshoot the problems, and make a parts list, so that a second trip could be scheduled to perform the repairs. Kent Barber was sent to Tatitlek, where he met w/ Curtis, and traveled to the power plant. First, Curtis explained that there was a problem with the day tank, and that when it was in automatic fill mode, it would overflow, and cause a fuel spill. Curtis would come into the plant every 6 hours, and turn on the pump to fill the tank, then turn it off when it was full. Kent troubleshoot faulty relays and float switches that control the pump motor.

Upon looking at the problems with gen#1, Kent found that a faulty start/ stop module was causing ht starter to be engaged while the engine was already running. This engine also had a very bad oil leak caused by leaking turbo oil drain line. It was also found that several portions of the exhaust system were cracked, and causing soot to plug up the air filters. Curtis had told Kent that they already had a guy come out to get measurements, and will return to completely repair the exhaust system.

Kent then looked at generator #2 which shuts down randomly on an underspeed fault. Although it did not occur while Kent was onsite, it will need to be observed in order to troubleshoot further. All 3 gensets were observed to need new batteries, and Curtis said that they would get and install new ones.

While talking to Curtis, Kent realized that Curtis really didn't have a very good understanding of how to properly operate the power plant. It is recommended that about 4hrs of training is provided to Curtis to give him the basic knowledge needed to operate the generators properly. Kent also recommended that a fuel return circuit be plumbed in from the day tank to the main bulk tank, so that in the event of an overflow of the day tank, the excess fuel gets returned to the bulk tank instead of being spilled.

Kent made a parts list, and traveled back to Anchorage. Upon his return, I found out that the power plant fuel meter was inoperable, and needed to be replaced. This was not brought up to Kent during his initial trip.

The repair recommendations here are separated into two sections. The first is for repairs that are considered to be most urgent, and the second is for repairs that are important, but not quite as urgent.

Primary repairs to be completed:

1. Replace day tank motor relays, and level float switches (to prevent overfilling)
2. Replace inoperable fuel meter.
3. Replace Magnetic Pickup, and ECU57N (start/stop module) on Gen #1 (to prevent starter engagement while running)
4. Replace Gen #1 turbo oil drain line (currently leaking very badly)
5. Perform 4hrs of operator training for the Plant Operator (Curtis), to give him the knowledge that he needs to perform his duties properly.
6. Observe Gen #2 to check for intermittent shutdowns, and troubleshoot further. This can be done while the work listed above is being performed.

NOTE: The exhaust system repair , and the cranking battery replacement are being handled by the village utility, therefore they are not included in this recommendation.

Secondary repairs:

Design and install a fuel return circuit from the day tank to the bulk tank, allowing fuel to return to the bulk tank in the event of an overfill condition of the day tank. This would prevent a spill from occurring during a malfunction of the day tank controls.

Michael V. Witham

Service Manager

Marsh Creek LLC

TATITLEK NEW GENERATOR SET COST ESTIMATE

ITEM		
90Kw Deere 4045HF285 Tier 3		\$ 9,670.00
90kW Marathon 363CSL1607Generator		6,464.50
3.3" x 5/8 Mag P/U, bushing, plug	with engine	
PV100 to interface w/GCP-31(EFI only)		341.25
Hoffman Box, Din Rail, etc for V/R & PV100		437.50
Paralleling CT's		37.50
Wiring Harness		218.75
Crydom Starter Relay D1D40L		77.50
30A DC C/B, Cooper # BP/CB185-30 or =		75.00
Donaldson A/C: G150092 (6090 & 6081) G090250 (4045)		252.50
A/C Indicator X002251		20.00
A/C bands, bonnets		76.25
A/Cleaners hose/tube/clamps		56.25
Murphy L129CK1 Oil level gauge		106.25
Silencers, DCK2 4"(425), 5"(626), & 6"(789)		750.00
Rain Caps-SS, 4, 5, & 6" NPT		75.00
Exhaust Flex		218.75
5' Fuel Lines A/Quip (2 ea)		375.00
Oil Drain Line A/Quip		250.00
Glycol Filter 24019 & 24069		42.50
Coolant Lines including Misc Hose/Fittings		625.00
Caldyne Isolators (RJC 2)		400.00
Pulley Guards		187.50
Batteries 8D's (2 for 24V)		187.50
Battery cables (Need 12" jumper for 24V)		118.75
Battery rack (2 for 24V)	reuse existing	
Charles Charger AA2420-H-L-P-R (12V marine)	reuse existing	
12 each O/F		99.00
4 each F/F		73.00
3 each A/F P150692		138.00
(Wix 46770 for 6081 & 6090)		225.00
4 each 24069 glycol filters		175.00
O & M Parts Manual		62.50
O & M Operators Manual		31.25
Deere Service Manual		75.00
O & M Copies/reproduction		125.00
Skid Frame		1,875.00
Paint and Misc. Materials		62.50
Testing; Fuel		93.75
Oil & Fluids		93.75
Labor		8,250.00
Packaging		225.00
Diesel Radiator Charge Air Cooler		2,558.00
Load Share Module 9907-252		1,500.00
VFD for CAC control		1,250.00
Autostart Module		250.00
BUDGETARY EQUIPMENT AND MATERIALS ESTIMATE		\$38,225
BUDGETARY NEW GENERATOR SET COST ESTIMATE		
INSTALLATION ESTIMATE		\$18,020
INSTALLATION (Estimate Only)		
CAC Piping		\$ 1,000.00
Misc parts (C/B disconnect for CAC)		1,000.00
Fabrication of new exhaust system		920.00
Mechanic / Electrician (10 days x 12 hours/day)		10,900.00
Freight-Tools (1K #)		500.00
Freight-Genset (4.5K #)		2,600.00
Airfare		500.00
Per Diem		600.00
Customer furnished room	\$	-
TOTAL COST ESTIMATE		\$56,245

Installation estimate based upon availability of local labor during installation & projected local conditions.



Tatitlek Electric Utility

Estimate cost of repairs to power plant, and additional items needed to complete install of new John Deere generator set.

Primary repairs as listed in Service Report:

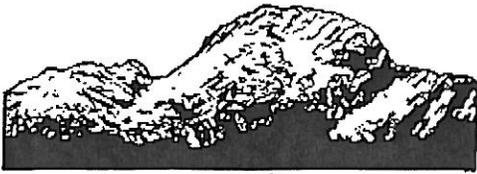
Labor: 30hrs @ \$115/hr	\$3,450.00
Parts:	\$1,800.00
Air Fare:	\$ 300.00
Per Diem (x3)	\$ 180.00
Total:	\$5,730.00

Secondary repairs (day tank return plumbing):

Labor: 14hrs @ \$115/hr	\$1,610.00
Material:	\$ 700.00
Per Diem (x2)	\$ 120.00
Total:	\$2,430.00

Grand Total: \$8,160.00

Michael V. Witham
Service Manager
Marsh Creek LLC
907.343.0383 Office
mike.witham@marshcreekllc.com



Tatitlek Village IRA Council

"God's Country, USA"

2-9-2010

Senator Kookesh,

With the time lines on this request we hope that we will be able to get matching funds for a new generator for our Village for delivery and install we will be working with your office on this.

David Tolson

IRA Village President