Submission Date: January 22, 2008 Priority: 1 of 1

# Ted Stevens

United States Senator for Alaska

Please Note:
- Fill out one request form for each request
- This form (and any attachments) can be returned via:

Fax - (202) 224-2354
Mail - The Honorable Ted Stevens
United States Senate
522 Hart Senate Office Bldg.
Washington, D.C. 20510

- **Requests are due by February 15, 2008.**

## FISCAL YEAR 2009 PROJECT REQUEST FORM

Project Name: Power Generation Upgrade in Western Bristol Bay

Project Location: Dillingham, Alaska

Project Description (please attach additional pages as required):

We respectfully request financial assistance to make generation plant replacements and upgrades in the economically distressed western Bristol Bay area of Alaska without further increasing extremely high-energy costs that are already triple the national average. These replacements and upgrades, expected to cost approximately $5.4 million total, are required for Nushagak Cooperative to continue providing adequate and reliable electric service. Nushagak Cooperative requests $1.8 million in federal matching assistance for FY09. The total project scope includes the replacement of obsolete diesel generators, construction of un-heated storage facilities for material and equipment, and the upgrade of our supplemental heat system, distribution substation, fuel transfer infrastructure, and fuel tank farm.

Related Appropriations Bill: EWD / Agriculture

Amount of federal funding requested for FY09: $1,800,000.00

Total funding to complete this project: $5,400,000.00

Number of years to fund this project: 5

Matching funds from the State of Alaska: 0.00

Matching funds from local and private entities:

Nushagak Electric and Telephone Cooperative "in kind" contributions exceed $700,00.00 to date and are expected to total approximately

If this project was funded in prior appropriations bills (within the last five years), list each bill and the amount funded:

EWD / Agriculture - 2005
$1,000,000.00

The Denali Commission - 2006
$1,368,627.00

Amount included in the President's FY09 Budget: 0.00

Amount included in the State of Alaska FY09 Budget: 0.00

☒ Check this box if state funding was sought but not provided.

List legislation that authorizes this project:

Check all that apply:

☐ A change in the current law is necessary in order to proceed with the project. (If so, attach language and a list of laws that need to be amended)

☐ Bill or report language is needed. (If so, attach requested language)

# Nushagak Electric & Telephone Cooperative, Inc.

## Power Generation Upgrade Project
## For Western Bristol Bay,
## Dillingham, Alaska

**Executive Summary**
*Amended 2Q, 2007*

Nushagak Electric & Telephone Cooperative Inc., (NETC), generates and distributes electric power to Dillingham, Alaska and the surrounding area. Operating successfully in this environment recently designated as "economically distressed" due to the severe decline of the only major industry (commercial fishing), poses unique challenges. Our response to those challenges has been the development and implementation of a Power Generation Upgrade Project to ensure adequate and reliable power for our community.

NETC initially proposed replacing existing diesel generation at its' Dillingham power plant with new generators, an upgrade of the existing bulk fuel storage containment facility, and the refurbishing of the associated supplemental heat (hot water) recovery system. At the halfway stage of this project it has been decided to amend the project scope to incorporate forward looking cost saving aspects based on distribution upgrades and a covered material/equipment storage structure.

Federal grant funding for part of this project was allocated to the Cooperative and administered through the Denali Commission in 2005 for the initial phase. Subsequently, the Denali Commission awarded grant funds to the Cooperative in 2006 to continue this project. To date, grant funding has totaled $2,311,027.00. Internal "in kind" contributions have already exceeded $550,000.00 and are expected to total approximately 1.3 Million upon project completion. At this time, Nushagak Electric & Telephone Cooperative, Inc. is requesting an additional 1.8 Million dollars in grant funding to complete the project in its entirety.

**Phase one**, completed in 2006, consisted of the replacement of two Caterpillar 3516s (installed in 1984) with two new dual fuel capable Caterpillar 3512b's funded in 2005 with Federal grant monies administered through the Denali Commission. During that same time frame the Cooperative upgraded its' supplemental heat system as planned. In addition, the Cooperative enhanced existing electric service by overhauling a relatively new 1050kW Caterpillar 3512b and rebuilding an older 1,135kW Caterpillar 3516.

**Phase One:** **Completed: 2006**

| | | |
|---|---|---|
| Federal Grant Award: | | $ 942,400.00 |
| Generation | $ 668,967.00 | |
| Supplemental Heat | 273,433.00 | |
| "In-kind" Contribution: | | 396,520.00 |
| Sub-total Phase one: | | $ 1,338,920.0 |

$942,400.00 grant funds expended (28% of requested funding)
$1,338,920.00 total expended (33% of projected funding)
Percent of project complete: 33%

**Phase two**, initiated in the summer of 2006 to be completed in the fall of 2007, will address additional generation capacity and bulk fuel storage. With grant funding allocated by the Denali Commission the Cooperative will purchase and install two additional new dual fuel 3512C Caterpillar generators to replace a Superior Series 40 750kW generator installed in 1974 and a Superior Series 40 1000kW generator installed in 1976, replace the tank farm containment facility liner, clean and inspect the bulk fuel storage tanks, and replace the greater part of the on site buried fuel transfer system.

**Phase Two:** **Scheduled Completion: 2007**

| | | |
|---|---|---|
| Denali Commission Grant Award: | | $ 1,368,627.00 |
| Generation | $ 950,000.00 | |
| Bulk Fuel Storage/Transfer | 418,627.00 | |
| Projected sub-total "In-kind" Contribution: | | 500,000.00 |
| Sub-total Phase Two: | | $ 1,868,627.00 |

$2,311,027.00 grant funds expended (68% of requested funds)
$3,207,547.00 total expended (75% of projected funding)
Percent of project complete: 75%

Phase three of this project has been amended to address substantial ongoing maintenance costs and the excessive liability incurred with the existing non-redundant design of the distribution plant. A Superior Series 40 350kW generator, installed in 1962, in service as a "load trimming" unit will be replaced as planned with a comparable unit. Additionally, weaknesses in distribution facilities will be improved by upgrading the substation interface to the outside plant. The step-up transformer banks are undersized for normal load in the event of a transformer failure as identified in the recent EETAP (Energy Efficiency Technology Assistance Program) study completed for NETC by Alaska Energy and Engineering in September of 2006. And maintenance enhancements and cost savings through longer equipment life will be provided by the construction and use of a covered storage facility for the Cooperative's heavy equipment and large material.

**Phase Three, Amended:** **Scheduled Completion: 2008**

| | | |
|---|---|---|
| Requested Grant Funding: | | $ 1,800,000.00 |
| Generation: (peaking gen-set) | $ 400,000.00 | |
| Distribution: (substation txfrmrs) | 600,000.00 | |
| Winter storage: (& equipment shed) | 800,000.00 | |
| In kind contribution: | | 400,000.00 |
| Sub-total Phase Three: | | $ 2,200,000.00 |

**Initial Project Budget Summary:**

| | |
|---|---|
| Projected Grant Total: | $3,400,000.00 |
| Projected "in-kind" contribution: (15%) | 600,000.00 |
| Projected Total Power Generation Upgrade Budget: | $4,000,000.00 |

**Project Budget Amendments**

| | |
|---|---|
| Projected in kind contribution increase: | $700,000.00 |
| Requested additional grant funding: | 700,000.00 |

**Final Project Budget Summary:**

| | |
|---|---|
| $4,111,027.00 | projected grant funds expended |
| $1,300,000.00 | projected in kind contribution: (24%) |
| $5,411,027.00 | total projected expense |

## Project Design and Technical Merit

### Comprehensiveness and Feasibility of Project:

The completed rehabilitation of the supplemental waste heat system is providing good results and the fuel storage maintenance and upgrades are progressing well (in 2006 we received two 20 year and one 17 year API-653 tank certifications for internal compliance for our bulk fuel storage facility). Two of the six original generators were replaced in 2006 and two more have been ordered and are scheduled as replacement units in 2007. The pending phase three of this project will complete a comprehensive upgrade to NETC's generation, distribution, and support facilities as well as provide visible and long term operational benefits beginning immediately upon completion.

We are currently seeking funds for the third portion of this project which is to be completed in the 2007-2008 time-frame. This phase includes the replacement of one generator, an upgrade of the substation transformer banks, and facilities to store large material and equipment secure from the weather. These goals are well within the capability of the Cooperative's existing staff and technicians.

### Demonstrated Experience:

With this project the NETC staff has proven to be a capable and experienced project completion team. The Cooperative has an existing trained and qualified power house staff for 7x24x365 coverage that includes an Electric Operations Manager, a Power Plant Supervisor, and five Power Plant Technicians and Operators/Mechanics. The total power plant experience of this crew exceeds 100 years not including the power lineman expertise available at NETC. The power crew's training includes but is not limited to:

A degree in Heavy Equipment Maintenance, Kennebec Valley Vocational Technical Inst.,
A degree in Caterpillar Diesel Engine and Mobile Fluid Power / Diesel Serviceman Program, American Diesel & Automotive School,
Certification in Power Principles & General / Mechanical Maintenance, ARECA,
Certification as Electrical Power Generation Master Mechanic, Caterpillar,
A&P License, University of Alaska,
and Diesel Mechanic, US Army.

NETC's power house crew's combined power plant experience exceeds 100 years. All of the men are journeymen technicians with various degrees, certifications, and vendor training. In addition, NETC has a similarly trained and experienced support staff including a Project Manager and Senior Accountant supplemented with contract help such as certified welders and professional engineers. With this much of the existing project successfully completed our staff has up-to-date and proven experience in this specific process.

**Assessment of Community Needs:**

**Per Unit Costs:**

As of January 2007, NETC charges 34.38 cents/kW hour for residential use electricity. That price is partly based on the combination of fuel purchased in 2005, and 2006 at $1.8377/gallon, and $2.5862/gallon. Our rates include a "fuel surcharge" of 11.6 cents/kWhr (for fuel costs above 90 cents/gallon) and a recent base rate increase of 2.5 cents/kWhr. Looking forward we expect additional increases in fuel costs as the advent of "ultra low sulfur" diesel in the market will restrict the distillation and transportation of our required "low sulfur" #2 diesel. Due to the uncertainties of specific fuel availability and the apparent operational restrictions to be applied in the near future, NETC's fuel prices, electricity costs, and viability of existence are difficult to project.

**Hardships:**

NETC currently provides electric power to Dillingham, Aleknagik, and the surrounding area in Alaska. That distribution is in the remote area of Western Bristol Bay and is not served by any "grid" or alternate provider. The Dillingham area supports the local seasonal fishery (Peter Pan Seafoods has a cannery in Dillingham), several Native tribes, corporations, and formal groups, and a large hospital (Kanakanak) that provides assistance to 72 surrounding villages. There is no infrastructure in the form of road access and there are no 12 month ice free ports in the area. Consequently, year-round human and cargo transport can only be done by air as the alternative waterways are only seasonally available. Air transport is expensive and the cost of existing water transport is significantly increased by the lack of year-round capability and local fuel prices. Those burdens on the local living expenses are coupled with energy costs that are more than triple the national average and contribute significantly to the "economically distressed" designation applied to our area.

**Resource Availability:**

NETC is a stable and viable cooperative utility providing electric power, telephone, CATV, and internet services for a "bush" community in Alaska. Our member owners carry a large economic burden simply funding existing power costs. A levy on the existing membership to fund generation upgrades would cripple the local economy. The major relevant grant funding mechanism in Alaska, The Denali Commission, processed a recent Federal grant allocation to NETC in 2005 and awarded a significant cash grant themselves in 2006. State contributions towards high cost energy relief are currently made to individual consumers (versus directly to electric utilities) through a "power cost equalization" program that receives varying percentages of support from year to year.

**Project Evaluation Measures:**

NETC is prepared to provide project scheduling (timelines and milestones) as well as quarterly progress reports to a designated office. To demonstrate the expected gain and associated benefits of bringing new generators on-line NETC will provide to the same office copies of standard monthly RUS reports (form 7 and/or form 12 for example) as directed that compile overall power plant efficiency measurements. Graphs and charts will be provided that can be used to demonstrate how the increased efficiency (more kW hours generated per gallon of diesel consumed) of the replacement units results in lower costs per unit for generated power.

NETC proposes this project to mitigate the high cost of energy provided to the Dillingham area in Western Bristol Bay, Alaska. The new generator models have a more efficient kWh/gallon rating (avg. 16.03 kWh/gal), lower gallon per hour usage (avg. 52.01 gal/hour), provide financial efficiencies in the permitting process (with their low emission ratings), and positively position the cooperative for future alternative fuel usage (with dual fuel capability).

NETC has a proven record of financial stability and will be able to support this project in the normal course of business. The Cooperative's ten year average RUS TIER for the Electric Division during 1997-2006 was 2.1958.

**Coordination with State Rural Development Initiatives:**

NETC's proposed power upgrade project is not dependent on or tied to other funding or approvals. NETC, an Alaskan company, supports the findings of the Alaskan Governor's REAC (Rural Energy Action Council) as stated in their report of April 2005: http://www.aidea.org/REAC/REACFindingRecommendations041505.pdf. NETC's proposed power upgrade project conforms to the summary findings reported therein, specifically issue 17, "Diesel Powerhouse Efficiency Improvements".

**USDA Priority Criteria:**

**Economic Hardship Or:**

**Other Substantial Economic Hardship:**

During the 1980's the Bristol Bay fishery returned as much as $2.00/lb while the last few years have seen base prices in the $0.40/lb to $0.60/lb range. For example, the Bristol Bay commercial fishery grossed approximately 604 million dollars in 1992 versus a gross of 163 million dollars in 2002, a 73% reduction. And then the gross dropped further to $76 million in 2004 (source: the Anchorage Daily News). At the same time the retail price of diesel boat fuel has risen above $3.00/gallon. Because the local area is heavily dependent on the commercial fishing economy and the price paid for harvested wild fish has declined severely in recent years while the expense of the commercial harvest has increased significantly, the utility serves an area designated as "economically distressed".

The greatest hardship is the economic burden passed on to the "subsistence" residents of the surrounding area when they journey to this hub community for necessary business: health, banking, and supplemental resources.

**Rurality:**

**Population of the Largest Community in the Target Area:**

Dillingham, a first class city, is the largest community in the area targeted for power generation upgrades. As listed in the 2000 census@: (http://factfinder.census.gov/servlet/SAFFFacts?_event=ChangeGeoContext&geo_id=16000US0218950&_geoContext=&_street=&_county=dillingham&_cityTown=dillingham&_state=04000US02&_zip=&_lang=en&_sse=on&ActiveGeoDiv=&_useEV=&pctxt=fph&pgsl=010), Dillingham has a total population of 2,466.

**Unserved (and Underserved) Energy Needs:**

As a Cooperative, NETC extends services to member owners according to tariffs and regulations. It is expected that this project will result in a significant reduction in potential rate increases. In addition, the savings in power generation expense realized through this upgrade project will allow NETC to allocate additional resources to the improvement of existing distribution plant and to the extension of additional facilities.

**Imminent Hazard or Critical Energy:**

As described in the Assessment of Community Needs section relating to "hardships", NETC provides the critical energy needs of local member owners. Those member owners include Federal, State, and local governmental services as well as medical facilities that support an area and population much larger than the utilities proscribed service area. Failure of NETC's power generation capability (the four generators slated for replacement have an average age of 30 years), or regulated/mandatory decommissioning would have an immediate impact on public health and safety. A transformer failure in our single substation would likewise present an immediate and serious threat to our service capability. And the proposed upgrade to our bulk fuel storage facility will have a direct impact on our ability to protect the environment from potential and substantial harm.

**Sharing:**

NETC expects that our "in-kind" cost contribution towards this total project in direct and indirect associated expenses of labor & material (along with the cost of contracting out some services normally completed in-house) will total $1,300,000.00 (24%) over four years, 2005-2008. Initially, the Federal Government through the Denali Commission, allocated a grant of $942,000.00 towards the part of this project scheduled for 2005-06. In addition, the Denali Commission has provided subsequent grant funding in the amount of $1,368,627.00 for this project in 2006-07.

PROJECT STATUS UPDATE:

Power Generation Upgrade in Western Bristol Bay

Nushagak Electric and Telephone Cooperative
Dillingham, Alaska

Phase 1 of our overall three phase project – which is utilizing a combination of federal assistance and Cooperative matching investment - included two new generators. They went into service in the spring of 2006 and the overall yearly fuel efficiency of our power plant rose from 13.51 kWh generated per gallon of diesel to14.35 kWh/gal. That efficiency increase of 6 percent was realized with only two of the five new generators planned for this project installed and saved our electric consumers about $195,000.00 in fuel expenses in 2006.

In 2007 Nushagak's average fuel cost rose from $2.4676/gallon to $2.5575/gal, an increase of 3.6%. Even so, Nushagak's fuel surcharge was slightly reduced for the following twelve months due to the overall increased efficiency of our generating plant. The fuel surcharge reflects the reduction in diesel consumed and has a direct impact on the rates charged in our service area. We expect additional savings when the remaining three generators scheduled for this project are installed.

Another aspect of Phase 1 of our Power Generation Upgrade Project was the upgrade of our supplemental heat delivery system, including in-ground piping and new BTU meters on customer's premises. The first year results from that billing category demonstrated a 79% increase in revenue recovered. That positive difference in collected revenue, almost $95,000.00 over a twelve month period, equaled more than 40% of Nushagak's net electric revenue for 2006.

In 2007 NETC began phase two of our Power Generation Upgrade Project by rehabilitating and upgrading our bulk fuel network. During the spring of 2008 we intend to complete phase two by replacing two more generators. We sincerely thank Senator Stevens and the Denali Commission for their roles in this project.

Sincerely,

CEO / GM
Nushagak Cooperative