CITY AND BOROUGH OF SITKA

A COAST GUARD CITY

MEMORANDUM

To: Mayor Eisenbeisz and Assembly Members

Thru: John Leach, Municipal Administrator

From: Scott Elder, Electric Utility Director / Grant Turner, I.T. Director

Date: September 20, 2023

Subject: Grant funding opportunity through NREL for the advancement of renewable energy, grid controls for existing and future community heating systems (interruptible loads), uses, new renewable resources, and communications.

Background

This opportunity is through the Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy (EERE) Funding Opportunity Announcement (FOA) Number: DE-FOA-0002573 Topic Area 1 Advanced Technology Demonstration in a Renewable Supplied District Energy System.

A previous candidate has withdrawn from the funding opportunity which has afforded the city the possibility of receiving the funding source. The city of Sitka was contacted by NREL to receive these funds as Sitka is an “equivalent” city with needs and ambitions that mirror the original applicant’s submission. If the assembly supports pursuing this funding, NREL will petition DOE for the transferal of the grant to the CBS. Upon DOE approval, the matter would be brought to the assembly for consideration through a resolution.

Sitka's historical background:

After the Blue Lake dam was raised, the electric department pursued methods to sell excess power. This resulted in the installation of interruptible electric boilers at our public schools. Power for these interruptible electric boilers has been sold at a reduced rate to incentivize their use over the cost of using the existing fuel oil boilers. In 2022 the electric department received over $748,000 in interruptible sales while saving the school system money and reducing fuel use by more than 250,000 gallons.

The installation and use of these boilers has been a success, however the department has yet to install a needed control system for effective remote operation. Expanding this

control system could provide the city a path to further reduce fuel oil consumption by 40,000 gallons per year at other municipal buildings.

Analysis

This funding source is in alignment with current efforts to expand supervisory control of the electrical system and allow for remote operation and optimization of interruptible boilers that currently require on-site personnel to manage. The result will be greater efficiency of the system, reduced outage times and financial savings through reduced fuel oil consumption for the municipal facilities including the schools. The expansion of the control system would also provide for the control of future renewable generation and utilization expansion.

This also provides an opportunity for the city to utilize the expansion of the electric department's fiber-optic control system to augment Internet service to municipal buildings. Municipal departments have experienced extremely low Internet connectivity speeds due to the recent high levels of cruise ship traffic. The limiting factor for communications between CBS buildings is due to the leased communications lines that the city currently has through a contract for $140,000 annually. Funding to remedy this issue is available through the commercial passenger vessel excise tax. By joining these two efforts, CPV funds can be used to help meet the grant match requirement while the department can help expedite the project.

The cost for installing a fiber-optic cable connection between city buildings has not been developed. However, it is expected to be a significant portion of the matching fund requirement. Speeds between city buildings would increase from 100 to 1000 times the current speeds.

The electric department has plans to replace radio-controlled switches in the system. This will help meet some of the funding match requirements as the new equipment will be operated by the fiber optic control system. Expected replacement costs are around $700,000.

The additional $3M of federal funding can be used for additional electric heating conversions, continued expansion of the control system and efficiency gains.

By combining projects plans and pursuing Federal and CPV funding, improvements could be realized without impacting firm rate payers. The expansion can further reduce the city’s fuel consumption and provide added interruptible revenues to the electric department.

Fiscal Note

This opportunity has a 33% cost match required by the city. The total federal funds available are $2.99M. Sitka's portion to attain the full grant value of approximately $4.4M is about $1.5M.

A reduction of $140,000 annually would be realized to the city through the abandonment of leased lines. The city could realize a federal investment of $3M above its current plan.

Matching funds may be made through "in kind" contribution and synergies with previously dedicated projects that have not been realized. These funds would come from the electric capital fund, and CPV commercial passenger vessel excise tax. Future costs would result through owning and maintaining the added infrastructure; however, the fiscal benefits are expected to include a cost reduction through the abandonment of leased communication lines and reduced fuel oil consumption.

Recommendation

Recommend that the City and Borough of Sitka pursue the funding opportunity.