

Fort Yukon Central Wood Heating

Grantees	Gwitchyaa Zhee Utility Company (Utility-Private)
Technology Type	BIOMASS
Region	Yukon-Koyukuk/Upper Tanana
AEDG Project Code	10034

REF Grants Received

Round	App	Grant Title	Grant #	AEA Project #	Phase	Start Date	End Date	Status
1	31	Fort Yukon Central Wood Heating Design	2195405	402040	Final Design	8/20/08	12/31/14	Active
3	445	District Wood Heating in Fort Yukon	7030021	402047	Construction	7/1/10	6/30/17	Active

Grant 2195405: Fort Yukon Central Wood Heating Design

Project Scope: This project has multiple funding sources. The following summarizes the scope of the project development and funding sources: Project Development Tasks to be completed are (based on revised information submitted June 17, 2009): Task One: Project Initiation and Dynamic Planning - \$0. Completed Task Two: Schematic Design & Oversight (Completed): \$30,000 Renewable Energy Fund \$40,000 Council of Athabascan Tribal Governments (CATG) grant from DOE totaling \$70,000 An initial level 2 feasibility study was conducted by Efour Engineering to determine a conceptual design and feasibility for district heating and heating of key other commercial buildings. This feasibility determined that chip systems were the best all-around approach. The next step is to develop a specific schematic design by a district heating engineering specialist and develop specific parameters for a final engineered design build construction bid process. Task Three: Final Design: \$100,000 Renewable Energy Fund \$40,000 CATG grant from DoE Totaling \$140,000 Final design will be a design build document that will complete the design phase. This will be the plan that the three planned heating systems will be built from including the CATG Clinic, the downtown district heat system and boilers for the VoTech Campus. An Alaskan based engineering firm with rural Alaska design and build experience will be selected. Task Four: Permitting Process: \$20,000 Renewable Energy Fund \$0 CATG grant from DoE Totaling \$20,000 Boiler permitting at the midscale 2-8 MMBTU/h has essentially not been done in rural interior Alaska. An experienced biomass boiler engineer will complete the process in conjunction with the State of Alaska. Task Five: Land ownership agreements and donations: \$5,000 Renewable Energy Fund \$0 CATG grant from DoE Totaling \$5,000 The project is anticipating the donation of land from GZ Corporation for a wood yard, a building and land from the Fort Yukon School District and an old Quonset hut for a shop and wood chip storage from the federal government. The placing of boilers and piping in various locations will require coordination with owners and may require easements. This task will negotiate, create and finalize all necessary agreements. Task Six: Environmental Analysis: \$15,000 Renewable Energy Fund \$0 CATG grant from DoE Totaling \$15,000 Both AEA and DoE require a complete analysis on the potential positive and negative environmental impacts. An analysis following the NEPA Environmental Analysis process will be prepared on boiler installations and a general analysis on forest management impacts. Task Seven: Power Sales Agreements: \$5,000 Renewable Energy Fund \$0 CATG grant from DoE Totaling \$5,000 Each heating customer in the heating district will be required to complete a BTU purchase agreement from the newly formed heat utility. Under this task, the utility will develop a purchase price for BTUs that will reflect the cost of production plus operations, maintenance, and profit. Long-term agreements will be developed tied to the cost of fuel oil with escalation and reductions clauses. Task Eight: Project Management, reporting and technical assistance: \$35,000 Renewable Energy Fund \$35,000 CATG grant from DoE Totaling \$70,000 Project manager will coordinate the entire project among the various organizations and contractors. He will be responsible for report writing to AEA and DoE Tribal Energy. Contractor will also give technical support on the development of a forestry program at CATG as well as support the initiation of the Wood Energy Utility under GZ Corporation.

Project Status: The Environmental Assessment has been completed clearing the way for the development of the final design. Harvest equipment has been purchased, so that initial wood harvesting can take place as soon as the harvest plan is developed. CATG is leading the development of the harvest plan, and staffing changes have delayed the harvest plan completion.

As of Nov. 30, 2013	Budget	Expenditures
Renewable Energy Funding	\$210,000.00	\$210,000.00
Other State Funding	\$0.00	\$0.00
Total State	\$210,000.00	\$210,000.00
Required Local Match	\$140,656.47	\$140,656.47
Federal Grant Funding	\$0.00	\$0.00
Total Project Costs	\$350,656.47	\$350,656.47

Grant 7030021: District Wood Heating in Fort Yukon

Project Scope: This project will complete the construction of the chip-fired biomass heating system in conjunction with the replacement of the GZ diesel power plant

Project Status: Construction of the gravel pad began fall of 2015. Construction of the building and installation of the boiler and district heating pipes is schedule for this construction season. Operation is expected late 2016 or early 2017.

As of Nov. 30, 2013	Budget	Expenditures
Renewable Energy Funding	\$2,318,255.00	\$0.00
Other State Funding	\$0.00	\$0.00
Total State	\$2,318,255.00	\$0.00
Required Local Match	\$1,290,000.00	\$0.00
Federal Grant Funding	\$0.00	\$0.00
Total Project Costs	\$3,608,255.00	\$0.00