PROJECT SUMMARIES

HIGH ENERGY COST GRANT PROGRAM

ALABAMA

Pioneer Electric Cooperative, Inc., Energy-Saving Retrofits for Rural Low-Income High-Energy-Use Homes, 2006, $855,760

Pioneer Electric Cooperative is an electric distribution cooperative serving several rural counties in Alabama. Its grant proposal for Energy Saving Retrofits for rural low-income, high-energy-use homes drew on the experience of the coop's staff energy specialists in conducting energy audits of customer homes. The project will improve participating rural residents' living conditions by replacing expensive-to-operate electric resistance heaters and window air conditioners with more efficient heat pumps and by making energy efficient weatherization and home repairs to cut energy costs. In addition, the co-op will provide training to program participants to help them better manage their energy use and their finances. The project was developed in collaboration with local county community action programs and has the support of the State of Alabama's Low Income Heating Assistance Program, the State Department of Economic and Community Affairs, the Alabama-Tombigbee Regional Commission, and the State Treasurer.

By reviewing its customer records, the co-op discovered that more than 1,000 customers in poor counties spending more than $2,509 annually for electricity. Many of these homes are in clusters of housing units in deteriorated condition and with inefficient electric heat systems. The grant will provide funding to provide energy savings measures for many of these homes and is expected to provide a successful model for similar efforts in other rural areas.

The co-op estimates that these energy savings measures can help cut electricity costs for their low income customers by as much as 30 to 40 percent. The co-op has documented similar savings in 10 model homes. Despite the potential for cutting home energy costs through more efficient equipment and simple improvements, many of the co-op's customers are too poor to qualify for even low interest loans to take advantage of these opportunities. The target counties are among the poorest counties in the nation with poverty levels range from 20 to 30 percent, well above the statewide average. Lower income families spend a much higher portion of their total family income on energy than upper income families. Too often the choice is heat or eat.

The project was featured in the May 2007, *RE Magazine,* published by the National Rural Electric Cooperative Association.

Pioneer Electric Cooperative, Inc., Energy-Saving Retrofits for Rural Low-Income High-Energy-Use Homes, 2008, $792,000

Pioneer Electric Cooperative, Inc. of Greenville, Alabama, is a consumer-owned cooperative that operates in some of the poorest counties in the state. They propose to use grant funds and matching contributions to expand their existing program of energy efficiency and weatherization upgrades for low-income, extremely-high-energy cost rural homeowners in their service area in Butler, Dallas, Lowndes, and Wilcox counties. Their existing program has successfully produced energy savings for customers of up to 50 percent. The additional grant funds will double the number of homes they can serve.

ALASKA

Alaska Energy Authority, Elfin Cove Rural Power System Upgrade, 2006, $1,178,490

The Alaska Energy Authority will administer this grant for the benefit of the Community of Elfin Cove Non-Profit Corporation. Funds will be used to make safety improvements and upgrade the power system serving the community. Elfin Cove is a very small rural community in Southeast Alaska. Its population grows in summertime to about 300 people. Its generator has failed and it is currently operating with a generator set loaned from the Alaska Energy Authority. The community participated in Denali Commission power system assessments to identify needed upgrades. The grant will provide a replacement with a higher efficiency, cleaner, more reliable diesel generator and a new power house for the community.

Alaska Energy Authority, Napakiak Power Project, 2007, $2,915,228

The Alaska Energy Authority will administer this grant for the benefit of Napakiak Ircinraq Power Company, and the Native Village of Napakiak, population 353. The grant will be used to upgrade and replace the distribution system and backup electric generator for the Village of Napakiak and the existing tie line with Bethel. The village has been experiencing high line losses and power quality problems. Village population growth and electric loads have exceeded the design limits of the original low voltage distribution system that was built as a demonstration project in the early 1980s. The replacement would be built to modern USDA electric distribution system standards and provide greater reliability and substantially reduce line losses. This project proposal was developed in cooperation with and support of the Alaska Energy Authority (AEA).

Alaska Energy Authority and Levelock Village Council, Levelock Power Plant Renovation and Tank Farm Replacement Project, 2008, $2,637,831

This grant will be used for a rural power system and tank farm upgrade. The grant project will be administered by the Alaska Energy Authority (AEA) which designed and developed the project plan under the AEA-Denali Commission rural power systems assessment program. The grant will be used to replace the existing electric power plant with new fuel-efficient generators sized to more efficiently meet seasonally variable power demands and with new electronic switchgear. The grant would also fund replacement of the existing bulk fuel tank farm with a new code-compliant bulk fuel storage and transfer facility. The Village Council is providing matching funds, and land, buildings, heavy equipment, and fuel as in kind project contributions.

The town of Levelock is located on the Kvichak River 278 air miles southwest of Anchorage it is 40 miles north of Naknek It is located in the Lake and Peninsula Borough of the Bristol Bay Region. The population was 122 in 2000, and has since stabilized to a year round population of about 64 according to the State community survey. The community is over 95% Alaska Native or part Native. Levelock is a mixed Alutiiq and Yup'ik village. The Levelock Village Council is a Federally Recognized Indian Tribe. Commercial fishing and subsistence activities are the focus of the community. Fifteen residents hold commercial fishing permits. Most travel to Naknek to fish or work in the canneries during the summer season. Several seasonal lodges operate in the area. The community supports a school, clinic, and washeteria. Electricity costs exceed 50.2 cents per kWh and fuel oil costs were $4.50 gallon in fall 2007.

Alaska Power Company, Lutak Highway Electric Line Extension Project, 2006, $1,100,750

Alaska Power Company will use this grant assistance to extend electric distribution service to a cluster of homes in Lutak north of Haines. Approximately 36 homes there do not have electric service and rely on individual gasoline-powered generators. The cost of extending service is very expensive as the lines will have to be buried along the Lutak Highway because the landward side is too steep and the seaward size is adjacent to marine waters and has been designated as a scenic highway corridor. The area also hosts many bald eagles and undergrounding likely would be required for these protected species. APC has received signed letters of commitment from most households in the area to receive service if the line is extended with grant assistance and the project has local support from the Haines Borough. Grid service will provide reliable electricity at substantially lower costs and benefit the community by displacing the inefficient, costly, noisy, and polluting individual household generators now in use.

Alaska Power Company, 5-10 Mile Electric Extension and Intertie Project, 2006, $675,687

Alaska Power Company will use this grant to construct line extensions along the Haines Highway in Southeast Alaska to complete a project that will connect the Haines closed grid with the Chilkat Valley closed grid and also provide electric service to about 13 households along the route that rely on self generation. The project would build 5.5 miles of 3-phase 35 kV distribution line through an existing buried conduit and connect to the isolate distribution system operated by the Inside Passage Electric Cooperative (IPEC). According to APC, the intertie will enable IPEC to secure access to additional (and potentially lower cost) power supplies for its customers in the area and improve reliability. The project has support from the Haines Borough.

Alaska Power & Telephone Company, South Thorne Bay Subdivision Line Extension Project, 2008, $153,774

Alaska Power and Telephone Company will use this grant to extend electric service by building 2.2 miles of 7.2 kV overhead transmission line backbone to serve approximately 42 lots presently unserved in their subsidiary Alaska Power Company (APC) service area on Prince of Wales Island. The 11 households and a lodge in the area currently rely on self-generation of electricity at an estimated average price of $0.45 per kWh. Connecting these homes and home sites to the APC grid will allow households to buy their power at APC's local hydropower-based rate of $0.1925 per kWh. Thorne Bay is an economically distressed community. The project would support development in the area.

Thorne Bay is 47 air miles northwest of Ketchikan on the east coast of Prince of Wales Island in the Ketchikan Recording District the local population according to the 2006 Alaska community survey was 482. The population of the community consists of 4.8% Alaska Native or part Native. Thorne Bay has become a year-round home to many logging employees. Local employment is primarily in small sawmills and U.S. Forest Service management of the Tongass, with some commercial fishing, tourism and government employment. Thorne Bay is one of the log transfer sites on the Island. To supplement incomes, residents fish and trap. Deer, salmon, halibut, shrimp and crab are popular food sources. 22 residents hold commercial fishing permits.

Alaska Power Company, Tetlin Electric Intertie Project, 2006, $1,697,740

The Alaska Power Company will use the grant funds to extend its existing transmission line from Tok 19 miles to the Tetlin powerplant. The Community of Tetlin has a population of 117 and has been designated as an economically distressed community by the Denali Commission. Tetlin is located in the Southeast Fairbanks Census Area. Because of the permafrost environment, the line will be buried to protect it from damage and to reduce maintenance costs from ice buildup, and also to avoid potential for raptor strikes and electrocutions. APC operates the electric service in Tetlin, but because the community is isolated from the grid, operating costs and rates are extremely high at over $0.48 per kilowatt hour. APC estimates that the intertie will allow Tetlin residents to purchase power at the lower prevailing rate in Tok at an estimated savings of around 30 percent. The project will benefit the Tetlin community with potentially lower rates, greater reliability, and reduced maintenance needs, and elimination of noise and air emissions from operation of the existing generators at Tetlin.

Alaska Power & Telephone Company, Yerrick Creek Hydroelectric Project, Pending, $1,675,000

Alaska Power & Telephone Company's subsidiary Alaska Power Company (APC) is a regulated private utility serving scattered communities in Alaska. The proposed Yerrick Creek Hydro Project will be located on Yerrick Creek, tributary to the Tanana River, near the town of Tanacross in South-Central Alaska. The 2.3 MW project would be a run-of-river facility and would interconnect to the local electric grid to serve local power needs of the APC-communities of Tetlin, Tanacross, Dot Lake, and Tok. Construction of the hydroelectric generating project would displace ever more expensive diesel generation and reduce associated emissions. APC estimates that displacing a portion of the diesel generation with hydroelectric power could yield savings to retail customers of up to 20 percent. The grant would provide partial funding

for the project, with the balance of funds to come from other sources. The project is under environmental review.

Alaska Village Electric Cooperative, Inc., Chevak Power Plant Upgrade, Heat Recovery, & Wind Power, 2005, $2,500,000

AVEC will use $2,500,000 in High Energy Cost Grant funds from USDA to upgrade the electric system serving Chevak, Alaska. Chevak is a USDA Champion Community with high energy costs and persistent poverty. Chevak has a population of 765 people; 95.9 percent are Alaska Native or part Native. The funds will be used for a power plant upgrade, heat recovery system, and a wind generation system. Costs will be reduced for the community through increasing overall generating efficiency, improving reliability, and using wind and heat recovery to offset high generation costs. AVEC is a Denali Commission partner and the USDA grant is in concert with the Denali Commission's Program for rural Alaska energy upgrades.

Alaska Village Electric Cooperative, Inc., Hooper Bay Wind Project, 2008, $1,156,811

AVEC, a consumer-owned electric cooperative headquartered in Anchorage, serves more than 50 remote villages in rural Alaska. It will use its $1,156,811 grant to construct a wind turbine to provide electricity to the village of Hooper Bay. The village is located in a high value class 7 wind regime that is higly favorable for wind power development. The proposed wind turbines at Hooper Bay could reduce the use of expensive diesel fuel for electric generation by about 24 percent. The average cost of providing electricity for residential customers in Hooper Bay currently exceeds $0.45 per kilowatt hour.

Hooper Bay is located in the Yukon Kuskokwim Delta. The1,014 residents rely on commercial fishing and subsistence activities. Hooper Bay is an economically distressed community with unemployment averaging in excess of 37 percent and over 27% of residents living below the poverty level.

Alaska, Alaska Village Electric Cooperative, Inc., Hooper Bay Wind Project Controls and Power Plant Upgrade, 2006, $1,250,000

Alaska Village Electric Cooperative, Inc. (AVEC) is a consumer-owned electric cooperative headquartered in Anchorage, and serves more than 50 remote villages in rural Alaska. AVEC will use this grant to complete its wind-turbine installaton in Hooper Bay, Alaska. The controls will integrate the wind turbines with the systems diesel generators to achieve expected reductions in diesel generation of about 24% AVEC previouslyreceived a High Energy Cost Grant of $1,156,811 as partial funding for this 3 turbine project. The project also received support from the Denali Commission and others and is expected to finish construction in summer 2008. The village is located in a high value class 7 wind regime that is higly favorable for wind power development. The average cost of providing electricity for residential customers in Hooper Bay currently exceeds $0.45 per kilowatt hour. The excess wind energy will be transferred to the Water Treatment Plant.

Hooper Bay is located in the Yukon Kuskokwim Delta approximately 500 miles west of Anchorage. A federally-recognized tribe is located in the community -- the Native Village of Hooper Bay. The population of the community consists of 95.8% Alaska Native or part Native. Hooper Bay is a large traditional Yu'pik Eskimo community. The1,014 residents rely on commercial fishing and subsistence activities. Hooper Bay is an economically distressed community with unemployment averaging in excess of 37 percent and over 27% of residents living below the poverty level. The community supports a school, techer housing, clinics, cannery, and commercial facilities.

Alaska Village Electric Cooperative, Inc., Brevig Mission-Teller Intertie Construction, Pending, $1,520,576

Alaska Village Electric Cooperative, Inc. (AVEC) is a consumer-owned electric cooperative headquartered in Anchorage, and serves more than 50 remote villages in rural Alaska. AVEC will use this grant to construct a 6.5 mile 12.47 kV intertie between the AVEC villages of Brevig Mission and

Teller. The project would improve reliability and system efficiency by allowing the villages to share a single generating plant and would produce estimated savings from reduced maintenance costs alone of $100,000 annually from supporting two separate diesel generating plants. The project construction was partially funded by the Denali Commission with USDA funds and is a high priority project for AVEC. The grant award would fund the balance of project construction. This project is currently completing state and federal environmental reviews.

Brevig Mission is located approximately 65 miles northwest of Nome. It is a predominantly Inupiat Eskimo village that maintains a traditional subsistence lifestyle. The population is 272 with over 92 percent Alaska native or part-Native. The Native Village of Brevig Mission is a Federally-recognized tribe.

Teller is about 72 miles by road northwest of Nome and 5 miles southwest of Brevig Mission. It has a population of 268 with over 92 percent of residents either Alaska native or part-Native. Teller is a traditional Kawerak Eskimo village. The residents maintain a subsistence lifestyle. The Native Village of Teller is a Federally-recognized tribe.

Both Brevig Mission and Teller are classified as Economically Distressed Communities by the Denali Commission.

Aleutian Pribilof Island Association, Nikolski High Penetration Wind-Diesel Project, 2006, $474,475

The Aleutian Pribilof Islands Association, an Alaska Native Corporation will use this grant to add a wind turbine and associated high penetration control system that will integrate with a recently completed high efficiency diesel generation system on the island of Nikolski in the Aleutian Islands. This technology will allow the community to benefit from available wind power and displace diesel fuel with significant future savings to the community. This grant will support wind-diesel capability for an electric system that had already been upgraded through an earlier Denali Commission project, partially funded by USDA. This project will provide additional operational experience with small wind-diesel systems for rural Alaska.

City of Atka Alaska, Construction of Atka Hydro-Electric Powerplant, 2004, $390,000

The City of Atka in the Aleutian Islands, population 102, will use $390,000 in USDA grant funds to construct a hydro-electric plant to serve all residents and businesses, and local, State of Alaska, and Federal facilities. This new source of electricity will replace high cost diesel fuel that has been used to power the existing generators and significantly reduce the cost of power to the community. Atka is seriously economically challenged and the per capita income of $17,095 is 55 percent of the Alaska per capita income level of $30,995. The hydroelectric plant will provide power to the locally owned seafood processing plant that currently has to provide its own electricity during the processing season. Funding assistance for the project will also be provided by other State and Federal agencies.

Alaska, Cordova Electric Cooperative, Inc., Humpback Creek Hydroelectric Project Repairs, 2006, $1,037,500

Cordova Electric Cooperative, Inc is the local electric utility for the community of Cordova, Alaska, population 2,298, located on the eastern edge of Prince William Sound in south-central Alaska. The principal industries are fishing and fish processing. The residential electricity cost is over 34 cents per kilowatt hours and the average household spends more than $3,600 per year in electricity costs. . The existing Humpback Creek Hydroelectric facility has been in operation for 13 years and is need of structural repairs. The Humpback Creek facility provides approximately 8 percent of Cordova's power needs. The grant will allow repairs to deteriorated structures and equipment for the Humpback Creek Hydroelectric Project that were identified in inspections by the Federal Energy Regulatory Commission (FERC) and recommended for rehabilitation. The repairs will allow the facility to continue in operation. The Denali Commission is also providing funding support for the project.

Alaska, Gustavus Electric Company, Inc., Gustavus Electric Falls Creek Hydroelectric Project, 2006, $1,500,000

Gustavus Electric Company (GEC) is the electric utility serving the city of Gustavus, Alaska, an enclave within Glacier Bay National Park. GEC at present relies on diesel generation and electric rates vary based on fuel costs. According to the State of Alaska, average residential electric rates for GEC were in excess of 57 cents per kWh in 2005. The grant funds will be used for construction of an 800 kW run of river hydroelectric facility on Falls Creek with a diversion structure, a 9400 long penstock, a powerhouse, a 800 kW turbine generator and related equipment, tailrace pipeline from powerhouse to plunge pool, a substation, 5 miles of 12.5 kV buried transmission line to existing generating plant, 2 miles of service road from powerhouse to the diversion parallel to the pipeline and a 1.7 mile access road along the power line route to the service road. The project would displace existing diesel generation and support GEC's future load growth and could provide power for the nearby National Park Headquarters complex. USDA grant funds along with other Federal and State grants and GEC contributions will support project construction. The project has been licensed by the Federal Energy Regulatory Commission.

The population of Gustavus is 473 and is higher in the summer when seasonal employees and visitors are in residence. Half of the employed residents work for the National Park Service (NPS); most of the rest have seasonal employment tied to park operations, fishing, and recreation.

INN Electric Cooperative, Inc., Underground Distribution Line Replacement Project, Iliamna, Newhalen, and Nondalton, Alaska, 2010, $2,300,000

INN Electric Cooperative, Inc. is a non-profit electric cooperative utility serving the communities of Iliamna, Newhalen, and Nondalton, Alaska. These rural and remote villages have a combined population of 445 persons are located within the boundaries of the Lake and Peninsula Borough in the Bristol Bay Region. Commercial fishing, seasonal sport fishing, and subsistence activities are the major community economic activities. The grant funds will be used with matching funds provided by the cooperative to replace unreliable and deteriorating underground distribution lines within the service area. About 13 miles of 25-year- old direct-buried line will be replaced with 60-year rated conductor and conduit. The project will substantially decrease outage time and improve reliability, safety and property and reduce outage-related costs to the utility and its customers. In 2006, line deterioration on the INN system resulted in an average outage rate of 175 hours per customer, one of the highest in the State. The outages have occurred most frequently in winter months, when extreme cold and frosting create additional hazards for customers and repair crews alike. With the needed line replacement, INN expects it outage rate to return to its prior ten year average level of 10 hours per customer per year.

Inside Passage Electric Cooperative, Inc., Line Extensions and Distribution System Efficiency Upgrades, 2004, $2,119,517

Inside Passage Electric Cooperative, Inc. (IPEC) of Auke Bay, Alaska will use $2,119, 517 in grant funds to carry out three projects for the benefit of consumers in its Southeast Alaska service area. IPEC serves 5 scattered villages in rural Alaska with a total population of 2,815. IPEC is dependent on expensive diesel fuel for generation and the cost of producting electricity for residential customers has averaged about $0.37 per kilowatt hour in 2004.

The village of Angoon on Admiralty Island is accessible only by boat, seaplane, or the Alaska State ferry. The grant will provide line extensions to connect the village of Angoon on Admiralty Island to the community Alaska State ferry terminal providing electricity and phone service. From the ferry terminal, a submarine cable will connect neighboring Kilisnoo Island, providing electricity and enabling phone service to a homes, a fishing lodge, and a commercial facility.

More than half of the grant funds will be used to upgrade the aging distribution system in Klukwan and the Chilkat Valley. In some places line losses exceeded 20 percent - far above the rural average of 8 percent. Upgrading the distribution system will substantially reduce costs for the area and produce net fuel savings for the system.

In the village of Kake, the grant will extend the electric distribution service to the Kake Boat Harbor to serve fishing boats that use the local fish processing plant, thus helping to sustain the community's investment.

All of the communities to be aided by the grant are economically distressed. Household incomes range from 58 to 79 percent of the State median. The financially distressed salmon fishing industry and the decline in the logging industry has contributed to economic hardship and high unemployment in these communities.

Inside Passage Electric Cooperative, Inc., Supervisory Control and Data Acquisition (SCADA) System, 2009, $178,190

Inside Passage Electric Cooperative, Inc. is a consumer-owned electric cooperative headquartered in Auke Bay, Alaska and serving some 1300 customers in the island villages of Angoon, Hoonah, Kake, and Chilkat Valley, and Klukwan in Southeast Alaska. Grant funds will support IPEC system improvements.

IPEC operates and manages four diesel power plants on its system that require coordinated remote and onsite operational monitoring and control. Accurate monitoring of power plant operations is required to support safety and reliability, compliance with air quality permit requirements, and to satisfy operating and maintenance conditions and reporting obligations under its government loans. The existing monitoring and control system relies on software and computer systems that are outdated, and nearly obsolete, and that have caused frequent loss of data. The grant would allow IPEC to install a new Supervisory Control and Data Acquisition (SCADA) System with up-to-date software linking the four power plants with the operations monitoring center and providing additional communications speed, reliability, and data security.

Inside Passage Electric Cooperative, Inc., Installation of Fuel-Efficient Diesel Generation, Hoonah, Alaska, 2009, $735,000

Inside Passage Electric Cooperative, Inc. is a consumer-owned electric cooperative headquartered in Auke Bay Alaska and serving some 1300 customers in the island villages of Angoon, Hoonah, Kake, and Chilkat Valley, and Klukwan in Southeast Alaska. This grant will assist IPEC to purchase and install a new, more efficient diesel-electric generation set to serve its customers in Hoonah. The village of Hoonah is located on Chicagof Island and has population of 860 residents.

IPEC currently operates 3 small diesel generators to serve its load at Hoonah. The generators are less fuel-efficient than newer models and are nearing the end of their expected operating lifetimes because of heavy usage to meet peak load. IPEC's engineering consultants have recommended replacing reliance on a combination of the small generators with a single larger generator that can meet peak load, operates longer between required overhauls and consumes less fuel per kilowatthour generated. The new generator can produce 14 kilowatthours per gallon of fuel, a substantial improvement over the 8-12 kilowattshours per gallon for the existing generators.

Interior Regional Housing Authority, Native Villages End-Use Efficiencies and Alternative Energy Program, 2009, $960,969

The Interior Regional Housing Authority (IRHA) of Fairbanks, Alaska is a non-profit tribal housing authority that serves native villages and tribes in the Doyon Region. IRHA will use grant funds to reduce electric consumption in the rural communities of Arctic Village, Hughes, Koyukuk, Stevens Village, and Village of Ruby. These villages have some of the highest energy costs in the Interior Region. The project will use a comprehensive village approach to improve end-use efficiency in homes and community facilities. Measures installed will include more efficient lighting and fixtures and installation of solar panels on community facilities such as schools and washeterias. The solar panels will produce supplemental electricity from February through October and displace diesel-generated electricity. Project staff will also conduct assessments to identify other efficient energy management measures in the participating communities. The project anticipates to reduce residential electricity demand by up to 30 percent and to

cut the lighting costs of public buildings by up to 50 percent. The IRHA efficiency project will complement the State and Federal investment in more efficient generation and switchgear for the community electric utilities with the overall goal of reducing fuel usage and customer energy costs by optimizing load to generation. IRHA estimates that local electric systems will save from 5 to 10 percent in avoided fuel costs through these measures

Lake and Peninsula Borough, Kokhanok Wind Energy Project, 2009, $1,884,576

The Lake and Peninsula Borough submitted this grant application on behalf of a small Alaska Native village utility. Kokhanok is located on the south shore of Iliamna Lake, 22 miles south of Iliamna and 88 miles northeast of King Salmon. The village of Kokhanok has a population of 174 and a median household income of $19,583. About 44% of the village is below the poverty level. The Kokhanok Village Council is a Federally-recognized tribe. The community population is 90.8% Alaska Native or part Native, primarily Alutiiq and Yup'ik. Subsistence activities are the focal point of the culture and lifestyle

The grant project would provide renewable energy by adding a wind turbine and controls to the diesel generating plant serving Kokhanok Village Council Utility. The present cost per kWh for the village is $0.99 per kWh. At present, Kokhanok generates power only during the summer months; in winter, electricity is purchased from the School District. The proposed 100 to130 kW wind-diesel system would displace 30,000 gallons of diesel fuel with savings of over $100,000 per year over 15 years. Surplus power would also be used for other community energy needs.

McGrath Light & Power Co Alaska , Power Station Efficiency & Safety Improvements, Waste Heat Recovery, Distribution/Generation Upgrades, 2004, $465,522

McGrath Light and Power Co., is a wholly owned subsidiary of MTNT, Ltd, an Alaska Native Corporation. The electric utility serves 249 customers in the village of McGrath located in interior, Alaska approximately 220 miles northwest of Anchorage. The village has a population of 401. The village is part of the Yukon-Koyukuk Census area that has a household median income of $28,666, about 55 percent of the state median. Unemployment is in excess of 14 percent.

The $465,522 grant funds will be used for expansion of McGrath's existing waste heat recovery system, energy efficiency retrofits to the power house, and safety upgrades to its current power plant feeder system. McGrath's cost per kilowatt hour is $0.381 or 448 percent of the national average cost of power. The ultimate goal of this plan is to reduce McGrath's consumption of expensive diesel fuel and to provide additional district heat service to several large commercial customers, replacing thousands of gallons of fuel oil used by these customers to heat their buildings.

Naknek Electric Association, Inc., Rural Power Plant Upgrade, High Efficiency Diesel Generators and Heat Recovery System, 2004, $2,618,387

Naknek Electric Association, Inc. a consumer-owned electric cooperative in Naknek, Alaska, will use its $2,618,387 grant funds to complete rural power plant upgrades in the villages of Naknek, South Naknek, and King Salmon. The villages have a combined population of 1,105 persons and are located in the Bristol Bay region 289 miles southwest of Anchorage. The communities have been economically devastated by the decline of the commercial fishing industry in the region.

The grant will fund an upgrade of Naknek's generation facilities by replacing three existing units with newer, low-emission fuel-efficient units. The powerplant upgrade will be associated with a waste heat recovery system project in partnership with the Alaska Energy Authority. The new systems will lower emissions, reduce fuel consumption and save money for Naknek's customers.

New Koliganek Village Council, Utility Distribution Facility Upgrade and Controls, 2007, $313,837

The New Koliganek Village Council is the Federally-recognized tribe for the Village of Koliganek. The village is predominantly Yup'ik Eskimo wit 182 permanent residents and is located on the Nushagak River

some 65 miles northeast of Dillingham. The Village Council owns and operates the electric system. The grant will allow the village to purchase and install two new diesel generators, upgrade the cooling system, install new electronic control panels, and add new service lines to provide reliable power for the village school. The upgrades will provide more reliable power and more efficient and cleaner generation. The Village is providing matching funds.

Nome Joint Utility System, Construction of New Diesel Generation Facility, Relocation of Distribution, Generation, and Substation Facilities, 2004, $2,500,000

Nome Joint Utility System will use its $2,500,000 grant funds in combination with other local, State, and Federal funds for the relocation of its existing electric generation plant and substations and to install new, high-efficiency generators and a waste heat recovery system. Relocation will move the plant to higher ground out of a flood zone and outside of the Nome Airport runway protection zone.

The City of Nome, Alaska has a population of about 3,500. Nome is an economically distressed community with a median household income of $41,250, less than 80 percent of the state average and an unemployment rate exceeding 11 percent.

Nome Joint Utility System, Completion of New Diesel Generation & Substation, 2006, $2,500,000

Nome Joint Utility System will use its $2,500,000 grant funds in combination with other local, State, and Federal funds to complete construction of new high-efficiency electric generting facility at its newly-relocated power station and distribution substation. The relocation of the city's main electric plant to higher ground was necessary to move the plant out of a flood zone and outside of the Nome Airport runway protection zone.

The City of Nome, Alaska has a population of about 3,500. Nome is an economically distressed community with a median household income of $41,250, less than 80 percent of the state average and an unemployment rate exceeding 11 percent.

Nushagak Electric & Telephone Cooperative, Inc., Power Generation Upgrade for Western Bristol Bay, 2009, $1,600,000

Nushagak Electric & Telephone Cooperative, Inc. is a nonprofit, consumer-owned electric utility serving Dillingham, Alaska and surrounding communities. Dillingham is located at the northern end of Bristol Bay, approximately 327 miles southwest of Anchorage, and has a population of about 2400. The community is the economic, transportation, and public service center for western Bristol Bay. Commercial fishing, fish processing, cold storage, and support of the fishing industry are the primary activities.

The grant will help fund the ongoing upgrade of the utility's electric generation plant replacing old diesel generators with cleaner, more efficient units, upgrading its transformer banks, and equipment storage facilities. The already completed upgrades of two generating units and the waste heat recovery units have provided savings of $200,000 in reduced fuel costs in 2007. The addition of a third high-efficiency generator will provide added savings and reliability. Funding for other components has been supported by the Denali Commission and the cooperative.

Yakutat Power, Inc., Yakutat Power Plant Replacement and Distribution Extension Project, Pending, $1,400,000

Yakutat Power is a municipally-owned power utility. Yakutat is a city of 684 persons located on the Gulf of Alaska in Southeast Alaska. It is some 225 miles northwest of Juneau and 220 miles southeast of Cordova. A federally-recognized tribe is located in the community -- the Yakutat Tlingit Tribe; Central Council Tlingit & Haida Indian Tribes of Alaska. The population of the community consists of 46.8% Alaska Native or part Native. Fishing and subsistence activities are the prevalent. The major economic activities are fishing, fish processing, and government services. The fishing industry contributes to seasonal shifts in population and utility load.

The cost of electricity currently exceeds 41 cents/kWh and fuel oil was in excess of $3.56/gallon in fall 2007.

The project would help fund replacement of the existing power plant and distribution system to improve safety, reliability, and to comply with current codes and regulations and upgrade the fuel storage and handling systems, and the heat recovery system. The Alaska Energy Authority (AEA) has worked with the utility to develop a power systems upgrade conceptual plan and report identifying needed improvements to the power house, generating units, and switchgear. AEA will provide technical advice and assistance to the project.

ARIZONA

The Havasupai Tribal Council, Havasupai Electric Improvement Project, 2006, $2,157,800
The Havasupai Reservation is located at the bottom of the Grand Canyon adjacent to Grand Canyon National Park. There are 503 residents on the reservation that is about 172 miles from Flagstaff, Arizona. The nearest community is Peach Springs on the Hualapai Reservation, 72 miles away. Access to the isolated Village of Supai on the canyon floor is by horseback or foot via a steep 8-mile hiking trail – or by helicopter. Parts of the Reservation are so remote that the homes have never been electrified. This grant proposal would assess and make needed improvements to the 70 mile distribution line from Mohave Electric Cooperative's Nelson sub-station to the Havasupai Long Mesa switch above Supai Village, repair and replace the distribution line from the switch to the village and the underground distribution system within the village, and install remote metering to allow meter readings, disconnects and reconnects without requiring a trip into the canyon. The underground distribution system in the village must be replaced because it has deteriorated. The distribution system upgrades and repairs will help assure more reliable electric service and allow connection of additional households. Letters of support were provided by the Bureau of Indian Affairs (BIA) the local office of Health and Human Services, and USDA Rural Development Arizona State Office.

The Reservation is served by the BIA which purchases power for them. The BIA is responsible for the Havasupai electrical system below the canyon rim and for billing and collections. The Reservation has frequent service disruptions and power quality problems attributed to the poor condition of the 70 mile distribution line connection. BIA has been able only to make emergency repairs.

The grant will also advance the success of USDA's $1.2 million broadband grant for Supai that requires the availability of a dependable, reliable and stable source of power for the communications system for the Reservation.

The Hualapai Nation, Grand Canyon West Community 250 Kw Hybrid Solar Photo-Voltaic Electric System, 2004, $2,000,000

The Hualapai Nation, Peach Springs, Arizona, will use its grant funds and tribal contributions to construct a hybrid solar photo-voltaic electric system to serve the Grand Canyon West community on the Hualapai Reservation. The Federal Aviation Administration will also contribute funds for the system that will serve the FAA Grand Canyon West Airport facility, small commercial facilities, workers housing, a water system plant, and approximately 50 homes in the area on the rim of the Grand Canyon approximately 90 miles from Las Vegas, Nevada. The Grand Canyon West Power Project is the first part of the tribe's plan for ecologically sensitive development in this area.

Sacred Power Corporation, Navajo Nation Cameron Chapter Residential PV/Hybrid Power Stations, 2006, $1,900,000

Sacred Power Corporation of Albuquerque, New Mexico in cooperation with the Navajo Nation Cameron (Arizona) Chapter project will install Residential PV/Hybrid Power Stations on scattered off-grid homes that currently have no electricity or rely on gasoline generators. The homes will also receive energy efficient appliances. About 978 people live within the Cameron Chapter. Many of the Navajo homes in the Cameron area of the reservation are without electric service. The project will create credits that can

be used by utilities to satisfy the Arizona state solar portfolio standard and creates an opportunity to partner with an Arizona utility to expand the project scope. Project implementation will involve the Cameron Chapter in outreach and selection of participating households. Sacred Power successfully implemented a similar High Energy Cost Grant project award New Mexico in 2004. The success of the earlier project triggered efforts by other chapter houses on the Navajo Reservation to seek assistance.

Sacred Power Corporation, Residential Solar PV Hybrid Power Stations for Remote Tribal Homes Bird Springs, Coppermine and Inscription House Chapters, Navajo Nation, Arizona, 2008, $3,000,000

Sacred Power Corporation of Albuquerque, New Mexico, will collaborate with the Birdsprings and Coppermine Chapter Houses of the Navajo Nation in Arizona to provide residential hybrid solar photovoltaic (PV) power stations for remote tribal homes. The hybrid power station installation uses a modular unit with solar PV panels plus controls, battery storage, and a backup electric generator that is assembled off-site and trucked and installed to the home. The grantee will make needed adaptations to the home to safely and reliably support the renewable energy system. Lastly, the package may include more energy efficient appliances, lighting, and HVAC upgrades to be compatible with the renewable energy system. The use of the off-grid system allows homeowners to discontinue use of costly, noisy, gasoline and diesel generators.

The Coppermine Chapter is located on the Navajo Reservation in northern Arizona south and west of Page. Its Navajo Name is-Beesh haageed (Digging Out Metal). According to local officials, there are approximately 176 households in the Chapter area that not connected to the electric grid. The Birdsprings Chapter is located on the southern edge of the Navajo Reservation just north of Winslow, Arizona. There are approximately 175 households in the Chapter area without grid-connected electric service.

Sacred Power will work with the Chapter Houses to establish priorities, enlist participating households, provide training on solar PV operation and maintenance, and assess the unit performance.

Sacred Power Company is a private, for-profit, Native American owned company that assembles and installs custom solar PV and hybrid power modules for multiple applications. Sacred Power has successfully carried out similar High Energy Cost Grant projects with five other Navajo Chapter Houses in New Mexico and Arizona.

Sacred Power Corporation, Solar PV Hybrids Power Stations for Remote Tribal Homes, Tonolea Chapter, Navajo Nation, Arizona, 2009, $550,722

Sacred Power Corporation is a private, for-profit, Native American-owned renewable energy system integrator and manufacturer located in Albuquerque, New Mexico. Sacred Power has partnered with local Chapter Houses on the Navajo Reservation in New Mexico and Arizona to secure USDA High Energy Cost Grants to install modular hybrid Solar Photovoltaic power stations to provide electricity to over 185 remote off-grid homes. This grant will assist the Tonolea Chapter in Arizona provide renewable power for about 25 rural homes currently without electric service.

The Navajo Nation spreads across 26,000 square-mile northeastern Arizona, northwestern New Mexico, and southeastern Utah. Approximately 18,000 homes on the reservation lack basic electric service because of the high cost of extending electric lines in rugged, rural areas. Many households rely on gasoline or diesel-powered generators, propane, and wood for their energy needs. The Tonolea Chapter estimates that there are over 100 residents currently without electric service. The grant would provide electricity to many of these homes.

The modular hybrid power station combines solar PV panels plus controls, battery storage, and a backup small wind turbine or propane generator to provide reliable power to the home... The modular systems are built at Sacred Power's New Mexico plant and then moved to the home site. The grantee will make needed adaptations to the home to safely and reliably support the renewable energy system. Lastly, the

package may include more energy efficient appliances, lighting, and HVAC upgrades to be compatible and optimize with the renewable energy system. With the new modular PV system, homeowners will be able to discontinue use of costly, noisy, gasoline and diesel generators. Sacred Power will work with Tonolea Chapter House to establish priorities, enlist participating households, provide training on solar PV operation and maintenance, and assess the unit performance.

Tohono O'odham Utility Authority, Extension of Electric Service to Unserved Rural Communities, 2004, $763,350

Tohono O'odham Utility Authority (TUA) is an RUS electric borrower that serves the Tohono O'odham Nation in southern Arizona west of Tucson. The Reservation is comprised of more than 60 communities scattered across an area about the size of Connecticut. This grant will provide an opportunity to extend service to 9 remote communities where households have been unable to afford the required line extension contributions. This project will provide for 51 miles of new single phase distribution lines to connect 30 households with a population of 105 in the Chukut Kuk District. It is expected that availability of electricity will make it more attractive to live in this area of the Reservation and the line extension will enable connection of additional homes and services in the target area. The project has strong support from the residents, the Tribe, and the District government.

Arizona, Tohono O'odham Utility Authority, Distribution System Additions to Extend Electric Service to Unserved Families, 2007, $173,000

Tohono O'odham Utility Authority (TUA) will use its $173,000 High Energy Cost Grant to extend electric service to communities within the reservation that are without service. Eleven communities on the reservation that currently have no electric service have requested power, not only through the Utility Authority, but also through District Councils and through the Commerce Committee of the Tohono O'Odham Legislative Council. Availability of electric power will open the door for additional economic development in these communities including housing, business development and clean, safe drinking water. Residents currently depend on wood for both heating and cooking.

CALIFORNIA

California, Big Mountain Energy Resource Management Project, Big Mountain Energy Resource Management Project - Electric Distribution Extension for Rural Homes, Berry Creek, California, 2009, $672,011

This grant application was originally submitted on behalf of residents of an off-grid community in Northern California. The grant is made to the local improvement association formed by the homeowners. The grant would support construction of 12.kV electric distribution line from the Pacific Gas & Electric Company (PG&E) on Oro Quincy Highway along Stephens Ridge and Bonnie Meadow Lane to connect privately owned lands adjacent to the Plumas National Forest in Berry Creek, Butte County, California. Homeowners currently rely on a mix of solar, gasoline generators, and wood for their energy needs. Availability of grid power would substantially reduce costs and improve reliability. The project would be constructed, owned, and operated by the local utility PG&E under its line extension policy.

Yurok Tribe, Yurok Tribe Reservation Rural Electrification Project, 2004, $3,000,000

The Yurok Tribe Reservation is located in a remote area of Northern California in the Klamath River Basin on the border with Oregon. The grant funds will be used to build distribution lines on the reservation and to connect with the local utility. The Reservation is isolated by both distance and terrain, and has been one of the poorest communities in the state. Without this assistance, a significant portion of the Yurok Reservation will remain without electric power. Without reliable, affordable electric service, residents must depend on wood and LP Gas for heating and cooking. According to the tribe, this lack of electric service perpetuates the poverty and prevents sustainable development on the reservation. Electric power will open the door to improved housing, clean, safe drinking water, and telecommunications services.

FLORIDA

Choctawhatchee Electric Cooperative, Inc, Low-Income Home Energy Efficiency Improvements, 2009, $761,400.00

Choctawhatchee Electric Cooperative, Inc (CHELCO) is a non-profit, consumer-owned electric utility headquartered in DeFuniak Springs, Florida, and serving the rural portions of Okaloosa, Walton, and Holmes Counties. The grant, will benefit low-income high-energy-cost households within CHELCO's service territory

Rural households rely on a combination of electricity, propane, kerosene, and wood for their energy needs. Due to extreme summer and winter weather, energy costs pose a substantial burden on low-income households. Many of these members have difficulty paying their bills.

By analyzing customer usage data and extensive energy audits, the utility determined that the co-op's territory includes more than 1,000 low-income customer households with disproportionately high energy consumption and annual electricity bills exceeding $2,600.

The utility analysis established eligibility for these members under the High Energy Cost Grant Program. CHELCO will use its USDA grant along with its own funds to assist qualifying low-income families cut their energy use and electric bills. The grant will allow CHELCO to help with needed repairs and energy efficiency upgrades to members' homes in cooperation with local agencies experienced in weatherization programs. The agencies, which will select the qualifying households, include the Community Action Committee and the Tri-County Community Council.

The combined efforts of these two agencies and CHELCO, along with energy conservation education, are expected to reduce home energy consumption by 30 to 40 percent and serve approximately 240 households.

Hawaii

County of Hawaii, Department of Water Supply, Kaloko Tank Hydroelectric Generation Project, Kailua-Kona, 2006, $450,000

The Department of Water Supply (DWS) of the County of Hawaii will use the grant to install a 45 kilowatt hydroelectric generating unit onto a gravity-fed water line from a water storage tank on the water distribution system in Kailua-Kona, Hawaii. The use of distributed hydroelectric generation on the water system will reduce energy costs to the customers in the local target area. DWS has installed and used similar generators on other parts of its system for over 20 years. The sharp increase in fuel prices prompted DWS to add additional distributed hydroelectric generating units to its system as energy conservation and cost reduction measures. DWS will enter into a contract to sell any excess electricity to the local utility. Initial estimates of projected savings are in excess of $40,000 per year in avoided electricity charges that would otherwise be paid for by water customers. Higher electricity costs will boost savings. DWS will provide matching funds for the project.

The project will serve the town of Kailua on the West Side of Hawaii County, the Big Island of Hawaii. The town has a total population of 9,870. Average residential rates in the area are $0.275 cents per kilowatt hour. Project savings will be seen through reduced water charges for local users of the system because of lower electricity costs through distributed generation and revenues from sale of electricity.

Heritage Ranch, Inc., West Hawaii Rural Solar Energy Project, 2008, $1,175,000

Heritage Ranch, Inc. is a non-profit charitable organization headquartered in Honaunau, south of Kailua-Kona on the Big Island of Hawaii.

The project targets rural communities in South Kona and K'au in the County of Hawaii. The project would provide outreach, technical, and financial assistance for rural homeowners and farmers for the installation of on- and off-grid solar energy systems for electricity, hot water heating, and water supply (cachement, pumping, and water purification) and related energy efficiency upgrades. Services would be provided from its center in Honaunau. The West Hawaii Solar Center will work with local government and private organizations, businesses, farmers, ranchers, and homeowners. The Center would assist participants in taking advantage of other State and Federal incentives for renewable energy and efficiency, in addition to the services provided under the High Energy Cost grant.

Kauai Habitat for Humanity, Solar Water Heating Systems and Insulation for Volunteer Built Homes, 2008, $215,880

Kauai Habitat for Humanity (KHH) is the locally-based affiliate of Habitat for Humanity. The group organizes volunteers to work with eligible program participants to build new housing for families and individuals. The costs of electricity on the Island of Kauai exceed $0.35 per kilowatt hour. KHH identified enhanced weatherization and use of solar energy technology as cost-effective measures to make its new homes environmentally sustainable and affordable. The grant would pay for the additional equipment and materials and expertise to add these features to up to 37 new homes to be built on Kauai through Habitat for Humanity. These homes will help replace the housing stock destroyed by Hurricane Aliki.

Maui Electric Company, Ltd, Solar for Molokai Solar Water Heating - Load Reduction Program of Customer Rebates for Domestic Hot Water Heating., 2004, $1,108,548

This grant will enable the Maui Electric Company to install 300 renewable energy solar water heating systems to offset the impacts of extremely high residential cost in the Enterprise Community of Molokai Island, Hawaii. Molokai residents pay 23.7cents per kWh and the installation of solar water heating systems will lower the annual electric cost by an estimated 45 percent. MECO will contribute $300,000 in cash as well as marketing, coordination and administration of the effort. Program administration costs are estimated at less than 1.5 percent of the overall project cost. The median household income is 66 percent of the state median and the population of the entire Island is 7,404.

The Grantee has been working in association with the Molokai Local Office of USDA Rural Development on eligibility and outreach plans.

IDAHO/NEVADA

Idaho-Nevada, Raft River Electric Cooperative, Duck Valley Indian Reservation Transmission Line Replacement Project, 2006, $3,775,000

Raft River Rural Electric Cooperative, a consumer-owned electric system headquartered in Malta, Idaho will use its award of $3,775,000 to help replace the transmission line serving the remote Duck Valley Indian Reservation and other Raft River Western Division customers in Owyhee and Mountain City on the Idaho - Nevada Border. The original 69 kV line was built in 1915 by a mining company and traverses a mountainous area in a National Forest. The line is inadequate for modern loads, expensive to maintain, and plagued by frequent winter outages, endangering residents who rely on electric heat. This extremely high cost to serve portion of the Raft River service area and the transmission line was acquired from Idaho Power, which divested the territory in order to provide competitive services in Nevada. Raft River is developing engineering and surveys to define the new route will be partially financed through the grant. Relocation and replacement of the line and upgrading and extending the distribution systems will reduce outages and improve operations and maintenance conditions and provide the electric infrastructure to support economic activity on the Reservation.

The Western Division service area includes about 515 households. Median household income is less than 62 percent of the Idaho statewide median and less than 52 percent of the Nevada statewide median household income. The Duck Valley Indian Reservation of the Shosone-Pauite Tribes is a financially stressed area. The Tribe is very progressive and working to bring new industry and associated

infrastructure to the area. The Tribe actually constructed much of the distribution network on the Reservation. The extremely high per customer costs for the necessary replacement of the transmission line if fully allocated to the residential customers served will push average household electric costs over $2,423 per year.

The project award was finalized in 2006 after completing Federal and State environmental and engineering studies, including preparation of an environmental impact statement required by the Bureau of Land Management.

KENTUCKY

Jackson Energy Cooperative, Energy Efficiency and Weatherization Upgrades for Low-Income Families with High Electric Usage, 2008, $999,996

Jackson Energy Cooperative Corporation. is a non-profit, customer-owned electric utility serving rural areas of Clay and Owsley Counties, in southeastern Kentucky. Their service area includes many poor rural communities where residents are stressed by the high costs of energy. The poverty levels are 34.3% in Clay County and 35.5% in Owsley County. The median household income of Clay County is $16,271 and in Owsley, it is $12692 – substantially below state and national averages.

Jackson Energy will use this grant to carry out a targeted program of energy efficiency and weatherization improvements to reduce energy costs for low income high energy cost homes. The project team will collaborate with State and USDA Rural Development programs to help low income residents reduce their energy use. The project is projected to be able to serve about 148 homes over a 3 year period. Project sponsors expect savings in the 25 to 30% range.

MAINE

Fox Islands Electric Cooperative, Inc., Submarine Transmission Cable Replacement, 2004, $2,633,522

The Fox Islands Electric Cooperative of Vinalhaven, Maine, received an award of $2,633,522. The funds will be used to replace a submarine electric transmission cable connecting the mainland to the islands of North Haven and Vinalhaven, about ten miles off the coast of Maine. The existing submarine cable providing the only source of power to the islands deteriorated over time causing major reliability problems and power outages. There were 26 failures over six years, including seven in 2002 alone. In summer 2003, the cooperative was forced to rent replacement diesel generators and have them shipped to the island to continue service during outages. The grant was awarded in 2003 and installation of the replacement cable began shortly after to restore reliable power and alleviate both the costly repairs on the old cable and the uncertainty of service.

The island communities of North Haven and Vinalhaven qualify as extremely high energy cost communities because the high cost of fuel and electricity combined with harsh weather conditions push average household energy costs above 275 percent of the national average. The grant will help offset some of the increased costs of replacing the transmission cables serving the islands.

Fox Islands Electric Cooperative, Inc., Fox Islands Wind Turbine Project, 2009, $500,000

The Fox Islands Electric Cooperative of Vinalhaven, Maine, serves the island communities of North Haven and Vinalhaven. These communities qualify as extremely high energy cost communities because the high cost of fuel and electricity combined with harsh weather conditions push average household energy costs above 275 percent of the national average.

In an effort to provide more stable electricity costs, Fox Islands Electric Cooperative, Inc. joined with a private investor to create Fox Islands Wind, LLC to build and operate three wind turbines on the island. The wind project will supply power to the community and sell excess power to the grid helping to offset

power purchase costs. Both Fox Islands Electric Cooperative and the LLC are RUS electric borrowers. During construction of the turbine foundations, subsurface site conditions required a revision to the project plans and resulted in increased engineering and construction costs for adequate grounding of the foundations supporting the structures of the three wind turbines. The co-op sought and was approved for a grant to cover the increased project costs associated with its investment in the project.

Maine School Administration District No. 58, Conversion of School Boilers from Oil to Wood Pellet Heating, 2009, $1,081,392

Maine School Administration District No. 58 (MSAD 58) serves the towns of Avon, Eustis, Kingfield, Phillips and Strong, in Franklin County, Maine. The county is one of the most rural, economically-distressed areas in Maine with high unemployment levels associated with the recent loss of many of its major employers. Rural Maine is heavily dependent on imported fuel oil for its heating needs. In 2008, even before last summer's sharp rise in oil prices, the average family in these communities was spending over $2,000 annually on fuel. MSAD 58 uses approximately 110,000 gallons of fuel oil annual to heat its schools. MSAD 58 is already successfully using a wood pellet system for its transportation and maintenance building.

MSAD 58 has partnered with Skanden Energy LLC (Skanden) of San Diego, CA, to develop a program that will install biomass heating systems in two local schools in Kingfield and Strong to displace oil, lower heating costs, and stimulate the local economy. The grant will help MSAD purchase and install wood pellet heating systems in prefab structures adjacent to existing school boiler rooms. The new systems will provide both heat and hot water to the school buildings. MSAD 58 expects to purchase wood pellet fuel produced by a local supplier under a fixed price contract.

Swans Island Electric Cooperative, Inc., Distribution System Improvements and Environmental Remediation, 2007, $195,000

Swan's Island Electric Cooperative (ME 16) is a small consumer-owned utility serving 589 retail customers in an extremely high energy cost community an island off the Maine Coast. Its current state-approved residential electric rate has averaged over $0.25 per kilowatthour. Swan's Island requested an emergency grant to assist it in complying with environmental remediation activities for a decommissioned PCB-contaminated generator building, equipment, and soil and related facilities as directed by orders of the U.S. Environmental Protection Agency (EPA) and the State of Maine. The grant also covered costs incurred in completing construction of a replacement headquarters office building.

Marshall Islands

Island Economic & Environmental Company (Island ECO), Solar Electrification Project, Marshall Islands, 2008, $1,035,065

Island Economic & Environmental Company (Island ECO) will use its grant to support several renewable solar energy projects in the Marshall Islands in collaboration with local communities.

The grantee will install solar photovoltaic (PV) powered systems to support telecommunications and educational infrastructure in a remote atoll community. It will provide solar-PV-powered refrigeration units and area lighting systems for several more rural communities. To aid in the expansion of renewable energy applications in insular areas, it will construct an off-grid rural home powered by solar PV technology to demonstrate and assess the technology performance. It will also prepare educational and outreach materials explaining the use and applications of solar technology for use in assessing future installations of renewable energy systems for community facilities and homes and make available operating and maintenance manuals written in native Marshallese language.

Island Economic & Environmental Company (Island ECO), Solar Electrification Project - Outer Islands, Republic of the Marshall Islands, 2009, $700,000.00

Island Economic & Environmental Company (Island ECO) of Majuro, Marshall Islands will use its grant to support renewable solar energy projects in the Marshall Islands in collaboration with local communities. As part of an existing USDA grant, Island ECO is assessing the performance of pilot solar powered communications, refrigeration, and rural electrification systems and preparing educational and outreach materials explaining the use and applications of solar technology for use in the Marshall Islands. Island ECO is also making available operating and maintenance manuals written in native Marshallese language. With this new grant, Island ECO and local governments will install solar photovoltaic (PV) powered systems and refrigeration units for residential electrification in remote atoll communities. The grant will allow expansion of its USDA-supported residential solar electrification project to about 65 additional homes.

The Republic of the Marshall Islands is eligible for USDA Rural Development Programs under provisions of the Compact of Free Association.

MASSACHUSETTS

Massachusetts, Aquinnah Wampanoag Tribal Housing Authority, Building a Self Sustaining Community with Energy Efficiency and Renewable Energy, Pending, $750,000

The Aquinnah Wampanoag Tribal Housing Authority is a non-profit tribally-owned entity serving the Wampanoag Tribe of Gay Head (Aquinnah) in Massachusetts. Many tribal members live on tribal trust lands at the western tip of Martha's Vineyard and work in the service industry or fish for a living. The town of Aquinnah has a year-round population of approximately 350 residents and the second lowest per capita income in the State of Massachusetts.

The Housing Authority will use the grant, along with its own funds to install energy efficiency measures in its elderly and low-income housing units, water and wastewater treatment plants and its office building. Measures will include Energy Star appliances, ventilating fans, and programmable thermostats. In addition the authority will install small-scale sustainable renewable energy systems to serve its elderly housing and offices and to provide emergency and back-up power for its housing units to operate critical facilities when grid-power is lost.~~..~~ The project goal is to reduce overall energy use, to increase community access to sustainable renewable power, and to provide a reliable backup power source.

NEVADA

Moapa Band of Paiutes, Moapa-Valley of Fire Power Project, 2006, $2,382,000

The Moapa Band of Paiutes, Moapa, Nevada will use a grant of $2,382,000 for the Valley of Fire Community Electrification Program. The project will allow construction of a new 25kV electric distribution line to bring power from Glendale to the Valley of Fire Community on the Moapa River Reservation. Final route selection for the project to serve the reservation and a proposed cement plant will be determined through a siting process following environmental studies. The population of the reservation is 206. The Valley of Fire Community is about 50 miles northeast of Las Vegas, NV. The community currently relies on diesel generation located at a Travel Plaza owned and operated by the Tribe. Continued operation of the travel facility and implementation of the Tribes economic development plans for accommodations, housing, and a museum requires the availability of adequate infrastructure. Because the area currently lacks adequate electricity, the Tribe must haul water 36 miles round trip by truck at a rate of $40,000 gallons per week. The trucked in water supply is not adequate to support development or fire protection. The new power line will provide reliable power to existing facilities and support expansion that is valuable to the Tribe. The Tribe estimates that connecting to the distribution systems will reduce household electric rates from over 24 cents per kilowatt hour to about 7 cents per kilowatt hour. The tribe's commercial and community facilities estimate their annual savings to be as much as $100,000 per year. At completion of construction, the distribution line will be operated and maintained by the State of Nevada, Overton Power District # 5.

NEW MEXICO

Sacred Power Corporation, Solar PV and Wind Hybrid Power Systems for 50 Remote Homes, Navajo Nation, Ojo Encino and Torreon Chapters, 2004, $825,108

Sacred Power Corporation of Albuquerque, New Mexico, in cooperation with the Ojo Encino and Torreon/Star Lake Chapter Houses of the Navajo Nation will use grant funds to provide distributed Solar PV and Wind hybrid power stations and energy efficiency upgrades for remote homes on tribal lands northwest of Albuquerque. As a result of this grant at least 50 remote homes will, for the first time, have reliable electric service. The extremely high costs of connecting these scattered residences has made on-grid electric service prohibitively expensive. The cost of running small generators for household needs in off grid residences averages about $0.75 per kilowatt hour. Use of the hybrid units will reduce the costs by at least one third. The grant will further reduce the costs for residents.The hybrid units will be manufactured by Sacred Power, a Native American-owned small business. The units will be maintained and serviced using local labor.

The Torreon and Ojo Encino Chapters are located in Sandoval and McKinley Counties in Northwest New Mexico. The two chapters have a combined population of about 2500 persons and the unemployment rate averages over 75 percent.

Sacred Power Corporation, Residential Solar PV Hybrid Power Systems for Remote Homes, Navajo Nation, Counselor, Pueblo Pintado, and Ramah Chapters, 2006, $661,625

Sacred Power Corporation in collaboration with the Navajo Nation Counselor, Pueblo Pintado, and Ramah Chapters will use this grant award to provide rural homes in the Navajo Nation in Northwestern New Mexico with solar photovoltaic hybrid residential generating systems along with compatible high efficiency lighting and refrigeration units. These modular units will bring reliable electric service to homes that are not connected to local distribution grids. Depending on the location, the units will combine solar panels with supplemental wind turbine or propane generators and battery storage systems to provide a constant source of power for the home. Sacred Power will partner with the Chapter Houses to enroll project participants and provide training and maintenance for the systems.

NEW YORK

Steuben Rural Electric Cooperative, Inc, Electric Thermal Storage Off-Peak Energy Use Program, 2009, $250,000

Steuben Rural Electric Cooperative, Inc. (SREC), a non-profit consumer-owned utility serving rural areas of the Southern Tier counties of Steuben, Schuyler, Cattaraugus, and Chautauqua, will use this grant in combination with utility funding to help homeowners defray the costs of electric thermal storage heating units (ETS). ETS systems use low-cost, off-peak electricity to store heat within a ceramic brick core that is released as needed over the day, heating the home. The ETS systems are compatible with forced air, hydronic, electric baseboard and heat pump systems. A pilot program using ETS systems with direct utility load control, Energy-Star rated high efficiency air source heat pumps and a time of use rate schedule provided an estimated annual savings of $2000 per participant, while reducing reliance on fossil fuels and improving utilization of SREC's allotment of hydropower from the New York Power Administration. Participating homeowners in the pilot program that converted to the ETS systems displacing existing electric, oil, and propane systems saved an average of about 60 percent on their home heating costs. SREC estimates that grant will expand availability of ETS systems to at least 50 more homes.

New York, Steuben Rural Electric Cooperative, Inc., Steuben County Landfill Gas to Energy Project, 2009, $1,000,000

Steuben Rural Electric Cooperative, Inc of Bath, New York, is a non-profit, customer-owned utility operating in rural areas of the Southern Tier counties in western New York. .Its customer density is only 4.25 customers per mile. Homes in its service area rely on a mix of electricity, fuel oil, and propane for

heating and energy services, and all three categories result in average annual household energy costs exceeding the High Energy Cost eligibility benchmarks of 275 percent of the national average.

The grant will support construction of a 3.2 MW landfill gas to electricity powerplant at the Steuben County Landfill to be interconnected to the coop's distribution system. Steuben REC is a requirements customer of the New York Power Authority and under terms of their contract would sell the power through the New York Independent System Operator's wholesale market. The net proceeds from the power sales will be used to lower the cost of power for Steuben REC customers through the power adjustment clause in their rate structure. The co-op projects savings to power costs of approximately 7 percent over the life of the facility. The project will also support regional efforts to reduce energy costs and increase reliance on local renewable energy sources. Steuben REC has worked with the New York State Energy Research and Development Administration and local governments on project development and financing.

WASHINGTON

Washington, P.U.D. No. 1 of Ferry County, Distribution Line Extensions & Solar (PV) For Unserved Households though a Revolving Loan Fund, 2004, $888,408

The Public Power District Number 1of Ferry County, Republic, Washington received an award of $888,408 that will be used to reach some of 175 to 200 households in areas so remote they are not connected to the utility's electric distribution system. The full cost burden of extending service or providing off-grid distributed generation for these homes averages in excess of $0.42 per kWh. Ferry County will establish a revolving fund to finance line extensions and installation of off-grid solar PV for consumers with an estimated cost of electric service exceeding $0.23/kWh. The fund would be combined with the utility's line extension allowance to help residents obtain electric service. The expenditures are paid back through a bill adder to replenish the designated fund. Ferry County will maintain and service the PV systems purchased and installed through the Western Solar Utility Network.

The utility district currently serves the electrical needs of 3,130 residential and commercial consumers, including the Colville Confederated Tribes Reservation. The grant implementation plan includes a process for consulting with the Tribes for projects on the Reservation.

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