



Nez Perce Tribe

EXECUTIVE DIRECTOR

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Nez Perce Tribe Energy Efficient Facilities Installation Project
Final Report
DE-EE0005175
November 2012

Executive Summary

Tribal Background: Established by treaty with the United States government in 1868, the current Reservation consists of 770,000 acres of which 124,000 are tribally-owned. The hospitality of the Nez Perce people has been famous since the Lewis and Clark party stumbled over the mountains in 1805.

Part of five Idaho counties, Nez Perce, Lewis, Latah, Idaho and Clearwater Counties, are located within the reservation boundary. The cities of Lapwai and Kamiah serve as Tribal centers on the east and west ends of the Reservation. U.S. Highway 95 runs north and south through Idaho, and the reservation, and serves as a major interstate highway. Highway 12 runs east and west through Idaho's panhandle. It loosely follows the trail Lewis and Clark used to cross the mountains and today is a national scenic highway.

Nez Perce Reservation lands consist of productive dry-land wheat farms that border on the Clearwater and Nez Perce National Forests. Beside arable hill tops and river bottoms, the reservation includes forested river canyons and steep, non-arable hillsides. The chief economic basis of this entire region is in agriculture and timber products.

Project Background: Although Idaho's electrical rates are among the lowest in the country, the Nez Perce Tribe's electrical bills take a large bite out of the operating budget every year. Tribal programs are located in forty some buildings, in six counties, in two states. Ninety-five percent, or more, are heated electrically. The age of the Tribal office buildings located in Lapwai, Idaho vary from forty to over a hundred years old. Only sporadic updates, in the buildings themselves, have been made over the years. Working with the Tribe's electrical provider (Avista Corporation), it was determine that a minimum financial commitment could reap large rewards in the form of lower operating costs.

In 2009, to implement an action item defined in the Tribe's strategic plan, the Nez Perce Tribal Executive Committee (NPTEC) directed the manager of the Water Resources program to organize an "Energy Group". This Group was made up of people from several different programs including water resources, solid waste management, economic planning, the grants department and construction planning. All those that volunteered had very little experience in energy planning and conservation but did have a deep commitment to caring for the natural environment. The following year, a position was funded for a Group leader and he became the Tribal Energy Technician or "Guru". The Group set out to explore all possible avenues of energy conservation and generation. A technical study was funded to explore the possibility of establishing a waste-to-energy production facility on the reservation. The Group looked at geothermal heating and cooling for Tribal buildings and a grant was received that provided for a Tribal Strategic Energy Plan. At the same time, the solid waste manager received funding that will establish a comprehensive recycling program on the reservation. Not funded were technical assistant grants to study a four day work week that would have saved 51,460 commuting miles and thousands of dollars in gas consumption every week. Another technical study request not funded was to explore small in-stream hydro-power generation. If and when various federal agencies' funding ability is restored, the Group will explore other possibilities.

Project Description

Goals: There were two simple objectives of the “Nez Perce Tribe Energy Efficient Facilities Installation Project”. The first was to lower operating costs for the Tribe and the second was to make the work environment more comfortable for Tribal employees. Work took place in five separate buildings which affects over a hundred people. The five buildings include those that house a good share of the Tribe’s governing entities. That includes the Nez Perce Tribal



PiNeeWaus



Boys & Girls Club



Vets Building



Water Resources



NPTEC/OLC

Executive Committee and the Office of Legal Council (NPTEC and OLC) offices. The Veteran’s Memorial Building houses the executive director, human resources, finance, IT, and small loan offices. The PiNeeWaus Building houses land services and tribal employment office. The Water Resources building and the Tribally-owned Boys and Girls Club also received updates. Tribal members, as a whole, will also benefit because the money saved will go back into the general budget to be used for other Tribal programs.

Project Scope: The project was to replace lighting fixtures in five buildings, windows in four buildings, add insulation in four buildings and add motion sensors in one building. Approximately 630 lighting fixtures were replaced with 2’ x 4’, two lamp, T-8’s. The insulation work provided additional cellulose blow-in insulation, to a R-38 rating, in four building attics. The approximately 205 exterior windows were replaced with vinyl, low-e, with .30 shading coefficient.

The insulation was added at the Veteran’s, Water Resources, NPTEC/OLC and PiNeeWaus Buildings. Windows were replaced in those same four buildings while lighting was replaced at the same four buildings and the Boys and Girls Club. The Boys and Girls Club gymnasium received new lighting fixture and motion sensors.

The Work: The work was bid to local contractors in the spring of 2012. The bids for the window replacement work came in under the original cost estimate but the insulation and lighting were over budget. The lighting bid was especially high due, in part, to an inaccurate count of the fixtures that needed to be replaced - during the planning stages of the project. Because of the cost overruns, it was necessary to return to the NPTEC to request addition funding. This was possible due entirely to our power provider, Avista Corporation. Their energy efficiency incentive rebate program had calculated that the work we planned would provide the Tribe with between \$45,000 and \$52,000 in rebates. This more than covered the \$25,000 in project costs overruns. At the project’s conclusion, the actual amount of the rebate from Avista Corporation was \$49,723.

The insulation portion of the project started in late May 2012 in an attempt to get in and out of the four attics before the summer heat hit. The insulation work was complete in less than two weeks. The long lead time for ordering the windows and lighting fixtures meant that work started in June. Both window and lighting fixture replacement projects were completed, on time, by the end of July 2012.

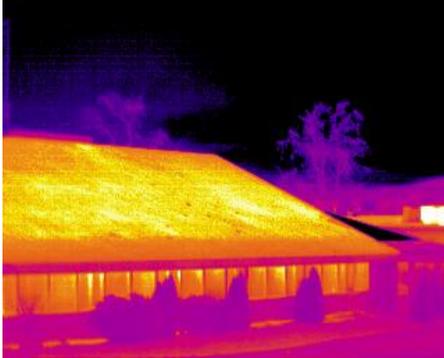
Project Conclusion

Review: After some initial roadblocks in the bidding process, all aspects of the work went smoothly. The difference in the comfort level of the buildings was immediately apparent and the new white window frames dramatically lightened the interior of the offices. The savings was also dramatic. In the first month after completion, a comparison between August 2011 and August 2012 (with an average temperature increase of one degree) electrical bills showed over twelve hundred dollars in lower electrical costs to the Tribe. Infrared photos were originally taken, by Avista, in 2005. As a means of comparing heat loss from the four buildings, they were retaken in November of 2012 and showed a remarkable decrease in heat lost both through the roofs and windows.

As a whole, the project went very smoothly and has been applauded by the Tribal government and its employees.

“Before” infrared pictures taken in 2005 and “After” pictures taken in 2012

Veteran’s Building – Before



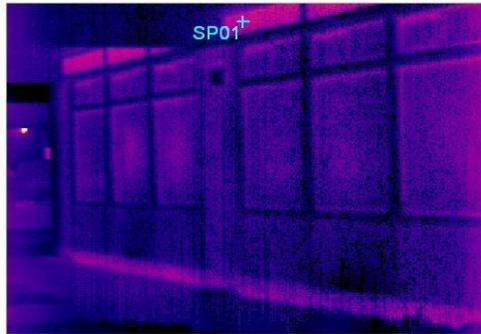
Veteran’s Building - After



PiNeeWaus Building – Before



PiNeeWaus Building - After



NPTEC/Vets Building – Before



NPTEC/Vets Building - After



ADDITIONAL INFORMATION
NEZ PERCE ENERGY GROUP ACTIVITIES INCLUDED BELOW:

TRIBAL ENERGY

The third quarter of 2012 will see the completion of several Energy Group (The Group) projects and there are several activities planned for the later this year.

Jon Paisano has been working with Rural Community Innovations (RCI) consultants on completing the Strategic Energy Plan (the Plan).



The final draft outlines ways the Tribe can make individual and government green technology a part of everyday life. It defines the organization needed at both the government level and at the Energy Group level that will help implement energy efficiency measures, conservation methods and community outreach. The Plan also explores the pros and cons of retrofitting Tribal structures, solar and wind power and biomass generation. It also looks at the entrepreneurial side of Green Technology and business possibilities.

Jon will also be working with RCI and Consortium of Northwest Energy Tribes (CNET) to set up strategy sessions with the NPTEC and the community so both the Tribe and the community members are thoroughly represented. Look for the announcement of upcoming community meetings on development of the strategic plan. Our aim is to develop a strategic energy plan that everyone can support.

ENERGY TIP: Cover liquids and wrap foods stored in the refrigerator. Uncovered foods release moisture and make the compressor work harder.

Jon is finishing up the work with TSS Consulting and the waste-to-energy feasibility study. The study was completed at the end of July and the final report presented to the NPTEC in August.

The study analyzed several available reservation sites for locating a biomass energy-generating plant. It also studied three types of local feed stock, their

availability and the cost to process and transport the product to either the Kamiah/Kooskia, Lapwai or Orofino area. The type of feed stocks studied were forest products, urban wood and wheat straw and their availability of each in the three areas. Other consideration included land use zoning, public health and safety, waste water treatment, geology/soils and power transmission assets. The team generally accepted that the site of the new waste water treatment plant was the most advantageous spot to locate the plant.

However, as we have seen in the past, the Inland Northwest's low cost hydroelectric power makes it hard for any other type of power generation to compete. At this time, the energy independence that such a plant would help the Tribe achieve, is its main advantage.

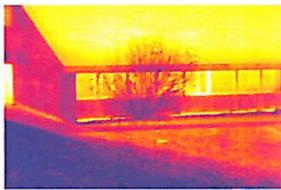
The energy conservation projects that included additional insulation, new windows and new lighting at five buildings were completed in late July. The work was funded jointly by the Department of Energy and the Nez Perce Tribe. Avista Corporation also contributed through their incentive program.

A representative of the Department of Energy's Tribal Energy Program, Jami Alley, visited in mid-August to evaluate the project. The Tribe's Avista account manager, Jayson Hunnel, visited at the same time. Rich Ramsey conducted a tour of the Veterans, NPTEC/OLC, PiNeeWaus, Water Resources and Boys and Girls Club buildings. Ms Alley praised the steps taken by the Tribe in establishing an Energy Group and the work the Group is doing to make Tribal facilities greener. Ms Alley assured us that we are headed in the right direction and, while grant funding is very limited at this time, we should continue our work however possible. One suggestion she had was that we allocate the cost savings, which will result from this project, to a fund that can be used as matching moneys for future energy projects.



Mr. Hunnel offered ideas in ways to provide Tribal buildings with individual energy producing equipment at relatively low cost. Further investigation, by members of The Group, discovered several residential units currently available. The Group will be looking into this possibility. Ms Alley indicated that what limited funding may eventually become available will probably emphasize small scale, individualized energy production projects. Wind and solar energy are two strong possibilities.

Avista personnel will visit Lapwai again in late October and take another set of infrared photos that we can use to compare with those taken in 2005. We expect a vast improvement in heat loss. Besides the recently completed insulation, windows and lighting project, the Veterans Building and Water Resources buildings have received a new asphalt shingle roof and eave vents. The PiNeeWaus Gym has a new metal roof that required an additional layer of sheathing. It will be very interesting to see the before and after comparison.



In a report received from our Regional Economist, Kathyrne Tacke, we were pleased to learn that the Nez Perce Tribe is the largest provider of green jobs in north central Idaho. We surpass the second largest, the National Forest Service, with a variety of jobs in energy, air quality, fisheries and agricultural land management. More than three hundred people work directly for the Tribe in green occupations and the Tribe contracts out additional work that involves green jobs.

ENERGY TIP: Periodically use the long nozzle of your vacuum cleaner to remove lint that collects in the lint screen slot of your clothes dryer. The air will move more freely and improve circulation.

At the end of the 2011/12 school year, Chelsea Leighton was selected by the Energy Group to be their Avista summer intern because of her commitment to her Tribe, high scholastic achievements and computer skills. Leighton is a

junior at Lewis-Clark State College majoring in elementary education.

Nez Perce Tribal programs want our future leaders to learn firsthand that the Tribal government is full of opportunities for employment and has a culture that wants to engage our bright and rising Tribal members. The internship program is committed to assisting enrolled Tribal members that are college students in professional career development. This is accomplished by providing scholarships, mentoring and employment opportunities.

In the spirit of the draft Energy Strategic Plan, Chelsea worked to establish a glossary of terms that are translated from the Nez Perce language and blend with the use of community-friendly energy terms to encourage best energy practices. She created twelve top tips for energy use and worked with the Language staff to translate them into Nimiipuutimt. This work will be presented, for approval, at the next Energy Group meeting. It is hoped that the Ta'c Titooqan News will post them in every issue for 2013.

ENERGY TIP: A lattice or trellis with climbing vines or a planter box with trailing vines shades the home while admitting cooling breezes to the shaded area.

Our loss is Water Utilities gain. Jon Paisano has applied for a job on the Water Utilities staff and will no longer be our "energy guru". Jon and his young family deserve a more stable form of income and, since the Energy position is grant funded, a full time job at Water Resources was the logical move. At the time of printing, the move was still in the hands of the Human Resource folks so we will have more information for our next edition. It is hoped that Jon will remain a member of the Energy Group.

Late breaking news: John Wheaton has secured the purchase of several hundred surplus recycling bins for his program. Washington State University has gone to an alternative method of gathering recyclables and made their bins available to the Tribe. Once the rest of the recycling equipment is in place, John will distribute the bins. He hopes to have everything in place before the first of the year.



