

Union County



Entity.....City of Cove
 Project Type:Hydroelectric
 Stimulus Funds:\$385,000
 Increased earnings/yr:\$13,000

Tiny town has been generating electricity for nearly a century

Located in the northeast corner of Oregon in sparsely populated Union County, Cove’s 550 residents live an idyllic life. The city is ideally located in a valley between the nearby Willowa Mountains and adjacent ridges making it a gateway to the spectacular Eagle Cap Wilderness and Willowa National Forest.

The City of Cove may seem like your typical sleepy rural Oregon community, but it has something most Oregon cities do not. Cove has its own hydroelectric plant and has for nearly a century. It’s the smallest city in the state that can generate electricity.

The waters from Mill Creek and Bridge Creek are diverted to feed the facility with a flow of 12 cubic feet per second and a driving head of about 880 feet. Until 1960, the water ran in open ditches that required two workers to be on duty 24/7 to clear the ditch of debris that obstructed the flow.

The plant ran under private ownership from 1912 (maybe earlier) to 1960, when it was closed. In 1980, the city bought the plant and replaced the open ditches with underground 24-inch steel pipes.

“But, the plant never generated as much electric power as it should have,” said Donna Lewis, Cove city recorder for the past 11 years. “It has been especially noticeable the past few years.”

The steel pipes had started to corrode and were near the end of their useful life. The loss of water due to the leaky pipeline reduced the water returned to the creeks and resulted in lost power generation and revenue for the City of Cove.

The City had a Hydro Fund in place to raise funds for pipe replacement and engineering to make it more efficient, but the fund was slow in growing.

In 2009, City of Cove officials applied for American Recovery and Reinvestment Act (stimulus) funding. The US Department of Energy had awarded some of the federal Recovery Act funds—\$9.6 million—to the Oregon Department of Energy’s Energy Efficiency and Conservation Formula Block Grant program. The Block Grant program was intended for smaller Oregon cities and counties for a number of different types of energy projects including energy and water conservation projects.

It was a perfect fit for Cove’s hydroelectric facility. The Oregon Department of Energy selected the project in a competitive solicitation and awarded the City of Cove \$385,000 in Block Grant funds to replace 7,800 feet of rusting 24-inch steel pipe with 28-inch smooth-surfaced plastic pipe that will not corrode.

The pipeline installed by the City in 1980 was the standard at the time but had

Cove relies on revenues from its hydroelectric plant to pay for city services.



The entire 7,800 feet of HDPE pipeline for the Cove project was installed in one entire piece of pipe with no fittings. The pipeline route was on a narrow mountain right-of-way cut into a steep hillside which made installation challenging. Photo courtesy of Anderson Perry & Associates, Inc. of La Grande.





Cove City Recorder Donna Lewis, left, reviews the final documentation for the Cove pipe replacement project with Oregon Department of Energy Project Manager Lee Willeman. Cove received \$385,000 in federal stimulus funds to pay for a portion of the project.

some design inefficiencies such as sharp turns and vertical changes, according to Brad Baird, PE, president of Anderson Perry & Associates, Inc. engineering firm of La Grande and head engineer for the Cove project. The new pipeline was designed with no sharp turns and at uniform grade to make it much more efficient in delivering the water to the Cove hydroelectric facility.

Project completed August 2010

The total project cost was \$812,840. The Recovery Act grant paid \$385,000 for the pipeline and installation and the City paid for the engineering, design and balance with its Hydro Fund. The project was completed August 9, 2010. The construction period was initially set for three to four months, but was completed in approximately six weeks which brought the system on line earlier than expected.

“This was a big budget item for us,” Lewis said. “The grant worked great so we didn’t have to borrow money for the project.”

According to Lewis it was the talk of the town as the big trucks went through on the way to the hydro plant two miles out of town with the new pipeline and back again with the old pipeline to be recycled.

The new pipeline is one continuous piece with no fittings. The high density polyethylene (HDPE) pipe came in 54-foot sections that were then fusion welded together. More than half of the original pipeline, specifically the old, leaky thin-walled portion, was replaced. HDPE was

also selected for the new pipeline as portions of the pipeline route may be used as future logging roads and the HDPE is durable enough to take the weight of a truck. The HDPE pipeline is expected to last decades.

During the installation of the new pipeline, Cove Public Works Director Mike Brown used the plant down time to rebuild the plant generator and fix the tailrace (path through which the water runs after power generation). The old corroded pipeline was removed and sent to a metal recycling plant.

Numerous bidders

The pipeline project generated considerable interest from potential bidders. Baird with Anderson Perry & Associates, Inc. said that before the recession, four to five contractors would normally bid on projects. After the recession started in 2008, many projects would get up to 10 bidders. The City of Cove pipeline project attracted more than 35 contractors at the pre-bid conference and 19 bidders.

“There were so many contractors at the pre-bid conference, we had to open the windows and door of our tiny building so people outside could hear what was going on inside,” said Lewis. “We were very surprised that so many contractors came all the way to Cove.”

M & M Earthworks had the winning bid. The Tigard firm specializes in excavating, demolishing, preparing land and roadways, installing utilities and abatements.

City relies on revenues

Without the pipeline replacement project, Lewis said the plant would have eventually been closed and the City of Cove would have lost a critical revenue stream. The City relies on the continued operation of their hydroelectric facility to help sustain city services as property taxes generate only \$11,000 in revenue per year. The hydroelectric plant has historically brought in gross revenues of \$135,000. The new pipes are expected to increase output by 10 percent or \$13,000 more per year.

“We’re at 3.5 million kilowatt hours already this year,” Lewis announced. “I don’t ever remember seeing more than 3 million kilowatt hours before.”

In addition to generating more electricity, the City of Cove was able to increase the amount of revenue they

are getting for the electricity generated. Oregon Trail Electric Coop was paying the City 2.26 cent per kilowatt hour. The City negotiated a new contract with Idaho Power which is paying more than 8 cents per kilowatt hour.

The City of Cove isn't the only entity that benefitted from the project.

Contractor appreciative

M & M Earthworks, according to one of the owners, Mark Syska, Sr., normally has five to six employees but hires more for specific jobs such as the Cove pipeline replacement job.

"I always try to hire local workers, truckers and use local suppliers whenever I can," Syska said. "We also spend money when we're on site which helps the local economy."

Syska said the firm has worked on several Recovery Act jobs in Oregon and Washington which have all contributed to the company's success and helped local economies throughout the region.

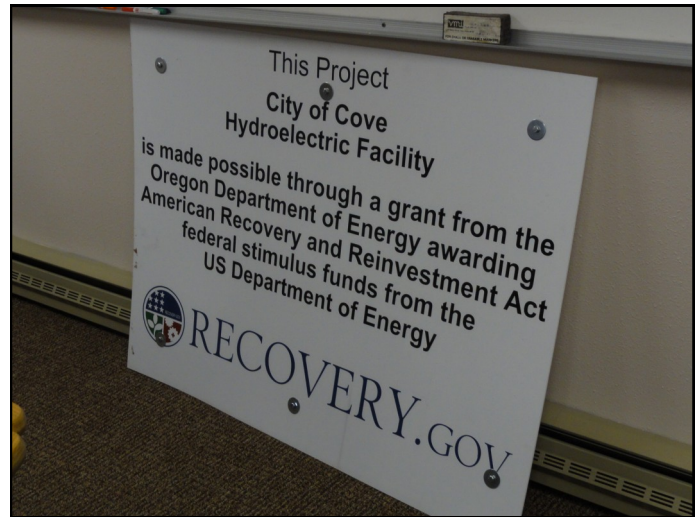
Anderson Perry & Associates, Inc. designed the Cove pipeline replacement project and assisted the City in completing their application for Recovery Act funds.

"We have been fortunate to be involved with a number of Recovery Act projects," said Brad Baird, PE and president of Anderson Perry & Associates, Inc., an Eastern Oregon engineering consulting firm in business since 1975. The firm has 65 employees in La Grande and 20 in Walla Walla, Washington.

"We absolutely benefited from this project work and others," Baird said.

US DOE Officer visits project

"This project was unique," said Lee Willeman, Oregon Department of Energy project manager. "Our US Department of Energy project officer visited the project and was quite impressed."



All Recovery Act projects are required to display signs such as the one above. The US Department of Energy Project Officer visited the Cove project on one of his monitoring visits to Oregon.

Now that the pipeline project is finish, the City of Cove is reaping the financial benefits from the improved production.

Thanks to the Recovery Act funds and the City of Cove's decision to replace their pipeline, the City's hydroelectric facility is moving into its second century of existence producing more electricity than it ever has and returning more water to the creeks.



The Oregon Department of Energy (ODOE) awarded this energy project with American Recovery and Reinvestment Act (stimulus) funds through the Energy Efficiency and Conservation Block Grant Program (EECBG). The U.S. Department of Energy administers the funds, approves the projects and reviews the state's progress. The Oregon Department of Energy received \$9,593,500 in EECBG funding. The period of performance is September 28, 2009 through September 27, 2012.

This material is based upon work supported by the Department of Energy under Award Number #DE-EE0000926. This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.