



School Dist.....Butte Falls  
 Project Type:.....HVAC  
 Stimulus Funds: ...\$125,000  
 Savings/year .....\$6,000

## Small school district appreciates its new energy-efficient boiler

As maintenance director of a small Oregon school district, Jeff Gorman is use to making the most of very limited resources.

Knowing that the Butte Falls High School's old oil-fired steam boiler was working more than it should because the steam pipes were exposed, Gorman tried to fix what he could with no budgeted funds.

Gorman knew better than anyone: Butte Falls School District desperately needed a more efficient boiler and full insulation on its exposed steam pipes. The reality was, however, that the small school district could not afford a new boiler or even pipe insulation.

Located in the foothills of the Cascade Mountain Range about 40 miles north-east of Medford, Butte Falls is home to 480 residents and has a school district population of 2,500. The Butte Falls Charter High School has 68 students in grades 8-12. The Forest Service has a presence and the Ginger Springs' Water Bottling Company opened in 2007 and now employ-ees five. But no employer in town is enough to make up for the Butte Falls Sugar Pine Lumber Company saw mill that operated from 1907 to the late 1960s.

Gorman acknowledged that there was not much hope that the district would ever be able to afford a new boiler and insulation. The school, served by Pacific Power, receives SB 1149 Public Purpose Funds for energy projects, but that funding is based on student attendance and accumulates at the rate of only \$250 per month. It would take years to save enough to pay for a new boiler and insulation.

In 2009, Gorman and Butte Falls School District received some promising news of a funding opportunity. The Oregon Department of Energy was

requesting applications for energy efficiency projects for its State Energy Program to be financed by \$42.1 million in federal Recovery Act (stimulus) funds. It was a one-time opportunity for the district to acquire a more efficient heating system.

Oregon Department of Energy selected their application and announced that Butte Falls School District would receive \$125,000 in stimulus funding for installation of a new high efficiency boiler and insulation for its steam pipes. Gorman was very pleased and was appointed project manager.

Fortunately, for the Butte Falls School District, Fred Phillips, a retired Forest Service engineer, lived in town and was available to assist with boiler specifications as the school district went out for bids for the project.

**Rural Butte Falls could not afford a more efficient boiler or pipe insulation.**



**Butte Falls School District received \$125,000 in Recovery Act (stimulus) funds for a new energy-efficient boiler and insulated pipes. The Oregon Department of Energy awarded the funds in a competitive solicitation.**





**Oregon Department of Energy Project Manager Shanda Shribbs inspects Butte Falls' new energy-efficient boiler with Butte Falls Maintenance Director Jeff Gorman. The boiler was paid for with Recovery Act (stimulus) funds.**

Western Burner of Ashland won the competitive bid. The new boiler, built by Smith Cast Iron Boiler of Boyertown, Pennsylvania, was assembled, tested and then separated into pieces for shipping and placement into the boiler room. At that point, it was reassembled and retested. It was ready to go on August 18, 2011 just in time for the new school year.

"I was a bit skeptical when I first saw it, I must admit," Gorman said. "The new boiler was a third the size of our old boiler. It was hard to believe it could do the same job."

But, his doubts vanished when he saw the new boiler in action.

"It's a better heating system," said Gorman. "It just performs a lot better. They did a really good job installing it, too."

The installation process took approximately two months. The old boiler had to be disassembled and required special treatment because of asbestos contamination. Western States Environmental Services, Inc. of Medford had a crew of five on site for that job. Western Burner of Ashland installed the boiler, while D2Services, a Medford-based employer, insulated the pipes. Western Burner and D2 Services had approximately seven workers at Butte Falls.

The original project plans for more efficient system controls had to be scrapped because of the building's age (built in 1926) and the presence of asbestos that would be much too costly to remove.

The current radiators would have to be retained, but would require new valves that would not leak and thermostats that would be less accessible to students.

With some research, Gorman found Danfoss valves that met the needs of the old radiators but provided the thermostatic control required. The only problem was that the Danfoss valves were manufactured in Denmark.

Recovery Act funds required that all steel, iron and manufactured goods used in projects paid for with stimulus funds be made in the United States. Gorman could not find equivalent American-made valves.

The Buy American requirement did allow for a 5 percent de minimis provision, however. With the new boiler manufactured in Pennsylvania and all other supplies down to the screws and fittings made in the US, there appeared to be a chance that the valves would fit into the de minimis exception.

Oregon Department of Energy Project Manager Shanda Shribbs called on Lisa Marston, senior administrative specialist with the Rogue Valley Council of Governments, to assist the school district with contract administration including ensuring that the cost spent on the Danfoss valves was less than 5 percent of the total cost of all equipment.

This required considerable research contacting suppliers and manufacturers and matching part numbers on invoices with manufacturing plants. The results were that the valves did indeed make up less than 5 percent of the equipment costs and the de minimis provision could be used.

"Lisa did a great job gathering the necessary documentation for the district," said Shribbs. "One of the primary purposes of the stimulus money is to get Americans back to work. Buy American does that, but it is sometimes difficult for contractors to find certain products. Instead of considering just the price, they need to ensure that the product is not just purchased from an American company, but is actually manufactured in the US."

Gorman is hoping the new boiler and insulation will save the school district \$6,000 a year. He said their Eugene supplier has already notified them that heating oil costs have increased from \$2.80 per gallon last year to \$3.14 this year. This could reduce the savings he is hoping for, but without the new boiler and insulation, the increased heating costs would have been very difficult for the struggling district to absorb.

In addition to using less energy and saving money, the system provides more consistent heat for all classrooms so Gorman has fewer calls and spends less time troubleshooting the system. The new valves and thermostats are more resistant to student tampering, too.

There will be one unforeseen problem, however. The old pipes that ran through the school attic would easily melt the snow pack on the roof due to the steam they leaked. The new insulated pipes won't leak enough steam heat to do that.

For Gorman, however, this is a small problem that he can deal with when the time comes. After all, he's used to juggling and doing the best he can for Butte Falls School District with what he's got.



**Butte Falls School District Deputy Clerk Judi Sizemore, left, discusses project documentation with Shanda Shribbs, center, Oregon Department of Energy project manager, and Lisa Marston, senior administrative specialist with the Rogue Valley Council of Governments.**

## Oregon schools receive \$15.6 million in Recovery Act funds

Federal Recovery Act (stimulus) funds have been spent on school energy projects and audits in 134 of Oregon's 197 school districts. The state agency awarded \$15,563,319 to schools through its State Energy Program and Energy Efficiency and Conservation Block Grant awards. Many of the energy projects, including energy-efficient lighting retrofits, weatherization, heating and biomass system installations, were completed during the summers of 2010 and 2011 when students were on vacation.

The biggest school stimulus award of \$1.9 million went to the Governor's School Audit Initiative. These funds were spent to provide comprehensive baseline energy audits to 100 school districts in 34 counties that receive their electricity from Oregon's Consumer Owned Utilities and Idaho Power. (Schools that receive their electricity from Oregon's Investor Owned Utilities, PGE and Pacific Power, receive Public Purpose Charges and had energy audits as directed by Senate Bill 1149 in 2001.)

The audits performed this spring with Recovery Act funds provided baseline energy audits that lay the foundation for implementing the "Cool Schools" legislation passed by the 2011 Legislature. The legislation will offer school districts low-interest loans and other services to make schools more energy efficient.

ODOE's stimulus awards to schools amounted to nearly 34 percent of Oregon's \$42,182,000 State Energy Program award and 13.2 percent of the \$9,593,500 Energy Efficiency and Conservation Block Grant award. The remainder of funds went to public and private sector entities throughout the state.

For award announcements, go to <http://oregon.gov/ENERGY/Recovery/index.shtml>. All stimulus fund projects must be completed in 2012.

The Oregon Department of Energy (ODOE) awarded this energy project with American Recovery and Reinvestment Act (stimulus) funds through the State Energy Program. These funds are designated for energy efficiency and renewable energy projects. The U.S. Department of Energy administers the funds, approves the projects and reviews the state's progress. The Oregon Department of Energy received \$42.1 million in SEP funding.

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