



School Dist:.....Portland  
Project Type:.....Lighting Retrofit  
Stimulus Funds: ...\$378,923  
Savings/yr: .....\$63,774

## Three for one: Revive the economy, save energy, reduce expenses

Portland Public Schools received a \$378,923 American Recovery and Reinvestment (stimulus) grant through the Oregon Department of Energy in March to improve the lighting at 17 school buildings. It was the Facilities Department's first Recovery Act grant. The primary goal of the stimulus funds is to create jobs.

Portland Public Schools Facilities Project Manager Jeff Lewis and Energy Specialist Catherine Diviney had their work cut out for them. The project timeline was short. School was in session so work would be limited to after hours.

Lewis and Diviney decided to divide the 17 lighting projects into five "packages" and allow contractors to bid on all five, but to be selected for no more than two packages each.

The process had two effects. It spread the work to more contractors and made it easier for the school district to successfully complete the projects by the deadline.

"Kudos to them for doing it this way," said Robert Mott, Lighting Division Manager for The Stoner Electric Group, a contractor that was awarded one of the lighting packages. "I could have done all five packages, but this kept everyone busy and was the epitome of stimulating the economy. It's definitely a 'success' story."

Stoner Electric Group, located in Milwaukie, employs approximately 60 electricians. The company has been in business since 1960 and is now one of the largest commercial electrical contractors in the Portland metro area. Mott says his lighting division has worked on a half dozen stimulus projects to date that have definitely helped the bottom line.

Portland Public Schools selected two other local electrical contractors, Cascade Electrical LLC of Clark County, Washington and Sylvania Electric LLC of Portland, to each do two of the remaining four packages. The budget for each package was approximately \$70,000.

"I attended the pre-construction meeting that the school district held with the three contractors," said Rebecca Sweetland, Oregon Depart-

ment of Energy Project Manager for the Portland Public Schools award. "They were all excited about the award and eager to start."

The Recovery Act funds helped Portland Public Schools ensure that all of its 85 school buildings had T-8 lights.

"We missed some classrooms when we replaced the majority of T-12s in the mid '90s," said Diviney. "This grant gave us the opportunity to eliminate all T-12s from the district."

In addition, the main administration building, Blanchard Education Service Center on North Dixon Street, received some of the new lighting. This facility, totaling nearly 400,000 square feet, has the second highest energy use in the district. However, many of the previous

grants and funds earmarked for lighting upgrades could only be used on classroom facilities. The ARRA funds could be used for any school-owned facility.

The administration facility's parking garage had 167 high pressure sodium (HPS) lights. Many had burned out so the garage was dark in areas. The HPS lights were replaced with 28 Watt T-8s that are expected to save 159,000 kWh of electricity.

The decorative canned lights in the admin facility's foyer were mercury vapor with ballasts that buzzed. These lights have been replaced with 27 Watt compact fluorescents (CFLs)

**"This kept everyone busy...It's definitely a success story"**  
- Ron Mott  
Stoner Electric Group



Portland Public Schools Facilities Project Manager Jeff Lewis (left) and Energy Specialist Catherine Diviney (right) display the new energy-efficient lights at Youngson School to Rebecca Sweetland, Project Manager with the Oregon Department of Energy,



and the result is a much brighter lobby. The new lighting for the administration building alone is expected to be 74 percent more efficient.

Pioneer at Youngson School on Southeast 71<sup>st</sup> Avenue is a year-round special education school for students in grades 6 through 9. Teachers at Pioneer at Youngson had been requesting new lighting for several years; brighter lights, they believe, positively affect kids with emotional and social needs.

The new lights at Pioneer at Youngson are "full-spectrum" lights at 5000 kW. Other schools use 4100 kW lights. Pioneer at Youngson teacher David Seifert notices the difference.

"It feels like sunlight," Seifert said. "It has a calming effect on the kids."

Pioneer at Youngson Principal Michael Conn appreciates the new gym lights, too. "The new lights don't hang down as far so they aren't as prone to breaking," Conn said. "Best of all there's no flickering."

The entire retrofit project in all 17 buildings is expected to save 708,593 kWh of energy and \$63,774 in energy costs per year. The electricity use for the lighting that was replaced was reduced from between 37 percent to 74 percent depending upon the building.

"In addition to the energy costs, another big savings for us is in maintenance costs," said Diviney. "We had a whole host of work orders for these schools. They all go away now that the old ballasts are gone. The electricians are free to do other work."

Even the custodians' workload is considerably reduced. The new T-8 lamps have a rated life of 24,000 hours which means they should not need to be changed for about eight years.

The project came in under budget, and Lewis and Diviney were pleased with the work of all three contractors. All of the contractors and the school district facilities staff had to become familiar with federal requirements and documentation involved with Davis-Bacon wage determination, Bureau of Labor and Industry requirements, Buy American Act, certified payroll, State Historical and Preservation Office rules and more.

"It was a learning curve," Diviney said. "But now we are ready for more."

The average age of Portland Public Schools buildings is 65 years old with some of the buildings more than 100 years old. Lewis and Diviney are charged with saving energy and implementing projects in existing buildings, but they must be careful to coordinate with the district's long-term planning efforts to rebuild schools.

Thanks to the American Recovery and Reinvestment Act grant, Portland Public Schools put electricians from three local businesses to work; lowered the lighting electricity use in 17 buildings; and saved an estimated \$63,774 this year and every year the schools operate.



### **Portland Public Schools lighting projects**

- Atkinson Elementary*
- Blanchard Educational Service Center  
(Administration Building)*
- Bridger K-8*
- Buckman Elementary*
- Grout Elementary*
- Hayhust Elementary*
- James John Elementary*
- Kellogg Middle*
- Kelly Elementary*
- Lane Middle*
- Llewellyn Elementary*
- Marshall High*
- Markham Elementary*
- Clarendon-Portsmouth K-8*
- Roosevelt High*
- Harriet Tubman Leadership Academy for  
Young Women*
- Pioneer at Youngson*

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 has \$42.1 million in SEP funding. All projects must be completed by February 15, 2012.

This material is based upon work supported by the Department of Energy under Award Number #DE-FOA-0000052. 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.