

Downtown landmark building retains history but loses high energy bills

By Catherine Van Horn
for the Oregon Office of Energy

Renovating a building listed on the National Register of Historic Places means you remodel while keeping history in mind.

That's what Portland's Gregory and Mark Goodman did in 1999 when they renovated their historic Public Service Building at 920 S.W. Sixth Ave. They even commissioned black and white tile to match original signature pieces in the bathrooms.

But the owners of the Downtown Development Group refused to repeat the past when it came to the building's inefficient energy systems.

The Goodmans' decision to update the building's lighting, heating and cooling systems with more efficient technology should save more than \$160,000 a year in energy bills.

"The building had a very high energy consumption because of its age and because it had one company as the primary occupant for decades," says Christopher Kopka, senior vice president of real estate for the development group. "Having had one primary user for that long a time, the building had not gone through the same sort of full



One of Portland's historic skyscrapers, the Public Service Building also had lofty energy bills before a recent renovation reduced energy costs by some \$160,000 a year. Photo courtesy of the Downtown Development Group.

renovations as would a commercial property with more turnover."

The Public Service Building's long-term occupant had been PacifiCorp, known as Pacific Power and Light in

1927 when it worked with prominent Portland architect A. E. Doyle to construct the landmark building. The

Continued on next page

building remained the tallest in Portland until the early 1960s, and it is on the National Register of Historic Places as an example of early American skyscraper architecture and as one of Doyle's capstone projects.

PacifiCorp moved out of the Public Service Building in late 1998. The Goodmans viewed the vacancy as an opportunity to make the building more structurally sound, compliant with ADA rules and generally better able to attract future tenants. When they learned during their planning process about Oregon Office of Energy loans and tax credits for energy projects, they backtracked to add energy improvements to the renovation because the upgrades made financial sense.

The resulting annual energy savings nearly offset the amount the Goodmans pay annually on their Office of Energy loan. And a 35 percent state energy tax credit helps reduce the payback on their investment to about six years.

"We had inefficient systems, and we used to run them intuitively," Kopka says. "Now we're able to monitor our systems, and we can be smarter about how we run the building because we have more capability and more information."

The investment in energy efficiency bought four key improvements that are helping the building run better and cheaper:

Three new gas-fired condensing boilers now heat water to warm the building, having replaced most of the electric boilers that had produced steam heat. Using

highly efficient gas boilers and making hot water instead of steam should result in an efficiency increase of at least 10 percent.

"Because it's a big building and because energy consumption is very high, that relatively small increase in efficiency makes a big difference," says Kip Pheil, an energy analyst with the Office of Energy's loan program.

A new high-efficiency chiller to cool the building has taken the lead over two existing chillers. The older models will report for duty only when cooling needs rise beyond the new chiller's capacity.

The building's main heating, ventilation and air conditioning system was extended to a room that PacifiCorp had dedicated to its computers and that had its own specialized cooling units.

Fluorescent light fixtures were upgraded to T8 lamps and electronic ballasts.

Incandescent lights were retrofitted with compact fluorescent lamps.

In addition, the Goodmans are installing more digital controls whenever they revamp additional parts of the heating and cooling systems.

"Because of its age, the building is still not a fully energy efficient building like a new building could be," Kopka says. "We



The Public Service Building's long-term occupant had been PacifiCorp, known as Pacific Power and Light in 1927 when it worked with prominent Portland architect A. E. Doyle to construct the landmark building. Photos courtesy of the Downtown Development Group.

still have single-pane glass, for example, and we only have partial digital control of the systems. But we've been able to get to a much lower energy use, and now we're right in the range of other buildings we have to compete with."

And they're competitive enough, Kopka adds, that the Public Service Building now is at 100 percent occupancy.