



Tim Altier, Chief Engineer, The Westin Bellevue

The Westin Bellevue Existing Building Commissioning

The challenge

The Westin Bellevue boasts over 300 up-scale hotel guest rooms and 175,000 sq. ft. of public space including a large lobby, spacious ballrooms, conference rooms, hotel offices, and hallways stretching throughout 19 floors. Like many hotels, The Westin Bellevue was urged—by its Starwood Hotels and Resorts management—to cut energy use. Their challenge was finding where to save electricity and gas in a hotel built to newer energy codes, and how to do it without ruffling the sensibilities of discerning guests.

The result

As The Westin Bellevue's Chief Engineer Tim Altier tells it, he knew his dilemma was solved after hearing about PSE's program. Not only does PSE's Existing Building Commissioning (EBCx) Program pre-screen for the best candidates, but it pays up to 75 percent of commissioning provider's fees, regardless of results. And if projected energy savings continue a year beyond project completion, PSE pays up to 100 percent of total commissioning costs.

Altier contacted PSE, privately wondering if his hotel, built in 2005, would qualify. But qualify it did: an investigation confirmed that there was room to save energy even in such a new hotel simply by adjusting HVAC settings, closing vents in unused conference rooms, and aligning central heating and cooling functions with outside temperatures.

Cumulative project savings: \$46,600 per year.

Project details

With PSE's support, Altier, his hotel engineering staff, and Ed Culp of MacDonald-Miller Facility Solutions, a PSE approved commissioning provider, began to sleuth out energy savings. As luck would have it, the hotel's HVAC zoning was separated between public space and guest rooms, so subtle changes could be made in public areas without affecting guests' perceptions. HVAC scheduling in the hotel's conference rooms made a huge impact: before commissioning, the hotel's 25,000 sq. ft. of conference rooms were conditioned constantly, even while unoccupied. Staff now program the HVAC system to run only when the rooms are occupied. "You only need to schedule once, when the conference room reservation is made," says Altier.

Next the team adjusted HVAC setpoints for the hotel lobby and guest-room corridors. Winter heating setpoints were lowered from 70° F to 66° F, and summer cooling setpoints raised from 75° F to 78° F, for a generous 12°. "More energy saved, with no complaints from guests or hotel staff," reports Altier.

Finally, adjustments were also made to The Westin Bellevue's central cooling and heating plant, including implementing a load-based control strategy wherein system temperatures are controlled based on outside air conditions. This substantially reduced electricity consumption.



Annual savings

The Westin Bellevue is saving energy and money through low-cost/no-cost measures and PSE's Comprehensive EBCx Program.

- **10% energy reduction**
- **\$46,600 in energy costs**
- **588,000 kwh saved**
- **11,400 therms saved**
- **Investment payback in 7 months**

Project partner

Ed Culp of MacDonald-Miller Facility Solutions provided commissioning services for The Westin Bellevue through PSE's EBCx Program.

These A-to-Z services included in-depth investigation of possible energy efficiency improvements with payback of less than two years; verification; development of a quick-reference manual to help hotel engineering staff operate hotel systems in the most energy-efficient manner; and staff training coupled with energy performance monitoring to keep savings on track.

For more info, visit pse.com/EBCx.