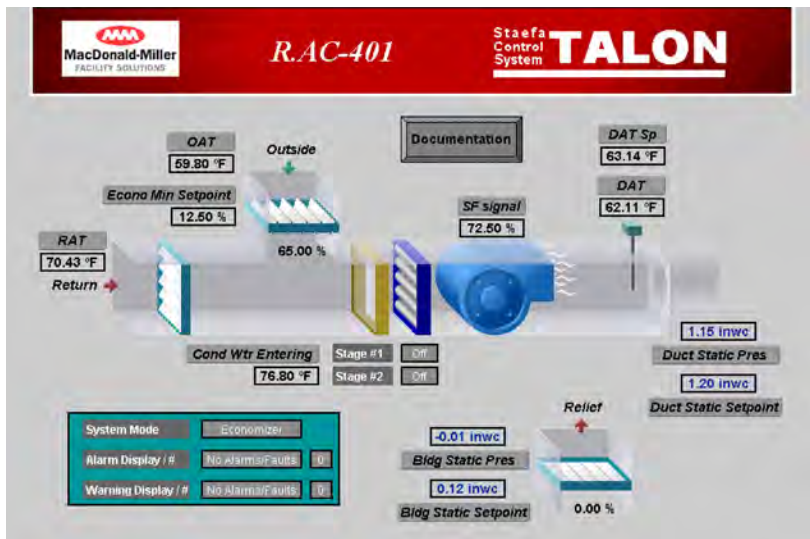




RESOURCE CONSERVATION MANAGEMENT

Kemper Development Company and PSE work together to cut electricity use at The Bellevue Collection.



“ You need to stick with energy optimization for the long term, not minutes. Without a dedicated RCM, we never would have pulled it off. ”

– Glen Bachman, SCSM/CPM/RPA, Vice President and Director of Retail Operations, Kemper Development Company

PROJECT SUMMARY

Alfonso Tanoto was brought on board as resource conservation manager for Kemper Development Company (KDC) through Puget Sound Energy's Resource Conservation Management (RCM) Program. His assignment: cut energy use across nearly 4 million sq ft of retail, office, and other space at The Bellevue Collection through low-cost/no-cost operation and maintenance adjustments. Two years into the program, electricity use has dropped 9%, and KDC has already saved a total of 1.82 million kWh.

Top: Kemper Development's Alfonso Tanoto is pleased with HVAC savings reached from optimal scheduling, setpoints adjustments, & demand-controlled ventilation.

Left: Computer screen shows Lincoln AC unit setpoints which can be adjusted to optimize system's efficiency depending on climate.

PROJECT SAVINGS

Electrical energy savings
911,000 kWh per year

TOTAL SAVINGS

\$82,000 per year
\$164,000 total to date



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Kemper Development Company

THE PROJECT

Kemper Development Company's Bellevue Collection, a downtown Bellevue landmark, is an urban center of two office towers, two hotels, and extensive retail space totaling 3.65 million sq ft in seven buildings. KDC employs nearly 80 operations staff, but day-to-day tasks at the widespread property leave little time to scrutinize overall energy use for lighting and HVAC adjustments that could yield energy savings. "We're always busy," explains KDC Vice President Glen Bachman. "We might be able to look at energy use data for a few minutes a day, but most of our staff is up off our chairs and far away from a computer monitor."

THE CHALLENGE

PSE approached Bachman about taking advantage of its RCM grant program, which helps large PSE customers hire and train a resource conservation manager (RCM) to identify energy savings that can be achieved at low cost through more efficient operations and diligent maintenance. "We talked with PSE, the numbers rolled out, and I just knew it was the right thing to do," recalls Bachman. With PSE support, Kemper brought in Alfonsus Tanoto—an enthusiastic and newly minted electrical engineer from the University of Washington—as RCM. Working with a PSE energy management engineer, Tanoto familiarized himself with The Bellevue Collection's extensive building controls, including a new energy management system (EMS). Tanoto also learned how to track energy use patterns with utility accounting software provided by PSE, relying on conventional metering data as well as detailed data from PSE's Energy Interval Service (EIS), which provides frequent interval reads for PSE electric and gas meters. "The utility accounting software, EIS, and my conferences with PSE's energy management engineer helped me the most as new RCM," says Tanoto.

THE SOLUTION

With an RCM focusing on The Bellevue Collection's energy use, the potential for energy savings quickly became apparent. At Bellevue Place, a tower with 19 floors of office space, Tanoto collaborated with building engineers, maintenance staff, and property managers to dramatically reduce lighting and HVAC use in unoccupied offices during extended holidays, a first for the building. And after Tanoto spotted a steep early-morning spike in winter energy use that incurred heavy peak demand charges, he contacted office tenants to find out when they actually began their day, then adjusted HVAC to switch on earlier for the earlier arrivals and later for later arrivals. Tanoto also reduced winter night-time set-back temperatures an extra 5° F in unoccupied offices.

In Bellevue Square's expansive retail space, Tanoto programmed the property's EMS to turn off all HVAC systems and equipment at closing time, and to shut down entirely during holidays. He also adjusted HVAC controls to provide an extra 30 minutes of warm-up time during winter and summer peaks, reducing demand charges. And Tanoto keeps a sharp eye on the many HVAC and lighting override requests he receives from tenants for holiday and marketing events at Bellevue Square, using the building's EMS to ensure that these systems are on only when and where necessary.

THE START OF SOMETHING

Thanks to the RCM Program and KDC's efforts, electricity use at The Bellevue Collection has dropped 9% during the first two years of the three-year program. Energy savings during this period totaled 1.82 million kWh, or \$164,000 in all—and that doesn't even include savings from avoided peak demand charges. In year three of the program, Tanoto continues to search for savings, performing a property-wide energy audit at least twice a week. Meanwhile, Glen Bachman, looking ever ahead, is exploring wireless communication to gain greater control of property energy use without the need for costly rewiring.



PROJECT PARTNER

MacDonald-Miller Facility Solutions and Nelson Electric, Inc. are important players on KDC's team, helping RCM Alfonsus Tanoto identify discrepancies in EMS, HVAC, and lighting systems, and repairing or replacing any defective components. Efforts have included replacement of defective relays that caused rooftop HVAC units in Bellevue Square to operate 24/7, and swapping out broken temperature controllers at Lincoln Square that failed to shut down cooling functions during winter, activating unneeded heating.