

Seattle City Light Recovers Significant Revenue Using DENT Instruments' ELITEpro XC & RōCoil Current Transformers

Power Metering Case Study



DENT's ELITEpro XC Portable Energy Data Logger, designed for single and three-phase load studies, M&V, and analyzing electrical data analysis.



Flexible RōCoil (Rogowski) current sensors make it easy to measure a wide range of loads, even in a cramped electrical panel. Measure up to 5000A with RōCoils and the ELITEpro XC power meter.

A team of four Seattle City Light (SCL) employees have recovered \$1.5 million in just two years using equipment purchased from DENT Instruments.

Large-scale construction is booming in Seattle and has been for many years, but Seattle City Light was unable to efficiently capture electrical usage and bill accordingly as multi-unit skyscrapers were taking shape — that is, until the initial purchase of 12 ELITEpro XC meters from DENT Instruments in 2014.

Electrical meters are one of the last items trimmed out in construction, but things can't be built without electricity. So, even though projects weren't ready for SCL-supplied meters to be installed, Seattle City Light would routinely energize the vault to support construction. Engineers would shunt the meter sockets, allowing unmetered energy to flow to individual units. This provided electricity to power such things as drywall heaters and other tools. In the meantime, Seattle City Light was losing millions of dollars in revenue. It didn't know exactly how much until Matthew Blouch, Tech Meter Crew Chief, sampled several projects around Seattle and documented detailed losses.

Blouch knew Seattle City Light was losing money, but was surprised to learn how much. "After that, I had a vision of capturing that revenue," Blouch said. "I could see the solution, but I needed to find the tools to make it happen."

The first thing he considered was to install solid core current transformers and a meter into large-scale construction projects, but that would be too costly and not every efficient. "So, I started Googling for alternative solutions and I found DENT Instruments."

As Blouch read on DENT's website (www.dentinstruments.com), "The ELITEpro XC energy data logger is a complete, portable solution for pinpointing electric usage and recording building performance metrics. It is capable of measuring, storing, and analyzing electrical consumption data that is derived from the voltage and current inputs." Combined with the RōCoil (Rogowski) current transformers (designed for large loads or large cables and bussbars), Blouch knew the DENT Instrument products could be the interim solution between a flow of free electricity during construction and individually metered occupied units.

It was also important that the operation of the tools was easy to learn as each of the crewmembers aren't specialists; instead, they are expected to cover all job functions interchangeably. The ELITEpro XC and RōCoils fit the bill. According to Blouch, installing the meters is easy, the RōCoils flex nicely, and downloading the data is intuitive and straightforward. "And we really love the accumulative running kWh display for Power Channel 5."

The next step was to work with contractors to sign an agreement to participate in SCL's Temporary Totalized Metering (TTM) program. Blouch explained, "It basically states that SCL will meter the entire construction load and bill [them] for the unmetered unit power."

While one might expect the contractors to oppose metered billing during construction because of the additional costs, they actually find it to be beneficial as they can schedule their projects more efficiently, Blouch explained.

Now, Seattle City Light has 32 ELITEpro XC instruments deployed throughout its service area and the Current Diversion and Revenue Recovery program is recovering approximately \$500,000 a year for the utility. "It was a real 'aha moment' when \$20,000 to \$30,000-a-month invoices were being generated for the large-scale projects," said Blouch.

Seattle City Light has realized other benefits as well. "Efficiency and safety have increased significantly," Blouch said. Now that they're metering projects from the beginning, the crew doesn't have to rush to jobs when a certain window opens to install a meter. In addition, the crew isn't required to operate within construction zones as often. "We don't have to climb over dangerous equipment, squeeze around framing at high heights, and be exposed to silica and drywall dust," he said.

Overall, Blouch is very pleased with the products and the customer service he has received from DENT Instruments. "This is not a traditional use for the ELITEpro XC," said Blouch, "so we had to spend some time working

DENT staff to smooth out the application. In addition, Christopher Dent himself came to work with us on the implementation and train us on the technology."

"The potential for revenue recovery is huge if SCL had the resources to install the TTM program at every large-scale construction project in the city," Blouch concluded. And, while other utilities haven't yet asked about SCL's TTM program, Blouch expects they will once the SCL experience with the ELITEpro XC and RōCoils is shared more broadly. ♦

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