Itron Case Study
City of Athens Electric Utility

The Value of Technology

City of Athens Electric Utility Puts CENTRON® Meter Through the Hoops

Benefits

The CENTRON meter with its low starting watts and low burden, captures energy that was not monitored in the past by electro-mechanical meters.

Measures accurately regardless of the position of the meter, (even upside down).

Increased revenue due to more accurate reads.

background

The Background

Athens Utility Electric Department provides electric service to all of Limestone County utilizing approximately 1,800 miles of electric lines through 12 substations, serving 30,000 customers. Our municipality is served by Tennessee Valley Electric Service Corporation (TVESCO), an Itron distributor. Our representative is Norman Housch.

In 2001, Norman Housch recommended that we take a look at the new CENTRON electronic meter. We decided to test this new technology to see if it could do all that was proposed.

The CENTRON C1S is a solid-state meter used for measuring singlephase energy consumption. The CENTRON meter's improved performance, such as low starting watts and low burden, captures energy that was not monitored in the past by electromechanical meters. The measurement portion is separated and located in the lower portion of the meter.

This measurement section, referred to as the metrology board, contains the measuring technology (Hall Sensor) and all the calibration information for the CENTRON meter.

Application

application

Acting on our distributor's recommendation, we ordered 480 CENTRON meters. When these meters arrived, we began testing them. The first test we wanted to do was the Light-Load test because the meter was supposed to manage light loads better that its electromechanical predecessor. Its starting watts was supposed to be five watts.

At the time, the city was putting up a new tornado warning siren, and Lynn Haynes, our Supervisor of Metering and Substations, suggested this installation would be a good one to do using a dual meter base. We placed an old electromechanical meter on the top base and the CENTRON meter on the lower base.

Meters Mounted Upside Down

After a few days, we noticed the CENTRON meter was accumulating Kwh while the electromechanical meter was not. These results were quite astounding to us because with each unit of difference, we were losing revenue.

Meter Position Testing

The Light-Load Test was performed using the cyclometer version of the CENTRON, so we put an LCD version on the same base, but we turned the meter upside down. With the CENTRON new metrology, the accuracy is supposed to hold steady regardless of the position of the meter. Again, we placed the electromechanical meter on the bottom base. Again, the CENTRON continued to measure Kwh correctly with the meter upside down.

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Bill Tracking Tests

Another test we are performing is on a new cell tower where we removed a meter with fairly constant load and have installed a CENTRON meter to see if there are any differences. We are currently tracking the billing that comes from these two reads.

results

Results

Athens Utility now has approximately 2,000 CENTRON meters in service. Normally, we order 1,000 meters a year, so in the future these will all be CENTRON meters. As change is needed or as new customers are added, the CENTRON meter will be installed. We do not plan to do any wholesale changeouts in the field.

This story, written by Cathy Hunter of Athens Utility Electric Department., first appeared in the Itron (formerly Schlumberger Electricity Inc.) customer magazine, Systems Watch Summer 2003.

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