



Long Beach Water Department

Finding Lost Water in Large Meters – Using SEER® to ID Inaccurate Meters for Replacement

BACKGROUND

Long Beach is California's fifth largest city and the thirty-third largest in the United States. Long Beach is an acknowledged leader in global trade with a high-tech business community and an attractive waterfront that has become a magnet for tourists from around the world. With the rich cultural variety of its neighborhoods, Long Beach has also emerged as one of the most diverse cities in America.

Long Beach is a metropolis of more than 480,000 people and serves these people through 90,000 service connections.

The Long Beach Water Department acquires its drinking water from two sources, a large underground aquifer below the City of Long Beach known as the Central Basin, and imported water delivered by the Metropolitan Water District (MWD) of Southern California. A small portion of the City's supply comes from reclaimed water that is used primarily to irrigate municipal landscapes. Forty-two percent of the City's total water supply is provided by groundwater. This groundwater is pumped into the largest groundwater treatment plant in the U.S.

The City of Long Beach considers water a valuable resource and promotes water conservation at every opportunity. Projects such as the Desalination project, the largest public seawater project in the U.S., the Conjunctive Use Program for groundwater storage, and the Water Reuse Program are evidence of its commitment. Additionally, water conservation programs flourish within Long Beach. Programs such as the large landscape program, clothes washer rebate program, ultra-low flush toilet program and the cool blue kids program emphasize that everyone can play a valuable part in water conservation.



CUSTOMER

Long Beach Water Department, Long Beach California

SERVICE TERRITORY

The LBWD serves 480,000 customers in the fifth largest city in the State of California.

SOLUTION BENEFITS

SEER analysis provided information where revenue was being lost due to unrecorded consumption

TIMELINE

LBWD initiated a program to replace or repair meters 10-15 years of age.

- 2003
- LBWD Unaccounted-for water was 6%.
- LBWD was not able to confirm its test results regarding the accuracy of the meters being removed.
- Neptune® conducted a SEER® analysis on 42,000 meters identifying specifically the inaccuracy of the large meters.
- LBWD validated the SEER results against the accuracy of the meters being changed out.
- SEER results proved to be within a few percent of the field test results.
- Water meter replacement program to be completed over the next three to five years.

SITUATION

In 2003, Long Beach's unaccounted-for water due to metering within the service area was estimated at six percent. Long Beach initiated a program several years ago that replaces and repairs its meters every 10 to 15 years.

Discussions were conducted with Neptune Technology Group to determine if any tools were available to assist them in confirming their test results regarding the accuracy of the meters that were being removed.

SOLUTION

Neptune conducted a SEER ("Statistical Evaluation for Enhancement of Revenue") analysis on 42,000 meters identifying that the majority of the unrecorded water was associated with the projected inaccuracy of the large meters.

Long Beach tested a percentage of the meters analyzed by SEER as they were changed out. The accuracy of the replaced meters fell within a few percent of the accuracy predicted by SEER. In several cases, the SEER analysis was conservative with respect to the meter accuracy predicted.

Long Beach Water Department appreciates the value of the Neptune SEER program as an analysis tool to help substantiate and justify its existing water meter replacement program.



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