



SOUTHERN CALIFORNIA
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GOVERNMENT & INSTITUTIONS

SOUTHERN CALIFORNIA EDISON

POWER BULLETIN

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SCE's Pump Test and Hydraulic Services: A Century of Value

In 2011, Southern California Edison (SCE) marks 100 years of serving customers through the Pump Test and Hydraulic Services offering, one of the largest and longest-running pump-related energy efficiency offerings in the nation. Benefits of SCE's free pump testing services may include:

- increased energy efficiency,
- reduced costs, and
- improved system efficiency.

The pump testing services determine the overall "wire-to-water" efficiency of a pumping plant by analyzing the water level in a well during pumping, discharge flow rates, and power input to the pump motor. These measurements of pump performance in progress allow customers to track pumping plant efficiency and determine when maintenance or overhaul will be cost-effective.

SCE also offers recommendations to capture efficiency and cost-saving opportunities elsewhere in the pumping system, such as by minimizing piping friction losses and matching pressure to varying flow requirements through the use of variable speed drives. In addition, SCE provides several fee-based predictive maintenance services, including infrared panel inspection and cleaning, vibration detection analysis, meg-ohm testing, and industrial services.

To learn more about SCE's Pump Test and Hydraulic Services, as well as other energy management solutions, contact your account representative or visit www.sce.com/solutions. To schedule a pumping test, log onto www.sce.com/forms/RequestPumpTest.aspx.

Protect Your Employees and Business From Contact With Power Lines

Across the United States, workers who contact power lines put themselves and the public at risk of injury or death. These overhead and underground utility contacts also cost utility companies and businesses millions of dollars in repair and service disruption losses every year.

Did you know overhead power lines are not covered by insulation? If an overhead power line touches you, your equipment or your tools, you or someone you work with could be electrocuted. Everyone who works near power lines is at risk, whether you operate heavy equipment or use ladders and handheld tools.

One life-saving rule-of-thumb is the 10-foot rule. Keeping vehicles, equipment, tools, scaffolding and people at least 10 feet away from overhead power lines can help prevent accidents. Make sure everyone at the work site knows about nearby overhead wires and where they are located. Assume all wires are

CONTINUED ON BACK

CONTINUED FROM FRONT

energized and potentially dangerous—this includes overhead and underground lines, and the service drops that run from utility poles to buildings.

Not only are workers at risk from making contact with overhead wires, a buried conductor is just as hazardous. In advance of any excavation project, call 811 before you blast, bore, trench, drill, grade or dig in any way.

Your building's utility maps may not be updated, and the markings could be off, but by calling the national 811 call center, you can find out the most current and most accurate information about buried utilities. This free service will arrange for the marking of underground power lines and other utilities so you can keep a safe distance.

Electrical Safety Awareness Materials

SCE offers *Worker Beware* safety training materials (at no cost) that can easily be integrated into your existing safety program. These materials—which include tip cards, posters, a DVD and a facilitator's guide—can help save lives, control injury-related costs, reduce insurance premiums and avoid Cal/OSHA fines. To learn more about SCE's safety awareness programs and to order free educational materials, visit www.sce.com/safety and click on "Worker Safety."

GOVERNMENT & INSTITUTIONS SEGMENT FOCUS

Pump Test Results Get to Heart of Energy Savings for Tulare Farm

In 2011, SCE marks 100 years of offering services to customers through one of the largest and longest-running pump-related energy efficiency programs in the nation. Mark Watte, owner/partner of the George Watte & Sons farm, spoke of the value of SCE's free pump testing services.

"Our pumps are as important to our farm as a heart is to a person," he said. "How we measure and monitor those is obviously very important. When you get a single pump test, it's one snapshot. What's essential is to test over time to see trends. That's helpful in diagnosing what might be wrong and how to fix it."

Benefits of SCE's pump testing services may include:

- Increased energy efficiency,
- Reduced costs, and
- Improved system efficiency.

Over the years, SCE's services have evolved to incorporate the latest in fluid flow and electronic measurement instrumentation to test thousands of pumps annually in conformance with pumping standards established by the American Water Works Association.

Pump Testing: A Money-Saving Solution

George Watte & Sons dates to the late 1950s, when Mark's father and uncle bought their first properties and began farming. In the mid-1980s, Mark, his brother, Brian, and their father formed a partnership to operate the farm together. A few years later, their father retired and the brothers took over the business.

Today the brothers own, lease and farm about 4,000 acres, plus harvest approximately 300 acres of trees, and milk about 1,800 cows in the farm's dairy. On average, Mark Watte said, canal water meets about half of the crops' water needs, with the rest depending on water pumped from below ground. For those crops, the farm relies on 42 pumps, which Watte said probably account for about 90% of its energy use.

The farm uses SCE's pump testing services to check the efficiency of each of its pumps every other year. Though some utilities outsource this function, Watte values the availability of SCE's in-house services.

"I feel like SCE employees are much more thorough and caring about having it done right," Watte said. "It's expensive to pull pumps, and there's no opportunity for visual inspection. It's all about the measurements. When I get the results of an SCE pump test, I feel it's absolutely done right."



Mark Watte, owner/partner of the George Watte & Sons farm, said of SCE's free pump testing services, "When you get a test from SCE, you can bet the farm on it."

Energy Savings of 30% to 40%

Watte pointed to an example of a pump tested in 2006. The results showed an overall plant efficiency of 41.1%, with a kilowatt per acre-foot requirement of 309 and a gallons-per-minute production of 583. Based on the results, he discovered that the pump's bowl was worn out, so he replaced it.

SCE came back the following month to recheck the pump, and its efficiency had gone to 65.2%—generally in the range for a new, highly efficient pump—with a kilowatt per acre-foot requirement of 207. The pump's gallons-per-minute production had almost doubled, to 1,117.

Watte estimated that the energy savings added up to about \$17 per acre-foot, or 30% to 40%. "The payback was right away," he said.

George Watte & Sons also takes other steps to utilize both energy and water resources as effectively as possible. Use of a variable speed vacuum pump in the dairy saves energy by matching the vacuum pump motor's speed and energy consumption with the vacuum needed. Water savings result from drip irrigation for the trees and field laser leveling to make the flow of water across the crops more uniform and efficient.

However, the biggest bottom-line impact for George Watte & Sons comes down to keeping its pumps at their optimal efficiency, and using SCE's pump testing services to accomplish this.

According to Watte, "When you get a test from SCE, you can bet the farm on it."

To learn more about SCE's Pump Test and Hydraulic Services, as well as other energy management solutions for agricultural properties, contact your account representative or visit www.sce.com/b-rs/agriculture/. To schedule a pump test, log onto www.sce.com/forms/RequestPumpTest.aspx.