



Energy Cost Reduction Assessment

Interactive Decision Support



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Energy Cost Reduction System Assessment for Water Agencies

Interactive Decision Support

Calamity

Retail electricity rates in California have already been increased 40-60 percent in the last year. With a current debt of \$50 billion or so for electricity acquisitions, retail rates will continue to be high in California for the foreseeable future. But the real change is that the regulatory agencies are laying the groundwork to shift everyone in the state over to real-time (hourly) pricing. Millions of new real-time meters have been installed in the last year, current utility interruptible tariffs that water agencies have favorably participated in are scheduled to be terminated. This means that, as a water agency, if you cannot control your electricity use in response to hourly prices you soon will be facing higher costs for your electricity.

Opportunity

We are entering a new phase in the electricity market in California – the demand response phase. The Federal Energy Regulatory Commission (FERC), through its Standard Market Design proceeding, is establishing programs where customer demand response (changes in customer electricity use) will be treated the same as generation in utility procurements. The California Public Utilities Commission (CPUC) is ordering the utilities to include renewable generation and demand response in their procurement plans when they get back into the procurement business January 1, 2003. And the joint CPUC, California Energy Commission (CEC), and California Power Authority (CPA) Working Group on Demand Response is recommending a host of new customer demand response programs for next summer. Now is the time to start preparing your agency for the upcoming changes in the California energy market.

The Energy Cost Reduction Assessment

Current research indicates that almost every water agency has the potential to reduce annual energy costs by up to 30%, although in many cases those agencies have not done so simply because a clear set of instructions detailing how to capture maximum energy cost savings is not available. Most water agencies are operationally very complex and therefore, defining how a water system can be operated to minimize energy costs is often very difficult to accomplish, requiring experience and knowledge many water agencies do not possess. Our goal is to help your staff identify opportunities to reduce energy costs which represent a substantial component of the overall costs of operation for a water utility. Opportunities to reduce electrical costs within a water utility can generally be segregated into operational (i.e., behavioral) modifications and equipment (i.e., physical) modifications. Our team has worked extensively with water agencies throughout the world and has developed a successful modular approach to identifying energy cost reduction strategies which can be implemented by your water utility to reduce energy-related costs. This modular approach is the *Energy Cost Reduction Assessment*.

The Energy Cost Reduction Assessment is comprised of 8 modules, which include the following:

- Baseline Energy Cost Audit
- Energy Efficiency Survey
- Demand Profiling
- Systems Optimization Modeling
- Energy Cost Reduction Alternatives Analysis
- Energy Cost Reduction Feasibility Assessment
- Implementation Workshop and Interactive Decision Support
- Final Report

The modular configuration of the Energy Cost Reduction Assessment allows you to customize the level of service to what fits your agency best. This flexibility is integral to our approach. Through the assessment and delivery of those modules that best fit your needs, we can help your team identify energy cost savings opportunities that are appropriate for your utility. With our help, you will develop an energy cost reduction strategy, based on sound financial and operational principles that will result in substantially reduced energy costs.



The Team

Our team has spent the better part of the past twenty years developing a very well defined strategy for identifying energy cost reduction measures and helping agency staff define and implement operating and investment strategies which meet your customers water demand while achieving substantially reduced energy costs. These individuals will work with your staff to achieve substantial reductions in your energy costs.

Blaine T. Reely, Ph.D., PE

Dr. Reely is our Principal Operations Analyst. He specializes in the development and implementation of energy cost reduction strategies for water utilities. He has worked in the water industry for the past 22 years, during which he has devoted most of his time helping water utilities to save millions of dollars in energy costs.

Dr. Reely earned his BSc and MSc from the University of Arizona and a PhD from Oklahoma State University. His research was in the area of applied optimization to water utility operations. He is the principal developer of the Water Resources Energy Management System (WREMS) which has been used to analyze and optimize water utility operations worldwide. He has managed municipal water utilities and has coordinated numerous Demand-Side Energy Management programs for water utility clients.

Lon W. House, Ph.D., CEM

Dr. House is our Principal Energy Economics Analyst. He has a BSc, and a MA from the University of New Mexico, a MSc degree from Portland State University, and a Ph.D. in Engineering and Economics from U.C. Davis. He was a University professor and worked for the California Energy Commission for five years as a utility planner, and he was the chief utility planner for the California Public Utilities Commission for five years. Since 1990, Dr. House has provided energy consulting services to the water industry. He has been the Association of California Water Agencies (ACWA) energy consultant since 1992, and the Regional Council of Rural Counties energy advisor since 1999. He is also a Certified Energy Manager (CEM).

Dr. House is an active participant in energy policy making activities in California and frequently provides testimony before the California Public Utilities Commission, California Energy Commission, California Power Authority, California State Legislature, State Water Resources Control Board, the Federal Energy Regulatory Commission, and Congress.



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