

## **REQUEST FOR PROPOSALS**

### **DEVELOPMENT OF A UTILITY ENERGY INDEX TO ASSIST IN BENCHMARKING OF ENERGY MANAGEMENT FOR WATER AND WASTEWATER UTILITIES (RFP 3009)**

#### **Objective**

The objective of the project is to provide a useful index or indices to measure the results of a water or wastewater utility's energy management strategy to use for internal and external comparisons.

#### **Background**

Benchmarking is the process of identifying, sharing, and using knowledge and best practices. It is designed to yield great benefits in the education of managers and executives to apply performance improvements for business operations. The focus can be either internal or external to the organization. Benchmarking can focus on either metrics, processes, or practices. Regardless of the focus, benchmarking often results in organizational changes in order to optimize business outcomes, and metrics are needed to measure the effects of the changes.

Generally water and wastewater utilities do not have a standard mechanism or procedure that allows them to measure the effectiveness of energy management plans and energy efficiency efforts. This can be attributed to the difficulty in identifying the necessary metrics to make useful internal and external comparisons. It can also be attributed to the lack of standard definitions when developing metrics. A critical success factor for a metric is establishing an agreed-upon and well-understood definition of the metric. Without a good definition of exactly how the measure will be calculated, not only will the data will be difficult to normalize and validate, but there will be disagreements regarding its relevance.

Also, there are many differences in utility system designs, operations, and energy rate schedules and structures that make metric comparisons between different utilities difficult. Differences in utility size, infrastructure configuration, energy rates, and customers' needs affect energy efficiencies and cost savings and need to be identified when comparing metrics.

Research is needed to identify and define the best metrics and measurement requirements to allow utilities to implement a consistent program for measurement and comparison of energy cost reduction efforts. Such metrics will provide feedback to utilities on results from implementing new practices. Metrics are needed to help utilities:

- measure the operational performance relative to internal and external benchmarks (e.g., database participants' median and top quartile performers);
- establish performance targets and budgets;
- identify key performance drivers and key practices that produce high performance; and
- assess the operational progress of the organization over time.

The AwwaRF report *Best Practices for Energy Management* (AwwaRF 2003) identifies the value of a utility energy index for measuring the progress of a utility's efforts to reduce energy use and cost while providing a benchmark comparison to other like utilities. The research found that the data collected for such an index did not result in an index that could be used for comparisons with other utilities. The project recommendation was that an index should be developed in a way that utilities could apply it internally and externally. Additional research was recommended to identify the best metrics and the measurement requirements to provide a useful utility index.

The development of the index and appropriate metrics will allow water and wastewater utilities to evaluate their internal energy management efforts and provide a framework for dialog between utilities.

## **Research Approach**

The research approach should identify and define the metrics needed to measure energy efficient management practices, and develop, test, and demonstrate the value of an index or indices over a range of water and wastewater utilities. The index should help utilities measure and compare the effects, over time, of the implementation of energy management plans on energy cost, use, and efficiency. The index should be useful for both internal and external comparisons. The impact of gas cogeneration capacity on the index should be addressed. A method should be presented to qualify and/or quantify the explanatory factors so that the index can be normalized.

The research approach may include a literature review, case studies, pilot studies, benchmarking studies, workshops, or any approach that supports the development of a robust index for utilities to use to gauge the progress of energy management efforts internally and to compare progress with similar utilities externally. The final report will summarize the research approach and present the research findings in a manner that water and wastewater utility managers will find useful to evaluate energy management programs and improve energy efficiency. The final report will present the procedure used to normalize the index for comparison with external utilities.

The proposer may consider supplementing the final report with a CD-ROM to enhance the presentation of the research results.

## **Proposal Preparation Guidelines**

Proposals submitted in response to this RFP must be prepared in accordance with the Awwa Research Foundation (AwwaRF) "Proposal Guidelines for Solicited Proposals." The most current version of these guidelines is available at <http://www.awwarf.org/research/projectAdmin/docs/solicited.pdf>.

The guidelines contain provisions that the submitter should be aware of when preparing a proposal, including an enforceable page limit on the project description. **Proposals containing project descriptions that exceed this page limit will not be considered.** The following sections provide project-specific information and instructions for responding to this RFP.

## **Budget and Time Schedule**

The maximum funding available from AwwaRF for this project is \$254,000. A minimum 25 percent of the total project cost must be contributed by the contractor. Therefore, the total project cost is \$338,667 (\$254,000 in AwwaRF funds). This contribution can either be direct funding or in-kind matching of such items as personnel costs, analytical and support services, facilities, consulting services, etc. The submitting organization may elect to contribute more than 25 percent to the project but AwwaRF's maximum contribution remains fixed at \$250,000. Proposals that request less than \$254,000 from AwwaRF need only contribute 25 percent of the total project cost.

The project period should be realistic, anticipate possible starting delays, and provide ample time for the writing of final reports and for Project Advisory Committee (PAC) review of project results. Funding for this project expires June 30, 2007. Progress reports will be required on a quarterly basis in a format acceptable to the Foundation and the California Energy Commission. The final report must be submitted in a format that is camera-ready to publish and should include a separate chapter on recommendations to utilities. Independent of this contract, AwwaRF will fund the PAC described below.

## **Project Advisory Committee (PAC)**

PACs are organized by AwwaRF for each funded project to provide guidance, review all reports and significant materials, and generally monitor project performance on behalf of AwwaRF and the water supply community.

## **California Energy Commission**

This project is funded in part by the California Energy Commission. All proposals must address energy efficiency, cost or reliability for the water or wastewater treatment industries in accordance with the research goals and objectives of the Public Interest Energy Research (PIER)

program, <http://www.energy.ca.gov/pier/index.html>. The Commission will provide input to this project through review of quarterly reports submitted by the contractor to the Foundation.

## **Quality Assurance**

Each proposal must include a description of the procedures that will be used to ensure the quality of the data for the project. If the project involves laboratory analyses, this description should indicate whether the laboratory performing the analyses is accredited or state certified for the particular analysis. If the laboratory is not certified, and/or nonstandard methods are used, detailed quality assurance/quality control procedures must be submitted with the proposal.

## **Equal Opportunity and Minority Contractors**

AwwaRF has a policy of non-discrimination and abides by all laws, rules, and executive orders governing equal employment opportunity. As employers, AwwaRF contractors may not discriminate on the basis of age, sex, race, religion, color, national origin, handicap or veteran status. AwwaRF expects its contractors to accept the goal of having a workforce that generally reflects the minority composition of the community in which it is located. It is the policy of AwwaRF to encourage proposals from qualified minority owned or directed institutions.

## **Utility Participation**

AwwaRF is especially interested in receiving proposals which include both participation and contribution of resources from water utilities in the research effort. Information on utilities that have indicated an interest in participating in this research project is attached. However these utilities are under no obligation to participate. Their level of participation is solely their decision. If asked to participate by several proposers, the utility may choose to work with any, all, or none of them.

## **WATERSTATS**

A WaterStats database containing water utility information that may be helpful in preparing proposals is available from AWWA; see

<http://www.awwa.org/Communications/h20stats/index.cfm> for further information.

## **Past Performance**

AwwaRF's policy on timeliness can be found on the Foundation's website at <http://www.awwarf.org/research/projectAdmin/docs/TimelinessPolicy.pdf>. Timeliness of researcher performance on past AwwaRF projects will be a factor in proposal selection. Further, researchers who are late in any ongoing AwwaRF sponsored studies without an approved no-cost extension are not eligible to be a named participant in any proposal for the 2003 funding cycle. If you have any questions about your eligibility for 2003 projects, please contact your current AwwaRF project manager directly.

## **Application Procedure and Deadline**

Questions to clarify the intent of this Request for Proposals may be addressed to the project manager Linda Reekie, at 303-734-3423 or by e-mail at [lreekie@awwarf.org](mailto:lreekie@awwarf.org). **Proposals must be postmarked on or before February 17, 2004.** Eight copies of the proposal should be sent to:

**Proposal 3009  
Awwa Research Foundation  
6666 W. Quincy Avenue  
Denver, CO 80235**

## **3009 - UTILITY VOLUNTEERS**

The following utilities have indicated an interest in possible participation this research. This information is updated within 12 business hours when a utility submits a volunteer form. Check our website at <http://www.awwarf.org> to see if additional utilities have been added to this list.

Mark LeChevallier  
Director, Research  
American Water  
1025 Laurel Oak Rd.  
Voorhees NJ 08043  
8563468261  
8567823603  
[mlecheva@amwater.com](mailto:mlecheva@amwater.com)

Glenn Yaney  
Operations Manager  
Tampa Bay Water  
2535 Landmark Drive, Suite 211  
Clearwater FL 33761-3930  
(813) 910-3297  
(813) 910-3285  
[gyaney@tampabaywater.org](mailto:gyaney@tampabaywater.org)

Dan Titerle  
Assistant to Pres. & CEO  
San Antonio Water System  
PO Box 2449  
San Antonio TX 78298  
210-708-1867  
210-704-7961  
[dtiterle@saws.org](mailto:dtiterle@saws.org)