

Proposed Amendment between California Energy Commission and WateReuse Foundation

Title: Energy Efficiency for Reclaimed Water and Water Reuse Projects
Amount: \$0.00
Term: 12 months
Contact: Paul Roggensack
Committee Meeting: 11/9/2010

Recommendation

Approve this agreement with WateReuse Foundation for \$0.00. Staff recommends placing this item on the consent calendar of the Commission Business Meeting.

Issue

California is faced with a major challenge to provide fresh water supplies for a growing population. To meet this challenge, municipalities are using recycled water for non-potable needs. Recycled water can replace fresh water in industrial processes such as power plant cooling, landscape and agricultural irrigation, and ground water recharge. Reusing wastewater from municipal and other treatment systems is the fastest growing source of new water in California. In 2000, California recycled approximately 500,000 acre-feet of wastewater, and the Department of Water Resources estimates the state will recycle 1.5 million acre-feet by 2030. However, before the wastewater can be reused, it must be treated to stringent health and quality standards. This treatment will require much greater energy requirements than typical wastewater treatment.

Background

On September 2, 2008, the Energy Commission and the WateReuse Foundation entered into a sole-source Public Interest Energy Research (PIER) contract for the Energy Efficiency for Reclaimed Water and Water Reuse Projects. Both the Commission and the Foundation contributed \$650,000 to fund five projects that address energy efficiency research for water reuse and recycling, each through a competitive solicitation. The Foundation's solicitation and contracting process is used to fund the five research projects. The Foundation invoices the PIER program for 50 percent of the cost of the research, but no PIER funds are being used to pay for the Foundation's staff and administrative costs. One of the five projects to be funded encountered difficulties in selecting a proposal and required a new solicitation. These delays make it necessary to do a no-cost time extension for the PIER contract with the Foundation.

Proposed Work

The proposed contract will fund five projects. WateReuse Foundation will issue a request for proposal for each project and enter into a contract with the winning bidder. The five projects are:

- 1) Assess water use requirements and establish water quality criteria needed for application of reclaimed waters and water reuse in energy, power, and biofuels production.
- 2) Renewable energy, peak power management, and optimization of advanced treatment technologies to reduce greenhouse gases at water reuse and desalination facilities.
- 3) Evaluation and optimization of existing and emerging energy recovery devices for desalination and wastewater membrane treatment plants.
- 4) Evaluating emergency planning under climate change scenarios.

5) Implications of future water supply sources on energy demands.

Justification and Goals

This project "[will develop, and help bring to market] increased energy efficiency in buildings, appliances, lighting, and other applications beyond applicable standards, and that benefit electric utility customers" (Public Resources Code 25620.1.(b)(2)), (Chapter 512, Statutes of 2006)); and supports California's goal to identify opportunities and support programs to reduce electricity demand related to the water supply system during peak hours and opportunities to reduce the energy needed to operate water conveyance and treatment systems per the Energy Action Plan 2005.

This will be accomplished by:

- Improving the energy efficiency of water recycling and reuse.