

**Proposed Agreement between California Energy Commission
and
City of Glendale**

Title: Glendale Water & Power - Electric and Water AMI/MDMS Project
Amount: \$1,000,000.00
Term: 55 months
Contact: Avtar Bining
Business Meeting: 5/4/2010

Funding

FY	Program	Area	Initiative	Budget	This Project	Remaining Balance	
10	Electric	ETSI	ARRA	\$9,623,697	\$1,000,000	\$3,000,000	31%

Recommendation

Approve this agreement with City of Glendale for \$1,000,000.00. Staff recommends placing this item on the discussion agenda of the Commission Business Meeting.

Issue

There is a need to provide more information about energy, water usage, and costs to help customers better manage their use. Frequently, customers have little or no understanding about the effect of their usage on their overall energy and water costs. Whereas if information were presented to customers, they may have a better appreciation of how their personal patterns affect their costs, benefiting themselves, the community, and Glendale Water & Power (GWP).

Background

The GWP manages a service territory with 83,000 customer meters and an all time peak load of 336 MW in July 2007 and owns several generation resources.

Approximately 16% of GWP retail sales come from renewable resources, including wind, geothermal, local landfill, and hydroelectric. GWP's goal is 20 to 23% renewable resources by 2017. GWP partially owns or has long term contracts on various transmission lines in the Los Angeles Department of Water Power transmission grid, and has made significant investments in energy efficiency through the public benefits program.

One of the key directions for GWP smart metering is to be able to grow the system to support smart grid functionality well into the future. Typical smart grid applications take advantage of the communications infrastructure supporting the AMI application to monitor the state of the electric grid and may require a broader bandwidth communications path supported by mesh technology than a typically provided in a RF point-to-point solution. The smart grid research is critical to deliver the promises of this next generation smart grid technology to utilities, and California citizens through improved grid reliability,

integration of renewable resources, efficient operation and utilization of the grid through congestion mitigation and remedial action schemes, improved state estimation, grid dynamics and stability monitoring in real time and other applications.

Federal Funding

Under the provisions of the American Recovery and Reinvestment Act of 2009 (ARRA) and the DE-FOA-0000058, GWP was awarded \$20 million from DOE. The remaining funds will come from GWP. The system will be installed in the City of Glendale. GWP is the grid owner and will be managing the project. Other team members will include Itron, Inc. and KEMA, Inc.

CEC Cost Share

GWP submitted an application to PIER for cost share funding under PON-09-002, Addendum 2, for ARRA FOA-0000058 project and is requesting \$1 million in accordance with the terms of PON-09-002.

The total project budget is \$50,302,405. The amount of funds requested from the Energy Commission is \$1,000,000. GWP has received DOE- ARRA award of \$20,000,000 for this project. Cost share amounts for members of the project team are as below.

Team Member	Cost Share
GWP	\$29,302,405
CEC	\$1,000,000
DOE	\$20,000,000
Total	\$50,302,405

Relationship to Smart Grid Initiative

This research effort is in synch with the Energy Commission's Smart Grid Initiative. Success in this effort could provide a unique solution for addressing critical needs for improving grid performance in California.

Proposed Work

Glendale Water & Power (GWP) proposes to install a new electric and water AMI system with the following features:

- Smart meters with large data storage capabilities and 2-way communications hardware and software:
- 83,000 plus electric meters with remotely-controllable switches
- 33,000 plus water meters with leak detection and tamper information.
- A wide area network to allow 2-way communications between the utility and each meter in its service territory.
- Serve as the communications backbone for distribution automation, direct load control, distributed generation, demand response, and new customer programs and service options that allow customers to take control of energy and water costs through access to real or near real time consumption information.
- Meter Data Management System and systems software to integrate meter data with the utility's billing, customer information system, outage management, load control systems, and other smart grid systems.
- A premise gateway that communicates to a home area network (HAN) to promote demand response, energy and water conservation, and dynamic pricing options.

Project Team

The system will be installed in the City of Glendale. Glendale Water & Power is the grid owner and will be managing the project. Other team members are Itron, Inc. and KEMA, Inc.

Project Budget

The total PIER budget for this project is \$1 million which leverages \$20 million in DOE-ARRA funds, to be matched by GWP, for a Smart Grid Implementation expected to cost a total of around \$50 million. The PIER funds will be used to pay for the direct labor.

The Project benefits include:

- the potential to reduce the demand, peak demand , and increase energy efficiency and savings

Additionally, this project will improve grid reliability, facilitate integration of renewable resources, and improve the use of existing transmissions assets.

Justification and Goals

This project "[has] the potential to enhance transmission and distribution capabilities" (Public Resources Code 25620.1.(c)(3)).

This will be accomplished by:

- Facilitating integration of intermittent renewable resources.
- Improving grid reliability and stability.
- Improving the use of existing transmission assets
- Enabling the renewable energy storage.