

DOCKETED

Docket Number:	22-RENEW-01
Project Title:	Reliability Reserve Incentive Programs
TN #:	255065
Document Title:	John Peairs Comments - Accelerating Water Agency participation in Demand Response Programs
Description:	N/A
Filer:	System
Organization:	John Peairs
Submitter Role:	Public
Submission Date:	3/14/2024 9:17:11 AM
Docketed Date:	3/14/2024

*Comment Received From: John Peairs
Submitted On: 3/14/2024
Docket Number: 22-RENEW-01*

Accelerating Water Agency participation in Demand Response Programs

Additional submitted attachment is included below.

DEBA DER GFO Draft Solicitation Concept 22-RENEW-01

SCADA system enhancements enabling water agencies to participate in energy utility demand response programs.

The CEC is seeking technology solutions that enhance the SCADA systems that control large water pump stations so that these facilities can adjust operations depending on regional and statewide supply and demand for energy. The primary objective of the demand response solutions will be to provide optimized demand response recommendations based on both public grid energy supply and water production goals of the facility. Funds will be awarded using an open enrolment program that will enable selected technology providers to sign up water agencies for funding after the program begins. Preference will be given to technologies that can be deployed without extensive changes to the local pump station SCADA system or network.

There are 2 types of SCADA technology enhancement that will be considered:

- 1) On-premise SCADA system enhancements that reside on the local, water agency servers. The on-premise SCADA system enhancement can directly turn water pumps on and off without operator intervention.
- 2) Cloud-based SCADA system enhancements that are hosted by the system integrator or Cloud-SCADA vendor. The Cloud-based SCADA system enhancement acts as a broker or intermediary between the public power utility and the water agency's local control system. The Cloud-SCADA platform does not directly control the water agency's pumps. It provides recommendations to the water agencies on how to adjust their pump schedules to optimize water production, and energy usage within a variety of contexts including power outages, heat waves and surplus energy.

Capabilities of the demand response SCADA enhancement should include the ability to:

- 1) monitor the status of large water pumps
- 2) monitor the total amount of water pumped each day
- 3) monitor the energy used by these pumps each day
- 4) monitor the level of water stored in water tanks and reservoirs that are connected to these pumps
- 5) provide a cloud dashboard to enable facility managers to view demand response program recommendations

Optional features:

- 1) monitor the changes in aquifer levels at each pump site
- 2) make recommendations to the water agency on pump sequencing to optimize energy usage during normal operating conditions
- 3) transmit water pumping and aquifer data to local groundwater agencies and water regulators

- 4) provide analysis of water pumping on a regional basis to give water regulators additional insights in long-term groundwater sustainability
- 5) provide real-time grid energy price information to pump operators to enable them to optimize pumping operations based on energy pricing
- 6) monitor energy stored in off-grid batteries that are connected to the pumps
- 7) provide recommendations to the pump operators regarding potential cost savings that can be achieved by switching from grid energy to on-site battery power.