

Central Basin Municipal Water District Wireless Irrigation Controller End Use Management Study

FACT SHEET

Central Basin Municipal Water District conducted a study on reducing landscape water use to address drought, emergencies and peaking using management commands. This new application is called End Use Management. In California, more than 50% of all urban water use is outside to irrigate turf and shrubs. With the implementation of wireless irrigation controllers, such as the HydroEarth central irrigation system, we are prepared to address emergency and drought situations while ensuring efficiency and water conservation.

STUDY RESULTS

Water Savings: Typical savings with weather based smart controllers are on average between 10-15%. Sites involved with this study saved between 10% to as high as 30%. This case study indicated water savings of up to 30% within one year, due to the ability to adjust from one central command system, meeting financial and regional drought requirements.

Wireless Valves: One of the goals of the research study was to achieve effective wireless communication with the valves. Working with AC or DC radio transmissions, a transmitter communicated instructions originating from a central irrigation system, sending uniquely encoded and redundant signals from an antenna to valve-actuating receivers. Signals can be transmitted around trees, hills and buildings.

Emergencies: In the research study, the controllers were turned to the "Rain Off" position to stop irrigation. After the controllers were turned back to the "On" position, the programs readjusted for the amount of water not initially applied so they could be re-applied after the emergency is over. This method was done utilizing the internet and radio broadcast (ReadyTrace) command to communicate to controllers receiving signals in targeted zones.

Drought Management: The drought management test is similar to the emergency test. The commands were sent via internet or radio broadcast communicating that the controllers adjust to 1, 2, or 3 drought levels. Drought adjustments were made for the entire year, not just for a particular month. Study areas like the Downey Unified School District created a favorable reduction by utilizing a drought program to shut off water use on fields while schools were closed during the summer. While the irrigation was turned off at the fields, schools watered plants in the front of the buildings in order to maintain healthy, attractive looking plants. This priority ranking system is set up based upon the value and importance of the plants.

Peaking Application: One of the keys to End Use Management is to monitor water use pressure at the point it is going out not only where it ends up. HydroEarth created a Pressure SCADA system that monitors end use 24/7. The peak manager application was used to smooth out peaks and valleys in water demands to save energy (i.e. pumping) and to provide better customer care.

