

Water Quantity Enhancement Activity – WQT05 - Remote Monitoring and Notification of Irrigation Pumping Plant Operation



Remote Monitoring and Notification of Irrigation Pumping Plant Operation

A system for monitoring the status of an irrigation pumping plant and notifying the operator by a wireless connection of a change in the operating status of the irrigation system.

Land Use Applicability

This enhancement is applicable on cropland and pastureland

Benefits

Irrigation water usage and energy costs associated with pumping irrigation water are a critical resource concerns. Even the most careful managers cannot manage the water on all of their fields on a continuous basis without increasing the potential for some runoff. Real time information on the status of their irrigation systems helps to prioritize field visits to observe the system and make necessary adjustments for proper functioning. New technology monitors the status of the watering system and notifies the operator when there is a change, such as, the pump turning on or off.

Criteria

The pumping plant monitoring system must include:

- Installation of necessary sensors to monitor the operation of the pumping plant and irrigation system.
- A communication system at the pump with an automated recording and wireless communication system to automatically notify the operator of a status in the watering system.
- The irrigation water management plan must reflect usage of the data from the system and include necessary operation and maintenance to keep the system functional.

Documentation Requirements

- The installation is considered complete when the monitoring system is installed at remote well locations and is combined with a functioning automated remote notification system.
- Fields where monitoring systems are installed must be identified.



United States Department of Agriculture
Natural Resources Conservation Service

IDAHO ADDENDUM 2009

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Additional guidance on remote monitoring of pumping plant operation:

Monitoring of pumping plant operation can lead to energy and water savings. Monitoring and recording data such as fuel/electricity use, water flow rate, water pressure, and water levels in wells or sumps helps define pumping plant efficiencies and, therefore, desirable operating points. Those parameters are also indicators of system status – is operation normal or is something wrong.

When remote access and/or notification routines are added to the mix, water and energy savings are likely to increase further. When the system malfunctions, repairs or changes in operation are made more quickly since an operator learns of the problem more quickly. Similarly, water and energy savings may result from operation changes based on soil moisture monitoring and notification.

NRCS does not endorse any product, but for an example of a system that fits this enhancement, refer to: <http://www.pumpgenie.com/www.pumpgenie.com/Home.html>