











# **MWRDGC Remote Video Surveillance**

Solar Powered Video Surveillance System

### CASE STUDY



- Remote Video Surveillance
- Solar and AC Power
- Snap Shot JPEG **Images**
- Pixel Based Motion Detection
- Permanent or Mobile
- EDACS Trunked Radio

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#### **Project Background**

The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) serves a population of 5.1 million people. The District's main responsibility is protecting the water quality of Lake Michigan. The District owns hundreds of unmanned structures that are vulnerable to vandalism and terrorist attack. Homeland Security requirements have increased the requirement for surveillance of remote assets and infrastructure. Given the sizable and critical nature of the MWRD collection system, including the multi-billion dollar Deep Tunnel (TARP), a robust and reliable method was required for surveillance of these unmanned and extremely valuable structures.

## **MWRDGC Remote Video Surveillance System Key**

- Solar power and AC power solutions
- Advanced pixel based motion detection for early warning notification
- Transmit data via the District's EDACS radio system
- Works on existing analog cameras as well as new digital
- Ability to accommodate hundreds of remote sites

#### **Elan Technologies Custom Solution**

The MWRDGC selected a custom video surveillance system from Elan Technologies located in New Lenox, IL. Elan dates to 1972 and the Clean Water Act, with years of innovative solutions and equipment provided to the MWRDGC. With Elan's system, JPEG images and surveillance alarms are logged and viewed simultaneously alongside process control data. The Elan driver and control system software can have multiple head end EDACS host radios connected serially, for maximum thru put and operator control. Besides video surveillance, the head end software can be configured as a high-end control system for Allen Bradley PLC based SCADA systems.

A key item in the remote surveillance solution is the Elan Series II RTU, a low power intelligent RTU with both input and output capabilities including multiple serial ports for interface to various camera systems and sensors. Other items include a sophisticated head end software driver

designed with DF1 full duplex protocol and RDI for communications over MWRD's EDACS trunked radio network. Other features include: solar power and unsolicited report by exception designed to accommodate multiple images transmitting from remote sites simultaneously.



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