

ELAN

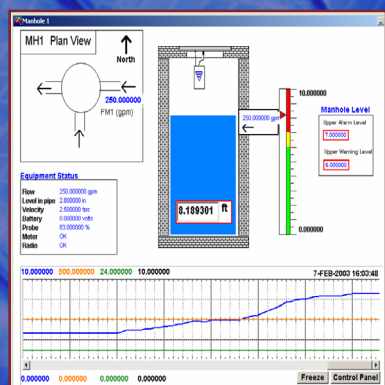
Technologies

Inc.



Remote Real Time Sewer Monitoring

CASE STUDY



- Flow Transmitters
- Manhole Antenna
- Flexible RTU
- SCADA software with Event Playback
- Battery powered
- Real Time

ELAN Technologies
14627 Edison Drive
New Lenox, IL 60451

Phone: 815-463-8105
Fax: 815-463-8106

www.ELANTechnologies.net

Project Background

In most municipalities, the wastewater treatment plant (WWTP) has little or no real time knowledge of surcharges, CSO events and SSO events. We believe this will change soon:

SSO Rules (CMOM) - The EPA has proposed Sanitary Sewer Overflow (SSO) rules requiring CMOM programs, SSO elimination, permitting for tributary systems and other requirements. Capacity, Management, Operations and Maintenance (CMOM) plans, SSO reduction and the other initiatives require comprehensive management of the collection system.

GASB 34 - The Government Accounting Standards Board Rule #34 expands municipal reporting to include sewers as assets. If managed properly, the asset does not need to be depreciated, creating fiscal pressure to invest in and effectively manage the collection system. Both of these initiatives require collection system management. The question becomes, how can a WWTP and its personnel effectively manage a collection system when they have no real time knowledge of what is happening in the system?

Current Equipment Issues

Equipment on the market won't work for monitoring remote manholes in real time. Meters are designed to log data for download, not real time flow transmission; outputs aren't SCADA compatible. AC power and/or antenna cable require trenching to the manhole. These problems also apply to river & rain monitoring. Software can be problematic as well, with no means to "play back" an event. Without seeing the interaction of what happened, versus the action taken, how does an operator modify his response next time?

Elan Technologies Solution - Elan has addressed these issues. Please see the reverse side for details:

- Flow transmitters designed for low power, SCADA compatibility, and with outputs like signal strength for signaling required maintenance. With logging optional.
- Remote Terminal Units (RTU's) link the flow transmitter to a radio modem. Elan's solution is battery powered and flexible to match existing SCADA systems.
- Flexible communication including spread spectrum and FM radio, CDPD, GSM and others. All with custom interfaces to allow low standby power operation.
- Manhole antenna Covers. Traffic grade covers with embedded antennas tuned to whatever frequency is required.
- Software. True process-control software with the ability to react to changing situations (i.e. if MH1 Level > 8.0', open Main Gate 100%) and play back events like a VCR, allowing the operator to review what happened and plan for the future.

These changes are coming. Remote real time monitoring should be, and will be, an integral part of any effective collection management system. Elan has recognized this need and has brought a unique set of skills together to provide solutions.

Contact ELAN Technologies

ELAN Technologies offers innovative, custom open channel flow monitoring solutions to meet any flow application and regulatory requirement. When you have a tough application, call ELAN. For information on fixed sewer flow monitoring systems, contact ELAN Technologies on the web at www.ELANTechnologies.net

Remote Real Time Sewer Monitoring

Manhole Antenna Cover

ELAN offers a an H-20S rated (16,000lb truck traffic rated) copolymer manhole/vault lid with embedded antenna tuned to the frequency required.



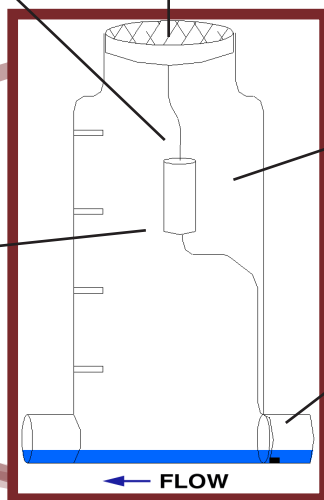
Datalogger

The ELAN datalogger can be added for redundancy in logging. The logger operates with 12V DC, with multiple digital and analog inputs and outputs. Battery life can exceed one year.



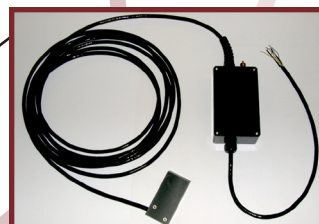
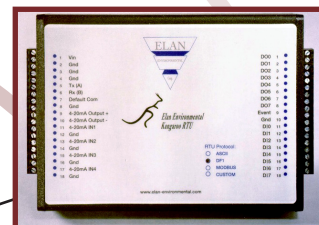
Communication

ELAN offers various spread spectrum, FM licensed, cellular and other options. All 12VDC power for battery operation



Remote Terminal Unit (RTU)

The ELAN Series I and Series II RTU's operate with 12VDC and low standby power for battery and/or solar power. Communication handshaking for spread spectrum, FM Licensed, EDACS and other radios can be incorporated as well as SCADA protocols including Allen Bradley DF1, MODBUS and others.

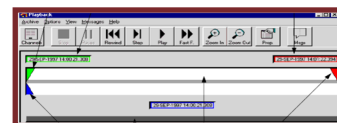


AV Module

ELAN offers the industries only Area Velocity (AV) flow module. 12VDC powered. Outputs for level, velocity, and signal strength and ideal for real time monitoring

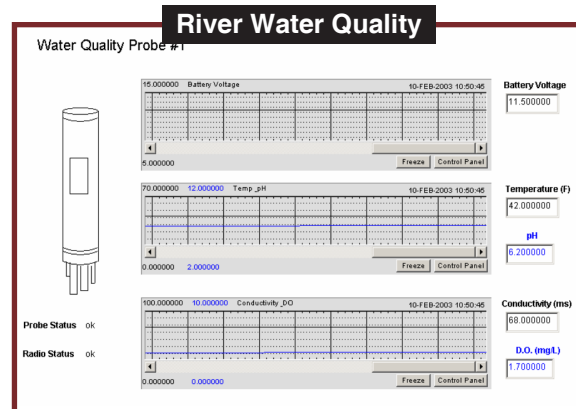
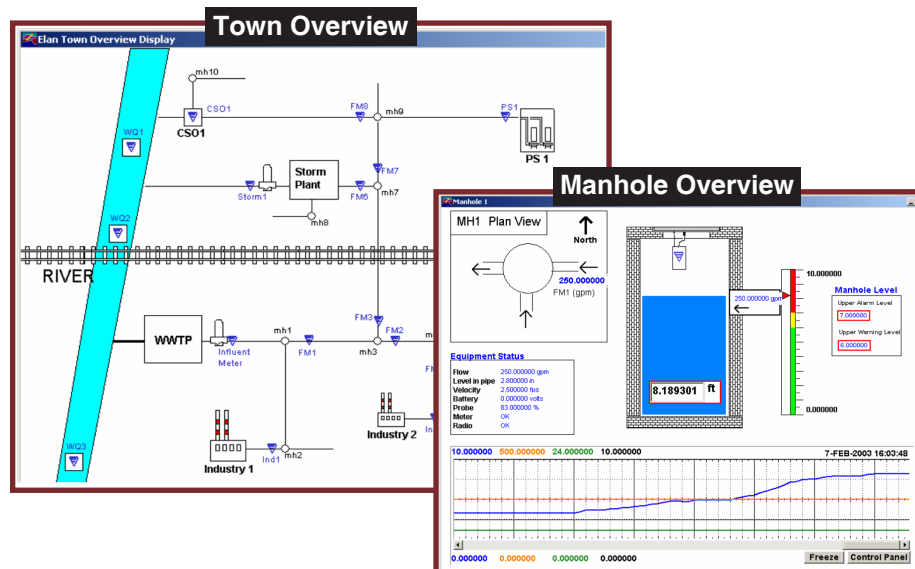
Software

True process control software with user interface, process control, archiving recording & playback functionality. Capable of accommodating all remote sites including manholes, CSO's, river monitors, industrial pretreatment sites, etc. and plant equipment. Allows true process control (i.e. if manhole 1 level > 8', Open Main Street Gate, etc.) for in plant and remote sites. Endless compatibility with other hardware and software platforms through standard or customized drivers. All programming via normal windows screens via tutorial, i.e. supportable by plant personnel without ladder logic knowledge!



Playback Utility

Functionality like a VCR



Individual screens are easy to build for manholes, water quality probes, etc. Maintenance parameters such as signal strength and battery voltage can be logged, displayed and set as alarms allowing personnel to clean probes and change batteries only when needed, and before they result in poor or lost data.