



YSI Technology Used to Monitor Source Water Before Reaching Treatment Plants in New York City

Source water quality is monitored prior to withdrawal into the drinking water treatment process. Water quality affects the efficiency of water treatment processes, as well as informs facility operators as to how processes must be adjusted to adequately treat incoming water. Source water quality monitoring

NYCDEP uses six 6200 DAS mounted on YSI EMM550 buoys. Each of NYCDEP's 6200/550 stations includes up to three YSI 6820 multiparameter sondes that measure temperature, dissolved oxygen, conductivity, specific conductance, pH, depth, and turbidity. The sondes are integrated with the 6200 DAS and are suspended at different depths to more accurately represent water quality in vertical profile. Solar panels and an on-board battery pack provide ample power for the sondes, spread spectrum transceiver, and datalogger to function reliably and autonomously. Water quality data are stored within the 6200's datalogger as well as transmitted via spread spectrum radio to a Signal Conditioning and Data Acquisition (SCADA) system that provides data in real-time to water treatment facility operators. The SCADA system monitors water quality data using established criteria and performs automated functions such as actuating alert messages or alarms, based on water quality data provided by the 6200 DAS.

Under normal conditions, the 6820s make measurements every 15 minutes. However, operators can remotely adjust sampling frequency at any site and with any sonde to more carefully investigate water quality within those reservoirs. The stations and sondes are inspected and the sondes recalibrated once per month. Gathering real-time data has helped NYCDEP improve their water quality monitoring program.



YSI EMM550 Data Buoy Deployment

is also important as a source of data that over time can be used for trending and developing correlations between water quality and treatment requirements. EPA Source Water Protection Guidelines require that each state identifies and assesses threats to its water supply sources. Since February 1999, each state has been required to submit a report to the Source Water Protection Office. With continuous monitoring, water treatment issues that are season-specific - i.e., summer algal blooms; or event-specific, i.e., heavy storms and consequent turbidity, can be characterized and treatment contingencies developed.

New York City Department of Environmental Protection (NYCDEP) wanted to upgrade its source water monitoring system and increase collection of real-time data. In some areas, technicians had been performing manual measurements in remote locations as often as once each day. NYCDEP is now using buoy-based YSI 6200 Data Acquisition Systems (DAS) designed to continuously monitor water quality in two upstate reservoirs that are part of a system that provides source water to New York City and other areas of the state of New York.

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