

# SCADA Upgrade Using Design-Building Method Concept

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## SUBMISSION TYPE

35-minute presentation (no paper)

## KEYWORDS

SCADA, Plant Upgrade, Water, Waterworks, Project Management

## ABSTRACT

United Water New Jersey (UWNJ) owns and operates a single 200 MGD Water Treatment Plant located in Haworth, NJ, USA serving nearly 1 million people in Bergen and Hudson counties.. In the spring of 2008, UWNJ embarked on an ambitious 12 month project to upgrade the plant SCADA system, plant control room, and integrate four new plant processes onto a single modern SCADA platform. The plant ran on a legacy HP-UX Unix-based HSQ SCADA System that had been in use for more than 15 years which could no longer be supported, only could be run on outdated hardware and lacked standards, ease of use, and scalability.

UWNJ decided to utilize the Design-Build project delivery method to upgrade the plant SCADA system and awarded the project to the team of EMA Inc. of Treviso, PA(Engineer, Prime Contractor), OCC of Reading, PA(New Systems Integrator) and HSQ of Hayward, CA(Legacy Systems integrator). In addition to the core SCADA system upgrade, a significant plant process upgrade project with Camp Dresser McKee (CDM) was running in parallel and careful coordination between projects by UWNJ was necessary to ensure interoperability, system standards, HMI uniformity, and above all, zero down time. UWNJ committed internal resources to the team to ensure seamless communications between all parties and timely issue resolution. The project contract was negotiated to make sure all parties abided by the ambitious UWNJ completion schedule and requirement of uninterrupted plant operations constraints.

The Team successfully completed the upgrade on-schedule and within budget by following an innovative, parallel-work approach during the design, field investigation/preparation and start-up/commissioning phases. The process upgrade SCADA portion which involved the coordination of an additional three system integrators were merged into the new SCADA system with only minor adjustments.

This presentation discusses the UWNJ SCADA upgrade project including overview, infrastructure, challenges, success factors, integration of four different vendors into a single cohesive SCADA system, and other projects that influenced the project during the time period. Furthermore the presentation will take a look forward to how United Water is planning to upgrade over 100 remote site facilities served by the WTP.

## ABOUT THE SPEAKER

**Keith Kolkebeck** has over 10 years of technology experience and is the SCADA Manager within United Water's Engineering Systems Group, bridging the gap between traditional IT capabilities and classical engineering. A graduate of Drexel University with a degree in Computer Engineering, Keith has previously consulted for firms such as PriceWaterhouseCoopers and IBM and has been an entrepreneur, running his own consulting company. Currently Keith is overseeing SCADA projects in five states, contributing to multiple R&D projects with his peers in other Suez Environment divisions around the globe, and is completing the largest SCADA upgrade United Water will ever do: a complete, multi-year, zero-down-time, migration of our largest plant and its 130 remote field sites.