High Fidelity Extended Period Dynamic Simulation in Development and Testing of Control Systems for Water Treatment and Distribution Facilities

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FORMAT: 6-12 page paper plus 30-minute PowerPoint presentation

KEYWORDS

Simulation, Modeling, Automation, Control, Process, SCADA

ABSTRACT

High fidelity extended period dynamic simulation can enable quick and thorough control strategy development during a facility's design, enhanced pre-startup testing of constructed control systems, cost-effective trainers and other benefits. This paper progresses through a series of example water treatment and distribution system projects that used high fidelity extended period dynamic simulation. Each successive example illustrates an increased level of model usage and benefits. The technologies enabling those incremental benefits are discussed. The paper concludes with a summary of benefits and modeling system features that are required for use in development of process control strategies and the testing of constructed control systems used in water treatment and distribution systems.

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