

Cyber Secure & More!

A pilot study story.

Jason Hamlin^{1*}, Carter Farley, PE²

¹Lynchburg Regional Wastewater Treatment Plant, 2301 Concord Turnpike, Lynchburg VA 24504

(*Email: jason.hamlin@lynchburgva.gov and Phone: 434-455-6240)

²InstruLogic LLC, 21 Main St, Round Hill VA 20142

(Email: cfarley@instrulogic.com and Phone: 540-338-2222)

SUBMISSION TYPE

30 minute presentation

KEYWORDS

Cyber Security, PLC, ICS, IT/OT/ET Convergence, Digital Twin

ABSTRACT

For a recent pump and controls upgrade of their de-chlorination process, Lynchburg Regional Wastewater chose a new type of process automation controller (PAC) for its cyber security benefits, but found added value for engineering and development. Programming, testing, and validation was done remotely via software simulation, minimizing site visits and hardware shipping costs.

Before startup, a second high priority project came up with a tight schedule. Plant engineering was able to rapidly prototype and test the needs of this project using the controller. Leveraging modern engineering toolsets the second project went into production while the first project was still in development. The final system went live with both projects, plus a “digital twin” to facilitate future testing and change management using real-time production values without affecting production outcomes.

This presentation will highlight some of the features needed in next generation automation devices, through the eyes of lessons learned from an early adopter.

ABOUT THE AUTHORS

Jason Hamlin practices holistic management of the industrial control systems at the Lynchburg Regional Wastewater Treatment Plant in Lynchburg, Virginia. In other words, he designs HMI screens while repairing a stuck totalizer while on the phone taking notes for a font change request on an administrative KPI dashboard. In his free time he enjoys working remotely from home, and dreams in ladder logic.

Contact: jason.hamlin@lynchburgva.gov

Carter Farley, PE as Director of Engineering for InstruLogic, Carter is daily focused on owner education and building a positive user experience through the design and implementation of new and upgraded SCADA systems. Contact: cfarley@instrulogic.com