

# Designing NFPA 820 Compliant Monitoring Systems for Wastewater Pumping Stations

Tom Ridgik<sup>1\*</sup> and Greg Yarberry<sup>2</sup>

<sup>1</sup>CH2M HILL, 3011 SW Williston Road, Gainesville, Florida, 32608, USA

(\*correspondence: tridgik@ch2m.com)

<sup>2</sup>CH2M HILL, Northpark 400, 1000 Abernathy Road, Suite 1600, Atlanta, Georgia , 30328, USA

## FORMAT

large format poster (3 ft.. wide x 4 ft. high)

## KEYWORDS

NFPA 820, Wastewater Pumping Stations, Combustible Gas Detection, Ventilation Monitoring, Supervised Signaling Systems.

## ABSTRACT

This poster session will provide guidance in designing systems required for wastewater pumping stations in order to be compliant with NFPA 820. NFPA 820 is a standard for fire protection in wastewater treatment and collection facilities, and includes pumping stations. Combustible gas detection, ventilation monitoring and signaling systems will be discussed. Emphasis will be placed on the signaling system, which must be a specialized supervisory system to be NFPA 820 compliant. It is the authors' observation that many pumping stations do not include a supervised signaling system, and thus are not NFPA 820 compliant.

The design practices and lessons learned of three pump stations that are now in operation will be discussed. The enhancements to a fourth pump station now in design will be identified as well. The poster session will include both a P&ID of a pump station as well as a block diagram detailing the network configuration of the supervised signaling system.

---

## About the Authors:



**Tom Ridgik, PE** has been involved in the design of control systems for water and wastewater facilities for over 25 years. He is a registered PE in eight states, and is a member of ISA, AWWA and WEF. He is the author of the instrumentation and control chapter on the "Design of Wastewater and Stormwater Pumping Stations," a WEF Manual of Practice.



**Greg Yarberry, PE** has been involved in the design of electrical systems for water and wastewater facilities for over 15 years as both the electrical lead engineer and design manager.