ABSTRACT for the 2013 ISA WWAC Symposium

# Know Your Options: Selecting the Right Wireless Communications Technology for Your Collection & Distribution Systems

Dustin Sayre[1]*

[1]EMA Inc., 1970 Oakcrest Ave., Suite 300, St. Paul, Minnesota, 55113, USA
(*correspondence: dsayre@ema-inc.com, Phone: 407-786-5376)

## FORMAT

6-12 page paper plus 30-minute presentation

## KEYWORDS

wireless, telemetry, radio, technology, antenna, SCADA, security, remote site, remote station, lift station, distribution, collection.

## ABSTRACT

Reliable, real-time process data is the lifeline for an organization. Radios offer a very economical solution for wireless communication with hard-to-reach remote locations that have previously had local control only. For utilities, it begs the question: What do I need to know for my SCADA system to communicate wirelessly with my remote sites? Wireless technology changes constantly. For collection and distribution systems, there are many issues and options to consider, such as

- determining the functional requirements of the radio system,
- determining the right communications technology,
- selecting communications protocols and drivers,
- considering cyber security, and
- selecting controllers and antennas.

Collier County Public Utilities' South County Water Reclamation Facilities (Collier County) uses Ethernet radios as an alternative to trenching hardwire IO to nearby a PLC to monitor conditions, automate operations, and communicate with in-plant lift stations. In a cost study it was determined that it was less expensive to use radios to "talk" to a lift station across the street than to trench underneath the road using a hard-wired connection. The goal: to prolong the life of existing equipment and operate pumps more efficiently. Located in a hurricane susceptible region, backup power and local data storage in case of power/communications loss was also important as well as timely notification of equipment failures/alarms.

Referencing Collier County's story, this paper will help utilities better understand their remote site wireless communication needs, equipping them with knowledge to ask the right questions prior to selecting technology.

**About the Author:**

**Dustin Sayre** has been a Project Engineer with EMA for over 5 years. He specializes in control system automation, Wireless telemetry and photovoltaic systems. Dustin is currently upgrading a water distribution system from licensed serial radios to unlicensed Ethernet radios without downtime.