SCADA Upgrades at the Jacksonville Beach WWTP:

Lessons Learned from automating a 40 year old plant for unattended operations

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ABSTRACT

The financial environment for utilities today is such that organizations must find ways to effectively maximize ever-dwindling revenues and resources. To achieve this, operators are reducing staff, increasing process efficiency, and lowering operating costs, all while complying with increasing government regulations. The City of Jacksonville Beach permit was approaching expiration, and the new permit requirements stipulated tighter discharge restrictions through Advanced Water Treatment (AWT). It became immediately obvious that the 40+ year old plant in operation could not possibly comply with these requirements. The only solution was to build a new plant. Building a new treatment plant for the 21st century would present many challenges...and opportunities. When the City of Jacksonville Beach began design on its new wastewater treatment plant, it was clear that the old paradigm of "Islands of Automation" could and would no longer be practical. The new permit would authorize staffing of the plant for only 8 hours a day. This meant the plant would essentially have to "run itself" for 16 hours every day. The regulators would only allow this if the city could prove that there was enough process and supervisory control in place so any problems that might develop could be quickly mitigated. This paper will discuss how we developed a fly by wire control system and the challenges associated with its implementation.

About the Authors:

Chuck Saunders, CCST has been an Electronic and Instrument Tech for 30 years, working first in the steel industry and later in the Water / Wastewater field. Chuck has been a CCST for 12 years and is active in ISA including having held numerous offices in the Jacksonville ISA Section. He started working for the City of Jacksonville Beach in 2001 to begin automating the Waste Water Treatment Plant, which evolved into this project. Contact: csaunders@jaxbchfl.net

Gary Szilagyi attended Georgia Institute of Technology after which he worked selling process control equipment for 30 years. In 2002 he started Archimedes Systems Inc. as a systems integrator to provide turnkey solutions for the water/ waste water industry. He has been active in the ISA for over 10 years and is currently VP of the local chapter. Contact: gszilagyi@archimedessystemsinc.com