

Indian River County, Florida
Department of Utility Services
Board Memorandum

Date: May 4, 2020

To: Jason E. Brown, County Administrator

From: Vincent Burke, PE, Director of Utility Services

Prepared By: Terry Southard, Operations Manager

Subject: Work Order No. 2 With Kimley-Horn for North RO (Hobart) Supervisory Control and Data Acquisition (SCADA) System Upgrades

Background:

Indian River County Department of Utility Services (IRCDUS) owns and operates two (2) regional potable water treatment facilities. The southern portion of Indian River County is served by the South County Reverse Osmosis (SCRO) Water Treatment Plant, which is rated for 8.57 million gallons per day (mgd). The North County Reverse Osmosis (NCRO) Water Treatment Plant is rated for 11.44 mgd.

Both water treatment plants are controlled and monitored by programmable logic controllers (PLC) and computer interfaces (HMI – Human Machine Interface), which make up the SCADA system. The SCADA system is crucial to the operation of the water system and the remote storage and pumping facilities. The current PLC systems at the NCRO and SCRO plants are a mixture of various platforms of Allen-Bradley hardware: PLC-5, MicroLogix (MLX), SLC and the newest ControlLogix (CLX).

The assessment evaluation found the existing PLC-5 hardware, which comprises the majority of the hardware at both water plants, to be antiquated. In addition to the corrosion in the panels, hardware replacements would be difficult and costly to acquire because the manufacturing and support of the PLC-5 hardware has been discontinued by the vendor (Allen-Bradley). The evaluation confirmed what the utility plant operators have voiced all along, in that the existing system is slow to respond to commands, has poor communication, and does not allow any scalability for future growth or any changes to plant controls. The hardware is in dire need of replacement before it fails and is inoperable.

Analysis:

In 2015, Kimley-Horn and Associates (KHA) performed a detailed evaluation of the SCADA system and found that, amongst other components, the control panels at the NCRO plant require attention and/ or replacement. In order to keep the NCRO plant running efficiently, corrective action on the two panels are needed. The recommended work was provided in a prioritized and phased approach to allow improvements to be conducted in a logical manner. Critical work on the clear well controls has already been completed. It is time to begin work on the other equipment as part of this phased replacement plan.

The KHA Work Order No. 2 is provided in accordance with the Agreement for Professional Services for Water Plant and Water Resources Engineering Services – Request for Quotation (RFQ) 2019070 dated November 5, 2019. The consultant will prepare a site plan depicting the improvements needed for proper phasing. Also included are panel drawings, technical specifications, and bid documents for the replacement and installation of new remote input/out (I/O) and PLC panels. KHA will provide coordination with the county Purchasing Department for bidding the proposed improvements.

Funding:

Funding for the SCADA upgrades for is available in the Utilities Operating Capital account within the Utilities Operating Fund. Utilities operating funds are derived from water and sewer sales.

Description	Account Number	Amount
Other Equipment	471-166002	\$35,300

Recommendation:

Staff recommends that the Board of County Commissioners approve Work Order No. 2 with Kimley-Horn and Associates, in the amount of \$35,300.00, for professional services to include design, bidding and construction phase assistance to upgrade existing Supervisory Control and Data Acquisition (SCADA) System, and authorize the Chairman to execute said work order on their behalf.

Attachment:

Work Order No 2 with KHA (5 Pages)