

Work Order/Computerized Maintenance Management System: An Effective, Modern Solution for Port St. Lucie

Brad Macek, assistant utilities director for the Port St. Lucie Utilities Department, recognized it was time to streamline a dated, paper-based work order system when their current system, built in the early 1990s, was showing its age. Macek and his colleagues began researching computerized maintenance management system (CMMS) options that might help them run their utility more efficiently.

"The old system wasn't able to support the amount of assets we currently have," said Macek. "We kept expanding on it as we grew and eventually those expansions simply got too big for the system to handle."

There were a lot of limitations to the old system. "Our maintenance crews had paper and clipboards, so a lot of time at the end of the day was spent either inputting data or turning it over to a switchboard group to do it," said Macek.

Port St. Lucie employs just over 200 workers. The water treatment plants have capacities of 8 mil gal per day (mgd), 11.15 mgd, and 22.5 mgd, while the wastewater treatment plants operate at 6 and 12 mgd. It was a lot to manage with an out-of-date maintenance system that simply wasn't efficient.

Initially, Macek and his colleagues could not find a system that met their needs. "We looked at a number of different systems and even looked internally to see if we could reproduce something on our own," he said. "But we couldn't come up with a canned solution that worked for us, so we talked to our neighboring system, Indian River County Utilities, about what they were using."

The system Macek and his colleagues decided on provided a paperless work order program that allowed them to streamline their workflow process for asset management/CMMS. This was a big change over the old system, but it was a good one. The new system allowed for full automation of the entire asset/equipment maintenance schedules for all the system's plants.

"One of the biggest advantages of the new CMMS package was the ability to break up each plant's information into its own system," Macek explained. "Before, we had a long list of all assets and equipment that made it almost impossible to find anything. This new system made it simpler for all of the plants to find their information and then schedule the necessary work orders, or look up their previous history."

According to Macek, one of the biggest benefits of the system is that it is geared toward a "field mobile solution," so now all field workers use mobile devices, such as tablets or smartphones. "Not being paper-based is

a huge benefit, because now the workers don't have to double- or triple-enter their entries; it eliminates the paper trail. Our supervisors now can issue work orders and send them directly out to the field staff," he noted. "There's no more need to have the workers come back to the office or call them up on the radio. This freed up our paperwork at the end of the day, now that we have this instantaneous process."

The CMMS system was set up as a three-phased solution to simplify the implementation process. The first phase addressed correcting the work order system for the city's water and wastewater treatment facilities, which included the plant and lift station mechanics, electricians, and instrumentation staff. The second phase addressed interfacing with the customer service work order system so that the distribution and collection crews can be implemented. The last phase involved organizing monthly operating report data for the plant operations.

Another noteworthy aspect of this technology is evident in its calendaring system, which has the capability of registering all of the jobs a utility would need to track. "The jobs are color-coded so personnel can easily see the status of each component," said Kurtis Warne, senior account manager with SEMS Technologies, the provider of the new system. "The costing aspect keeps track of the expenses associated with each job—from the labor hours of each worker to the parts needed for that job to the equipment required, or any purchases necessary, to facilitate its completion."

Warne explained that the system can keep track of all of the costs, so reports can be run that say how much money would be required to purchase or maintain a specific piece of equipment. "All of the line items in the calendaring system are user-definable, so each city can choose what type of jobs it wants to track and then run the reports. It's a customizable system that allows the work to be specified and determine how much it costs."

Macek added that the system brings with it an ease of use that made the switchover a painless exercise for his employees. "It's not a cumbersome system; it's really easy to navigate, especially with our younger employees who grew up in the mobile-device age," he said. "It's that canned solution we were looking for; it came already put together and we didn't have to build it from scratch. And, with all the assets in place, it's been so much easier to transition them from our old work order system to the new CMMS package."

Macek was impressed with how quickly the system was in place. "We thought the system was going to take 12 to 18 months to complete the first phase," he said, "but the system was up and running in six months. Of our approximately 200 employees, about half of them are on the new system now and the other half should be getting onto it within the next six weeks."

In addition, the system integrated a customizable component called "User-Definable Fields" to accommodate unforeseen developments in Port St. Lucie's work order process as time goes on. These fields give the utility the ability to configure the system to meet its workflow process, rather than conforming to the software's process.

"It was built to be flexible, to work outside the box a little bit. Our plantside facilities were up and running with the new CMMS system within a few months," Macek stated. "We're currently getting ready to turn on phase two of the system, but we have to figure out some workflows on our end before that happens. In the third phase, we'll be getting the treatment plant operators' daily data gathering onto their iPads for our monthly operating reports, eliminating the double-data entry associated with our old system."

