A NEW ERA OF EFFICIENCY

MIAMI-DADE IMPLEMENTS EAM PLATFORM TO IMPROVE SERVICE AND FOSTER BETTER INTER-DEPARTMENTAL COMMUNICATION

BY STEVE SCHWABE

The Miami-Dade County Water and Sewer Department (WASD) is the largest water and sewer utility in the Southeastern United States — with more than 14,000 miles of pipe, serving 2.3 million residents and employing more than 2,500 staff who manage billions of dollars of assets. In 2007, WASD began a new chapter to improve their asset management program by implementing best practices and a new Enterprise Asset Management (EAM) system. In place before, were several different work and asset management systems — including some divisions with no systems or documented processes. This lack of standard systems and absence of documented asset management best practices created increased departmental overhead, maintenance challenges and communication and reporting issues. With the implementation of Infor Enterprise Asset Management software and associated best practices, it has now changed for the better. This program now enables WASD to better meet and track regulatory compliance, monitor asset maintenance and generate more timely and substantive enterprise-wide reporting. WASD selected Woolpert, a national infrastructure management, geospatial and design consulting firm to partner with to develop and implement this critical program.

When properly utilized, an EAM system provides a holistic view of work activities across large organizations. It can be leveraged to manage all aspects of equipment including design, construction, commissioning, operation, maintenance and equipment retirement and disposal. WASD can now research work and cost history at any level within the department and even across divisions. Infor EAM is integrated with existing key systems, such as the Oracle ERP, including the Financials, Time and Labor modules, as well as Oracle Customer Care and Billing. Additionally, it is interfaced with the department's Esri GIS and several other stand-alone systems.

To fully utilize modern EAM system software, organizations must lay the groundwork for future enhancements during the initial implementation and install software upgrades as new versions are released. It's the only way to truly enable interoperability with operations, asset performance, personnel productivity and lifecycle costs — and it's precisely the commitment WASD made when it sought to implement a robust, scalable EAM.

COMPREHENSIVE BUSINESS REVIEW

When the initial implementation began, the 10 WASD divisions that were to be part of the project had varying asset management procedures, relying on a variety of software, systems and tools. Woolpert conducted a comprehensive business review and analysis, performing a benchmarking assessment against peer organizations and helped WASD establish its implementation approach that would standardize, to the extent possible, business practices across divisions.

First, Woolpert reviewed and documented the existing business processes in each WASD division. Standardized naming conventions for shared datasets were developed so that divisions would speak a common language. Then, the implementation team gathered mobile computing requirements and established the GIS-focused workflows that would enable similar practices to be established for its distributed infrastructure.

Next, the team assessed WASD's existing systems (e.g., human resources, inventory management, procurement, financial reporting, customer care and billing) to ensure proper integration. The entire business review and analysis was focused on how to establish inter-divisional communications among the 10 divisions through a new, unified system. The divisions within the project scope included: Wastewater Treatment; Water Production; SCADA; General Maintenance; Water Transmission and Distribution; Wastewater Collection; Fleet; Pump Station Maintenance; Stores/Procurement; and the Emergency Communications Center.

It quickly became apparent that the separate divisions within the department had developed their own individual asset and work management systems. It's very common for utilities that have unique divisional needs to develop divergent asset management methods over time. WASD's central Information Technology (IT) group was responsible for managing the many multiple systems that had sprung up out of necessity.

As these systems continued to evolve individually, it had become increasingly difficult to manage and maintain a semblance of coordination among divisions, and some divisions had naturally become more technologically advanced than others.

While this method of asset management represented logical growth and served its purposes, eventually WASD's stakeholders agreed that a consolidation effort was needed to ensure ongoing efficient operations throughout the department. What they needed was a common EAM system to serve as the backbone of their internal recording processes. A single system would improve an employee's ability to record issues, make repairs and perform preventive maintenance. Plus, the EAM could initiate work activities by issuing periodic, timely service reminders and process indicators.

CONSOLIDATION OF EXISTING SYSTEMS

With the business review completed and the implementation approach established, Woolpert began the task of consolidating all of WASD's divisions into Infor EAM. Due to the number (10) and size of divisions within WASD, Woolpert's first priority was to successfully execute a large-scale change in management process without disrupting ongoing operations. The divisions were organized into three tracks, each consisting of similar divisions. For instance, Water Distribution and Wastewater Collection, both heavily tied to GIS assets, were grouped together in the same track, as were Water Production and Wastewater Treatment facilities. Each track was implemented in approximately 12 months.

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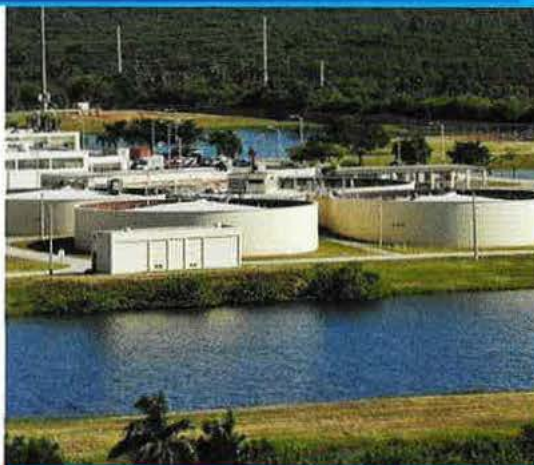
A particularly complex piece of the data migration was the integration of the Oracle ERP modules into the EAM, which would make the new EAM more enterprise-focused. For human resources, the EAM integration enabled employees to maintain accurate information in both systems and streamline their time reporting. For inventory management, it allowed inventory levels to be tracked in both the EAM and in the financial system. Customer billing field orders entered into Oracle CC&B were automatically passed to the EAM as actionable work orders to satisfy caller requests.

In addition, the Infor EAM implementation included the integration of the Esri GIS module. This allowed assets and inventory throughout the department to be represented spatially and quickly be located on a map, improving response times for service requests and maintenance activities.

ADVANTAGES OF EAM CONSOLIDATION

WASD's Emergency Communication Center went live during the first track, allowing billing-related activities, such as account activations, deactivations and field service requests, to be integrated into the new EAM. With this critical component in place, WASD was able to leverage the true power of the EAM. This included:

- Routing work inter-divisionally;
- Establishing a single system for process indicators/notifications;
- Enabling reporting that spans the entire department;
- Achieving a high-uptime system;
- Reducing IT and software overhead, particularly in licensing costs and maintenance; and
- Improving usability for end users (employees), who can now be cross-trained between divisions and use relatively the same systems.

Immediately, WASD employees began to realize these benefits. According to WASD EAMS Business Process Section Chief Eleanor Matthews, "Some intra-divisional reports — which before took days if not weeks to consolidate from paper work orders and log books — can now run in mere minutes."

NEW SOFTWARE RELEASE REQUIRES UPGRADE

In 2012, WASD stakeholders considered upgrading to the new version of Infor EAM, largely because of the additional functionality developed into the product by the software manufacturer. The utility again tapped Woolpert to lead the upgrade effort. Woolpert is currently in the beginning stages of this process, which is expected to take six to nine months. Woolpert will thoroughly test all existing functionality to ensure systems are connected to each other and that division-specific workflows still operate as originally designed. Once complete, WASD users will have available to them all of the enhanced functionality of Infor10 EAM.

Among the improved features of the new software release are many user-experience enhancements, such as the abilities to have multiple hyperlinks on a field and hyperlink from custom grids to other records. Navigation between screens and access to related data without leaving the current record will enable users to perform many functions from a single screen. Enhanced equipment reliability rankings and asset sustainability functionality, as well as work order coding capabilities, are other benefits that WASD expects to realize. These enhancements not only make the product more powerful to managers and decision makers, but also more friendly to the end user, which increases system use and in turn provides better information back to the managers and decision makers.

A FOUNDATION FOR FUTURE GROWTH

WASD's implementation of Infor10 EAM lays the foundation for the utility to grow its enterprise asset management architecture well into the future. With its flexibility and scalable architecture — customizable with rich functionality and many available modules — Infor EAM meets the demanding needs of a large utility with complex divisional systems. As requirements evolve, WASD's divisions will continue to look for better ways to utilize the EAM, tracking non-maintenance activities through the system, and identifying opportunities to improve productivity through the automation of workflows, all of which are feasible within their chosen solution.

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