



**REPORT TO THE REGIONAL WATER SUPPLY COMMISSION  
MEETING OF WEDNESDAY, DECEMBER 5, 2012**

---

**SUBJECT      INFORMATION ON THE MAINTENANCE MANAGEMENT SYSTEM CONVERSION**

**ISSUE**

Results of the Integrated Water Services maintenance management system conversion project are presented for the information of the Commissions.

**BACKGROUND**

The use of two software applications to capture maintenance and financial data was inefficient. The Computerised Maintenance Management System (CMMS) uses MAXIMO and the Enterprise Financial System uses SAP. The two applications were not integrated, required duplicate data entry, information was not current, time data and consolidated reporting was time consuming.

The utilization of MAXIMO software, in water and waste water operations was different, resulting in inefficient use of resources to administer the systems and different standards for the same type of maintenance. Converting from MAXIMO to SAP Plant Maintenance provided an opportunity to address these inefficiencies.

As part of the conversion project from MAXIMO to SAP Plant Maintenance, the following changes were implemented to address inefficiencies:

**Data Improvements**

- The definition of equipment was revised to include only maintainable equipment in the database. This reduced equipment numbers by more than 1,000. An example is the combination of several SCADA components into one SCADA system per site and removing consumables from the database.
- Locations, facilities and equipment data creation and revisions were centralized to the Maintenance Management section. This ensured consistency in data setup, data quality and reduced the risk of duplication.
- Retail meter information was made directly available to users in the preventative maintenance system, therefore eliminating maintenance of additional spreadsheets.

**Work Management**

- Consolidation of work orders reduced the number of work orders by an estimated 15%. This was achieved by adding more than one piece of equipment and grouping different activities to one work order, and using lists to combine compliance related items requiring inspections and tests to a work order. This reduction allows operators to access information more efficiently and reduced time entry and work order management significantly.
- Prioritization of work ensures that the system only generates work orders that are required or can be completed. This was achieved by matching higher priority preventative maintenance (PM) hours with the available budget hours. This reduced volume of unscheduled work orders resulted in a reduced number of work orders that had to be cancelled and closed off by administrative staff.

### **Program Activities and Accomplishments**

- As a result of the changes, processes were reviewed and redeveloped. By moving the review and approval of work order time to administration, time processing is managed efficiently and supervisors' time is better utilized.
- Defined preventative maintenance and business process standards promote consistent work practices and reduces the need for data clean up.
- The creation of forms to capture information for master data setup and equipment movement has resulted in more reliable master data and a process to review and update site inventories.

### **NEXT STEPS**

The present implementation requires further development to meet the needs of the present users. The next steps are to:

- Consolidate work orders to further reduce the number of work orders being generated in the system.
- Complete the master data review for existing facilities and keep current with the addition of new facility data.
- Prioritize preventative maintenance programs to ensure that scheduled work is achieved by allocated resources and to identify resource gaps.
- Further develop the implementation of requirements for fleet management. This includes the review and implementation of the SAP Fleet module or the implementation of different business processes to accommodate fleet management needs in the PM module.

### **ALTERNATIVES**

Not applicable to this report.

### **IMPLICATIONS**

#### **Social/Public**

A well implemented and developed maintenance program will result in more reliable water and waste water equipment and an increase in public confidence.

#### **Environmental**

A successful preventative maintenance and work management program assists in reducing the number of equipment failures and unnecessary site visits. This reduces the carbon footprint (less vehicle emissions) and equipment failures that can lead to environment spills.

#### **Economic/Financial**

By reducing the number of equipment and work orders in the system, the administration effort has been refocused to keeping equipment data current and maintaining the data quality without the need to increase the number of data processing staff.

#### **Interdepartmental Involvement**

The project was undertaken jointly by Corporate and Integrated Water Services.

## **CONCLUSIONS**

The work done in implementing the new CMMS has been a success.

The maintenance and development will be an ongoing process and will include the following initiatives:

- Continued consolidations and prioritization of work orders;
- Implementing work management concepts (planning and scheduling);
- Further development to accommodate the needs of Fleet maintenance management; and
- Implementing data analysis and monitoring to support preventative maintenance strategies, resource planning and data quality.

Given these factors, an ongoing resource commitment from Business Development and Integrated Water Services will be essential.

## **RECOMMENDATION**

That the Regional Water Supply Commission receive the staff report for information and recognize the ongoing efforts of staff to maintain and improve the application of preventative maintenance and work management strategies within Integrated Water Services.

---

Jan van Niekerk, P.Eng.  
Senior Manager, Customer & Technical Services

---

Ted Robbins, B.Sc., C.Tech.  
A/General Manager, Integrated Water Services  
Concurrence

JVN:mm