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IMPLEMENTATION OF OPTIMIZE WORKS BEST PRACTICES PROGRAM - STATUS REPORT

The Transportation and Works Committee recommends:

1. The presentation by Debbie Korolnek, Director, Water and Wastewater, be received; and

2. The recommendation contained in the following report, September 8, 2003, from the Commissioner of Transportation and Works be adopted:

1. RECOMMENDATION

It is recommended that:

1. This report be received for information by Transportation and Works Committee and Regional Council.

2. PURPOSE

This report provides Committee and Regional Council with an update of the status of the OPTimize Works program currently being undertaken by the Water and Wastewater Branch of the Transportation and Works Department.

3. BACKGROUND

In 2001 staff began an internal review of operational and maintenance practices to determine how effective current work practices were compared to industry best practices. This initial review identified some areas of potential improvement and prompted interest in proceeding with a more extensive review.

In the spring of 2002, the consulting firm of EMA Canada Inc. was retained to undertake the Operations and Maintenance Services Assessment. The intent of the study was to identify the current practices of the Region's operations and maintenance functions and compare them to industry best practices and develop an implementation program that would take advantage of any opportunities that would contribute to the continuous improvement of services and delivery performance.

The service assessment focused on five key areas that challenge the day-to-day operations and maintenance of the water and wastewater system.

- Growth Pressure – York Region is the fastest growing region in Canada, as identified in the Statistics Canada Spring 2002 census report.

- Staff Hiring and Retention – difficulty hiring and retaining experienced water and wastewater operators.
- Legal Compliance – Several new regulations passed since August, 2000 have resulted in significantly increased legal reporting requirements and exposure to liability.
- Performance Measurement and Management – A best practice evaluation was needed to evaluate the success of our staff and management model.
- Asset Management – An analysis of capital expenditures and asset distribution was needed to revise the infrastructure management plan and meet proposed regulatory requirements.

The assessment study was completed in July of 2002 and best practices gaps were identified for the Water and Wastewater Branch. The results of this study were presented to Council on November 21, 2002 (Clause 1 of Report No.10).

In the fall of 2002 an RFP was issued for Phase One for planning and implementation services. The Phase One implementation plan was developed to gain maximum benefit from the redesign process without over committing both financial and staff resources. The deliverables of Phase One will define best-in-class work practices and determine what future directions were required to realize the potential benefits. This Phase was divided into the following elements:

- Project Management and Implementation Management.
- Work Process Redesign.
- Information Systems Master Plan.
- Implementation of a Computerized Works Management System.
- Implementation plan for Phase Two activities.

The Phase Two implementation plan would be developed as part of the deliverables from Phase One. This would focus on longer-term objectives and strategic changes that may require further co-ordination with other departments and internal services groups.

The RFP evaluation process resulted in the recommendation to select EMA Canada Inc. This was reported to Council as Clause 5 of Report No.1 dated January 23, 2003. The project was initiated in March of 2003 and is scheduled to be completed in mid 2004.

This report provides a status of recent activities on this program.

4. ANALYSIS AND OPTIONS

Upon initiation of the project the consultants recommended that the project team develop a theme for the project considering the duration of the project and the impact it would have on current business practices. The Project team selected the project name of OPTimize Works. This name was derived from the three principle concepts driving the project: Organization, Practices and Technology. This reference has since become ingrained in the vocabulary of water and wastewater staff.

This status update will discuss the project progress to date, actions taken and communication and acceptance with staff.

All Phase One elements except the development of the Phase Two implementation plan are currently underway or nearing completion. The following three subsections provide a summary of the key areas of progress.

4.1 Work Process Redesign

The work process redesign was conducted through a series of workshops. This proved to be very effective since it resulted in significant staff involvement and participation in the development of the recommendations for the various work process redesign workshops.

Although there were many quick wins as well as long term recommendations that have been identified at this point, the results of these redesign sessions could be summarized into two key issues:

- The need for technology to support the new work flow processes.
- Organizational improvements to front line operations.

A common theme from all the workshops was a clear realization that in order to effectively implement the proposed work flow process, it would be essential to have the necessary technology in place. The Region currently utilizes relatively sophisticated technology for the daily monitoring and control of the various facilities through the Supervisory Control and Data Acquisition System (SCADA). The Region also maintains an asset management system in order to track preventative maintenance of Regional assets. However, there are some data sharing and data management issues currently present with these systems that must be overcome before Total Productive Operations methodologies can be fully implemented.

A second technology issue that was identified was the need to provide sufficient access to technology to leverage existing information systems. This is an issue that is being addressed through the Information Systems Master Plan as part of the overall assignment.

The solution required to meet these current needs is a computerized work management system. This component will also be implemented as part of the Phase One work program.

The second element relates to organizational improvements to benefit front line operations. The geographic location of Regional facilities provides a significant challenge to operational efficiency. Several recommendations were made to overcome these challenges. Strategies that have been recommended include: focus work units on smaller geographical areas; and cross-train frontline staff to increase their skill set to maximize their time in the field. The intention is to utilize existing staff for more functions so that fewer specialized individuals would be required to complete routine tasks.

Other quick wins that were identified included a review of chemical delivery in order to reduce the necessity for Regional staff assistance during deliveries from vendors as well as procedures for water sample collection and maintenance practices.

In general, staff were in agreement that current Regional practices have been effective based on the systems currently in place and available but that significant improvements could be realized if front line organizational changes were implemented and adequately supported with technology solutions.

4.2 Information Systems Master Plan

The Information Systems Master Plan Track is responsible for defining the strategic information technology required to support the water and wastewater business functions, including all the requirements and resources necessary to ensure delivery and support of these systems.

The key objectives of this track are as follows:

- Assess current practices in gathering, using, and disseminating information for the operation, maintenance and support (administrative, technical, and managerial) of the water and wastewater systems.
- Examine how technology can be leveraged to support current and anticipated regulatory reporting requirements.
- Develop recommendations for information systems technologies and integration methods and tools required to support operational practices.
- Ensure all recommendations are in alignment with Corporate Information Technology Services standards.
- Develop a technology blueprint.
- Prioritize water and wastewater information technology investments.
- Develop an implementation and deployment schedule based on redesign recommendations.
- Define information technology support requirements and resources for water and wastewater technologies.
- Develop concise service level agreements (SLA) for Information Systems and Application Support Services and related information technology services.
- Ensure the blueprint addresses network bandwidth requirements, water and wastewater business information flow, application and tool requirements, and SCADA and GIS integration.
- Recommend cost effective technology that meets the needs of the water and wastewater business over a 3-5 year period.
- Develop a technology blueprint that is flexible and scalable over a five year period to maintain alignment with the water and wastewater operations and other key stakeholders.

The key deliverables for this track are:

- Business Model.
- Data Model.
- Current Technology Evaluation.
- Technology Blueprint.
- System Development Methodology.
- Recommended IT Support Structure.
- System Implementation Plan.

Work has been steadily progressing in this track and information from the process redesign workshops, as well as the Asset Inventory Assessment and SCADA Master Plan assignment are being incorporated as they become available.

4.3 Computerized Work Management System

The Computerized Work Management System (CWMS) has been identified as a key element in the implementation of work flow process improvements. This is why it has been included as the first technological solution implementation for Phase One.

Current practices utilize many of the methodologies that are available from a typical CWMS however, these practices are not being performed in a consolidated and integrated manner. Staff have recognized the significant benefits that will be realized from the implementation of a CWMS.

The key benefits that have been identified are:

- Effective data management through a central data warehouse.
- Effective work flow management through central planning.
- Effective data analysis and reporting for better decision making.
- Budgeting and forecasting functionality based on roll up of discrete assets.
- Performance management and measurement.

Staff are currently in the process of selecting a CWMS software vendor and will be proceeding through the system configuration, pilot trial, and a phased rollout of the application.

Although a number of quick win recommendations can be implemented without the use of a CWMS, this system will be critical in achieving the objectives set out in the business plan since this will become the primary production tool for front line staff.

4.4 Communications Strategy

It was identified early in the project that a key driver for success would be to ensure that staff were well informed of all aspects of the project and that they had the ability to communicate their thoughts without hesitation. In order to ensure this occurred effectively, a communications strategy was developed at the beginning of the project.

The focus of the strategy was to communicate the message that this process belonged to the staff since they would be directly affected by the outcome of the recommendations. To date this has proven to be an effective message and the staff have demonstrated their keen interest in improving their work environment.

The key communication routes are:

- Use of an electronic "team room" were all workshop and project documentation is posted for review.
- Periodic newsletters providing updates and project status.
- Deployment of a core communications team. These are key staff members who maintain direct contact to field staff and provide project information as requested.
- An intranet web site which provides event based updates on all aspects of the project.
- An electronic suggestion box.
- Bulletin boards strategically located at key facilities.
- Direct access to key project team members.
- Participation in the presentation of recommendations.

To date these strategies have resulted in a high level of workforce alignment in the objectives, benefits and anticipated implementation effort required to make this project a success. The project team has identified that the success of the communications strategy will dictate the success of the overall project since the potential changes to current work flow practices could impact all staff within the water and wastewater branch.

5. FINANCIAL IMPLICATIONS

The costs associated with program implementation have been categorized as follows:

- Staffing adjustments to meet growth.
- Staffing adjustments to support and sustain best practices.
- Training.
- Technology hardware and work management systems software.
- Consulting services.

The staff related costs are associated with the internal resources necessary to implement and support the program. The major sources of savings would be derived from staff related costs. The implementation of these recommendations would reduce the growth in staff requirements over the long run.

The program will break even in approximately five years with a perpetual cost savings thereafter associated with the residual benefits of maintaining a best practices work environment. The benefits will primarily be derived from reductions in the growth of labour requirements, improvements through program driven work and increased use of technology. The cash flow projections for the first five years of this program are summarized in Table 1.

Table 1
Phase One and Two Program Implementation ($1,000)

	Year 1	Year 2	Year 3	Year 4	Year 5
Benefits	200	400	750	1,000	1,050
Technology and P.D.W. Benefits					
Costs					
Consulting	730	310	165	0	0
Hardware/Software	358	486	390	280	90
Total Costs	1,088	796	555	280	90
Cumulative Cash Flow	-888	-1284	-1089	-369	591

Phase One programmed for Year 1 (2003)
Phase Two programmed for Year 2 and 3

Once fully implemented, the net savings associated with work force savings, technology utilization and program driven work are estimated to be $1.5M per year.

6. LOCAL MUNICIPAL IMPACT

This program will benefit the residents of York Region through improved operational efficiency and customer relationship improvements. The nine local municipalities who are the direct users of the services and products provided by the Water and Wastewater operations Branch will benefit through the same types of customer relations improvements resulting in increased value for our customers.

7. CONCLUSION

The OPTimize Works program has identified a number of short term “quick wins” as well as longer term work flow and process improvements that will result in the improvement of service delivery effectiveness and efficiency.

This report has identified some of the key elements for future success. Staff have also started to implement quick wins where possible to further improve the potential for success of the overall initiative.

The Senior Management Group has reviewed this report.