

REGION OF OTTAWA-CARLETONRÉGION D'OTTAWA-CARLETONMEMORANDUMNOTE DE SERVICE

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Our File/N/Réf.

DATE 24 November 1998

TO/DEST. The Chair and Members of Council

FROM/EXP. Acting Deputy Commissioner  
Environment and Transportation Department

SUBJECT/OBJET **SCADA UPGRADE PROJECT STATUS**

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### BACKGROUND

The purpose of this report is to provide Council with an update on the status of the Water Division's SCADA Upgrade Programme, Project No. 922-41755. The following sections document the progress to date, key project developments and decisions as well as the future project milestones.

The existing Supervisory Control and Data Acquisition (SCADA) system provides control and monitoring of the water treatment process and water delivery at the Britannia and Lemieux Island Water Purification Plants and remote facilities. The system must be upgraded to meet the challenges of the next decade by providing automation, increased control and operational consistency and efficiencies for the Water Division's Water Purification Plants and remote facilities.

This project received Council's approval in 1996 with a budget of \$7.7 million. Work since that time has involved the completion of a SCADA Needs Survey, the preparation of SCADA Standards and the development of Operating Philosophies for each and every facility and unit operation.

The project is divided into the following distinct stages:

- Technical Project Management Services;
- Phase 1 - Project Scoping and Documentation Preparation;
- Phase 2 a - Design Builder(s) Selection Process;
- Phase 2 b - Project Implementation (Design and Construction).

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TO BE LISTED ON CORPORATE  
SERVICES AND ECONOMIC DEVELOPMENT  
COMMITTEE AGENDA - 05 Jan 99

## TECHNICAL PROJECT MANAGEMENT SERVICES

The Environment and Transportation Department determined that resources with the experience necessary were not available within the Department to complete a project of this nature. Technical project management services were required. Consistent with the Region's consultant selection process, proposals covering the work for the entire programme were requested of five firms capable of completing this type of work. Acres & Associated Environmental Limited were awarded the contract on 06 October 1998 for these services and authority for the Phase 1 scope of work.

In the early stages of this project, it was determined that key elements of the existing SCADA system were not Year 2000 compliant. Working with the Year 2000 Project office, the technical project manager and staff of the Water Division, it has been determined that by accelerating the SCADA Upgrade project, the Region would be able to meet the challenge of the Y2K problem without having to expend financial resources on "stop gap" solutions intended to tie the Region over the new millennium while the new SCADA system was installed and commissioned.

### PHASE 1 - PROJECT SCOPING AND DOCUMENT PREPARATION

A series of workshops lead by Acres & Associated Environmental Limited were held to assist the Region with standards development and project fundamentals decision making. Workshop topics included: project goals and objectives, operational objectives, data information needs, critical processes, alarm handling strategies, control issues, standards review and revision, network system architecture and project implementation options.

All workshop conclusions and information have been documented in a final report to the Region which has fully scoped the project.

One of the key tasks of Phase 1 of the project was to assess and recommend an implementation plan. The recommendation is for a "design build" approach that will permit the project to be completed on an accelerated schedule while meeting the Region's need for competitiveness, completeness and adequacy.

Three individual work packages have been developed for procurement:

- Lemieux Island Water Purification Plant - (Work Package 1);
- Britannia Water Purification Plant - (Work Package 2);
- Remote Facilities - (Work Package 3).

## PHASE 2 a - DESIGN BUILDER(S) SELECTION PROCESS

The Supply Management Division of the Finance Department has taken the lead role in the design builder(s) selection process. This process has 2 phases:

1. Request for Qualifications (RFQ) phase and,
2. Request for Proposals (RFP) phase.

The RFQ was advertised on 13 October 1998 in the major newspapers, and the Daily Commercial News and later in the MERX system. RFQ submissions were received from 12 proponents (consortiums or firms). These submissions were evaluated based on predetermined criteria and associated ratings by 7 members of the project team. Three firms have been short-listed and are named as follows:

Thorburn Penny Limited;  
Ainsworth Technologies International Limited;  
Conestoga-Rovers & Associates.

Request for Proposals were sent to the qualified proponents on 24 November 1998. The qualified proponents are required to bid on each of the three work packages and the Region reserves the right to award the work to one or all of the proponents for one or all work packages.

The process for the selection of Design Build Team(s) and award of contracts is scheduled as follows:

<b>DESCRIPTION</b>	<b>DATE</b>
Advertise RFQ	13 Oct 98 *
RFQ Submission Deadline	21 Oct 98 *
Short List Proponents	12 Nov 98 *
Issue RFP to Short-listed Proponents	24 Nov 98 *
RFP Submission	17 Dec 98
Negotiate Final Scope of Work with Selected Design Builder	6-8 Jan 99
Award of Contract	Feb 99

\* Task has been completed.

## PHASE 2 b - PROJECT IMPLEMENTATION

The Technical Project Manager's Phase 1 work has concluded with submission of the final report and the preparation and circulation of the work packages to the short-listed proponents. Staff are presently working with Acres & Associated Environmental Limited to assemble a Phase 2 scope of services and budget. A report will be brought to Committee and Council for approval in January which will entail overall project management services, software and hardware quality assurance and control as well as contract administration field services for the next phase of the program. Staff of the Water Division will be directly involved with the technical project manager throughout project construction, testing and commissioning to ensure that when the new SCADA system is delivered to the Water Division, staff will be in a position to support and make best use of the installation.

As this SCADA system will fundamentally change the manner in which the water treatment and distribution system is monitored, training on the new system will be a key element in the overall success of the project. Staff are working with the technical project manager to develop a training program that will complement the new technology and approach and meet the Water Division's need to operate and maintain this highly complex, versatile and flexible SCADA system.

## SUMMARY

The SCADA Upgrade Project is currently on schedule. No delays or significant obstacles are foreseen which will affect the delivery of the new SCADA system before the year 2000. The selected implementation option provides a unique method to arrive at the most cost-effective solution for delivery of this programme within a challenging schedule.

*Approved by  
Nancy B. Schepers, P.Eng.*

MS/jw