

## OF HAMILTON

### PUBLIC WORKS DEPARTMENT

(HAMILTON WATER – PLANT MAINTENANCE & TECHNICAL SERVICES - LOCATION – 700 WOODWARD AVE.)

### PROJECT MANAGER-(SCADA OPERATIONAL TECHNOLOGIES (OT) – CUPE 1041

#### SUMMARY OF DUTIES

Reporting to the Superintendent SCADA, the Project Manager (SCADA Operational Technologies (OT)) will assume accountability and responsibility for the overall development, implementation and execution associated with the water and wastewater treatment facilities and outstations as required as part of the City's Water and Wastewater Treatment Section's responsibilities. Provide expertise and direction in developing tender documents, consultant selections, budget preparation, scoping documents and review of operations, maintenance and cybersecurity of our facilities.

This position provides SCADA expertise for all water and wastewater facilities operated by the city, responsible for the maintenance, programming and cyber security of the SCADA/OT system, including network, networked equipment, HMI, PAC, data management and reporting, as well as overall system monitoring and security. This position will also provide SCADA/OT/Cyber Security expertise to other groups as part of Hamilton Water, supporting project design specification and detailed review of engineering design and assessment of construction, ensuring compliance with applicable standards and specifications. In addition, oversee, coordinate and implement ongoing maintenance of SCADA system hardware and software as required in the division.

The Project Manager (SCADA Operational Technologies) is required to effectively communicate with staff in areas of operations, maintenance, cyber security, capital delivery, construction, planning and development, as well as contractors and consultants to resolve problems, execute project work and/or develop policies, procedures and specifications for SCADA/OT systems as required in the division.

The overall job focus is to implement and maintain solutions for SCADA/OT designs, develops, reviews and manages security for all data, information, network and infrastructure systems across the SCADA and OT landscape and directs the entire life cycle of network and application security management. As an integral part of SCADA/OT projects and operations, for the automation of plant operations and engineering tasks to support functions of departmental staff using SCADA/OT technology. SCADA PM provides the insight, advice, and leadership for developing and implementing SCADA & OT security policies, procedures, and measures that ensure the secure and reliable operation of SCADA /OT systems across the Hamilton Water.

The SCADA/OT PM researches emerging technologies, security trends and tools, security architectures and changes in the SCADA/OT landscape to provide current, relevant advice and guidance to other Hamilton Water Division on SCADA and OT-related areas.

The SCADA/OT PM may be assigned on one or more projects as a project team member and/or a project lead and provides coaching on SCADA, OT and security processes and methods to other Hamilton Water staff.

Possess a demonstrated record of strong leadership, technical competence, customer focus, innovation/creativity, team advocacy, and is committed to results.

Possess a high level of personal integrity and be an excellent communicator.

#### GENERAL DUTIES

The Project Manager (SCADA Operational Technologies) must work as part of a team to deliver technology solutions to all aspects of the Water & Wastewater section. As a member of this team, the Project Manager

(SCADA Operational Technologies) is required to openly communicate plans and strategies to overcome system-specific problems to mitigate potential impacts to other systems.

The Project Manager (SCADA Operational Technologies) will work closely with Plant Operations to ensure that the SCADA system meets the operational requirements in terms of hardware, software, cybersecurity. Duties to be performed include:

- To assist with the ongoing development, implementation and maintenance of the SCADA/OT standard, including security policies and procedures. These standards need to be maintained and documented and must be enforced upon all parties that perform work on the system.
- Defines and develops risk analysis scenarios and methods for auditing risk pertaining to climate change, equipment and network failure, including cybersecurity threats. Create response procedures in collaboration with PMATS and Operations staff.
- Maintain SCADA/OT systems, including monitoring of security logs, alarm logs, event logs
- Maintain SCADA/OT systems including graphics, tagging, database configuration, reporting and programming for all City facilities.
- Assists in developing, configuring, installing, and troubleshooting network systems to ensure SCADA/OT standards and operational requirements are met.
- Create and maintain a system to manage backups for all programmable field and network devices. Manage a central inventory of back-ups, including software version, code revision, date, etc.
- Review, in detail, SCADA/OT system programming performed internally and externally by contractors or consultants for compliance with City's standards and provided direction when necessary.
- Participate in SCADA/OT FAT (Factory acceptance tests) and SCADA/OT SAT (Site acceptance tests) as required.
- Provide SCADA/OT development, implementation and integration for all capital/operational upgrades at City facilities.
- To direct and assist Consultant Engineers in the preparation of contract specifications including, networking, electrical, instrumentation, control, start-up, and commissioning.
- To review and approve all related PAC, networked equipment, computer hardware specifications, equipment specifications/control and schematic drawings.
- To perform and carry out routine maintenance and troubleshooting of SCADA system hardware and software (PACs, I/O cards, field controllers, view nodes, SCADA nodes, database servers, networked equipment and various vendor packages) for the division and Public Works.
- The Project Manager (SCADA Operational Technologies) will be responsible for providing emergency response services for monitoring, control, data or equipment failures.
- Coordinate closely with operations and other maintenance trades to perform field/site investigations supporting troubleshooting efforts to resolve potential equipment or network failure and/or process control-related operational issues

Perform other duties as assigned which are directly related to the major responsibilities of the position.

Provide leadership, technical advice and direction to staff within the section. Promote teamwork and integration between internal and external parties participating in cross functional and SCADA/OT maintenance and cybersecurity initiatives.

Ensure that employees are provided with and use the appropriate equipment, material and/or procedures required to perform the assigned duties. Ensure that all employees perform work in accordance with applicable Health and Safety legislation and all City of Hamilton corporate and departmental policies and procedures. Ensure that appropriate action is recommended for those employees who do not work in compliance with legislation, policies and procedures.

## **QUALIFICATIONS**

**JOB DESCR ID 5411**

1. Must be able to demonstrate a level of expertise and knowledge related to the duties above including contract preparation, tender award, and project administration to manage SCADA implementation projects normally gained through progressive experience in the water/wastewater treatment field, specifically in start-up/commissioning, operating, maintenance and capital contract management.
2. Must have an engineering degree at a recognized University or diploma from a three year Community College course in an accredited Engineering Technology program in Computer, Electrical or Mechanical engineering.
3. Extensive demonstrated knowledge of electrical/mechanical systems that interface with PAC/HMI software is required for effective SCADA deployment and implementation. This requires a broad range as well as depth of knowledge to augment water and wastewater treatment process knowledge.
4. Relevant experience in configuring and programming industrial database servers and industrial field devices using GE iFix, Proficy Historian, Rockwell Automation and Inductive Automation Ignition platforms, along with knowledge of configuring databases using Microsoft SQL Server and other software.
5. Knowledge of configuring/programming networked hardware/devices such as switches, routers, firewalls, specialty communications modules, power monitors, UPSs etc in a hardened industrial/manufacturing application.
- 4 Sound judgment related to the application of automated and network systems in an engineering environment.
- 5 Previous experience developing software applications for data deployment, identifying SCADA Implementation strategies, reviewing operational design and network drawings and ensuring that proposed design meets City's design specifications and standards.
- 6 Previous experience providing project management services including the management of consultants/contractors, recommending and implementing standards for work performed by consultants on operating, maintenance and capital projects.
- 7 Demonstrated ability to support process optimization/improvement initiatives by performing technical analysis against process control parameters/variables in order to determine operational efficiencies, document findings and feedback to appropriate stakeholders.
- 8 Highly developed ability to articulate a vision to lead and inspire others.
- 9 Must possess a valid Class "G" Driver's Licence.

**THIS POSITION REQUIRES A VALID CLASS "G" DRIVER'S LICENCE AND PROOF THEREOF IS REQUIRED AFTER HIRE.**

**THE INCUMBENT SHALL COMPLY WITH ALL HEALTH AND SAFETY POLICIES AND PRACTICES FOR THIS POSITION AND THE WORKPLACE.**

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