CONTROL SYSTEM SUPPORT SPECIALIST

NATURE OF WORK

This is advanced, highly technical work performing a broad range of activities including computer programming, database management and SCADA system design, configuration and maintenance.

Work involves responsibility for the design and implementation of complex process control software and hardware systems used in the support of water production, treatment, transmission and distribution system operations. Work also includes administration of management information systems to provide data for operational/management planning. Work requires analysis of existing and proposed plant processes to determine process algorithms, develop control strategies and evaluate system hardware requirements. Confers with plant staff, management, consultants, vendors and contractors to determine specific needs and control solutions. Collection, computation, and analysis of large volumes of data is required. Work may include project management and contract administration responsibilities. Work requires an understanding of water system processes and engineering principles, and the implementation of control system software strategies for plant process control. Supervision is received from an administrative superior with work being reviewed through conferences, reports and results achieved.

EXAMPLES OF WORK PERFORMED

Manages the SCADA database through point generation and data entry; plans, creates, modifies, troubleshoots and deletes software control strategies to manage plant processes; writes new and edits existing PLC ladder logic software; plans, creates, modifies and deletes control system process graphics, configures control point parameters; manages Windows Server 2012, Windows 10 operating system for proper control system operation.

Ensures scheduled generation of daily, weekly and monthly operation reports; collects, categorizes and analyzes routine and complex data from a variety of sources; writes, edits, and executes SQL server database queries; creates, edits and troubleshoots Hach Water Information Management Solution reports and Excel spreadsheets; verifies operational report content data accuracy and acceptability; reviews existing and identifies new MIS requirements with management.

Troubleshoots SCADA network connection and communication problems; performs software diagnostics with Windows Server 2012, Windows 10 operating system; performs hardware and software maintenance to CPU's, network hardware, servers, workstations, printers, I/O devices, Programmable Logic Controllers and data radio equipment; performs software backup and recovery functions; consults with control system vendors regarding specialized system diagnostic tasks; debugs software to optimize process control strategy performance.

Consults with operations, maintenance, management staff, consulting engineers and system vendors to determine existing/future SCADA system needs and implementation of system solutions; assists with development of annual capital improvement and capital outlay budget; coordinates operational and maintenance activities with plant staff; coordinates data management with administrative LAN personnel; creates and deletes SCADA system user accounts; assigns appropriate level of access rights to system users; provides training and technical assistance for system users.

Ensures timely renewal of SCADA software support and maintenance contracts to maintain continuous software support of SCADA system; contacts software distributors and software companies to obtain new contracts and insurance certificates required by City; reviews and participates in modification of contract terms and conditions with City Law Department.

Prepares technical reports for the evaluation of water system operations.

Performs data analysis including data trending, data summaries and charting of findings for reporting to co-workers, administration, and consulting engineers.

Transfers relevant data from SCADA system to administrative LAN system; maintains reports.

Makes updates to existing drawings and blueprints.

Performs related work as required.

DESIRABLE KNOWLEDGE, ABILITIES AND SKILLS

Considerable knowledge of all relevant system software applications and computer programming languages pertaining to control system operation and maintenance.

Considerable knowledge of distributed control system computer hardware architecture, man-machine interfaces, radio and hardwired data networks and support systems.

Considerable knowledge of principals, methods and techniques of control system strategy development, application and debugging.

Knowledge of all machine operating systems for the hardware platform used (i.e. Windows Server 2012, Windows 10).

Some knowledge of water production, treatment, and distribution physical processes.

Some knowledge of plant engineering fundamentals.

Ability to perform mathematical calculations and interpretations of data.

Ability to analyze problems or objectives and implement solutions.

Ability to coordinate personnel for plant system testing and problem resolution.

Ability to use technical manuals, and other documentation/resources relating to software applications, hardware configuration and plant equipment operation.

Ability to exhibit independent judgment and initiative in analyzing system problems and making sound recommendations and/or implementing solutions.

Ability to communicate effectively both orally and in writing.

Ability to establish and maintain effective working relationships with co-workers, contractors, and consultants.

MINIMUM QUALIFICATIONS

Associate's Degree with major coursework in electronics, computer science or related field and two years of experience in water, wastewater or electrical plant operations or process control systems; or any equivalent combination of training and experience that provides the desirable knowledge, abilities, and skills.

NECESSARY SPECIAL REQUIREMENT

Possession of a valid driver's license when operating a vehicle is necessary for the satisfactory performance of assigned duties.

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