MAJOR FUNCTION

This is a highly advanced and very responsible professional and technical power systems control and advanced applications engineering work in the design, specification, and management of computer hardware and software support for the City's power management and control systems. Work involves providing and maintaining computer hardware and software support for the City's power management computer system; writing, editing compiling, and networking various computer language programs for the power management system and its associated peripheral control systems; and planning and evaluating the hardware and software additions necessary to improve the power management and control system's ability to monitor, analyze, and control an interconnected power system. Work is performed under the general direction of the Engineering Operations Manager – System Operations Technical Support with considerable independence, initiative, and professional discretion in discharging responsibilities. An incumbent is considered to be a subject matter expert in the assigned area and is responsible for highly technical engineering work or administrative work such as complex design engineering, safety engineering services, complex engineering studies and analysis, training support, project management, quality assurance, budgeting, purchasing, operation/maintenance of electric utility facilities or systems. Work is performed under the general direction of an administrative superior, and it is reviewed through observations, conferences, reports, and by results obtained. The work is reviewed through conferences, reports, and by results obtained.

ESSENTIAL AND OTHER IMPORTANT JOB DUTIES

Essential Duties

Provides System Control Center Operations technical hardware and software support for the power management and control system. Programs modifications and additions to the power management system and its peripheral control systems using various computer languages. Ensures compliance with applicable North American Electric Reliability Corporation (NERC) reliability standards. Acts in the capacity of subject matter expert for assigned NERC reliability standards. Plans, evaluates, and administers implementation of all hardware and software improvements to the power management and its associated peripheral controls systems in order to enhance the electric and control system. Evaluates, proposes, and coordinates installation of electrical, electronic monitoring and communication equipment needed by the power management and control system and its associated peripheral control systems. Trains System Control Operations and supervisory staff in the use of Supervisory Control and Data Acquisition/Automatic Generation Control (SCADA/AGC), advanced applications programs and power management peripheral control systems. Provides direction in interpreting results of complex state estimation, load flow, contingency analysis, optimal power flow, unit commitment, power plant maintenance, production simulation and other advanced application programs for System Control and Department staff. Evaluates, plans, programs, and implements improvements to software and hardware, which provide system operators with effective man-machine interface to monitor and control the electric system. Evaluates, plans, proposes, and manages all projects associated with power system generation, interchange, load control, demand side management, power system data exchange, geographical information system, gas monitoring and control, emissions monitoring/environmental dispatch, energy source control and fuels dispatch as they pertain to the total power management and control. Performs other duties as required.

ENERGY SUPPLY: This position would be dedicated to enhancing, documenting, and upholding our cyber security and physical security measures for power plants, with a focus on risk management and compliance. This role involves close collaboration with Power Management and Control Engineers at the Electric Control Center, power plant staff, and vendors associated with the power plants. The main responsibilities include equipment inventory, system, and documentation updates, organizing and conducting trainings for plant staff on cyber and physical security, and serving as the primary contact for the City's T&I Department and vendors responsible for plant electronics and communications

systems. This position would fulfill the role of a Subject Matter Expert (SME) during NERC/SERC and related audits, specifically focusing on cyber and physical security at power plants.

Responsible for plant engineering support and oversight of assigned plant personnel. Coordinates with and supports power plant operations and maintenance staff to ensure safe and reliable operations. Provides oversight and direction to third-party contractors during outage events. Provides technical support during emergencies. Directs in-house development of plans, and specifications for equipment repair, replacement, inspection, and system modifications. Coordinates the activities of consulting engineering firms. Reviews proposals, plans and specifications developed by consulting engineers. Develops and manages vendor quality assurance programs. Reviews, analyzes, and recommends operating and capital budgets and other budget requirements. Assists operational and maintenance personnel. Coordinates the preparation of various regulatory reports. Reviews specifications and drawings. Prepares specification for purchase of materials, equipment, and capital improvement projects. Utilizes plant computer for performing project cost comparisons and analysis of alternatives. Prepares and presents feasibility reports, compiles data, and participates in various committees and groups. Acts as the project manager on assigned maintenance and capital projects, supervising contract and city employees assigned to the project; ensuring work is completed according to specifications; ensuring work is completed on schedule; and administering project budget and expenditures.

Other Important Duties

Serves as lead in support-engineering group. Completes special projects as assigned. Keeps abreast of general and job specific developments in area of responsibility. Participates in coordination activities, joint studies, and contract negotiations with other utilities. May act in the absence of their respective Assistant General Manager or Plant Manager. Performs other work as required.

DESIRABLE QUALIFICATIONS

Knowledge, Abilities and Skills

Considerable knowledge of electric utility power system operations, control and Supervisory Control and Data Acquisition/Automatic Generation Control/Energy Management System (SCADA/AGC/EMS) Systems, online advanced applications, programs, databases, and programming. Considerable knowledge of various computer languages. Thorough knowledge of electric utility power systems, generation, transmission, and distribution. Thorough knowledge of NERC reliability standards and cyber protection schemes. Knowledge of applicable cyber security applications and techniques. Ability to communicate results of complex power system on-line advanced applications and results of SCADA/AGC controls to power system operators and supervisory staff. Ability to plan, implement, manage, and improve electric and power control systems. Ability to communicate clearly and concisely orally and in writing. Skill in the use of microcomputers, networking systems, communications systems and the programs and applications necessary for successful job performance.

Minimum Training and Experience

Possession of a bachelor’s degree in electrical or electronic engineering, computer science or a related field and six years of professional work experience that includes electric utility power system controls or related networking/IT operations; or an equivalent combination of education and experience.

Necessary Special Requirements:

A valid class E State driver’s license is required at the time of appointment.

Individuals in this classification are considered essential during emergency and storm situations and must be able to work 16 hours per day for extended periods of time and may be required to be away from their family.

Individuals in this classification must be available to serve on-call and are subject to having to work outside of their assigned shift/schedule to meet operational needs.

Employees in this classification that are required to have unescorted access to the Electric Control Center will be required to complete a personnel risk assessment consisting of an identity verification and seven-year criminal history screening (minimum) and maintain satisfactory clearance for continued employment.

Employees assigned to the Purdom or Hopkins Power Plants must be medically certified to wear a respirator and pass a respirator fit test prior to employment.

Employees assigned to the Purdom Power Plant, or who may be occasionally required to have unescorted access to the Port Facility portion of the Purdom Power Plant, (as determined by the General Manager-Electric and/or the director of such employee's department), must obtain Transportation Workers Identification Credentials (TWIC) within 90-days of employment, and must maintain such credentials throughout his/her period of employment in that capacity, as a condition of continued employment.

Employees in this classification are considered essential during emergency and storm situations and must be able to work 16 hours per day for extended periods of time and may be required to be away from their family.

Employees in this classification must be able to distinguish between red and green.

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