JOB DESCRIPTION

Job Title: Protection and Control Systems Engineer Position Number: 95-05

Incumbent: Vacant Effective Date: August 2013

Employment Status: Permanent Bargaining Unit: ____ Yes __X__ No

Supervisor's Title: Supervisor, Electrical Engineering Department: Engineering Services

Subordinate Positions: May provide technical project oversight and supervision to trades staff and external contractors and/or consultants.

SUMMARY

Under the supervision of the Supervisor Electrical Engineer, the Protection and Control (P&C) systems Engineer will develop and implement a Protection and Control Program including but not limited to the following: protection philosophies, asset registers, maintenance tasks and frequencies, procedures, logic descriptions, etc. The P&C systems engineer will also conduct systems protection studies and will be extensively involved in project design and commissioning. In addition, the incumbent will conduct power outage investigations to ensure the electrical system protection operates correctly, proposing, directing, and implementing corrective measures as required.

Prepares detailed engineering designs; prepares construction contract document(s); evaluates bids; is responsible for the construction management and on-site inspections of electric utility projects; and performs engineering assignments required in connection with a wide range of electric utility activities. The incumbent is responsible from concept through design, construction and closeout of the project; cost estimates; prepares written reports for electric utility maintenance and construction programs associated with various projects and facilities.

DESCRIPTION

1. Adheres to the Corporation's high safety standards by following approved safe working plans and worker administered and operator administered protection plans.

2. Performs project management duties involving engineering design, bid evaluation; contract administration; project scheduling; coordination; quality control; commissioning and field decisions and supervision to insure projects are completed within the stipulated time and allocated budget.

3. Performs electrical engineering assignments in all aspects of power generation and transmission engineering including additions, upgrading or maintenance of protective relaying, instrumentation and control systems.

4. Performs electrical engineering services in all aspects of distribution and transmission engineering including foundations, structures, insulators, and conductors.

5. Provides guidance and procedural consistency to the full life cycle of protection and control systems, including development, commissioning, start up, operations, and turnaround / maintenance activities:
   - Interprets and advises on technically complex issues for control and protection systems;
   - Identifies reliability issues with the existing protection and control systems, and provides recommendations for improvements;
   - Evaluates and selects protection control systems, data collection hierarchy, and networking solutions for new projects;
   - Identifies requirement for PLC and relay upgrades and develop plans for implementation; and
   - Keeps informed of new and emerging instrumentation technologies relating to systems protection and control in an electrical utility.

6. Performs electrical engineering services in matters involving communications systems including voice systems, the use of fiber optics, communications in power line carriers (PLCs) and modems, and remote monitoring systems involving RTUs and SCADA.

7. Prepares plans, technical specifications, and cost estimates for assigned projects requiring electrical engineering capability.

8. Designs and prepares plans and specifications for capital improvement projects, such as electrical substations, electric transmission/distribution lines, power generating plants and civil engineering improvements or modifications at facilities.

9. Provides guidance and work supervision to trades people as well as outside contractors and/or consultants as required, during normal and emergency situations.

10. Works with and provides guidance for the utilities' customers for the efficient use of electric energy, in establishing utilities service requirements, fault current protection, load management and demand control, power factor correction, and systems safety and protection schemes.

11. Assists in the development of capital maintenance/upgrading programs for medium voltage distribution systems, and for high voltage transmission lines.

12. Assists in the preparation of electrical project budgets, short and long range plans for electrical equipment and facilities replacement, retirement, additions, and life extensions.

13. Reviews and monitors the electrical system by completing outage investigations, system changes/upgrades or new customer additions to determine and implement the necessary measures to maintain the electrical system reliability and stability.

14. Other related duties.

WORKING CONDITIONS

- The majority of the work is performed in a normal office environment with exposure to outdoor weather, hot, noisy, or cold conditions when working in the field.

- Must maintain the confidentiality of all corporate information.
- Adheres to all corporate policies, procedures and guidelines.
- Travel is required.

KNOWLEDGE, SKILLS, AND ABILITIES

- Requires a degree in electrical engineering and must be eligible for registration as a Professional Engineer or Engineer In Training in the Yukon with extensive experience with control systems in an electrical utility.
- Knowledge of electrical theory, design parameters and applicable codes and regulations as applied to electrical utility distribution, transmission, generation, and/or telecommunications facilities.
- Knowledge of electrical system protection, control and stability engineering.
- Knowledge of major utility operations and engineering.
- Ability to work independently on engineering projects.
- Ability to direct, evaluate, and elicit the cooperation of others.
- Ability to compose clear and accurate technical reports, communicate with others and to assimilate and understand information in a manner consistent with the essential job functions; ability to make effective oral presentations; using state-of-the-art technologies.
- Ability to negotiate effectively with other departments and outside agents and to understand and verbalize contract issues both in writing and orally.
- Ability to perform as a project manager for electric utility projects.
- Ability to create drawings and write specifications, prepare cost estimates, prepare construction contracts and request for proposals.
- Ability to maintain physical condition appropriate to the performance of assigned duties.
- Ability to make sound decisions in a manner consistent with the essential job functions
- Must be self motivated and versatile, and thrive on a variety of work.
- A valid class 5 driver’s license.
- A valid First Aid certificate

Core Competencies
Protection and Control Systems Engineer

I. Dealing with People

Competencies required on a "routine" basis:

- Managing Performance

Competencies required on a "somewhat" basis:

- Fostering Teamwork
- Managing Change

II. Communication and Influencing

Competencies required on a "consistent" basis:

- Attention to communication

Competencies required on a "routine" basis:

- Oral communication
- Written communication
- Influencing others
- Building collaborative relationships

Competencies required on a "somewhat" basis:

- Persuasive communication
- Interpersonal awareness
- Customer orientation

III. Presenting and Solving Problems

Competencies required on a "consistent" basis:

- Analytical thinking
- Technical expertise

Competencies required on a "routine" basis:

- Diagnostic information gathering
- Forward thinking
- Conceptual thinking

IV. Achieving Results

Competencies required on a "consistent" basis:

- Results orientation
- Thoroughness

Competencies required on a “somewhat” basis:

- Initiative
- Fostering Innovation
- Decisiveness

V. Self-Management

Competencies required on a “routine” basis:

- Self confidence
- Stress management
- Personal credibility

Competencies required on a “somewhat” basis:

- Flexibility