

City and Borough Sitka, Alaska

Class Specification

Class Title	System Engineer – Electric Department
Class Code Number	4080
FLSA Designation	Exempt (Administrative)
Pay Grade and Range	40
Effective Date	September 2015

General Statement of Duties

Engineers, schedules, plans, and manages the technical engineering projects of the electric department; performs related work as required.

Distinguishing Features of the Class

The principal function of an employee in this class is to design or direct the design of electric system projects, prepare project estimates and budgets, perform design review, approval, certification and inspections. The work is performed under the direct supervision of the Electric Utility Director but considerable leeway is granted for the exercise of independent judgment and initiative. In the absence of the Electric Utility Director and employee in this class may temporarily assume full responsibilities for duties of the Electric Utility Director. The principal duties of this class are performed in a general office environment however it may occasionally involve work in an outdoor environment which may involve adverse weather conditions and related hazards in which the employee is subject to potential personal danger.

Examples of Essential Work (Illustrative Only)

- Knowledge of design of electric transmission and distribution facilities including structures for overhead and underground lines providing maintenance and coordination with the existing system;
- Researches construction materials and prepares recommendations regarding those best suited to distribution substations, industrial, commercial and residential electrical operations;
- Performs system planning including electric distribution layouts for subdivisions, specifications of easements, analysis of load charts and substation usage;
- Provides information to City Inspectors as to construction plan specification compliance;
- Provides technical assistance to other municipal departments, citizens and contractors;
- Responds to emergency call outs;
- Capable of supervising switching procedures during power outages or emergencies;
- Able to read, understand, document and verify one-line diagrams and P&ID's.
- Able to develop Operating Procedures, Off Normal Operating Procedures, and Clearance Procedures.
- Research and develop existing data to make recommendations for long-range planning;

- Performs engineering and design modification to existing transmission and distribution system components;
- Updates, revises and reviews drawings and maps;
- Prepares detailed construction and procurement contracts including the specifications, insurance requirements, warranty requirements, and other contract details;
- Establishes standards and specifications and evaluates material used in the transmission and distribution system;
- Documents equipment used in the system;
- Prepares applications for and secures required Army Corps of Engineer, Department of Transportation and other state and federal permits;
- Prepares documents in compliance with FERC dam safety and inspections
- Prepares budget and monitors expenditures for capital projects;
- Prepares various technical reports regarding the operation of the distribution system, long range engineering studies and negotiating or liaison work;
- Coordinates with other City departments, utility companies, consulting engineers, architects, contractors and commercial and industrial customers to maximize over-all City efficiency and effectiveness;
- Coordinates OSHA, EPA and insurance requirements governing new system equipment;
- Provides needed information and demonstrations concerning how to perform certain work tasks to new employees in the same or similar class of positions;
- Keeps immediate supervisor and designated others fully and accurately informed concerning work progress, including present and potential work problems and suggestions for new or improved ways of addressing such problems;
- Attends meetings, conferences, workshops and training sessions and reviews publications and audio-visual materials to become and remain current on the principles, practices and new developments in assigned work areas;
- The nature of the work performed requires that an employee in this class establish and maintain effective working relationships with other Department and City employees, utility companies, consulting engineers, architects, contractors and the public.
- Communicates and coordinates regularly with appropriate others to maximize the effectiveness and efficiency of interdepartmental operations and activities;
- Performs other related duties as assigned.

Required Knowledge, Skills and Abilities

- Comprehensive knowledge of the overall electrical system and its operations;
- Thorough knowledge of the switching procedures to safely restore power;
- Thorough knowledge of the theory, principles and practices of electrical distribution and transmission;
- Thorough knowledge of the construction, operation, uses, materials, methods and equipment used in the operation, installation, maintenance and repair of electrical distribution and transmission;
- Thorough knowledge of the occupational hazards of working with high and low voltage electrical equipment and necessary safety precautions;
- Thorough knowledge of computer spread sheet and word processing, database applications currently in use in the department;
- Thorough knowledge of current principles and practices of Electric Distribution engineering;
- Good knowledge of recent developments and current literature in the field of electric generation and transmission;
- Ability to organize and present complex data;
- Skill in the use of drafting instruments and computers and the ability to instruct others in their use;
- Ability to read and interpret complex electrical diagrams and blueprints;
- Ability to analyze complex problems and develop solutions including the ability make difficult engineering computations quickly and accurately;
- Ability to prepare complex technical reports;
- Ability to perform emergency call out services;

- Ability to utilize computers for the purpose of designing new facilities and to computerize existing records and drawings.
- Ability to coordinate project work;
- Ability to communicate well with others, both orally and in writing, using both technical and non-technical language;
- Ability to understand and follow oral and/or written policies, procedures and instructions;
- Ability to use logical and creative thought processes to develop solutions according to written specifications and/or oral instructions;
- Ability to perform a wide variety of duties and responsibilities with accuracy and speed under the pressure of time-sensitive deadlines;
- Ability and willingness to quickly learn and put to use new skills and knowledge brought about by rapidly changing information and/or technology;
- Integrity, ingenuity and inventiveness in the performance of assigned tasks.
- Willingness to work outside in inclement weather

Acceptable Experience and Training

- Graduation from an accredited college or university with a Bachelor's Degree in Electrical or Mechanical Engineering; and
- Considerable experience in the design of overhead and underground transmission and distribution systems and hydro and diesel generation; or
- Any equivalent combination of experience, education and training which provides the knowledge, skills and abilities necessary to perform the work.

Required Special Qualifications

- Possession of a driver's license issued by the State of Alaska or ability to obtain one.;
- Possession of a license as a Professional Engineer issued by the state of Alaska or the ability to obtain one;
- Possession of a First Aid and CPR Certification [able to achieve certification within 6 months].

Essential Physical Abilities

- Sufficient clarity of speech and hearing which permits the employee to communicate well with other City Department and Division Heads, consulting engineers, architects, contractors, employees and the general public;
- Sufficient vision or other powers of observation, with or without correction, which permits the employee to produce and review a wide variety of reports and related materials and to perform skilled engineering work by manual and computer drafting;
- Sufficient manual dexterity with or without reasonable accommodation, which permits the employee to operate a keyboard and produce hand-written materials and notations;
- Sufficient personal mobility and physical reflexes, with or without reasonable accommodation, which permits the employee to visit and inspect other City and fieldwork locations including properties with rough terrain.

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