CLASS SPECIFICATION
Communications Engineer

FLSA Status: Exempt
Union Representation: City of Portland Professional Employees Association (COPPEA)

GENERAL PURPOSE

Under general supervision, performs a wide variety of professional communications engineering duties in the research, planning, design, installation, modification, testing, technical support and maintenance of a variety of complex and state-of-the-art voice, cable carrier, microwave, radio and data communications systems, networks, equipment, plant and facilities; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

Communications Engineer is distinguished by requiring journey-level professional communications engineering knowledge. As project engineer, employees perform duties that are moderately complex, requiring experience and communications engineering skill. This class is distinguished from Senior Communications Engineer in that the latter requires more advanced communications engineering know-how and has lead and administrative responsibilities.

ESSENTIAL DUTIES AND RESPONSIBILITIES

Any one position in this class may not perform all the duties listed below, nor do the listed examples of duties include all similar and related duties that may be assigned to this class.

1. Performs professional communications engineering duties in the planning, development, design, acquisition, modification, implementation, support and/or maintenance of data networks (LAN/ WAN, Internet, intranet and client/server e-mail), radio systems, voice mail systems, paging systems, alarm systems, microwave systems, fiber optic and metallic cable systems, and other systems and facilities used to move information between locations, either in the form of voice communications such as with radio or cellular telephone and data communications involving digital transmission between computers and computer terminals.

2. Performs journey-level professional communications engineering duties associated with the design, development, acquisition and implementation of large-scale LAN/WAN-based data network installations, involving such elements as power supply, physical facilities and lay out design, design of electrical/communications closets, standards for media and conduit, band width and transmission protocol specifications and related requirements.

3. Performs professional communications engineering assignments in the development, acquisition, implementation, support and/or the maintenance and repair of emergency and non-emergency voice and data radio systems and facilities, such as the City's multi-site, multi-channel 800 MHz Simulcast Trunked Radio Systems, mobile data radio systems, Emergency Dispatch Communications Network systems, microwave transmission systems, and other large, state-of-the-art telecommunications systems.

4. Confers with and advises voice and data communications system users to enable them to understand their current and future needs and requirements; participates in studies to evaluate alternative systems to fill specific user needs and requirements; defines operating requirements for voice and data communication systems; relates user requirements to current City policies and priorities, systems capabilities, available technology and services, operating practices and procedures, terms/conditions of systems and service contracts, equipment and staffing requirements; participates in the preparation of cost and service comparisons for alternate communication systems and equipment; monitors system development and installation, both by City staff and contractors, to ensure the quality and efficiency of equipment and operating systems; critiques system performance and consults with software and communications specialists to ensure the kinds and levels of service specified in communication systems requirements.

5. Participates in the development of short- and long-range plans and programs for the efficient utilization of existing communications and telemetry systems; develops specifications and planning documentation to translate approved communications requirements into funded projects.

6. Provides technical advice, assistance and work oversight to lower-level technical staff.

7. Conducts research and prepares special studies and reports; develops recommendations to improve the operations of communications systems, equipment and facilities; coordinates activities with other bureaus and outside agencies/companies; forecasts users' current and future communications systems requirements, and researches and monitors developments in techniques, equipment, supplies and material used in voice and data communication systems.

MINIMUM QUALIFICATIONS

Knowledge of:

1. Principals, theories, concepts, methods, techniques, operational requirements, standards, tools, materials and equipment used in the development, design, construction, installation, troubleshooting, maintenance and repair of all types of voice and data communication systems, equipment and facilities.

2. Operational and performance characteristics of communications equipment, automated control and network management systems, transmission media, and the relationships among component parts of voice and data communication systems.

3. Principles and theories of electricity, electronics and computer hardware design as they relate to the design, operation, installation and maintenance of voice and data communications systems and facilities.

4. Federal, state and local rules, regulations and guidelines pertaining to the development, construction, installation and operation of all types of voice and data communication systems.

Ability to:

1. Understand, evaluate and translate the needs of communications users into system requirements; relate user requirements to existing technology, policies and priorities, available technology and services, operating practices and procedures, equipment and staffing requirements, costs and funding, and other supporting services required.
2. Prepare clear and concise records, reports, correspondence and other written materials.
3. Exercise independent judgment and initiative within policy guidelines.
4. Establish and maintain effective relationships with those encountered in the course of the work, including public utilities, other agencies and businesses.

Training and Experience:

A typical way of obtaining the knowledge, skills and abilities outlined above is either graduation from a four-year college or university with a degree in electrical engineering, computer engineering, electronics or a related field, or equivalent military training in the above subjects; and at least four years of progressively responsible experience as a communications engineer in a large, communications-intensive organization; or an equivalent combination of training and experience.

Licenses; Certificates; Special Requirements:

A valid state driver's license.

PHYSICAL AND MENTAL DEMANDS

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depends, in part, on the specific requirements for the job, the limitations related to disability and the ability of the hiring bureau to accommodate the limitation.

Class History:

Adopted: 07-01-02

Class created as a result of Nonrepresented Classification & Compensation Study, 2000-2002. This class is composed of positions from the following classes:

3255 COMMUNICATIONS ENGINEER Adopted: 07-20-76; Revised: 07-01-92

Revised:

June 2009 - Change Job Class number from 7685 to 30000700, due to system change.

March 14, 2011 - Removed from Deep Class Series

October 28, 2011 – Changed representation to COPPEA