CLASS TITLE: Electrical Engineer V

CHARACTERISTICS OF THE CLASS: Under general supervision, the class supervises and functions as a project manager for the design, installation and maintenance of large scale, complex electrical systems including street lights, traffic signals, transit lines, fire alarms, bridges and electrical equipment; and performs related duties as required.

ESSENTIAL DUTIES: Assigns projects to staff and monitors and evaluates their performance ensuring projects are completed according to contract and within budget; confers with management to determine project scope and objectives based on budget and project plans prepared by staff and consultant engineering firms; supervises the conduct of field surveys and engineering studies to identify existing utilities, systems and equipment and to identify conditions that may impact the scope of proposed projects; prepares contract documents including plans, specifications and cost estimates for large scale electrical engineering projects that will be performed by contractors; reviews design plans and contract documents, cost estimates and engineering calculations submitted by consultant engineering firms to ensure compliance with established design criteria, project scope and budget specifications and makes or requests changes as needed; supervises the preparation of complex calculations to determine electrical power distribution, luminance and voltage levels; determines equipment replacement and maintenance schedules based on inspections by subordinate staff or consultants; interprets plans and specifications to contractors; supervises subordinate engineers and technicians monitoring electrical construction and equipment installation projects; supervises the testing and evaluation of newly installed equipment and systems; monitors work in progress and determines the appropriateness of engineering changes, contract amendments and related costs, and confers with contractors to review and approve plan changes and contract modifications; approves partial and final payments to contractors ensuring payment requests reflect completed work according to contract specifications; supervises or personally analyzes and resolves complex electrical engineering design and installation problems; provides professional electrical engineering support and advice on joint projects to other City, state and private agencies; represents the department to community groups and other agencies; prepares project status and cost reports for management.

RELATED DUTIES: Prepares grant applications to secure project funding; consults with other departments and agencies to coordinate electrical engineering work on various infrastructure projects; assists in training and providing guidance to lower level staff; researches new materials and techniques for use in installing, maintaining and repairing electrical systems and equipment.
CLASS TITLE: **Electrical Engineer V (Cont’d)**

**MINIMUM QUALIFICATIONS:**

**Training and Experience.** Graduation from an accredited college or university with a Bachelor’s degree in Electrical Engineering or a directly related field of engineering supplemented by four years of progressively responsible electrical engineering experience including one year in a supervisory capacity, or an equivalent combination of training and experience, provided the minimum degree requirement is met. Registration as a Professional Engineer (R.P.E.) in the State of Illinois is required.

**Knowledge, Abilities and Skill.** Considerable knowledge of modern principles and practices of electrical engineering. Considerable knowledge of various electrical conduit designs. Considerable knowledge of advanced mathematical principles. Considerable knowledge of voltage and applicable safety codes and ordinances. Good knowledge of infrastructure systems. Considerable knowledge of contract modification procedures. Some knowledge of supervisory and management theory and practices.

Ability to assign and supervise the work of subordinate personnel. Ability to prepare clear and concise reports. Ability to analyze and resolve complex electrical engineering problems. Ability to meet and consult with engineers, contractors and the public.

Considerable skill in the application of modern principles and practices of electrical engineering. Considerable skill in advanced technical math. Good skill in preparing specifications and cost estimates for electrical engineering projects. Considerable analytical skills. Good oral and written communication skills. Some supervisory skills.

**Physical Requirements.** Ability to access work sites during various stages of construction or repair.

**Working Conditions.** Inside: General office environment. Outside: Occasional exposure to inclement weather and extreme temperatures.

**Equipment.** Field surveying equipment. Standard office equipment including personal computers.

**NOTE:** While the list of essential duties is intended to be as inclusive as possible, there may be other duties which are essential to particular positions within the class.
May, 2002
City of Chicago
Department of Personnel