

CLASS TITLE: **Filtration Engineer IV**

CHARACTERISTICS OF THE CLASS: Under general supervision, the class performs and provides oversight in the conduct of professional engineering work in connection with the operation, instrumentation and maintenance of water purification plant equipment and facilities; and performs related duties as required.

ESSENTIAL DUTIES: Supervises the monitoring of purification plant equipment and processes ensuring proper pumpage rates and chemical dosages are used to maintain water quality standards; investigates equipment breakdowns and makes recommendations to prevent their recurrence; adjusts pumpage rates and chemical dosages to maintain water quality standards; evaluates laboratory reports on the analyses of water samples and makes changes to maintain specific water purification levels; ensures calculations made for actual dosage rates of water purification chemicals comply with City and other governmental standards; supervises the repair and replacement of malfunctioning instruments and controls on purification equipment; participates in developing specifications for new equipment purchases; orders and maintains chemical inventories; participates in the installation and testing of new and refurbished equipment; researches water treatment processes to keep abreast of changes and trends in new equipment and chemicals; recommends improvements and modifications to existing chemical control processes; calibrates recording, regulating and treatment devices on purification equipment; completes daily control logs detailing plant activity, treatment changes, equipment readings and problems; prepares reports on plant operations and water quality levels for management to use in improving operational efficiencies; participates in the planning and conduct of research projects pertaining to purification engineering.

RELATED DUTIES: Assembles and provides operational reports and other documentation to various regulatory agencies upon request; completes grant applications to secure project funding; assists in training and providing guidance to lower level staff; researches new materials and techniques for use in installing, maintaining and repairing filtration systems and equipment.

MINIMUM QUALIFICATIONS:

Training and Experience. Graduation from an accredited college or university with a Bachelor's degree in Chemical or Civil Engineering or a directly related field of engineering supplemented by two years of progressively responsible filtration engineering experience, or an equivalent combination of training and experience, provided the minimum degree requirement is met.

Code: 5519
Operation and Construction Service
Engineering, Designing and Structural Group
Chemical Engineering Series

CLASS TITLE: **Filtration Engineer IV (Cont'd)**

Knowledge, Abilities and Skill. Good knowledge of modern chemical engineering principles and practices. Good knowledge of filtration system maintenance methods. Good knowledge of water treatment operations. Good knowledge of water purification laws, codes and regulations.

Ability to perform complex engineering calculations. Ability to conduct extensive inspections of filtration equipment. Ability to prepare clear, concise and accurate reports.

Good skill in the application of modern principles and practices of chemical engineering. Good skill in interpreting instrument panel readings and maintaining filtration equipment. Good skill in performing complex calculations. Good skill in preparing specifications and cost estimates for equipment installation and maintenance projects. Good analytical skills. Good oral and written communication skills.

Physical Requirements. Ability to access filtration equipment and instruments on multiple levels.

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

Equipment. Filtration monitoring and measuring instruments. 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