ENVIRONMENTAL ENGINEER II

This is engineering work of a high degree of complexity in the review of plans and specifications, inspections, providing consultation or permitting of systems or facilities in one of the several environmental programs.

Employees may either function in a central office with responsibilities for the review of plans and specifications for highly complex facilities for the purpose of approval to proceed with construction, the issuance of a permit to operate or the provision of consultation on the design and operation of facilities; or in the field with responsibilities for inspections, consultation, the preliminary review of permit applications, or the issuance of permits or permit modifications. Work assignments are generally of a higher level of complexity and are performed more independently than those recognized in the Environmental Engineer I class. More complex assignments are usually lacking in precedents on which to base decisions, are more critical, and are more technically complex as evidenced by a higher number of variables and inter-related considerations. Employees may work in one or several of the following areas: dam safety; mining reclamation; sedimentation; air quality; water quality; water resources; water supply including attainment, treatment and distribution; public facilities such as restaurants, nursing homes and swimming pools; solid waste disposal; or hazardous waste. Both field and office work requires considerable contact with private consulting engineers, facility owners and operators and local governmental officials for the purpose of explaining standards, gaining compliance to standards and providing technical assistance. Work is performed under the general supervision of a higher level engineer and may include other duties as assigned.

I. DIFFICULTY OF WORK:

Variety and Scope - Employees perform one or more of the following functions: plans review, permitting, consultation, inspections, or water resources studies and investigations. Assignments are usually restricted to one or several related facilities or environmental control systems. Employees are generally responsible for the more unique assignments. In addition, employees are often responsible for directing lower level engineers on more complex projects and providing training as required.

Intricacy - Although facilities or systems are related by type, each is custom designed for an individual purpose or to solve an individual problem. Employees in this class are generally assigned the more unique projects which, because of the relative absence of technical precedents, require more research into available literature. Projects at this level are generally more technically complex requiring the analysis of a number of variables and inter-related considerations.

Subject Matter Complexity - Employees must have an understanding of the principles of civil, mechanical or chemical engineering as applied to the design, construction, operation and/or maintenance of facilities or systems in their area of assignment. Depending on the area of assignment, employees may have to have an understanding of water chemistry, air chemistry and/or bacteriology. In addition, employees must have an up-to-date knowledge of new technologies and manufacturing processes related to their area of assignment. Also, employees must have a thorough knowledge of standards and regulations governing the design, construction, operation and/or maintenance of facilities or systems in their area of assignment.

Guidelines - As employees work with the more unique or complex assignments, guidelines or precedents are often sketchy or non-existent. Existing standards and regulations require more interpretation than required of lower level engineers. In some cases, standards or regulations may not exist to guide decision-making.

II. RESPONSIBILITY:

Nature of Instructions - Employees are responsible for setting their own work schedule within general guidelines such as lists of facilities or systems needing inspection, lists of incoming plans and their expected arrival date and timeframes for completion of projects. Instructions are limited to cases where existing standards and regulations are unclear or non-existent.

Nature of Review - Most projects are initiated, undertaken and completed free of technical review. Precedent setting decisions receive a technical review upon completion.

Scope of Decisions - Decisions could impact on owners or operators of facilities or environmental control systems, or members of the general public who reside in the general vicinity of the facility or system. In some cases where decisions result in the establishment of new precedents or revised standards, impacts could be more widespread affecting all similar companies or the public on a more regional or statewide basis.

Consequence of Decisions - Decisions could result in temporary shutdown of a company's operation, added operating expenses, and degradation of the local environment or tainting of water supplies and the subsequent endangering or inconvenience to the local populace. In some cases, decisions could impact the environment or the public on a more widespread basis.

III. INTERPERSONAL COMMUNICATIONS:

Scope of Contacts - Contacts are required with a variety of individuals or organizations such as municipal officials, environmental groups, the owners or operators of facilities or systems, members of the general public and other state employees.

Nature and Purpose - Discussions are held to explain regulations and decisions or to gain compliance to regulations or standards.

IV. OTHER WORK DEMANDS:

Hazards - Employees may be exposed to dangerous and often unknown substances during response to emergencies or the inspection of hazardous waste storage or disposal facilities. In addition, employees may be exposed to moving machinery while inspecting operating facilities or construction sites.

Work Conditions - While performing fieldwork employees are exposed to extreme weather conditions, disagreeable chemicals, and/or noise.

V. RECRUITMENT STANDARDS:

Knowledges, Skills and Abilities - Thorough knowledge of civil, mechanical and/or chemical engineering concepts as applied to assigned work area. Working knowledge of water chemistry, air chemistry, chemistry and/or bacteriology as applied to environmental control work. Considerable knowledge of federal and state standards governing the construction, operation, and/or maintenance of the environmental control systems or facilities in the assigned area of work. Ability to conduct engineering surveys, review and critique plans and specifications and to prepare technical reports and recommendations. Ability to handle with tact, consistency and sound judgement the diversity of public contacts demanded in consultative services and enforcement. Ability to communicate effectively in written and oral form.

Minimum Education and Experience - Graduation from a four-year college or university with a major in civil engineering, environmental engineering, mechanical engineering, chemical engineering, or a related engineering curriculum and two years of engineering experience including one year in an area related to environmental engineering; or an equivalent combination of education and experience.