# ENVIRONMENTAL ENGINEER I

This is engineering work of a moderate degree of complexity in the review of plans and specifications, inspections, providing consultation, engineering study design and implementation, 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 moderately 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. 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 generally restricted to one or several related facilities or environmental control systems.

Intricacy - Although facilities or systems are related by type, each is custom designed for an individual purpose or to solve an individual problem. In performing assignments, employees must seek to understand the situation or problem and determine whether the proposed or existing system or facility is adequate.

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. In addition, 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 - Specific regulations and standards are available governing the design, construction, operation and maintenance of facilities and systems. In the case of new or unusual technologies, they may be difficult to interpret and apply.

## 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. Specific instructions are usually limited to non-standard projects and are given when initial projects are assigned or during progress upon request of the employee.

Nature of Review - Routine projects are usually initiated, undertaken and completed free of technical review. Unusual or highly technical project assignments are accompanied by some instructions and occasional review during progress.

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.

Consequence of Decisions - Decisions could result in temporary shut down of a company's operation, added operating expenses, and degradation of the local environment or tainting of water supplies and subsequence endangering or inconvenience to the local populace.

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 are exposed to dangerous and often unknown substances during response to emergencies or the inspection of hazardous waste storage or disposal facilities. In addition, employees are 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 - Considerable knowledge of civil, mechanical, and/or chemical engineering concepts. General knowledge of chemistry and/or bacteriology as applied to environmental control 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 judgment the diversity of public contacts demanded in consultative services and enforcement. Ability to communicate effectively in written and oral form.

Minimum Training 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; or an equivalent combination of training and experience.