ENVIRONMENTAL ENGINEER 1 3410

GENERAL DESCRIPTION OF CLASS

The ENVIRONMENTAL ENGINEER 1 applies general engineering knowledge and judgment in the review and evaluation of engineering plans and specifications for standard/minor discharge or emission sources, pollution control equipment, waste disposal, sewage, or industrial wasted treatment facilities. The Environmental Engineer 1 drafts permits, conducts site/source inspections, investigates, analyzes, and solves environmental problems using engineering judgment to protect public health and the environment.

DISTINGUISHING FEATURES

This is the first level of a three-level series. It is distinguished from the higher levels by the nature of the work assignments which require knowledge of standard engineering principles and techniques used in a specific program area, by the assignment to minor sources or environmental problems, and by the review of completed work by a senior or registered engineer. Work assignments usually involve conventional types of engineering plans, investigations, surveys, structures, or equipment for which there generally are precedents and established guidelines. The Environmental Engineer 1 may authorize a nonprescribed course of action with concurrence of a senior or registered engineer.

DUTIES AND RESPONSIBILITIES

Allocation of positions to this class will depend on the total work performed which may include one or a combination of the duties or tasks listed below.

1. **Plan Review.** Typical tasks: reviews engineering plans and specifications for standard pollution control equipment or systems by performing engineering calculations and applying engineering principles; writes detailed plan review reports including recommendations for approval, denial, or modification; compares proposed pollution control systems with other existing facilities and equipment to determine if the technology is adequate and that the engineering plan conforms to State and Federal requirements; reviews operational plans for standard/routine industrial pollution treatment systems to determine eligibility for tax credit certification.

2. **Permit Review and Evaluation.** Typical tasks: reviews permit applications and drafts permits for standard/minor air, water, solid, and hazardous waste facilities, systems, discharges, and storage to ensure State and Federal standards will be met; writes detailed permit review reports recommending issuance or denial of permit; evaluates permit applications to determine if operations and practices are consistent with State environmental laws and regulations.

3. **Technical Assistance.** Typical tasks: develops preliminary performance standards for sewage systems and other pollution control treatments and devices; provides engineering expertise in solving standard environmental problems; interprets rules, regulations, laws, and agency guidelines to answer questions/concerns of Department staff, industry, the public, or other governmental agencies on specific program areas; gives technical guidance to engineers and other consultants in preparation of plans and technical reports required by the Department.

4. **Compliance and Inspection.** Typical tasks: conducts field inspections and surveillance of standard/minor treatment facilities and systems to determine conformance to State and Federal

standards for environmental regulation; negotiates compliance schedules for standard/minor sources that are in violation of State pollution laws and regulations; reviews emission/discharge information, production information, and operational data submitted by permitted sources to determine compliance with permit limits and recommends corrective action; provides engineering quality control of equipment used to test for pollution measurement; responds to oil and chemical spills by coordinating on-the-scene clean-up.

RELATIONSHIPS WITH OTHERS

Employees in this class have periodic in-person and telephone contact with the general public and government officials to answer questions related to pollution issues and explain agency rules and regulations; with industry representatives and other professionals to exchange information, gain acceptance of requirements, and cooperation in solving environmental problems; occasional contact with the media in order to represent the agency in matters dealing with control of pollution and environmental education.

SUPERVISION RECEIVED

Employees in this class receive general supervision from an environmental supervisor who reviews work upon completion for technical accuracy and conformance to agency policy. An Environmental Engineer 3 is generally available to answer questions and give direction as needed. Employees in this class use State and Federal rules, regulations, and laws pertaining to environmental standards as guidelines in the completion of their work. Work may be assigned by special project, generated by an agreed upon work plan, or generated from requests of other staff members or the public. The employee is responsible for the organization and timely completion of the work.

KNOWLEDGE, SKILLS, AND ABILITIES (KSA)

General knowledge of the theory, principles, and practices of chemical, civil, mechanical, or other engineering.
General knowledge of principles of mathematics, physics, chemistry, hydraulics, thermodynamics, fluid mechanics, statics, and dynamics.
General knowledge of air, water, hazardous waste, or solid waste pollution, measurement and/or control principles and practices (specific knowledge requirements will be based on individual positions).

Skill in applying engineering principles to solve problems or complete projects.
Skill in writing clear and concise investigative, technical, or narrative reports.
Skill in analyzing data, evaluating facts, and choosing prescribed courses of action.
Skill in communicating orally and in writing with a variety of people to answer questions and explain information or decisions.
Skill in applying tact and diplomacy with others to gain cooperation.

Ability to learn and apply agency policies and procedures and applicable Federal and State laws and regulations to pollution sources.
Ability to testify in administrative hearings or court proceedings.

Some positions in this class may require one or more of the following:

Ability to use computer modeling to analyze study results.
Ability to learn the technology of the source or facility being reviewed or analyzed.
Ability to recognize noncompliance and procedural irregularities.
Ability to plan, schedule, and conduct on-site compliance investigations.
Ability to work in an environment in which materials may be flammable, corrosive, reactive, toxic, or noxious.
Ability to climb, kneel, stoop, and crouch while performing inspections or taking samples.

NOTE: The KNOWLEDGE and SKILLS are required for initial consideration. ABILITIES may be required for initial consideration, at any time during the selection process, or during a trial service period as a final stage of the selection process. Some duties performed by positions in this class may require different KSA's. No attempt is made to describe every KSA required for **all** positions in this class. Additional KSA requirements will be explained on the recruiting announcement.

Adopted 1/90

Revised

Examples of work are typical of duties assigned to this class. No attempt is made to describe every duty performed by all positions in this class.