

Spec. Code: 1333  
Occ. Area: 01  
Work Area: 032  
Prom. Line: none  
Prob. Period: 12 mo.  
Effective Date: 07/29/88

## **CHIEF ENGINEER**

### Function of Job

Under administrative supervision from a designated supervisor, to have immediate charge of and assume responsibility for directing the design and installation of electrical and mechanical systems for new facilities and/or the alterations and remodeling of existing facilities. A Chief Engineer may assign, direct, and evaluate the work of professional mechanical, electrical, and architectural engineers and may also develop, implement, coordinate, or evaluate the installation of electrical and mechanical systems.

### Characteristic Duties and Responsibilities

1. directs the design and preparation of drawings and specifications for mechanical and/or electrical systems for new and existing construction. (Electrical systems include such items as high voltage power distribution systems, public address systems, projection services, elevators and signal and lighting systems.)
  - a) reviews and recommends approval of plans for construction, structural changes, additions, or modifications in electrical and mechanical systems of buildings
  - b) determines methods and materials to be used in the installation of electrical, mechanical, and piping systems
  - c) corrects and analyzes statistical data and prepares recommendations for alterations to or expansion of buildings and equipment to meet the demands of the institution
  - d) reviews structural design on new construction, repairs, and changes in buildings to determine whether physical obstructions or other construction difficulties have been anticipated or whether materials specified are readily available
2. directs the preparation of bid documents and contracts for new construction, remodeling, site work, and maintenance services
  - a) assists in the preparation of recommendations for the selection of engineering and architectural firms for remodeling, minor construction, and utility development programs
  - b) interviews contractors; receives and analyzes bids, including blueprint analysis of proposed changes; provides liaison with contractors, architects, engineers, and material and equipment suppliers

- c) submits bids and recommendations to the administration, basing recommendations on economy and feasibility of bids; attends pre-bid and pre-construction conferences to discuss principal construction features and requirements in terms of methods and equipment
  - d) prepares departmental budget related to installation of electrical and mechanical systems, approves orders for equipment and supplies, as authorized
3. manages work operations involving the installation of electrical, mechanical, and piping systems
- a) analyzes costs and work schedules and sets priorities to expedite operations and repairs; apportions work among engineering staff according to specialized training
  - b) directs engineering personnel in formulating plans, designs, cost estimates, and specifications for construction of electrical and mechanical systems
  - c) directs engineering personnel in computing operating budgets, compiling reports, and conducting special investigations and studies to evaluate efficiency of operating programs
  - d) issues work orders and controls work to keep expenditures within funds available; inspects completed work and authorizes job order closeout
4. assists other divisions in finding solutions to technical engineering problems related to the construction of electrical and/or mechanical systems
- a) inspects installations at all stages to identify existing or potential problems and recommends required changes to designer on a timely basis; also ensures that the installation operations are in compliance with plans and specifications
  - b) observes work site and activity to ensure that required safety standards are being met
5. performs other related duties as assigned

#### MINIMUM ACCEPTABLE QUALIFICATIONS

#### CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

- 1. Bachelor's degree in civil, mechanical, electrical, or architectural engineering
- 2. seven years of experience in civil, mechanical, electrical, or architectural engineering, two of which were in a supervisory capacity

#### PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB

- 1. knowledge of building construction, mechanical and electrical systems, workmanship, and materials
- 2. knowledge of construction practices and techniques
- 3. knowledge of algebra, geometry, and trigonometry

- 4. knowledge of inspection practices and procedures
- 5. knowledge of safety practices in the construction industry
- 6. ability to read and interpret engineering and architectural plans and specifications
- 7. ability to inspect materials, workman ship, and the construction and installation of various systems
- 8. ability to communicate effectively with the contractor, public officials, and agency representatives
- 9. ability to compute construction costs and to negotiate changes to the contract
- 10. ability to organize, assign, and direct the work of others

Chief Engineer ..... Edited