

## **POSITION DESCRIPTION**

### **Mechanical Engineer**

The U.S. Mission in Kuwait is seeking an eligible and qualified applicant for the position of Mechanical Engineer to work in the Corps of Engineer – Kuwait, Camp Arifjan.

#### **BASIC FUNCTION OF THE POSITION:**

- Serves as the Mechanical Engineer with responsibility for supervision and inspection of the installation of mechanical equipment for the US Army Corps of Engineers' (USACE) Middle East District (MED) Kuwait Resident Office. Analyzes plans and specifications for construction feasibility of mechanical phases and adequacy of installation and equipment. Plans day-to-day activities to conform to construction progress and special assignments and confers with other Kuwait Resident Office, TAM, contractor and other involved personnel to coordinate mechanical engineering work, including inspecting and testing. Responsible for developing mechanical designs and coordinating design inputs of the associated engineering disciplines; performing technical reviews of mechanical designs developed by architectural engineering (A-E) firms, and resolving mechanical design related problems arising during construction. Provides mechanical expertise for design projects containing diverse, complex, and/or unconventional mechanical features at a wide range of military facilities within TAM's Area of Responsibility, including but not limited to troop living quarters; dining facilities; medical and dental facilities, including clinics and hospitals; administrative buildings; reserve centers; general and specialized instructional facilities; industrial shop facilities; aircraft shelters; warehouses; recreational facilities (i.e. bowling centers, physical fitness centers, etc.); youth centers; and unique, complex, or one of a kind facilities.

- Reviews schedules for mechanical materials and equipment, making recommendations on expediting and follow up. Must be able to timely complete designs in the most current versions of AutoCAD or Intergraph MicroStation. Makes investigation tests, design analysis and cost estimates to determine feasibility or substantiate desirable changes or proposed solutions to field problems. Recommends acceptance of deviations with appropriate credit to the Government. Develops recommendations, supporting data and sketches in connection with proposed changes. Assists in drafting findings of fact for field changes involving mechanical phases of the contract. Provides detailed inspection assistance in connection with installation of mechanical facilities and equipment. Gives instruction on safe and efficient means of accomplishing the work to improve the standards of workmanship, speed up productions and reduce costs. Assists negotiators in negotiating field changes in connection with mechanical portions of contract revisions; reviews contractors proposals for changes to contract plans. Reviews and analyzes proposed contract changes acquainting supervisors with same and making recommendations. Reviews mechanical features of shop drawings before forwarding to supervisor for approval.

#### **DUTIES INCLUDE:**

Task identification and Data Acquisition – Reviews and analyzes basic project information and requirements. Studies applicable Technical Manuals (TMs), Engineering Regulations (ERs), Corps of Engineer Guide Specifications (CEGS), United Facilities Guide Specifications (UFGS), and applicable industry standards. Participates in pre-design, design review, and other technical conferences or reviews conference memoranda to clarify principal technical features of and identify special conditions. Visits construction sites to observe conditions impacting the design, and to identify solutions to design related technical problems involving architectural features which arise during construction. Compiles and prepares technical, schedule and cost data in draft format for use

by supervisor, Kuwait Resident Engineer, Contracting Officer, Technical Managers, and other District Specialists. Written documents which contain such data may be transmitted to higher headquarters, using agencies or other organizations.

a) Design, Review, Construction Support and Technical- Assignments involve all of the three areas described below, with Construction Support being predominant in time and effort. Assists supervisor with planning, organizing and monitoring the work in the predominantly assigned area. Recommends team strategies on interdisciplinary coordination that results in maintaining control over work progress to ensure timely accomplishment, provides advice and assistance on various work aspects, estimates and reports on expected time of design completions, and reviews completed work on assigned projects for timeliness, accuracy and compliance with requirements.

1) Design – Coordinate with minimal supervision all mechanical aspects of the design with the disciplinary design team assembled to produce a well-integrated design package for assigned projects. As such, insures interdisciplinary coordination, facilitates resolution of conflicts, and serves as primary mechanical contact with the supervisor/Project Manager. Reviews and analyzes initial project information and participates in pre-design and review conferences. Plans and develops the mechanical design aspects for large, complex or unconventional as well as conventional Military Projects assigned; including the associated mechanical schedule and budget.

Personally designs unique, complex and/or novel mechanic and associated features in assigned projects. Plans and develops the mechanic design objectives, balancing functional requirements against technically sound and economical alternatives within the latitudes allowed by governing criteria and regulations, and requirements imposed by associated design disciplines. Provides technical guidance to other Kuwait Resident Office personnel. Plans and develops the mechanical drawings and specifications. Prepares or monitors preparation of mechanical portions of studies, technical calculations and design analyses which support the design submittals. Design submittals include special studies and analyses, and Concept, Early Preliminary, Preliminary, and Final Design packages. Analyzes review comments for rebuttal or incorporation into the design documents.

2) Review - Performs technical reviews of the mechanical aspects of design packages developed by A-E firms; consisting of drawings, specifications and design analysis. Reviews to insure that the A-E has developed the project design in accordance with accepted mechanical principles and standards, established USACE and using agency policies and criteria, established user functional and operational requirements, and for cost effectiveness. Personally reviews unique, complex and/or novel mechanical features in assigned projects to identify problems which could arise during construction. Evaluates and coordinates mechanical design comments received from the using agency and others for technical accuracy, acceptability, consistency and compatibility with Corps policy and criteria, and resolves conflicts and inapplicable comments. Periodically reviews existing mechanical and other related criteria to identify necessary revisions, deletions or amendments to outdated material. Reviews and prepares new criteria and implementation recommendations. Reviews shop drawings and recommends approval or disapproval to Construction Operations Division. Reviews Value Engineering Proposals for sound mechanical practice and conformance with established criteria, and recommends approval or disapproval.

3) Construction Support – Provides technical support to other Kuwait Resident Office and Construction Operations Division personnel in resolving conventional and highly complex mechanical problems prior to, during and after construction. Works with Technical Managers, other design personnel (In-House and A-E's), technical specialists and field personnel in Engineering and Construction Operations Division to facilitate the design/construction interface. Provides responses to technical questions raised by contractors and construction personnel during the advertising period. Analyzes proposed design changes during the advertising period, including cost impact considerations.

As directed by Resident Engineer, initiates, reviews and/or coordinates required and/or requested modifications to contract plans and specifications throughout the construction phase of a project. Coordinates with designers and construction office field personnel to identify and define mechanical design problems, investigates and analyzes pertinent issues (including A-E liability/ responsibility), and develops an overall engineering resolution/recommendation (including a cost estimate).

4) Technical – Provides technical guidance to using services regarding both conventional and unique or complex mechanical problems after construction completion. Participates in periodic and special inspections during construction and/or upon completion of projects. Prepare written report documenting coordination, findings, and recommendations. Coordinates and/or utilizes the services of team members to execute the Construction Support effort, as required. If directed by the Area Engineer, the Mechanical Engineer shall travel to other post or military installations within the area of responsibility or to the Middle East District on a temporary duty basis and perform such duties as may be required in connection with Area Office related matters to resolve professional and technical problems as may be required.