

Serves as a mechanical engineer on the staff of a design organization responsible for planning, and design of new and/or extension, conversion, or modernization of existing buildings or facilities. Assignments involve performance of office and field design duties associated with in house design and mechanical engineering review on project sites with diverse climatic, geographic, and environmental conditions that involve mechanical engineering features such as heating, ventilating, and air conditioning (HVAC) systems; plumbing, compressed gas systems; POL storage and dispersing systems; central heating/cooling plants; mechanical distribution; cyber security industrial control systems; and enhanced commissioning. Applies the latest design and construction techniques to all type structures and buildings.

1. Performs technical design, contract document preparation, review, assessment, and provides guidance, including the resolution of complex design problems, development of Building Information Models (BIM), CADD drawings, specifications, and design analysis, as well as the preparation of appropriate documents for agency officials, client agencies, and contract Architect-Engineer (A-E)/Design-Build (D-B) firms.
2. Conducts, or directs the conduct of, investigations of project site to determine (for new construction) feasibility of proposed project; topography; and essential site configuration; or (for additions or renovations) condition of structure and essential data prior to initiating design. Evaluates data obtained, incorporating relevant features into design consideration and solutions.
3. Prepares statement of mechanical engineering scope of work and detailed man-hour estimates used for negotiating with A-E firms for design services; and all pertinent correspondence, plans, reports, and A/E contract criteria necessary for project completion.
4. Reviews, evaluates, and determines adequacy of shop drawings, samples, certificates of compliance, laboratory analyses, and other submittals and data from contractors covered by Government contracts. Determines compliance or noncompliance for such submittals.
5. Meets with contractors, manufacturers' representatives, and Government agency representatives to establish materials and test, and building commissioning requirements. Reviews contractors' reports to determine adequacy of design. Consults with construction personnel to resolve difficult and complex problems developing during construction and prepares and reviews recommendations for corrective action.
6. Evaluates technical data pertaining to design, materials, equipment, shop drawings, proposals for modifications and additions, and methods of installation submitted by contractors. Reviews for technical feasibility, adequacy, and compliance with specifications and established criteria. Determines if materials and equipment meet contract requirements and recommends approval or rejection of all or parts of the submissions and proposals. Confers with contractors to resolve any problems or conditions.