

Mechanical Engineer C52-129 – FSN-09

13. BASIC FUNCTION OF POSITION

The incumbent serves as the mechanical engineer in the FAC Engineering section and is responsible for operating and maintaining the Building Automation System (BAS) of the Embassy Compound, the HVAC system components, which include residential and commercial systems, chilled water plant with operation control systems, water treatment, chilled water supply system, cooling towers and pumps, and all mechanical systems, which include plumbing, sewage, ductwork, fire sprinkler, pneumatic and hydraulic systems, of the Embassy, ESSA/GPS, and Housing Compounds, and the Alexandria APP building. Develops system maintenance scopes of work, and manages/monitors all maintenance activities. Coordinates and conducts regular meetings with other FAC engineers and technicians on maintenance activities for the HVAC and mechanical systems of all locations.

Performs inspections to assess condition and troubleshoot major mechanical problems of all Government Owned Properties. Develops scopes of work, and supervises system upgrades and replacement as needed. Provides technical advice, supervision, coordination and quality controls for mechanical works performed by FAC maintenance staff. Directly supervised by the Senior Engineer for projects design tasks and construction supervision. Functions independently, under general guidance, within the scope of assignments.

14. MAJOR DUTIES AND RESPONSIBILITIES

Percentage of Time

A. Operation and Maintenance

45%

Responsible for operating and maintaining the Building Automation System (BAS) of the Embassy Compound, working with other engineers in FAC and OBO on installation, maintenance, repair, and improvement of the system. Manages the preventative and routine maintenance programs of the HVAC systems, which include residential and commercial systems, chilled water plant with operation control systems, water treatment, chilled water supply system, cooling towers and pumps, and all mechanical systems, which include plumbing, sewage, ductwork, fire sprinkler, pneumatic and hydraulic systems, of the Embassy, ESSA/GPS, and Housing Compounds, and the Alexandria APP building; prepares the maintenance scopes of work according to manufacturer's operating and maintenance manuals. Schedules, coordinates, and monitors maintenance activities of contractors and in-house staff and performs quality assurance inspections. Inspects and documents services received and completed tasks. Prepares and keeps required logs, records and reports summing up observations, difficulties or irregularities encountered, measures taken, improved conditions, repairs or services needed, special work completed, recommendations, and other matters related to operation and maintenance of all HVAC and mechanical systems.

For all other Government Owned Properties, reviews the preventative maintenance (PM) program database for accuracy and coordinates updates to ensure database is accurate. Ensure that established PM program is effective and adjusts as necessary.

Manages the maintenance library. Maintains records on all major systems including maintenance manuals, manufacturer cut sheets, physical samples, and equipment specifications. Selects the appropriate information to add to this library in conjunction with changes, replacements and upgrades. Reviews and maintains spare parts inventory. Determines which parts should be

warehoused and at what stock level. Considers the long lead time for US shipping and/or security requirements.

B. Inspections and Assessments

20%

Performs inspections on all tradecraft and ancillary equipment. Determines maintenance, repair and replacement requirements for all HVAC systems and equipment and other mechanical building systems. Makes assessments of and troubleshoots mechanical problems of varying degrees of complexity on Government Owned Properties and other Embassy interests as determined by the Facility Manager. Performs random inspections of PM work for completeness and quality. Reports deficiencies to the senior engineer and the area D/FM.

Serves as the Contracting Officer's Technical Representative (COTR) for the mechanical work of contractors during renovation, alteration and upgrade projects. Inspects and supervises work activities, monitors work progress, inspects materials, workmanship, methods, equipment, and safety as performed by the contractors for conformity with contract requirements.

Prepares As-Built Computer Aided Design (CAD) drawings, updating existing drawings as required in connection with mechanical work on maintenance, renovation or alteration projects.

C. Design System Upgrades

15%

Develops designs and specifications for mechanical work on renovation, maintenance and repair projects. Reviews designs developed by engineering firms on modifications, upgrades and new installation efforts as it relates to mechanical systems to ensure compliance with requirements, safety codes, local government regulations, and sound engineering practices.

D. Technical Advice and Supervision

15%

Provides technical advice and supervision to the FAC in-house maintenance staff on mechanical systems operation, maintenance and upgrades, and purchase of tools, special equipment and spare parts required to keep systems in peak operational efficiency and within operating budget limits..

Provides consulting services to the Senior Engineer and the Facility Manager in the identification and solution of HVAC systems problems and develops projects to correct those deficiencies. Participates in developing annual plans for proposed mechanical projects to include justification and cost estimates.

Serves as repository for technical information and knowledge as it relates to mechanical systems and processes. Incumbent shares information by acting as training instructor for HVAC and other technicians.

E. Other Assignments

5%

Performs special assignments in the construction and maintenance area and other related duties as directed by the Senior Engineer and the Facility Manager.

15. DESIRED QUALIFICATIONS

A. Education: A university degree in Mechanical Engineering field is required. A concentration in HVAC studies is preferred.

B. Prior Work Experience: Three to five years experience as a professional engineer in the design and/or maintenance of modern building mechanical systems is required.

C. Post Entry Training: On-the-job training in Embassy procedures and computer software.

D. Language Proficiency: Level IV (fluent) English; Level IV (fluent) Arabic required. [Level III English requirement may be considered acceptable for otherwise exceptional candidates.]

E. Knowledge: Must have thorough knowledge of mechanical engineering theories and practices, and US and local building codes and requirements. Must have thorough knowledge and understanding of design, construction, maintenance procedures, related tools and building materials. Must be able to do system design, feasibility studies, and cost estimates. Must possess a fully developed working knowledge of Auto CAD.

F. Skills and Abilities: Must have a Professional Engineering License. Must be able to troubleshoot mechanical systems. Must be able to work independently. Typical business computer skills such as Microsoft Excel, Microsoft Word, and Outlook are required. Incumbent must possess the skills and ability to read, understand, and interpret technical documents, blueprints, and drawings – computerized or otherwise. Must be able to perform all job activities and duties in a responsible manner so as to avoid the creation of safety or health hazards. Must be able to conform to established safety and health policy and procedures. Must be able to properly utilize appropriate personal protective equipment as required by the job activity. Must report unsafe or hazardous conditions. Must inform supervisor of all accidents, illnesses and injuries.

16. POSITION ELEMENTS

A. Supervision Received: Supervised by the FAC Senior Engineer.

B. Available Guidelines: 15 FAM, Embassy Administrative Procedures, Fire Protection Guide Facilities Maintenance Guide, standard engineering reference works and handbooks, NEC, NFPA, IBC and AIA handbooks, and established professional engineering practices.

C. Exercise of Judgment: Exercises a high degree of initiative and judgment in applying engineering guidelines and principles. Independently judges the feasibility of Washington-based solutions to locally identified engineering problems. Ensures that all job activities and duties are performed in a responsible manner to avoid the creation of safety or health hazards. Uses common sense in determining good safety practices. Conforms to established safety and health policy and procedures. Utilizes appropriate personal protective equipment as required by the job activity. Ensures that the POSHO and other appropriate officials are informed of any accidents, illnesses or injuries that occur on the job and of any unsafe or hazardous conditions.

D. Authority to Make Commitments: Authorized to make commitments on materials, specifications, and designs, as authorized by supervisor.

E. Nature, Level, and Purpose of Contacts: Must be able to work effectively with American personnel and Locally Employed Staff (LES) at all levels. Encouraged to develop and maintain contacts with outside contractors and professional engineering colleagues.

F. Supervision Exercised: Supervises contractors and mechanical trade workers, as required when supervising projects and contracts.

G. Time Required to Perform Full Range of Duties: Twelve months.