

## **General Engineer (Construction Support)**

*Nothing in this job description restricts management's right to assign or reassign duties and responsibilities to this job at any time.*

**DUTIES** Serves in several roles as the General Engineer (Construction Support) in the Construction Department, Office of Engineering, Metropolitan Washington Airports Authority (Airports Authority) in support of, and as focal point for, administrative and technical support in the management of multi-discipline contracts for construction. The primary function is maintaining the financial, scope and schedule statuses in both the Airports Authority's Oracle-based finance system and the Office of Engineering's project control system for construction work under/for the Capital Construction Program (CCP), the Capital Operating and Maintenance Investment Program (COMIP), the Dulles Corridor Capital Improvement Program (CIP) and the Dulles Corridor Repair and Rehabilitation Program (R&R) at Ronald Reagan Washington National Airport (DCA), Washington Dulles International Airport (IAD) and the Dulles Toll Road (DTR).

-- As a principal staff engineering technical advisor within the Construction Department for project controls, prepares project progress reports; reviews reports for adequacy and accuracy for services performed; coordinates with the Budget Department and the Procurement and Contracts Department as well as construction project managers to modify projects (scopes, schedules, budgets) in the Airports Authority's Oracle-based financial system; maintains and updates budget information for projects under the CCP, COMIP, CIP and R&R at DCA, IAD and the DTR; assists with the administration of construction consulting contracts to include processing of financial documents (requisitions, modifications, invoices) and technical documents (estimates, schedules); develops and prepares Department reports on CCP, COMIP, CIP and R&R budgets; develops and prepares project specific reports from the Airports Authority Oracle-based financial system as well as the Office of Engineering's project controls system; administers Department information management resources to include electronic document management and project controls; assists/supports the Department Manager and other staff in maintaining, establishing, improving, and/or revising Airports Authority policies, procedures, and guidelines for construction management by studying systems/programs for safety, quality, scheduling, cost control, progress reporting, and planning.

- Supports the Office of Engineering in developing detailed budget and forecast cost plans and supervises and/or inputs those details in the Airports Authority's Oracle-based finance system (ERP) and the Office of Engineering's project control system,
- Monitors and maintains the accuracy and timeliness of project and contract financial information including budget adjustments, revised forecasts, purchase orders, periodic invoices, contract changes and modifications,
- Assists the Department's construction project managers or representatives in the cost and financial administration of construction contracts (or design-build contracts) including changes, budget and forecasts impacts, and cash flow projections,

- Prepares periodic project and contract cost and schedule reports, charts, or graphs. Provides Construction Department Manager and construction project managers analysis and review of cost/budget expenditures and highlights anticipated cost variances and exceptions,
- Supports the Manager, Project Controls and Management Department (and his/her staff) with the administration of the Construction Department's electronic document control and project control systems,
- Supervises and/or inputs the cost and financial data in Airports Authority's Oracle-based finance system (ERP) and the Construction Department's project control system, and
- Coordinates with Office of Engineering's Construction Department's Project Management Support Services (PMSS) consultant(s) to compile project and contract cost, scope and schedule statuses.

--As assigned, performs special studies, such as analyses to review and help improve systems for construction project scheduling, quality control, cost control, progress reporting, and safety.

-- Business contacts include but are not limited to Department Managers and engineers in the Office of Engineering (as well as supporting consultants/contractors, vendors and construction companies), budget analysts in the Budget Department, and contracting officers in the Department of Procurement and Contracts. Coordinates with the PMSS consultant team under contract to the Airports Authority, with Department construction project managers and with Office of Engineering's Project Controls and Management Department and the project administrator-engineer in the Design Department to obtain and provide information concerning all phases of construction project activities, to compile project and contract cost, scope and schedule statuses, consistent with the contract of record, and to perform related functions.

-- Makes formal presentations to technical and non-technical groups concerning CCP, COMIP, CIP and R&R projects.

-- Drives or uses a sedan or other small vehicle to get to/from/around worksites (landside and airside) as well as meetings in remote locations.

-- Uses a computer or programmed calculator for communications, planning, scheduling, word processing, presentations and spreadsheets.

-- \*Performs other duties as assigned.\*

***Critical features of this job are described under the headings below. They may be subject to change through reasonable accommodation or otherwise.***

## **MINIMUM QUALIFICATIONS**

1. A Bachelors Degree in engineering or architecture, or an equivalent combination of education, experience and training that total 4 years (such as a Bachelors Degree in

construction management or construction science supplemented by substantial undergraduate, or postgraduate, coursework in engineering concepts, principles and practices that equip the individual for success in engineering or architecture, including construction management and such issues as constructability, maintainability and sustainability), **and**

2. Three years of progressively responsible experience in engineering or architecture that include substantive work in the construction phase of civil/structural engineering, with strong emphasis on project controls, that demonstrate the individual is able to satisfactorily perform the range of DUTIES in this job description, are **required**.
  - a. One year of this experience must include specialization in industrial/commercial construction project controls and administration.
  - b. The three years must also include evidence of all KSAs listed below.

## **KNOWLEDGE, SKILLS AND ABILITIES**

Comprehensive professional knowledge of the concepts, principles and practices of engineering, with emphasis on civil (horizontal) and structural (vertical) engineering and engineering project management, to provide technically- and procedurally-knowledgeable project support to construction managers on project control issues, to perform special engineering and project control analyses, to advise on and help revise construction management guidelines for Airports Authority projects, including but not limited to safety, quality, scheduling, cost control and progress reporting, and to perform related functions.

Knowledge of the construction industry; of construction project management practices; of engineering/construction project safety requirements; and of related processes, procedures and standards, altogether, to help ensure that project activities are within program budget and project schedules, are consistent with the contract of record, industry standards and other considerations, and are properly reported in the correct databases.

Knowledge of, or ability to rapidly acquire knowledge of, the Airports Authority's Design Manual; of its specific planning-design-construction continuum; of its procurement and project management processes; of its engineering/architecture project financing/accounting issues (from macro issues to cost code details); of its key supporting processes; of the Oracle and project tracking software in use; and of related matters, altogether, to perform assigned project administration work.

Skill in problem solving to select, organize and logically process relevant information (verbal, numerical or abstract) to solve a problem. This includes ability to recognize subtle aspects of problems, identify relevant information, and make balanced recommendations and decisions. Examples include applying a variety of mathematical concepts to civil/structural and other engineering construction management problems, with emphasis on project controls and administration; reviewing invoices; reconciling discrepancies in databases; identifying threats to

keeping projects on schedule and within budget; and coordinating financial issues.

Skill in oral communication to understand verbal information (including facts, descriptions, ideas, concepts, conflicting assertions and arguments), and to express such information verbally so that others will understand and, concerning some issues, be convinced or persuaded. This includes the ability to encourage effective oral communication by others, such as accountants, auditors and engineering/architecture project managers.

Skill in written communication to understand written information (facts, descriptions, ideas, concepts, conflicting assertions and arguments), draw inferences, form hypotheses and develop logical arguments, and to express such information in writing so that others will understand, and, concerning some issues, be convinced or persuaded. This includes skill in the review of the written work of others, such as engineering/architecture project managers on staff with respect to information they submit regarding project administration.

Interpersonal skills to interact with contacts in a businesslike, customer service-oriented manner.

Skill in using a computer and modern office suite software (such as MS Office) to plan, schedule, communicate (email), word process, research (Internet), etc., and skill in using specialized software, such as ERP software (Oracle) and legacy project tracking software and databases.

**RESPONSIBILITY** Is responsible for managing the financial, scope and schedule statuses of construction projects in both the Airports Authority's Oracle-based finance system and the Office of Engineering's project control system. Performs special studies, such as analyses to review and help improve systems for project scheduling, quality control, cost control, progress reporting, and safety, as assigned, and performs related functions. Impact of the work is realized in accurate project tracking and reporting, and effectiveness of the Construction Department in keeping projects on schedule and within budget.

Reports to the Manager, Construction Department who makes initial assignments in terms of functional responsibilities, overall objectives, priorities and special considerations (technical, political and practical). The incumbent performs work independently, including status analysis, status reporting and recommendations on construction progress and costs. Keeps the supervisor informed of overall progress and important events; resolves routine project controls conflicts that arise with staff directly; refers non-routine problems, with appropriate advice and recommendations, to the supervisor for resolution or guidance. Stays in close contact/communication and coordinates work with others, as required or appropriate. Consults with the supervisor on unusual problems or developments; typically defines problems and offers options for their resolution. Work is expected to be accurate and help keep projects on track, on time and cost effective. Typically, work is reviewed periodically in terms of fulfillment of goals and objectives and effectiveness of advice, as well as quality, quantity, timeliness, customer service and specific PMP goals and measures. Guidelines include but are not limited to the Airports Authority Design Manual, the Oracle (ERP) finance-procurement modules, the Office of Engineering's project control system, individual project schedules and financial information, contract specifications and documents,

technical manuals related to construction, federal funding documents and agreements, regulations; reports; Airports Authority policies/procedures for contracting, budgeting/accounting and similar programmatic areas. Uses judgment to select and apply and, occasionally, to develop recurring or special reports, help develop internal guidelines to accomplish or track work more efficiently, and perform related functions

**EFFORT** Work is primarily sedentary, but includes work in the field on an occasional basis during construction phases. May sit for extended periods when in the office; however, traverses areas of uneven terrain and unfinished construction and moves and positions self to gather data in the field and inspect work on site, all on an incidental basis. Occasionally observes construction in progress. Responds to alarms of backing construction or service vehicles when in the field. Uses computer equipment, a calculator, telephone, radio and other electronic equipment frequently. Regularly reviews drawings, printouts and other documents containing small print, symbols and engineering notations. Transports files, opens and closes file drawers, and performs similar activities. In driving, operates vehicle, using judgment, in consideration of traffic, weather and other factors.

**WORKING CONDITIONS** Works mainly in a temperature controlled office setting; however, occasionally works outdoors at job sites amid roadway construction. While in the field, is subject to adverse weather conditions and dust/grease/dirt. Wears hard hat, safety glasses, ear protection, boots or safety shoes, and other personal protective equipment, as necessary. Follows established safety practices to eliminate, avoid or minimize potential hazards to self, as appropriate to work site and circumstances. May be subject to job demands such as having to achieve tight project schedules within strict budgets and balancing the at-times competing interests of the Airports Authority and other entities.

**OTHER SIGNIFICANT JOB ASPECTS** May be required to occasionally work nights and weekends depending on project management requirements and other factors.