

Job Description for: Engineer II

Jobcode Selection Dt Review Date Job Suffix O/T Class Job Grade

20004050 06/01/2007 03/14/2004 G 2 013

9000 Basic Function

GIVE BRIEF SUMMARY OF THE PRIMARY PURPOSE(S) OF THE JOB.

Performs and directs complex engineering work and technical services within any of the recognized fields of engineering; serves as consultant on engineering projects and studies.

9001 Scope

INDICATE AS APPROPRIATE SIZE, GEOGRAPHIC AREA, PLANT EQUIPMENT THROUGHPUT, ORGANIZATIONS SERVED, FINANCIAL RESPONSIBILITY, AUTHORITY, AND SUPERVISION RECEIVED, WHICH RELATE TO THE JOB.

This position differs from the professional Engineer III in that the incumbent of this position is required to perform with minimum supervision a variety of complex engineering functions such as:
a) **Project and Design Engineering:** This includes the management or design of complex engineering projects from date of assignment until project completion which entails developing or reviewing requirements, project proposal, expenditure request, design materials ordering, scheduling and coordinating proponent, maintenance and construction work forces involved. Incumbent assigned is accountable for the most economical expenditure of funds consistent with acceptable design practices and a sound facility construction at the most efficient cost in keeping with target completion date.

The magnitude of projects usually range in expenditures of \$25,000 to \$200,000. Typical projects: Test trap consolidation, extending Safaniya Pier, develop test procedure for operation of UA pipeline, provide technical service on start up on CGT driven pumping unit U GOSP 3, conversion of stabilizer to crude topping, crude distillation unit improvement, salt water main and steam main expansion, design and construction of dental clinic and computer center.

b) **Process Engineering:** Includes engineering analysis and the development of recommendations and alternatives in the solution of complex problems related to company process units and oil handling facilities. This includes the recognition of problems, thorough analysis of present situation and objectives, development of comprehensive program and implementation to improve operation. Assignments require extensive knowledge and experience in order to interpret apparently related factors, develop and apply novel calculation methods and program and evaluate testing to provide data and confirm conclusions. Following are typical existing or new facilities concerned with: GOSP's, pipelines, LPG gas and water injection, stabilizers, refinery process units, tankage, blending, metering, petrochemicals, terminals.

c) **Specialists:** Includes parts or all of the scope mentioned under a) and b) above, but in the specialized areas of electrical engineering, instrumentation, corrosion etc. as applied to existing or new oil facilities, utilities or other installations.

d) Includes parts or all of the scope mentioned under a), b), and c) above, in addition to field or plant experience for direct support to plant operation. Incumbents may be rotated between various operation, maintenance, and engineering supporting staff in the plants.

9002 Principal Contacts**INCLUDE PURPOSE, FREQUENCY AND SIGNIFICANCE TO SAUDI ARAMCO.**

Frequent contacts with operating Division and Unit Heads to ascertain problems, define scope of projects, develop solutions, and evaluate alternatives. Occasional contacts with Managers and infrequent contact with Executive Management responding to inquiries or presenting conclusions of studies. Frequent working contacts with suppliers of data and information such as estimating engineers, construction engineers, accountants, programmers, etc

9003 Principal Duties**DESCRIBE CONCISELY EACH PRINCIPAL WORK ACTIVITY LISTED IN A LOGICAL ORDER; NORMALLY, THE ORDER WILL BE TO LIST THE MOST IMPORTANT DUTY FIRST. INCLUDE IMPORTANT DECISIONS AND RECOMMENDATIONS MADE, IF APPLICABLE. FOR SINGLE APPLICATION JOBS INDICATE APPROXIMATE PERCENT OF TIME SPENT ACCOUNTING FOR AT LEAST 75% OF TOTAL TIME. START SENTENCES WITH ACTION VERBS. PLEASE INDICATE THE PERCENTAGE OF TIME AGAINST EACH PRINCIPAL DUTY.**

- A. Prepare approvals of the problem solving report plans, schedules and provides coordination and work direction as required for the preparation of designs, processes, reports, correspondence and related data and assures the efficiency, adequacy and conformance to overall objectives of project.
 - B. Formulates the basis for an engineering study or project or design in any basic or special engineering field by analyzing and evaluating all data pertinent to assignment. Evaluates data as to scope, effect on existing installation, economic value, long range planning and budgetary considerations.
 - C. Leads and recommends new continuous improvement solutions for installations or modifications to improve existing facilities and standardization within specific fields of endeavor. Estimates costs, prepares justifications and completes expenditure requests as required
 - D. Support project execution and project proposals and initiates detailed work outline and makes decision as to basic processes, and/or equipment. Performs work and or delegates work to other engineers and final development of specialized or technical proposals and studies of proposed projects.
 - E. Discusses, coordinates and resolves problems with personnel throughout Aramco and subsidiaries and with outside of Company organizations. Acts as technical consultant when required.
 - F. Reviews work of engineers directed. Checks that reports are written according to established methods of good report presentation. Makes recommendations for future study or report changes. Approves reports for transmittal to supervisor. Reviews work of third party, technology reports, and engineering standards.
 - G. Lead the implementation and operation of all kind of recommended solutions.
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Civil Engineer - Normally designs or studies structural modifications to facilities such as industrial shop buildings, warehouses, residences, marine piers, oil handling, processing, storage and pipeline facilities, facilities, sewer systems, roads and streets. Occasionally called upon to design new facilities of the types mentioned.

Chemical Engineer - Normally handles process studies or design

modifications in utilities, oil manufacturing or oil handling facilities , Occasionally called upon to design or evaluate new process installations.

Electrical Engineer - Formally designs or studies electrical modifications to oil processing and oil handling facilities, residences and utilities. Occasionally called upon to design electrical aspects of new facilities of the type mentioned.

Mechanical Engineer - Normally designs or studies mechanical modifications to oil processing, oil handling and utilities facilities. Occasionally called upon to design mechanical aspects of new facilities of the type mentioned.

Survey Engineering - Includes engineering analysis and the development of recommendations and alternatives in the solution of complex problems related to the surveys of company and government properties and facilities. This includes the recognition of problems, through analysis of present situation and objectives, development of comprehensive program and implementation to produce the desired end product. Typical projects would involve the establishment of high precision horizontal control in remote desert regions for future oil and gas development, evaluation and recommendation of state of the art photogrammetric equipment for digital mapping systems.

9004 Minimum Requirements

A- EDUCATION - DEGREES AND/OR LICENSES REQUIRED; B- PREREQUISTE WORK EXPERIENCE IN ADDITION TO EDUCATION; C- OTHER.

A. EDUCATION: B.S. in Engineering.

B. EXPERIENCE: Seven (7) years in the oil industry or similar process industry. Experience must be such that the incumbent is clearly recognized as being capable of project and design assignments beyond the ability of the basic professional ENGINEER III or is qualified to an outstanding degree in one or another "Specialist" category.

C. LANGUAGE REQUIREMENTS: A thorough knowledge of English is required to perform analyses and studies in depth, make professional presentations and keep up with technical advancements; Arabic not required but considered desirable for American incumbents in this position.

D. OTHER: Must have a thorough knowledge of engineering practices and economic principles, calculation methods, design details, US and Aramco Codes, Standards and Specifications.