SCHEDULE B

JOB SPECIFICATION

TABLE OF CONTENTS

[1. GENERAL PROVISIONS 1](#_Toc475278105)

[1.1. Purpose 1](#_Toc475278106)

[1.2. Project Language and Interpretation of Contract Terms 1](#_Toc475278107)

[1.3. Company Representative and Contractor Representative 2](#_Toc475278108)

[1.4. WORK Schedule 2](#_Toc475278109)

[1.5. Notice to Proceed 2](#_Toc475278110)

[1.6. Construction Kick-Off Meeting 3](#_Toc475278111)

[2. DESCRIPTION OF WORK 3](#_Toc475278112)

[2.1. General Description and Scope of the WORK 3](#_Toc475278113)

[2.2. The FACILITIES 4](#_Toc475278114)

[2.3. Additional WORK Requirements 4](#_Toc475278115)

[2.4. Working Hours 4](#_Toc475278116)

[2.5. Right to Review WORK 5](#_Toc475278117)

[2.6. Electronic Review 6](#_Toc475278118)

[2.7. Field Engineering 7](#_Toc475278119)

[2.8. CONTRACTOR As-Built Drawings 7](#_Toc475278120)

[2.9. Interface Coordination 7](#_Toc475278121)

[2.10. Project Record Books 8](#_Toc475278122)

[2.11. Equipment Inspection Schedule (EIS) Report 9](#_Toc475278123)

[2.12. Commissioning Data Packages 10](#_Toc475278124)

[2.13. Commissioning and Start-Up Documentation 10](#_Toc475278125)

[3. CONSTRUCTION 10](#_Toc475278126)

[3.1. Survey Monuments and Survey Control 10](#_Toc475278127)

[3.2. Access to the Job Site 11](#_Toc475278128)

[3.3. Protection of Existing Facilities 11](#_Toc475278129)

[3.4. Identification and Reporting of CONTRACTOR Personnel at the Job Site 12](#_Toc475278130)

[3.5. WORK Permits and Certifications 12](#_Toc475278131)

[3.6. Construction Site Subsurface 13](#_Toc475278132)

[3.7. Rock Excavation 13](#_Toc475278133)

[3.8. Handling and Disposal of Hazardous Material 14](#_Toc475278134)

[3.9. Photography 14](#_Toc475278135)

[3.10. Heavy Equipment Transport and Rigging 15](#_Toc475278136)

[3.11. Safety Valve Testing and Documentation 16](#_Toc475278137)

[3.12. Radios 17](#_Toc475278138)

[3.13. Mechanical Completion Plan 17](#_Toc475278139)

[3.14. Vendor Assistance 17](#_Toc475278140)

[3.15. WORK Following Mechanical Completion 18](#_Toc475278141)

[3.16. Commissioning and Start-Up Assistance 18](#_Toc475278142)

[3.17. Performance Tests 18](#_Toc475278143)

[4. ADMINISTRATION 18](#_Toc475278144)

[4.1. Communication Administrative Procedures 18](#_Toc475278145)

[4.2. E-mail 19](#_Toc475278146)

[4.3. Project Execution Plan 19](#_Toc475278147)

[4.4. Project Risk Management 22](#_Toc475278148)

[4.5. CONTRACTOR Organization and Personnel 24](#_Toc475278149)

[4.6. Meetings 25](#_Toc475278150)

[4.7. Progress Reports 27](#_Toc475278151)

[4.8. Capital Equipment Listing 31](#_Toc475278152)

[4.9. Accounting Plant Numbers 32](#_Toc475278153)

[4.10. Deviations and Waivers 32](#_Toc475278154)

[4.11. Contractor Camp and Project Support Buildings 33](#_Toc475278155)

[4.12. Use of SAUDI ARAMCO Work Breakdown Structures 34](#_Toc475278156)

[4.13. Collaboration through Enterprise Project Management (EPM) System 34](#_Toc475278157)

[4.14. SAUDI ARAMCO ID Cards and Vehicle Stickers 35](#_Toc475278158)

[5. MATERIALS PROCUREMENT 35](#_Toc475278159)

[5.1. Materials Procurement 35](#_Toc475278160)

[5.2. PO Required Terms 36](#_Toc475278161)

[5.3. Expediting 36](#_Toc475278162)

[5.4. Materials and Equipment Preservation 37](#_Toc475278163)

SCHEDULE B

JOB SPECIFICATION

1. GENERAL PROVISIONS
   1. Purpose
      1. This Schedule “B” describes and establishes the scope of the WORK to be performed by CONTRACTOR, and contains or references the applicable drawings, standards, specifications, manuals and other documents, as well as the administrative, procedural and technical requirements that CONTRACTOR shall satisfy and adhere to in performing the WORK.
      2. In the absence of quality standards being specified in this Contract, CONTRACTOR shall establish CONTRACTOR’s own quality standards for equipment and Materials based on the Job Specification, Good Engineering Practice, and best industry practices, subject to review and Approval by SAUDI ARAMCO.
   2. Project Language and Interpretation of Contract Terms
      1. All correspondence and project documents including, but not limited to, drawings, specifications, data sheets, calculations, manuals, reports and NMRs shall be in the English language. CONTRACTOR shall ensure that all such documents prepared for submittal or delivery to SAUDI ARAMCO for the WORK under this Contract, whether prepared by CONTRACTOR, Subcontractor, Vendor or any other party to the WORK, are prepared in the English language.
      2. The terms “LSTK Contractor”, “Turnkey Contractor”, “Lump Sum Procure Build (LSPB) Contractor”, “LSPB Contractor”, “FACILITIES Contractor”, “Plant Contractor”, or “Project Construction Agency”, when used in the Job Specification or documents incorporated in the Job Specification, shall have the same meaning as CONTRACTOR.
      3. Should there be any conflict between Schedule “B”, Attachments to Schedule “B”, or Exhibits to Attachments to Schedule “B”, such conflicts will be resolved by applying the following order of precedence:

Schedule “B”

Attachments to Schedule “B”

Exhibits to Attachments to Schedule “B”

* 1. Company Representative and Contractor Representative
     1. Company Representative

SAUDI ARAMCO shall notify CONTRACTOR in writing of the designated Company Representative within five (5) working days of the Effective Date and shall promptly notify CONTRACTOR of any change in the designation of Company Representative.

* + 1. Contractor Representative
       1. Within two (2) working days after the Effective Date, CONTRACTOR shall notify SAUDI ARAMCO in writing of the designated Contractor Representative and shall promptly notify SAUDI ARAMCO of any change in the designation of Contractor Representative.
       2. For any physical absence of Contractor Representative from the Job Site exceeding one (1) working day, CONTRACTOR shall appoint a substitute Contractor Representative.
  1. WORK Schedule

CONTRACTOR shall prepare and submit the WORK Schedule as required by Paragraph 8 of Schedule “A”. Further to the requirements of Schedule “A”, the WORK Schedule shall include all activities of CONTRACTOR, including the detailed design review periods for each discipline package as specified in SAUDI ARAMCO procedure SAEP-303 and the Project Specification for Planning, Scheduling, Progress Control and Reporting.

* + 1. Critical Milestone Dates

The Critical Milestone Dates are set forth in Attachment II to this Schedule “B”.

* + 1. Scheduled Mechanical Completion Date

The Scheduled Mechanical Completion Date for the WORK is set forth in Attachment II to this Schedule “B”.

* 1. Notice to Proceed

The “**Notice to Proceed**”, which directs CONTRACTOR to commence WORK related to the actual physical installation of the FACILITIES, as stated in the Critical Milestone Dates, will be issued by SAUDI ARAMCO after receipt of a written request from CONTRACTOR. SAUDI ARAMCO shall, subject to its reasonable discretion, issue the Notice to Proceed upon verifying that CONTRACTOR has achieved Site Mobilization Completion and all WORK required under the Job Specification prior to Construction Start has been completed. The actual physical FACILITIES installation WORK shall not occur until after receipt of this “Notice to Proceed”.

* 1. Construction Kick-Off Meeting

A construction kick-off meeting shall be held by CONTRACTOR shortly after issuance of the Notice to Proceed. The time and place of the meeting will be designated by the Company Representative. CONTRACTOR shall prepare and issue for SAUDI ARAMCO review and concurrence a meeting agenda at least three (3) days prior to the scheduled meeting date. CONTRACTOR shall prepare and issue the minutes of the meeting.

1. DESCRIPTION OF WORK
   1. General Description and Scope of the WORK
      1. Further to Paragraph 2.2 of Schedule “A”, CONTRACTOR shall furnish, without limitation, all facilities, tools, labor, supervision, technical and professional services, Materials, equipment, supplies and consumables including any other work required for installation, construction, completion, cleaning, testing and Start-Up of the FACILITIES.
      2. The WORK is comprised of the complete delivery of the FACILITIES, including detail design, engineering, procurement, construction, installation and testing of CONTRACTOR provided Materials (and any SAUDI ARAMCO provided Materials), in accordance with the Job Specification and Schedule “G”, including Pre-Commissioning, Commissioning and assistance in Start-Up (to the extent specified in the scope of work in the Job Specification) of the FACILITIES.
      3. The Preliminary Design, Project Standards and FACILITIES Specifications listed in Attachment I to this Schedule “B”, and all documents referred to by them, are by this reference incorporated into and made part of the Job Specification. This list represents the minimum requirements that the CONTRACTOR must adhere to in designing and constructing the FACILITIES. SAUDI ARAMCO in its sole discretion may add additional standards and specifications as necessary during execution of the WORK.

Where reference is made to a Mandatory SAUDI ARAMCO Engineering Requirement under the SAUDI ARAMCO provided standards, or specifications, without noting a specific revision number or date, the specifications or standards which were in effect on the cutoff date specified in Attachment I to this Schedule “B” shall govern.

* + 1. CONTRACTOR shall obtain from SAUDI ARAMCO all current SAUDI ARAMCO specifications, standards, manuals and other documents as may be required to complete any WORK under this Contract. CONTRACTOR shall maintain all such documents to reflect the latest revisions when issued periodically by SAUDI ARAMCO. All SAUDI ARAMCO supplied documents shall be returned to SAUDI ARAMCO at such time this Contract expires or is terminated. CONTRACTOR shall ensure that all CONTRACTOR Personnel become familiar with these documents and that they use them correctly in the execution of the WORK. CONTRACTOR shall provide comprehensive training to all CONTRACTOR Personnel, at CONTRACTOR’s expense to ensure proper use of SAUDI ARAMCO procedures and conformance with SAUDI ARAMCO methods.
  1. The FACILITIES

A complete description of the FACILITIES is listed in the Job Specification including Attachment III, “Scope of Facilities,” and any other attachments, exhibits, documents or standards mentioned, and are by this reference incorporated into and made part of this Contract and shall be adhered to by CONTRACTOR in performance of the WORK.

* 1. Additional WORK Requirements

CONTRACTOR shall comply with all additional WORK requirements stipulated in Attachment I to this Schedule “B” and any other Attachment or Schedule included in this Contract.

* 1. Working Hours
     1. CONTRACTOR shall establish jointly with Company Representative the work hours of CONTRACTOR’s staff, line, supervisory and management personnel assigned to the WORK. Any deviations from established working hours shall be jointly agreed by the Contractor Representative and the Company Representative.
     2. If WORK after daylight hours has been scheduled, CONTRACTOR shall ensure that there is a suitable work environment including, but not limited to, adequate safety precautions, sufficient lighting, and supervisory staff, to the satisfaction of Company Representative.
     3. CONTRACTOR shall propose alternative work hours to SAUDI ARAMCO when needed in order to coordinate and schedule the WORK with work being executed by Other Contractors, at no added cost to SAUDI ARAMCO.
     4. CONTRACTOR shall coordinate its WORK with Other Contractors’ on-going activities such as shift changes, deliveries, lunch, and Job Site arrival and departure times.
     5. Any deviations from the normal work hours and any alternative work hour plans are subject to Approval.
  2. Right to Review WORK
     1. SAUDI ARAMCO reserves the right to review CONTRACTOR WORK, SAUDI ARAMCO may seek further clarifications to determine if the WORK has been or is being performed in accordance with all requirements of the Contract. Inclusion of SAUDI ARAMCO comments noted in log books or other documents provided for comments following witnessing or inspections of WORK shall serve as a notification to CONTRACTOR of any non-compliance with this Job Specification without further notice from SAUDI ARAMCO. However, absence of such comments shall not relieve CONTRACTOR of its overall responsibility regarding WORK under this Contract or for non-compliant items that may later be identified by SAUDI ARAMCO.
     2. CONTRACTOR’s submittal of documentation to SAUDI ARAMCO for review and comment shall be scheduled during normal SAUDI ARAMCO working hours on normal scheduled CONTRACTOR workdays. Documents submitted for review after normal SAUDI ARAMCO working hours shall be considered received by SAUDI ARAMCO the next workday. Documents received on a non- normal scheduled CONTRACTOR work day shall be considered received on the next normal scheduled CONTRACTOR work day. SAUDI ARAMCO shall provide comments on project documents and submittals prepared by CONTRACTOR within fifteen (15) working days after receipt.
     3. If notified by Company Representative that additional time is required by SAUDI ARAMCO to complete the review, and/or Approval, of specific project documents, CONTRACTOR shall advise Company Representative within three (3) working days of such notice of any impact on CONTRACTOR’s WORK. Unless CONTRACTOR receives formal correspondence from Company Representative to wait until SAUDI ARAMCO completes the review, CONTRACTOR shall proceed with the WORK as if documents had been returned without comment.
     4. Failure by CONTRACTOR to advise Company Representative of impact within the time stipulated shall preclude CONTRACTOR from claiming for any delays associated with SAUDI ARAMCO’s extended review or Approval.
     5. If any document or submittal is rejected by SAUDI ARAMCO, then each subsequent re-submittal shall be treated as a new submittal for SAUDI ARAMCO review.
     6. CONTRACTOR shall establish and maintain an electronic database in a format acceptable to SAUDI ARAMCO, to include listing of all submitted documents, dates of submittal, dates of return, SAUDI ARAMCO comments and CONTRACTOR’s responses to agreed actions to comments. SAUDI ARAMCO shall have access to the database at all times and an updated copy of this log shall be provided at each regular progress review and planning meeting according to Paragraph 5 below.
  3. Electronic Review
     1. CONTRACTOR shall provide Approved software, which is subject to Approval of Company Representative, capable of indexing, retrieving, viewing and printing all documents. The software shall be compatible with SAUDI ARAMCO systems. The software shall address 2D and 3D CAD files, scanned images and all other document formats; to include database, word and processor files. The software shall be suitable for use on a SAUDI ARAMCO Local Area Network (**LAN**).
     2. CONTRACTOR shall provide SAUDI ARAMCO personnel access to and use of CONTRACTOR LAN and the use of a separate workstation connected to CONTRACTOR’s LAN for access to WORK related data held in CONTRACTOR information systems, databases, logs and control systems. This access shall not compromise or infringe on CONTRACTOR’s own data security requirements.
     3. CONTRACTOR shall not remove from the Job Site any computing or printing devices utilized for electronic storage and data transmission until the Company Representative confirms that the computing devices have been sanitized.
     4. CONTRACTOR shall use hard disk sanitization software that is Approved by SAUDI ARAMCO.
  4. Field Engineering
     1. CONTRACTOR shall provide sufficient qualified engineers, designers and draftsmen at the Job Site for the duration of the WORK to perform inspection, checking, calibration, testing and liaison services for Vendors. The qualified engineers, designers, and draftsmen shall be able to:
        1. Interpret construction drawings, specifications and PO documents;
        2. Evaluate and (as needed) prepare required field modifications to construction or shop fabrication drawings; accurately record as-built information on drawings; and
        3. Furnish support to ensure that the FACILITIES are constructed and mechanically completed in accordance with the Contract requirements.
     2. Field engineering shall be limited to that which is required to support construction of the WORK based on “Issued for Construction” documents, compliance with the Job Specification, interpreting and assurance compliance with Material specifications, coordinating engineering clarifications and field mismatch corrections.
  5. CONTRACTOR As-Built Drawings
     1. CONTRACTOR shall prepare and submit for Company Representative Approval a plan to prepare, maintain and verify accuracy on drawings reflecting as-built conditions.
     2. Thirty (30) calendar days after Mechanical Completion CONTRACTOR shall submit the revised “As-Built Drawings” reflecting the as-built status of the FACILITIES to Company Representative as follows:
        1. Four (4) complete sets of “D” size drawings organized in binders.
        2. Four (4) sets of electronic files for CAD drawings on electronic media.
  6. Interface Coordination

CONTRACTOR shall appoint an interface coordinator responsible for overseeing all interfaces between CONTRACTOR, SAUDI ARAMCO, and Other Contractors.

* + 1. CONTRACTOR shall identify all interfaces required to complete the WORK, including needs for any other documents referenced in the Job Specification.
    2. CONTRACTOR’s WORK Schedule shall include and clearly identify all interface points.
    3. CONTRACTOR shall be familiar with the design and installed condition for an interface item, and the item’s respective boundary conditions.
    4. CONTRACTOR shall insure that the design intent of the system affected by the interface is consistently upheld across the interface in accordance with the Job Specification.
    5. CONTRACTOR shall develop interface drawings in sufficient detail to define the method and location of interfaces between the WORK and the work performed by SAUDI ARAMCO or Other Contractors.
    6. CONTRACTOR shall develop an interdependency schedule within 60 days after the Effective Date. The interdependency schedule shall identify the required date for information exchange between CONTRACTOR, SAUDI ARAMCO and Other Contractors to allow the WORK to proceed without delay.
    7. CONTRACTOR shall provide responsibility matrices that specify the scope of CONTRACTOR’s WORK and identifies the WORK to be performed by Other Contractors and SAUDI ARAMCO.
    8. CONTRACTOR shall submit to Company Representative a WORK Schedule analysis of alternatives to include the cost estimates for the interference or delay situation.
    9. CONTRACTOR shall comply with any additional interface coordination requirements as set forth in Attachment I to this Schedule “B”.
  1. Project Record Books

CONTRACTOR shall maintain, keep current and updated, and make available for Company Representative review at any time, the compilations of significant project documentation (“**Project Record Books**”), in full compliance with Schedule “Q”. Any deficiencies identified by the Company Representative in any review, formal or informal, shall be promptly remedied by CONTRACTOR. Project Record Books include:

* + 1. Drawing and Specifications Books;
    2. Facilities Operating and Maintenance Instructions Manual;
    3. Design Calculation Book;
    4. Vendor Equipment Operating Instructions & Maintenance Manuals;
    5. Vendor Inspection Record Books;
    6. Operating Instructions & Maintenance Manual for Process Automation Systems;
    7. Plant Inspection Book;
    8. Construction Inspection Records (QA/QC Records);
    9. Pre-Commissioning and Testing Record Book;
    10. Safety Programs and Records; and
    11. Construction Progress Documentation (construction reports, progress photos, etc.).
  1. Equipment Inspection Schedule (EIS) Report

CONTRACTOR shall provide an Equipment Inspection Schedule (“**EIS**”) report in accordance with the Job Specification, and with respect to inspection activities during the construction and Pre-Commissioning of the FACILITIES, to include the following:

* + 1. Perform and record corrosion readings and analysis of the installed WORK using qualified professional corrosion engineers to identify corrosion circuits within the FACILITIES. This analysis shall form the basis for other EIS elements.
    2. An analysis of the results of the inspection activity on all piping circuits and major pressurized equipment prioritized by their expected corrosion activity.
    3. Digitized isometric drawings for piping and pressurized equipment presented in a format acceptable to the Company Representative of all the corrosion circuits showing designated locations for ultrasonic thickness measurements (Thickness Measurement Location or (“**TML**”). TML type shall be single points with the exception of injection points. Close grid ultrasonic measurements or scanning shall be used for injection points.
    4. After the location and assignment of TMLs, CONTRACTOR shall obtain ultrasonic wall thickness measurement of all TMLs to benchmark the original condition before product, media or fluid introduction and service exposure, and record all measurements in accordance with the Job Specification.
    5. The benchmark (baseline) thickness data shall be provided after clearing construction debris and cleaning according to the Job Specification.
    6. CONTRACTOR, upon the request of the Company Representative, shall assist at no additional cost to record, migrate and transfer all inspection data to the SAUDI ARAMCO database.
    7. Construction inspection records shall reflect all inspection activities performed during the WORK. The documentation of these inspection activities shall be in accordance with the Job Specification.
    8. The EIS interval readings during construction recorded in the construction inspection records shall be submitted to Company Representative thirty (30) days prior to Mechanical Completion.
  1. Commissioning Data Packages

In a format acceptable to SAUDI ARAMCO and prior to requesting the MCAN, the CONTRACTOR shall develop and issue to Company Representative data packages for the equipment listed in Attachment I to this Schedule “B”.

* 1. Commissioning and Start-Up Documentation

CONTRACTOR shall provide adequate and updated documentation to SAUDI ARAMCO to permit the proper and safe Start-Up, Commissioning, operation and maintenance of the FACILITIES. Documentation shall include, but is not necessarily limited to, ‘red lined’ Issued for Construction (“**IFC**”) drawings, As Built Drawings, Subcontractor, Vendor and manufacturer drawings, spare parts lists, Start-Up spare parts lists, equipment operating and maintenance manuals, operating and Start-Up manuals/records and calculation records.

1. CONSTRUCTION
   1. Survey Monuments and Survey Control

CONTRACTOR shall carefully preserve all monuments, benchmarks, reference points and stakes. CONTRACTOR will be charged for the expense of replacing any such items destroyed or damaged and shall be responsible for any mistakes or loss of time that may be caused by such destruction or damage. Permanent monuments or benchmarks which must be removed or disturbed shall be protected until they can be properly referenced for relocation. CONTRACTOR is responsible for removing, relocating and replacing monuments and benchmarks as needed to complete the WORK.

* 1. Access to the Job Site
     1. SAUDI ARAMCO shall Approve CONTRACTOR, Vendor and Subcontractor personnel access to and egress from the Job Site. CONTRACTOR shall implement a monitoring and control system such as identification cards, vehicle and equipment stickers issued for monitoring and control of access to the Job Site that covers CONTRACTOR, Subcontractor and Vendor equipment, vehicles and personnel. If required in Attachment I to this Schedule “B”, CONTRACTOR’s system must be an automated access control system which meets the requirements specified. SAUDI ARAMCO may at any time ask for a personnel and equipment count report at any Job Site. A weekly summary report of personnel and equipment at any Job Site shall be submitted as part of the monthly progress report.
     2. To the extent WORK is performed in an existing operating SAUDI ARAMCO facility CONTRACTOR shall obtain valid SAUDI ARAMCO restricted area and safety inspection stickers for all CONTRACTOR, Subcontractor and Vendor vehicles and equipment engaged in the performance of the WORK.
     3. Access to the construction area shall be indicated on a temporary Contractor Camp and Project Support Buildings site facilities layout plan. The drawing shall depict a general site layout and proposed and allocated spaces for CONTRACTOR offices and work areas. Further access requirements shall be the responsibility of CONTRACTOR within its designated area.
     4. CONTRACTOR shall strictly control access into its WORK areas. CONTRACTOR shall provide a detailed plan for Approval by SAUDI ARAMCO on its methods of transporting its staff and work force to and from the Job Site, Contractor Camp and Project Support Buildings and facilities area. The control of traffic and labor plan shall describe CONTRACTOR management, supervisory, and administration controls on workforce personnel within the construction area, and supporting Contractor Camp and Project Support Buildings.
  2. Protection of Existing Facilities

CONTRACTOR shall locate, identify, mark and protect existing underground pipes, conduit and cable runs, electrical conduit and cables, telephone cables, sewer lines, and other utility lines within the limits of the Job Site. CONTRACTOR shall use reasonable efforts in accordance with best industry practices to locate any other underground items within the limits of the Job Site. CONTRACTOR shall incorporate in the As-Built Drawings the actual surveyed locations of such underground items.

* 1. Identification and Reporting of CONTRACTOR Personnel at the Job Site
     1. CONTRACTOR Personnel at the Job Site including any Fabrication Yard or Lay Down Yard, shall wear distinctive clothing and hard-hats, or other visible means of identification, to show CONTRACTOR or Subcontractor name and special certifications. Such means of identification shall be subject to prior review and Approval by the Company Representative.
     2. CONTRACTOR shall obtain SAUDI ARAMCO identification in accordance with SAUDI ARAMCO security requirements for CONTRACTOR’s, Vendors’ and Subcontractors’ personnel. CONTRACTOR shall be responsible for any loss, damage or misuse of SAUDI ARAMCO identification by the CONTRACTOR's, Vendors’ and Subcontractors’ personnel. CONTRACTOR shall prepare, maintain, and make available to SAUDI ARAMCO upon request, a control record log of all CONTRACTOR, Subcontractor, Vendors’ and Subcontractors’ personnel, vehicle, and equipment identification stickers issued by and returned to SAUDI ARAMCO Industrial Security Unit.
     3. CONTRACTOR shall provide SAUDI ARAMCO in writing, by 7:30 a.m. each workday, the previous work day’s work force report showing the numbers of CONTRACTOR, Subcontractor, and Vendor personnel, by work area and/or job assignment, crafts and/or discipline, nationality, and include a list of all equipment at the Job Site. CONTRACTOR shall provide additional information on the performance of the WORK as may be requested by SAUDI ARAMCO for its internal reporting requirements.
  2. WORK Permits and Certifications
     1. CONTRACTOR shall obtain all necessary WORK permits for executing WORK at the Job Site. CONTRACTOR shall not perform any WORK requiring a WORK Permit without such permit.
     2. CONTRACTOR shall obtain WORK permits prior to arrival of CONTRACTOR Personnel at the Job Site to avoid delays in commencement of daily WORK activities. CONTRACTOR shall submit no later than one (1) hour after scheduled WORK day, lists of CONTRACTOR Personnel engaged in WORK that requires a WORK permit.
     3. CONTRACTOR shall be responsible for any schedule delays or cost impact associated with CONTRACTOR’s inability to obtain WORK permits due to CONTRACTOR’s failure to properly and timely complete forms, or to comply with, or execute established WORK Permit procedures.
     4. Further to the requirements of Paragraph 3.2 of Schedule “A”, CONTRACTOR shall ensure that all specialist personnel such as equipment operators, welders, riggers, painters, and electricians, have in their possession at all times the proper craft/trade certification as may be required by the Saudi Arab Government or SAUDI ARAMCO. CONTRACTOR shall obtain SAUDI ARAMCO Approval of all job classifications (crafts) that require qualification procedures and job clearance cards according to SAUDI ARAMCO requirements. CONTRACTOR shall not perform any such WORK without such certification. Cranes, heavy equipment, and their operators shall not be allowed to work on the Job Site without having all required current valid Saudi Arab Government and SAUDI ARAMCO permits, certificates, operator certificates and approvals.
  3. Construction Site Subsurface

In the event of probable and possible subsurface obstructions and hazards, CONTRACTOR shall develop and submit a Job Site subsurface hazard identification plan for Company Representative’s review and comment thirty (30) days prior to commencing construction WORK. CONTRACTOR site subsurface hazard identification plan shall identify probable and possible subsurface hazards such as natural obstructions, pipelines, utilities and services. The subsurface identification plan shall describe CONTRACTOR’s proposed methods to locate and identify subsurface hazards, and provide details of the excavation to be performed to include the layouts and depths, and hazard safe obstruction removal management procedures, prior to commencing excavation in any Job Site area.

* 1. Rock Excavation
     1. Subject to Paragraph 6 of Schedule “A”, CONTRACTOR shall conduct all excavation work (including Rock Excavation, as defined below) that is required to complete the FACILITIES in full compliance with the requirements of this Contract. Without limiting the generality of any other provision of this Contract, the lump sum Contract Price includes:
     2. All excavation work, except Rock Excavation; and
     3. Rock Excavation up to the quantity stated in the Job Specification.
     4. “Rock Excavation” is defined per SAES A-114 as excavation that cannot be accomplished using rippers and/or excavators or backhoes and that requires blasting or pneumatic rock breakers to facilitate excavation. CONTRACTOR shall, at its own expense, perform the required Seismic Refraction tests in accordance with ASTM D5777 to determine if the excavated material shall be classified as Rock Excavation or normal excavation. Such tests shall be carried out on each and every occurrence of suspected Rock Excavation.
     5. For Rock Excavation in excess of or below the quantities stated in the Job Specification, CONTRACTOR will be compensated or SAUDI ARAMCO will be credited, as the case may be, in accordance with the differential price between the applicable Rock Excavation and Non-Rock Excavation unit rates contained within Attachment I to Schedule “C”.
     6. For calculation purposes, the volume of Rock Excavation shall be measured at the WORK Site and the calculations recorded daily and signed by both CONTRACTOR and Company Representative. The volume of Rock Excavation shall be calculated based on the minimum excavation necessary to perform the WORK.
     7. CONTRACTOR shall ensure that each measured section of Rock Excavation is inspected by SAUDI ARAMCO before such section is covered or closed-up. Failure by CONTRACTOR to obtain SAUDI ARAMCO inspection prior to close-up shall be grounds for rejection of any Claim for such section as Rock Excavation. Any costs associated with excavation or reopening to verify Rock Excavation shall be at CONTRACTOR’s expense.
     8. CONTRACTOR shall in all events be responsible for removal of all excess excavated material from the excavation site to SAUDI ARAMCO Approved disposal areas.
     9. Any quantity and cost adjustment, as defined in Paragraph 4.7.3, shall be included in a Change Order and issued in accordance with Paragraph 10 of Schedule “A”.
  2. Handling and Disposal of Hazardous Material

CONTRACTOR shall handle and dispose of hazardous materials in strict adherence to the requirements set forth in Schedule “D”.

* 1. Photography

CONTRACTOR understands that possession and use of cameras in restricted areas in Saudi Arabia without proper written authority is prohibited by SAUDI ARAMCO and the Saudi Arabian Government. CONTRACTOR shall photograph the FACILITIES, or any SAUDI ARAMCO-owned facilities, only after obtaining Approval of the Company Representative.

* 1. Heavy Equipment Transport and Rigging

CONTRACTOR is responsible for all heavy and oversize equipment transportation and rigging from ex-works to final resting location.

* + 1. CONTRACTOR shall provide heavy equipment transportation and rigging plans for Company Representative’s review and comment ninety (90) days prior to the expected delivery of the first heavy lift or oversized piece of equipment at the Job Site. CONTRACTOR shall survey and study the routes for moving the equipment and shall advise SAUDI ARAMCO, in a timely manner, of any modifications required to be carried out by CONTRACTOR on the route for executing the transport.
    2. CONTRACTOR shall submit to Company Representative a heavy lift and erection plan for each individual equipment or pipe lift to be erected over existing live pipes thirty (30) days prior to the scheduled erection date.
    3. The heavy equipment transportation and rigging plan at a minimum shall address road load and clearance requirements, ex-works to final resting location, transport sequence, crossing pipeline corridors, overhead and underground electrical power lines, the use of underwriters’ cargo surveyors as applicable, access to the Job Site, coordination of rigging, lifting and final placement activities, and appropriate Saudi Arab Government agency permits and clearances required for transportation.
    4. For scheduling and coordination purposes, CONTRACTOR shall provide 72-hour advance construction Job Site notice to Company Representative for each equipment and pipe to be erected over existing live pipes and for each heavy equipment delivery notice to Company Representative.
    5. CONTRACTOR shall ensure that Issued for Construction (IFC) documents are based on heavy transport and lift construction plans for the FACILITIES or separable portions thereof. CONTRACTOR shall ensure that all relevant documents fully reflect the certified ratings of the construction equipment CONTRACTOR proposes to use during the construction WORK including adequate safety margins, as applicable.
    6. CONTRACTOR shall design pipeline crossings to satisfy the Job Specification, SAUDI ARAMCO Engineering Standard SAES-L-460, SAUDI ARAMCO Standard Drawing AC-036660 Sheet 004 and other applicable engineering standards set forth in this Job Specification in order to handle the maximum expected loads over the life of the project. The proposed pipeline crossing designs shall be submitted to Company Representative for review sixty (60) days prior to Site Mobilization Start. Review by SAUDI ARAMCO shall not relieve CONTRACTOR from its obligation to provide adequate designs for such pipeline crossings.
  1. Safety Valve Testing and Documentation
     1. CONTRACTOR shall ensure that all safety relief devices (e.g., relief/safety valves, emergency vent, vacuum breakers and rupture disks) installed in the FACILITIES are identified by a unique number in accordance with the references contained in the Job Specification. CONTRACTOR shall request the unique numbers from Company Representative.
     2. CONTRACTOR shall designate a coordinator to ensure that all safety devices meet the requirements of skid mounted and packaged equipment pursuant to references contained in the Job Specification. The coordinator shall ensure that the proper documentation as outlined below is assembled during the procurement phase.
     3. CONTRACTOR shall remove from the FACILITIES all safety valves, including Vendor supplied equipment, and transport them to SAUDI ARAMCO approved test facilities. CONTRACTOR shall bench test the safety valves, and certify, seal and tag the safety valves according to the references in the Job Specification not more than sixty (60), and not less than fifteen (15), days prior to Mechanical Completion of the FACILITIES, or separable portions thereof.
     4. CONTRACTOR shall ensure that car sealing of all safety valves is maintained at all times after permanent installation, and shall have safety valves re-tested, re-certified and car sealed, if car sealing is broken for any reason. CONTRACTOR shall provide safe transportation of valves from valve shop to the Job Site.
     5. CONTRACTOR shall check all documents in the Commissioning data packages required by the Job Specification, against the nameplate of each safety valve for errors, or inconsistencies, and shall correct any error, or inconsistencies in data, documentation, or nameplate.
     6. CONTRACTOR shall submit two (2) copies of each completed safety relief device package to Company Representative prior to Mechanical Completion of the FACILITIES or Company Representative defined separable portions thereof. CONTRACTOR shall create and maintain a comprehensive database for all safety valves in the FACILITIES. Relief device package and database content shall meet all requirements set forth in this Job Specification.
  2. Radios

CONTRACTOR shall be responsible for applying for, and obtaining permission to operate, any two-way radio transmission or receiving equipment, necessary to assist CONTRACTOR to perform WORK. CONTRACTOR shall comply with the current SAUDI ARAMCO established procedure to be followed by all radio operators during a declared emergency. CONTRACTOR understands that the use of two-way radio equipment is a convenience, and is not an essential tool for performing WORK.

* 1. Mechanical Completion Plan
     1. CONTRACTOR shall prepare a Mechanical Completion plan for the FACILITIES one hundred and eighty (180) days prior to the planned start date for Mechanical Completion activities.
     2. CONTRACTOR shall schedule Pre-Commissioning WORK activities such as chemical cleaning, individual and systems testing and demonstration of operability for equipment or systems, leading to Mechanical Completion, in conjunction with SAUDI ARAMCO.
  2. Vendor Assistance
     1. CONTRACTOR shall provide, at the construction Job Site, Vendor representative services to ensure proper installation and pre-commissioning of equipment as necessary to maintain Vendor warranties and as required to successfully complete the pre-commissioning and the Mechanical Completion of the FACILITIES or separable portions or systems.
     2. CONTRACTOR shall follow Vendors’ written instructions and recommended practices for application, assembly, preservation, installation, protective or preventive maintenance, and testing. Resolution of any conflicts between such instructions and practices and the Job Specification shall be at the direction of the Company Representative.
     3. As a minimum, CONTRACTOR shall provide Vendor representatives for installation and Pre-Commissioning services for the types of equipment listed in Attachment I to this Schedule “B”.
     4. CONTRACTOR shall advise Company Representative when Vendor representatives are ready to demobilize from the construction Job Site and arrange to have Vendor representative(s) available to SAUDI ARAMCO during Commissioning, and Start-Up if requested by Company Representative.
  3. WORK Following Mechanical Completion

A WORK Permit is required for any WORK in the FACILITIES after issuance of the applicable MCAN, including WORK related to Exception Items. SAUDI ARAMCO activities, including activities relating to Commissioning, testing and initial operations, will be given precedence, and CONTRACTOR is responsible for coordinating its remaining WORK to accommodate SAUDI ARAMCO requirements.

* 1. Commissioning and Start-Up Assistance
     1. Commissioning and assistance with Start-Up, where provided as part of the Contract Price, shall be provided in the labor, Vendor assistance, and equipment time quantities specified in Attachment I to this Schedule “B”.
     2. Company Representative may request, and CONTRACTOR shall make available, CONTRACTOR Personnel as selected by CONTRACTOR to assist with Commissioning and Start-Up activities subsequent to Mechanical Completion.
     3. Compensation for Commissioning and Start-up assistance beyond any quantities set forth in Schedule “B” Attachment I shall be based on the unit rates prescribed in Attachment I of Schedule “C”.
  2. Performance Tests
     1. If any performance tests to demonstrate performance of the FACILITIES are specified in Attachment I to this Schedule “B”, they shall be conducted in strict conformance with the criteria established in the Job Specification and any other applicable requirements of this Contract.
     2. Performance tests shall be conducted only after operating the FACILITIES for any minimum period specified in Attachment I to this Schedule “B” in a smooth and continuous manner.

1. ADMINISTRATION
   1. Communication Administrative Procedures

Routine contractual communication between SAUDI ARAMCO and CONTRACTOR shall be in original document letter format according to the following:

* + 1. All correspondence between SAUDI ARAMCO and CONTRACTOR shall be uniquely and sequentially numbered by both SAUDI ARAMCO and CONTRACTOR.
    2. CONTRACTOR shall maintain a register of all correspondence with SAUDI ARAMCO, noting the sequence number, the correspondence date, the originator, and a description of the subject.
    3. All written correspondence from CONTRACTOR shall be signed by Contractor Representative, and shall be delivered to Company Representative. All written correspondence from SAUDI ARAMCO shall be signed by Company Representative and shall be delivered to Contractor Representative. Any correspondence not issued in accordance with this procedure shall not be regarded as an official communication.
  1. E-mail
     1. Communication by E-mail is for the expedient transfer of preliminary technical data and non-contractual information.
     2. E-mail, documentation included therein, or other electronic communication sent from CONTRACTOR to SAUDI ARAMCO is not an official means of communication. CONTRACTOR shall provide all contractually required submittals, notifications and the like in accordance with this administrative procedure.
     3. E-mail, or documentation included therein, sent from SAUDI ARAMCO to CONTRACTOR is not sufficient to constitute a Change directive, or a Change request to the Contract.
  2. Project Execution Plan
     1. CONTRACTOR shall prepare and submit for Company Representative’s review a detailed project execution plan (“**Project Execution Plan**” or “**PEP**”). The PEP shall establish the managerial and administrative requirements and processes to be followed in the execution of all phases of the WORK, and shall provide a uniform system for the performance, monitoring, reporting and control of all Contract and WORK activities. CONTRACTOR shall, subject to review and comments by SAUDI ARAMCO, revise and update the PEP as required throughout the execution of the WORK.
     2. CONTRACTOR shall develop and implement the Project Execution Plan using the latest version of Microsoft Office Professional. The PEP shall describe how technical documents are to be provided to SAUDI ARAMCO for review, comment and Approval.
     3. CONTRACTOR shall incorporate SAUDI ARAMCO review comments and return the revised PEP to SAUDI ARAMCO for Approval within fifteen (15) days of receipt. SAUDI ARAMCO shall review and monitor CONTRACTOR’s effective use of the approved PEP and all revisions thereto.
     4. CONTRACTOR shall provide the quantities of controlled hard copies specified in Attachment I to this Schedule “B” plus an electronic copy of the Approved PEP to SAUDI ARAMCO.
     5. The PEP shall be submitted within forty-five (45) days from the Effective Date and shall address the following to the satisfaction of SAUDI ARAMCO:
        1. Project organization chart of CONTRACTOR Personnel, to the level of discipline lead, listed by name, job title, and forecasted mobilization and demobilization dates.
        2. Manpower staffing plan, with histograms, required to execute the WORK.
        3. Administrative procedures.
        4. Drawings and related technical documents control procedure. The procedure shall explain CONTRACTOR’s methods for ensuring the security and control of drawings and related documents both produced by and provided to CONTRACTOR. The procedure shall address document control in work areas containing project or SAUDI ARAMCO documents at the offices of CONTRACTOR, Subcontractors and Vendors.
        5. Cost reporting section, explaining CONTRACTOR’s method of reporting completion percentages, summary of monthly and cumulative billings, and forecasted payments for remaining engineering, procurement and construction.
        6. CONTRACTOR’s plan to conduct a Project Risk Management (“**PRM**”) process as set forth in Paragraph 5.4.
        7. Development and preparation by CONTRACTOR of its coordination plan for interfacing with SAUDI ARAMCO, Vendors, Licensors, Subcontractors and Other Contractors.
        8. Development and preparation by CONTRACTOR, of a Materials Procurement Plan (“**MPP**”) for all Materials and equipment required for the FACILITIES, reflecting dates required, expediting services, and Saudi Arabian manufacturer participation.
        9. Development and preparation by CONTRACTOR, of a plan for coordination, transport, staging, and storage of Materials in Saudi Arabia.
        10. Development and preparation by CONTRACTOR of a construction execution plan that addresses and identifies construction methods, construction logic, and activity durations necessary for inclusion in the WORK Schedule. The construction execution plan shall include any specialty construction methods, and a detailed plan for any field fabricated items, including Subcontractor’s and Vendors’ planned fabrication.
        11. Development and preparation by CONTRACTOR of a logistics plan for the construction WORK, to include a field materials control plan detailing plans for materials reporting, handling and storage.
        12. Development and preparation by CONTRACTOR of a spare-parts procurement plan to support the Commissioning Plan, where a need for initial/start-up spare parts is indicated.
        13. Development and preparation by CONTRACTOR of a format for Construction Inspection Records (QA/QC Records) and other reports to be prepared during construction.
        14. Development and preparation by CONTRACTOR of plans for Contractor Camp and Project Support Buildings for CONTRACTOR, and SAUDI ARAMCO personnel in accordance with the requirements of this Contract.
        15. CONTRACTOR’s anticipated performance, as reasonably necessary, of additional Job Site investigations and surveys, including geotechnical investigations, soils boring, soil resistivity tests, cathodic protection surveys, and geotechnical analysis, and use of the relevant facts derived from these investigations and reports for the engineering and construction phase(s), including:
            1. The preparation of a Job Site investigation report detailing any relevant general or local information required to design, engineer, and construct the FACILITIES, Contractor Camp or Project Support Buildings (such as temporary electric power availability and sources).
            2. Any additional geotechnical investigation, soils borings, or other investigation or analysis (such as soil resistivity testing, geotechnical erosion control and cathodic protection) to be undertaken to verify and confirm any SAUDI ARAMCO-provided geotechnical data and ensure the accuracy and adequacy of geotechnical data and other Job Site information used for design purposes.
  3. Project Risk Management
     1. CONTRACTOR shall complete a Project Risk Management (“**PRM**”) process in compliance with SAUDI ARAMCO procedure SAEP-367 and the SAUDI ARAMCO Project Risk Management Guide, with a team composed of representatives from SAUDI ARAMCO and CONTRACTOR. The required PRM process steps shall be performed during specific risk events as set forth in Paragraph 5.4.4 below, and must be conducted by a facilitator who either is a member of the SAUDI ARAMCO Project Management Office Department or has been approved by the SAUDI ARAMCO Project Management Office Department, and who is trained, competent and experienced in Project Risk Management in accordance with SAUDI ARAMCO procedure SAEP-367 and the SAUDI ARAMCO Risk Management Guide.
     2. All PRM steps and activities will employ the Active Risk Manager (“**ARM”**) software tool or other equivalent function tools (with SAUDI ARAMCO’s Approval) to manage and capture the activities.
     3. PRM Continuous Activities for Monitoring and Control of PRM (consisting of continual review of risk information, reassessment, and management of assigned risk actions), as described in the standards listed above shall be conducted as part of regular project management review, control, and status reporting.
     4. The number and timing of risk events shall be as set forth in Appendices A and B of Procedure SAEP-367 based on project size and complexity. The risk events shall involve representatives of all key stakeholder groups and project disciplines. Each risk event will include one complete cycle of all activities described in the SAUDI ARAMCO Risk Management Guide and Procedure SAEP-367 and the CONTRACTOR will deliver the following as part of the formal reporting of results, in compliance with the aforementioned documents:
        1. Updated Project Risk Management Plan
        2. Updated Project Risk Register (in ARM or approved equivalent tool)
        3. Updated Project Risk Status Report
     5. Additionally, the CONTRACTOR shall, within 60 days of the Effective Date, perform a quantitative Schedule Risk Analysis (“SRA”). The SRA should also be repeated as part of all regular project risk events as set forth in Paragraph 5.4.4 or:
        1. When an additional new major risk is identified; or
        2. When the logic of the original risk management plan is altered by a Change Order or any execution variations causing the project to extend beyond the Scheduled Mechanical Completion Date.
        3. The SRA must be performed using:
           1. A summary level schedule of approximately 50 – 150 normal activities from a level 2 and/or 3 control schedule, where such schedule fully complies with basic schedule principles regarding precedence logic and all milestones; and;
           2. A SAUDI ARAMCO approved Monte Carlo simulation package such as Oracle Primavera Risk Analysis that has the capability to incorporate a project risk register captured in Active Risk Manager (ARM). In particular, schedule risks should be mapped to affected normal schedule activities. Additionally, the analysis shall incorporate duration uncertainty ranges of normal activities and all required correlations. CONTRACTOR shall provide to SAUDI ARAMCO an analysis model in electronically transmittable format and the analysis report shall include the following mandatory information:

1. A Schedule Check Report to assure maturity of the control schedule employed in the analysis;
2. Completion Dates distribution graphs demonstrating the confidence level of the targeted completion date before and after risk mitigation; and
3. Tornado graphs demonstrating the top 20 key project schedule sensitivities and criticalities (both normal activity duration uncertainties and risk events) before and after risk mitigation;
   * 1. CONTRACTOR shall assign a qualified risk manager to ensure the PRM process is effectively conducted. The risk manager shall coordinate and conduct the required risk monitoring and control activities on a regular basis, and will also be responsible for scheduling, planning and execution of the risk events in accordance with SAUDI ARAMCO requirements.
     2. Information, plans, and documents generated during the PRM process shall be shared with SAUDI ARAMCO on a timely basis.
     3. The PRM process is conducted by the CONTRACTOR with SAUDI ARAMCO participation for the purpose of assisting the CONTRACTOR in planning and executing the WORK in a timely and effective manner and does not relieve the CONTRACTOR of any of its obligations to manage project risks under this Contract. CONTRACTOR indemnifies SAUDI ARAMCO from any and all Claims arising from or related to SAUDI ARAMCO’s support or participation in the PRM process.
   1. CONTRACTOR Organization and Personnel
      1. CONTRACTOR Personnel performing the WORK shall be dedicated to the project on a full time basis, unless otherwise authorized in writing by SAUDI ARAMCO.
      2. CONTRACTOR shall ensure that all Key Personnel are fluent in the written and spoken English language.
      3. CONTRACTOR shall provide the particular Key Personnel individuals proposed in its technical proposal to perform the WORK, unless SAUDI ARAMCO specifically approves substitutions in writing. Such Approvals will be entirely at the discretion of SAUDI ARAMCO, but will not be unreasonably withheld.
      4. Unless otherwise agreed in writing by the Company Representative, the personnel listed in Attachment I to this Schedule “B” shall be relocated to the Job Site to provide continuity between the Design Office and the Job Site.
      5. CONTRACTOR shall arrange, at no additional cost to SAUDI ARAMCO, any and all required visas or other documentation, transportation, travel and living accommodation, for any CONTRACTOR Personnel, as well as Subcontractor and Vendor personnel engaged in the WORK.
      6. CONTRACTOR shall notify Company Representative two (2) weeks prior to scheduled travel plans of any CONTRACTOR Personnel, Vendor representatives, consultants, or other personnel planning to visit the FACILITIES, or any office of SAUDI ARAMCO, where such personnel do not already have access arrangements in place for the FACILITIES or relevant office.
      7. CONTRACTOR shall provide and maintain all Job Site engineering, procurement and construction functions necessary for continuous support of the WORK until Project Completion.
      8. Within thirty (30) days after the Effective Date, CONTRACTOR shall designate a Saudi National as documentation controller for maps, drawings and other sensitive documents for the duration of the Contract as required by the Job Specification.
   2. Meetings

In addition to formal and informal communications between SAUDI ARAMCO and CONTRACTOR, regular formal meetings shall be conducted to assure continued communication and document interfaces for the duration of the WORK.

* + 1. Special Meetings

Special meetings may be scheduled at any time to resolve problems. Special meetings shall be scheduled on a regular basis, with the frequency determined by the needs of the WORK. CONTRACTOR shall provide to Company Representative a proposed agenda for each meeting one (1) workday prior to the meeting, for addition of Company Representative’s comments and topics.

* + 1. Regular Progress Review and Planning Meetings

Regularly scheduled progress review meetings shall be held at least weekly. These meetings will provide a forum for review of CONTRACTOR’s operations, overview of progress and schedule, discussion and resolution of problems facing CONTRACTOR and SAUDI ARAMCO, and coordination of activities. CONTRACTOR shall provide to Company Representative a proposed agenda for each meeting at least one (1) workday prior to the meeting, for addition of Company Representative’s comments and topics. CONTRACTOR shall provide the weekly progress report per Paragraph 5.7, separately for engineering, procurement and construction, at the progress review and planning meeting, and include the report in the meeting minutes.

* + 1. Weekly Procurement Meeting

Within forty (40) calendar days of the Effective Date, CONTRACTOR shall initiate a formal weekly procurement meeting. Procurement meetings shall be chaired by the CONTRACTOR’s Procurement Manager and shall be attended by all supervisors of procurement, inspection, field engineering, and scheduling. The purpose of the meetings is to ensure that procurement and field construction problems are addressed directly and effectively for resolution. CONTRACTOR shall document all such meetings including an action item list explaining concerns raised, the organization responsible for resolution, and the final resolution as approved by Company Representative.

* + 1. Management Review Meeting
       1. SAUDI ARAMCO conducts periodic SAUDI ARAMCO Management Review Meetings (“**MRM**s”), which in some but not all instances will include CONTRACTOR representatives. CONTRACTOR should anticipate at least two MRMs during each year of Contract execution.
       2. CONTRACTOR shall prepare presentations for, and participate at SAUDI ARAMCO’s discretion in MRMs as requested by Company Representative. MRMs are to provide SAUDI ARAMCO executive management with an up-to-date status of all aspects of the WORK. CONTRACTOR shall accordingly incorporate information from Subcontractors, Vendors, Licensors, and Other Contractors, as required, in order to provide a complete status of the design, Materials procurement and construction of the FACILITIES.
       3. MRMs shall be held in SAUDI ARAMCO offices. Attendance will be limited to senior project personnel identified by the Company Representative. The Company Representative will provide meeting details, presentation formats, agendas, and may request CONTRACTOR to provide logistical support, information or data for use at MRMs. CONTRACTOR support of and participation in MRMs is at no added cost to SAUDI ARAMCO.
    2. Minutes of Meeting
       1. CONTRACTOR shall prepare minutes for every meeting held within two (2) workdays for review by the Company Representative. Minutes shall cover all issues discussed at each meeting, specific action items with the identity of the individual with action responsibility and the target completion date, and show status of all open issues carried forward from previous meetings.
       2. Meeting minutes shall be concise and prepared in a format acceptable to Company Representative. Minutes shall be signed by CONTRACTOR and Company Representative, or designee, before final distribution. Approved meeting minutes do not constitute agreements for Changes or amendments to the Contract, and do not constitute notification of delays or Changes.
       3. Meeting minutes shall include an action item log listing, and monitoring, all action items until resolution has been confirmed by CONTRACTOR and SAUDI ARAMCO.
       4. Issues identified at the meetings shall receive a sequential number, and shall remain on the agenda and in minutes until the Company Representative agrees that the issue is closed. Upon concurrence of the Company Representative, CONTRACTOR shall show the closed issues in the minutes with a status of “to be closed.” CONTRACTOR shall maintain a database of all open and closed issues from each meeting when the issue was discussed. Company Representative shall have access to this database at any time.
  1. Progress Reports
     1. CONTRACTOR shall implement a system for progress measurement that determines physical progress of all WORK. The purpose of this measurement system is to facilitate status reporting on all WORK and not as basis to validate CONTRACTOR payment requests. CONTRACTOR shall measure and report progress weekly, separately for engineering, procurement, and construction, using forms and formats provided in the Job Specification. The progress reporting requirements of this Paragraph 5.7 are minimum requirements for such reports.
     2. Engineering Progress

Reported progress of the engineering WORK shall be based on the following criteria unless otherwise agreed by Company Representative in writing:

* + - 1. CONTRACTOR shall identify the manner in which it extracts and validates physical progress from computerized CADD/CAED systems.
      2. CONTRACTOR shall include in the report the completion or estimated completion of the specified engineering and design milestones appearing in Attachment II of this Schedule “B”.
      3. CONTRACTOR shall use percentage (%) weighting criteria to convey physical progress per production drawing as follows:
         1. Initial Drafting – The layout and design is complete and actual line work is visible – weighted 20%.
         2. Drafting Complete – The drawing has been completed by the drafting unit, checked by the chief draftsman and issued to engineering for checking – weighted 45%.
         3. Discipline Check – All engineering disciplines involved have checked the drawing – weighted 15%.
         4. Initial SAUDI ARAMCO Review (if required by SAUDI ARAMCO) – The drawing has been reviewed by SAUDI ARAMCO and returned with any comments – weighted 5%.
         5. Final Draft – All comments have been incorporated and the drawing has been issued for a second check – weighted 5%.
         6. Completion with Holds (if any) – The drawing has been reviewed as IFC. However, the drawing may not be 100% complete because there are one or more holds indicated on the drawing – weighted 5%.
         7. Final Issuance – The IFC drawing has been issued with no holds indicated – weighted 5%.
      4. Engineering Progress for each design activity may only be earned as each of the above incremental milestones is completed. At any time, the total earned man-hours for each activity is the product of actual percent complete for each milestone multiplied by the budgeted man-hours for the milestone. For purposes of clarity, the terms “earned” and “budgeted” within this Paragraph 5.7 refer only to progress measurements. The budgeted man-hours for each specific activity shall be set forth in the Approved Project Execution Plan.
      5. The total engineering percent complete is then determined by dividing the total number of earned man-hours for all engineering activities by the total number of man-hours budgeted for all engineering activities.
      6. During engineering, CONTRACTOR shall also maintain and report engineering productivity, where productivity is defined as earned man-hours divided by actual man-hours expended. This metric may be used for forecasting purposes.
      7. CONTRACTOR shall maintain and keep current progress curves of actual physical progress versus planned progress for each engineering discipline.
      8. Support functions such as project management, project controls, administrative, clerical, procurement, contracts, and the like shall not be included in any calculations of progress.
    1. Procurement Progress

Reported progress of the procurement WORK shall be based on the following criteria unless otherwise agreed to by Company Representative in writing:

* + - 1. CONTRACTOR shall identify the manner by which it extracts and validates physical progress from the established purchasing activity systems.
      2. Each procurement order shall be weighted equally for progress reporting purposes. Each milestone identified below shall be fully completed before progress is earned, except for the delivery of equipment or Materials where delivery typically occurs in batches or at different times:
         1. Request for Quotations (RFQ) issued to prospective bidders - weighted 10%.
         2. Quotations (bids) received in response to RFQ, with completed technical and commercial evaluations - weighted 15%.
         3. RFQs for which a Vendor has been selected and a Purchase Order (PO) has been issued and signed - weighted 15%.
         4. POs for which all fabrication approval documents (NMR 601- fabrication approval documents) and data have been received from Vendor - weighted 10%.
         5. POs for which complete, certified Vendor data (NMR 602- certified fabrication documents, component material test certifications, and (as applicable) welding procedure specifications (WPS) and welding procedure qualification records (PQRs)) have been received - weighted 10%.
         6. POs for which all process equipment and bulk materials has been delivered to the Job Site - weighted 30%.
         7. POs for which complete sets of all NMRs have been received - weighted 10%.
    1. Construction Progress

Reported progress of the construction WORK shall be based on the following criteria unless otherwise agreed by Company Representative in writing:

* + - 1. CONTRACTOR shall base the construction physical progress calculations on the estimated manhour level of effort required to complete a defined and measurable work activity, as set forth in the Approved Project Execution Plan.
      2. CONTRACTOR shall continue to refine the level of detail within the construction physical progress database and track changes to the database as additional information becomes available through engineering progress.
      3. CONTRACTOR shall include in the report the completion or estimated completion of the specified construction milestones appearing in Attachment II to this Schedule “B”. Progress against milestones for each discipline shall be measured as a percentage of completion of each milestone as mutually agreed to by SAUDI ARAMCO and CONTRACTOR.
      4. CONTRACTOR shall maintain current progress curves of actual physical progress versus planned progress for each principal construction activity and for each major Subcontractor.
      5. At the time the schedule emphasis shifts from area/geographical to a systems approach (approximately at 65% of physical completion), CONTRACTOR shall report progress by system in addition to the prior reporting method.
      6. Only Direct Manpower, and not Indirect Manpower or support personnel, shall be included in calculations of construction progress.
    1. CONTRACTOR shall provide a regular monthly report summarizing WORK progress information, which shall be presented with narratives and attached graphics and tables, using forms and formats Approved by SAUDI ARAMCO. The monthly report should include forecasted progress of engineering activities, procurement activities, construction activities, construction support activities (for example, scaffold erection, crane movements and heavy equipment transport), as well as progress photos, Materials submittal/approval status, non-conformance reports status and disposition, safety brief, manpower assigned to the WORK, and key performance indicators (KPIs) selected by CONTRACTOR or requested by SAUDI ARAMCO.
  1. Capital Equipment Listing

CONTRACTOR shall maintain and regularly update the list of capital equipment based on references contained in the Job Specification. CONTRACTOR’s capital equipment list shall include:

* + 1. CONTRACTOR PO and SAUDI ARAMCO PO numbers
    2. Item number
    3. Engineering plant number
    4. Equipment tag number
    5. Description
    6. Manufacturer
    7. Model number
    8. Serial number
  1. Accounting Plant Numbers

CONTRACTOR shall ensure that accounting plant numbers are assigned and affixed to all equipment installed by CONTRACTOR in the FACILITIES using references contained in the Job Specification. CONTRACTOR shall:

* + 1. Prepare and submit, in accordance with references contained in the Job Specification, form SA-9032-1 to the Company Representative.
    2. Supply and affix, or ensure that Vendors supply and affix, suitable tags in accordance with references contained in the Job Specification.
    3. Enter the assigned asset numbers on the blank tags of all equipment installed in accordance with references contained in the Job Specification.
    4. Verify, in writing, that the assigned asset numbers have been correctly marked on all installed equipment.
    5. Provide a plan for affixing tags, marking tags, completing forms, and verifying tag numbers on all installed equipment.
  1. Deviations and Waivers

CONTRACTOR may request in writing to deviate from Project Standards or specifications, procedures, or other documents referenced in the Job Specification. The time required to process such a request for deviation or waiver, without regard to the final disposition of the request, shall not constitute a basis for extending the Scheduled Mechanical Completion Date or any Critical Milestone Date.

* 1. Contractor Camp and Project Support Buildings
     1. As required by Attachment III of this Schedule “B”, CONTRACTOR shall either (A) directly furnish, install, and maintain Contractor Camp facilities or (B) arrange to utilize a third party Contractor Park designated by SAUDI ARAMCO, or utilize a combination of methods (A) and (B).
     2. To the extent that CONTRACTOR fulfills these requirements via method (A), CONTRACTOR shall:
        1. Comply with all requirements of SAUDI ARAMCO health, safety, sanitation and building code requirements, as referenced in Attachments I or III to this Schedule “B”; and
        2. Provide the option for SAUDI ARAMCO to subsequently purchase Contractor Camp facilities and/or Project Support Buildings as set forth in Attachment I to Schedule “C”.
     3. CONTRACTOR shall conduct weekly inspections of Contractor Camp facilities and Project Support Buildings, using the checklist in SAUDI ARAMCO General Instruction 298.010, “Administration Procedure of Contractor Camps/Parks and Construction Camps.” CONTRACTOR shall submit monthly corrective action reports and monthly activity reports to the Company Representative respecting action items identified in inspections or otherwise, in a format acceptable to the Company Representative.
     4. CONTRACTOR shall provide services and maintain office facilities for the exclusive use of SAUDI ARAMCO project management team at the Job Site. Such facilities shall be ready for use by SAUDI ARAMCO by the date of the construction Notice to Proceed. Such facilities are subject to Approval by Company Representative and shall remain operational until notice is received from SAUDI ARAMCO to close the offices.
     5. The specific requirements, specifications, and Project Standards with respect to the services and facilities to be provided for Contractor Camps and Project Support Buildings are subject to specific variations where, in the opinion of the Company Representative, the services and facilities furnished are equivalent to those specified. Any Change Order related to either shortfalls in the required services and facilities provided or additions to such requirements shall be based on the net cost change, either positive or negative, in comparison to the requirements of the Job Specification.
     6. For any land provided by SAUDI ARAMCO to CONTRACTOR for Contractor Camp facilities. Fabrication Yard(s), Lay Down Yard(s), or Project Support Buildings, CONTRACTOR shall execute a “Land Use Permit” document as may be required by SAUDI ARAMCO, at least sixty (60) days prior to the need for the land, and CONTRACTOR shall abide by all terms and conditions specified therein.
     7. All required Contractor Camp facilities and Project Support Buildings shall be ready and available for use upon issuance of the construction Notice to Proceed, and in accordance with the Critical Milestones specified in Attachment II to this Schedule “B”.
     8. During the construction phase, CONTRACTOR shall provide and furnish all consumables, utilities, and maintenance for all Contractor Camp facilities and Project Support Buildings. At the completion of the WORK (and with respect to SAUDI ARAMCO offices, upon notice received from SAUDI ARAMCO to close the offices), CONTRACTOR shall remove all Contractor Camp facilities and Project Support Buildings, along with associated utilities and underground installations, and restore such areas to their original condition, subject to SAUDI ARAMCO exercise of its Contractor Camp purchase option specified in Schedule “C”.
  2. Use of SAUDI ARAMCO Work Breakdown Structures

CONTRACTOR shall create a project Work Breakdown Structure (“**WBS**”) specific to the WORK required for the Job Specification based on and by modifying a SAUDI ARAMCO standard WBS as provided to the CONTRACTOR with the Job Specification. The WBS created by the CONTRACTOR must be approved in writing by SAUDI ARAMCO, and shall be used by the CONTRACTOR for all aspects of the WORK, including, but not limited to, Project Execution Plan and WORK Schedule development, progress reporting, and invoicing for payment.

* 1. Collaboration through Enterprise Project Management (EPM) System

CONTRACTOR shall ensure that all of its communications and submittals to and with SAUDI ARAMCO in connection with this Contract are captured in and per SAUDI ARAMCO Enterprise Project Management (EPM) systems formats, requirements and guidelines as specifically set forth in the Job Specification and EPM Contractor Manual. The communications and submittals under this Contract include, but are not limited to, engineering design documents, drawings, reviews, procurement information, reporting, inspection request, quality records and all other administrative submittals and communications.

* 1. SAUDI ARAMCO ID Cards and Vehicle Stickers
     1. CONTRACTOR shall comply with SAUDI ARAMCO requirements regarding restricted and non-restricted vehicle stickers and SAUDI ARAMCO ID cards, including SAUDI ARAMCO General Instruction 710.001 for identification cards ("**ID Cards**") and General Instruction 710.007 for Restricted and Non-Restricted Area vehicle stickers.
     2. CONTRACTOR shall use the designated application forms and systems in applying for ID Cards and vehicle stickers, and obtain required Approvals from the Company Representative before WORK begins at the Job Site.
     3. CONTRACTOR may obtain only one ID Card for each employee at a time. CONTRACTOR shall renew ID Cards at least 10 days before each card's expiration date.
     4. CONTRACTOR shall retrieve ID Cards from all CONTRACTOR Personnel (which term includes Subcontractor personnel) upon completion of the WORK or termination of the Contract. CONTRACTOR shall retrieve ID Cards from personnel leaving Saudi Arabia for any period, and deposit them at the nearest SAUDI ARAMCO Area ID office. This is particularly important for those having Plant ID Cards.
     5. CONTRACTOR shall immediately report any loss of ID Cards to SAUDI ARAMCO's Area ID office or Area Industrial Security Department. If any CONTRACTOR of Subcontractor employee should leave his employment without surrendering his ID Card, it must be immediately reported in writing to the Area ID office. CONTRACTOR is subject to fines imposed by the SAUDI ARAMCO Industrial Security Organization per applicable General Instructions for failure to timely return ID Cards or other non-compliance with these requirements.
     6. CONTRACTOR shall appoint a qualified Saudi Arab National to act as liaison officer between CONTRACTOR and the SAUDI ARAMCO Area ID office.

1. MATERIALS PROCUREMENT
   1. Materials Procurement
      1. SAUDI ARAMCO will provide PO numbers to be used by CONTRACTOR on all POs.
      2. CONTRACTOR shall require Vendors to fully identify and explain any deviations, including exceptions, alternatives and clarifications that Vendors may propose to CONTRACTOR Materials or equipment specification requirements in Purchase Requisitions. Any proposed deviation to the requirements contained in the Job Specification shall subject to execution of a written waiver by SAUDI ARAMCO.
      3. CONTRACTOR shall provide Company Representative with a list of Commissioning and Start-Up spare parts that CONTRACTOR will deliver to the Job Site, at the time each PO is issued.
      4. CONTRACTOR shall designate a qualified spare-parts coordinator.
      5. CONTRACTOR shall ensure that all Materials, equipment, and data submittals are in full compliance with the latest approved design and IFC documents. Materials and equipment delivered to the Job Site without required SAUDI ARAMCO Approval shall be rejected, and removed by CONTRACTOR at its expense.
   2. PO Required Terms

CONTRACTOR shall include in all equipment Purchase Orders requirements for the following:

Pricing for training sessions to be held in the Kingdom of Saudi Arabia.

Pricing for trainers to work In Kingdom.

Pricing for specific training courses outside the Kingdom of Saudi Arabia.

* 1. Expediting

CONTRACTOR shall confirm required shipping schedules with Vendors prior to final PO placement, and monitor PO revisions and amendments for proposed shipping schedule changes and expediting purposes. CONTRACTOR shall:

* + 1. Maintain control of delivery dates established for the WORK.
    2. Expedite all drawings and engineering approvals, including design calculations, special tools, spare parts packages, and Vendor data submissions requiring approval by CONTRACTOR or review by the Company Representative.
    3. If equipment or Materials are needed to maintain the progress of the WORK, the CONTRACTOR shall expedite the delivery of such items by any means necessary including by air shipments, at no additional cost to SAUDI ARAMCO.
  1. Materials and Equipment Preservation
     1. CONTRACTOR shall provide protection against corrosion and damage when transporting and storing Materials and equipment at the WORK Site in accordance with Vendor’s requirements and/or SAUDI ARAMCO standards and specifications referenced in the Job Specification for such protection. Resolution of any conflicts between Vendor’s requirements and the Job Specification shall be at the direction of the Company Representative at CONTRACTOR’s cost.
     2. CONTRACTOR shall extend its protection measures, against actual or consequential damage resulting from exposure, or lack of proper maintenance, to equipment and Materials regardless if in storage, or installed in the FACILITIES, as part of the WORK.

END OF SCHEDULE B