

**EXHIBIT I**  
**SCOPE OF WORK**

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## 1.0 INTRODUCTION

- Petrolines for Crude Oil Ltd (PETCO) is operating the oil transportation Pipeline from Hegleig to Port Sudan through six pump stations.
- Four way meter prover valve which manufactured by GENERALVALVE COMPANY were installed to control the flow of the meter prover with three stream line meters. And operated by Electro-Hydraulic Power Units (EHPU).
- PETCO planned to replace the existing complete four way valve with new one to do the same control function for meter prover at Marine Terminal Bashair (1) at Port-Sudan.

## 2.0 SCOPE OF WORK AND CONTRACTOR'S RESPONSIBILITIES

### 2.1 Overall Scope of Work

- 2.1.1 CONTRACTOR shall be responsible for the execution of engineering, procurement, installation, testing, pre-commissioning and commissioning of the project.
- 2.1.2 CONTRACTOR's work includes but not necessarily limited to provision of replacing the 4-way valve of the meter prover complete unit at Maine Terminal. Procurement, material delivery, installation, inspection and testing, pre-commissioning and commissioning in addition of submission of as-built drawing and documentation and warranty.
- 2.1.3 The WORK shall be designed, procured, installed and commissioned in accordance with the specifications, standards, codes which are part of this CONTRACT and the applicable Sudan government Authority rules, Regulations and laws.
- 2.1.4 Vendor to insure that instruments has been designed and installed to withstand during normal operation maximum severe climatic conditions, in particular the solar heat gain maximum of 85 °C or 58 °C shaded.
- 2.1.5 Installation and commissioning of the new system shall be done without any interruption to the pump station operation.
- 2.1.6 All detailed design engineering required, including preparation and issue of drawings, specifications, data sheets, details, reports, and calculations.

### 2.2 CONTRACTOR's Scope Of Work

- 2.2.1 Contractor shall be responsible for the execution of design, procurement, Installation, testing, pre-commissioning and commissioning of the project of Provision of the 4-way valve of the meter prover complete unit at Marine Terminal 1, that include but not limited of the following :-

- Dismantling the old unit.
- Design And Engineering
- Procurement.
- Installation.
- Commissioning
- Planning And Scheduling
- Reports to PETCO

- 2.2.1.1 To design, supply and installation of the 4 - way valve of the meter prover (16" B47114-WAY) with electro – hydraulic operate (4W-110A) at Maine Terminal.
- 2.2.1.2 The new 4-way valve of the meter prover shall be designed to allow the existing instruments cable to supply the valve solenoids.
- 2.2.1.3 The contractor shall dismantle the old 4 - way valve with all instruments cable mentioned. And installed them on the new one.
- 2.2.1.4 The contractor has to keep the same existing communication between the new unit and flow computer at the Control Room.
- 2.2.1.5 Contractor shall prepare technical documentations which includes all specifications, data sheets, drawings, operation and maintenance manuals and submission of final as built drawing and documentations including vendor documentations hard and soft copies.

## **2.3 CONTRACTOR'S Responsibilities**

In addition to the main CONTRACTOR's scope of work described above, CONTRACTOR shall also carry out the following work:-

- 2.3.1 Contractor shall prepare all equipment, tools and consumable materials required to execute the project.
- 2.3.2 Commissioning the systems including checks, functional and performance tests to verify intended specified design has been achieved.
- 2.3.3 Provision two (2) years spare parts list. Two years spares, capital (insurance) spare parts and equipment are not included in the CONTRACT PRICE.
- 2.3.4 Preparation of PROJECT EXECUTION SCHEDULE. This schedule shall be based on detailed breakdown of the CONTRACT Scope of Work as stipulated in this CONTRACT.

- 2.3.5 Implementing a system of progress reporting by which PETCO remains regularly informed of the status of the WORK.
- 2.3.6 Avoid damaging any of existing facility during the construction activities due to heavy vehicles etc.
- 2.3.7 Repair and reinstate of any damage on the existing facilities caused by CONTRACTOR during construction activities.
- 2.3.8 Provide instruction, safety, signage, etc. If necessary
- 2.3.9 Carry out complete check for underground interference before commencing construction.
- 2.3.10 Keep the site reasonably clean for safe working condition and dispose garbage. Upon completion of the work, remove all unused materials and clean up the work site and affected surroundings to the satisfaction of PETCO.
- 2.3.11 Clean-up SITE and surrounding areas after completion of work.
- 2.3.12 Conduct Performance Tests in accordance with requirements.
- 2.3.13 Provision of all final documentation, "As-Built" drawings, maintenance management system and close out report as defined in the CONTRACT.
- 2.3.14 Contractor shall provide transportation for their personnel to and from the site and Mobilizing all equipment, materials, consumables to the field
- 2.3.15 Carrying out complete check for underground utilities before commencing construction.

### **3.0 PETCO'S RESPONSIBILITIES**

- 3.1 PETCO will, but is not obliged to, provide assistance to the CONTRACTOR in securing necessary permits or data from Sudanese governmental authorities and /or agencies when required under this CONTRACT. Failure by PETCO to obtain and provide such assistance shall not relieve the CONTRACTOR from its obligation to secure the same at its own costs, as follows:
  - 3.1.1 Provide the relevant specifications, drawings and resolve any deficiency of contradiction in such information.
  - 3.1.2 Access to the worksite.
  - 3.1.3 Care, custody and control after Start-up commence and acceptance of the completed WORKS.
- 3.2 The signing, countersigning or other endorsements of any Drawings and Documentation by PETCO's Representatives, agents or employees shall not be interpreted as implying the responsibility for the correctness of such documents nor relieving the CONTRACTOR of its obligations to review all information, data, Drawings, and specifications provided by PETCO.
- 3.3 PETCO shall provide CONTRACTOR's Personnel and equipment such reasonable right of entry to Worksites as CONTRACTOR's requires performing the WORK. PETCO shall promptly advise CONTRACTOR's Personnel of any restrictions, conditions or limitations affecting the right of entry or operation of CONTRACTOR's Personnel at the Worksite.

#### **4.0 Factory Acceptance Test (FAT);**

- Contractor shall carry out Factory Acceptance Test (FAT) for new 4 - way valve of the meter prover (16" B47114-WAY) with electro – hydraulic operate (4W-110A) before delivery in presence of two PETCO representative.
- Prepare FAT procedure and submitted to PETCO for approval.
- To submit FAT report after successful test.

#### **5.0 MAINTENANCE DURING WARRANTY PERIOD**

- OWNER will perform routine maintenance on all parts of the FACILITIES. OWNER will perform all scheduled inspections in accordance with the manufacturers' recommended procedures
- Warranty period is twelve (12) months, effective from commissioning of the system.
- Warranty covers labors and all mechanical and electronic parts, based on repair/replacement.
- Warranty included travel and accommodation expenses for On-Site repair.

Any work done by OWNER during the Warranty Period shall not relieve CONTRACTOR from any obligation under the CONTRACT. CONTRACTOR shall however not be responsible for any liability if the damage to the FACILITIES is due to mal-operation by OWNER during the Warranty Period.

**End of Exhibit I**