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AND PROJECTS  
ISO – 9001:2015**

**BACKGROUNG & GENERAL**

**Vol.**

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## **BACKGROUND & GENERAL**

### **PIPELINE REPLACEMENT PROJECT –X PROJECT (PRP-X)**

**OIL AND NATURAL GAS CORPORATION LIMITED**

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## 1.0 Background & General:

Oil and Natural Gas Corporation Limited, here in after called as “Company” is engaged in exploration and exploitation of hydrocarbon in Western Offshore field in the Arabian Sea on the continental shelf of Western India. The field is well developed with an extensive infrastructure of well head platforms, process platforms and pipelines. With the ageing of field, condition of some of its existing pipelines has deteriorated. Company is planning for replacement of these pipelines in phased manner. In addition, it is planning to lay some new lines for better management of the field.

The present tender envisages Full & Partial replacement of some of its well fluid, gas lift and water injection pipelines along with some new pipelines under EPCI basis.

The bid document provides minimum basic design requirements of pipeline and functional requirement of top side modification works. However, bidder is to carry out the detailed engineering and design as per requirements given in the bidding documents.

## 1.1 Project Description:

The scope of this tender is to replace some submarine pipe lines from riser to riser and some are to be replaced from pig barrel to pig barrel along with top side modifications including hooking up in the manifold on originating & terminating platform for these pipelines and part/sectional replacement of some segments along with new pipelines segments in Mumbai High, Neelam & Heera and B&S Asset’s fields. Under this tender about 107.8 kms for 21 Pipeline segments is in the scope of work. In addition to this, Replacement of 02 no of risers and removal of Riser/I/J tube are also included in the scope of work.

The detailed scope of work under this tender is covered in the subsequent sections of the Bid Document.

## 1.2 Structure of Bid Document:

The bid package for Pipeline Replacement Project provides the functional Specifications and technical requirements to maintain and comply largely with international standards, industry proven systems and best engineering practices related with this type of work. However, for submarine pipelines, risers and platform modifications basic engineering documents are covered in the bid document.


The bid document consists of following parts as detailed below:-

- |          |                                   |
|----------|-----------------------------------|
| Part I   | - Instructions to Bidders.        |
| Part II  | - General conditions of contract. |
| Part III | - Project Instructions.           |

The above three parts are covered in volume I of bidding document.

- |          |  |
|----------|--|
| Part –IV | -This part gives back ground & technical information, description of the major components, design criteria and Technical and General Specifications. These are covered in the following Sections |
|----------|--|

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- Section -1 - Background and general, project description, Structure of bid documents and Responsibilities of the Contractor.
- Section -2 - Brief accounts of the basic bid work and scope of work in this bid document.
- Section - 3 - Design Criteria to be used by the Contractor in performing the design and detailed engineering for the facilities.
- Section – 4 - Submarine Pipeline & Risers.
- Section – 5 - Hook-up& Pre-commissioning.
- Section – 6A - Specifications covering categories such as rigid pipelines, coating systems, insulation, Installation and Hydro Testing etc. These specifications are general in nature and are intended only as a Supplement to Vol. II.
- Section – 6B - Specifications covering categories such as Piping, Instrumentation, Electrical, Mechanical and Structure etc. These specifications are general in nature and are intended only as a supplement to Vol. III. IRTs are also included in this section.
- Section – 7 - Subsea Pipeline Drawings and P&IDs.


The sections 1 to 6A are covered in Vol II and Section 6B in Vol. III and Section 7 in Vol-IV of the bidding document.

### 1.3 Responsibilities of the Contractor:

As described herein and the instructions in Part – III of this bid document, it will be the Contractor's responsibility to carry out the following:-


- All surveys such as pre-engineering, pre-construction, post-construction, as built etc. as described in the bid document. ONGC will provide Pipeline Route corridor survey (as a part of pre-engineering survey) report of all 21no of pipeline segments to successful bidder.
- Design and detailed engineering of all facilities in accordance with design parameters, design criteria, international codes and standards indicated in the bid document and functional/ general specifications indicated in the document.
- Preparation of all fabrication drawings, purchase specifications, specifications and procedures for fabrication, load-out, tie-down, transportation, offshore installation, hook-up, testing, pre- commissioning and commissioning (wherever applicable) including those for the existing facilities where modifications are to be carried out or where loose material are to be handed over.
- Procurement (except free issue material i.e. line pipe for subsea pipeline, subsea tie-in/expansion spools, risers and mother pipe for bends) including expediting and inspection of all materials and equipment for construction and incorporation in the facilities. In addition to Company or Company appointed inspection agency, the Contractor has to carry out the inspection of material/equipment through third party inspection agency duly approved by the Company.
- The procurement of all equipment and material shall preferably be from Company's approved Vendors /Sub-vendors (Suggested Vendors' List enclosed). All necessary documents including test certificates shall be furnished for Company's review and approval.

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- vi. Company reserves the right to participate in the selection of vendor for major equipment and items. Vendor, other than those indicated in the suggested vendor list, if proposed then contractor shall notify the company in writing of the name / details of the intended vendor and furnish company with two sets of the vendor's complete technical bid offer including past experience of supplying similar items and all technical correspondence / clarification furnished by the vendor to the contractor. Contractor shall ensure that the vendor's technical offer shall be duly vetted by their engineering sub-contractor incorporating observations / recommendations, before submission to the company.
- vii. Company shall have right to hold detail technical discussion with the vendor and visit vendor's works to satisfy about the vendor's capability to execute the job. The contractor shall issue the purchase order only after written approval of the company regarding acceptance of the selected vendor. Approval of purchase specifications does not absolve the Contractor from supplying equipment of proven design as per company's specification, International codes etc requirements.
- viii. Contractor's scope includes all materials (pipes, flanges, fittings, valves, instruments, cables, wirings, structural steel, pipeline materials etc.) including operational / maintenance spares other than those defined in Company's scope.
- ix. All matching flange, gaskets, bolts etc. wherever new piping/instruments are being hooked unto the existing piping.
- x. All types of welding consumables, electrodes, filler wires etc.
- xi. All types of structural members as required for pipe supports, temporary supports, scaffolding materials etc.
- xii. Spool pipes, blinds, plugs, gaskets and other materials/arrangement required for testing of pipe work.
- xiii. Radiography/UT/MPI/DP machines and materials as required for NDT as per welding Functional Specifications.
- xiv. Any other material not-specifically mentioned above but required for completeness of the work as per specifications, drawings and instructions of Engineer-in-charge within, scheduled time shall be the Contractor's responsibility.
- xv. Fabrication and assembly of all facilities including installation of equipment, piping, piping supports, cabling, ducting, tubing etc. into the facilities in accordance with approved drawings and specifications.
- xvi. Providing internal, external corrosion coating & weight coating (only in case of Rigid Pipeline & Riser option), wrapping/sheathing of monel sheets on risers and cathodic protection for submarine pipelines and risers.
- xvii. Load out of all fabricated and bought out components for facilities, coated / wrapped pipelines onto transport barges, sea fastening and transportation to the offshore site in Mumbai High, Neelam & Heera, B&S Fields.
- xviii. Removal/ Relocation/ Reinstallation of existing Jacket anodes, Riser protectors, Boat Landing etc. and any other obstructions on existing platforms wherever encountered to carry out the intended scope of work.
- xix. Offshore installation of all facilities, hook-up, testing, pre-commissioning and commissioning (wherever applicable).
- xx. Contractor shall perform leak test of all well platforms as part of pre-commissioning work. Further, Contractor shall pre-commission all hydrocarbons handling system and fire suppression system (wherever applicable). All necessary hook up & pressure reduction provisions for taking hydrocarbons for different systems shall be provided by contractor. All such pre-commissioning activities shall be witnessed by Company for their satisfactory completion.
- xxi. The commissioning works shall include the confirmation of ready to use status of the facilities and all applicable performance tests.
- xxii. Procurement and delivery of spare parts for one year of operation and maintenance of the

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facilities as described elsewhere in the bid document.

xxiii. Design engineering of all future facilities as described in the Bid Document.

xxiv. It shall be the contractor's responsibility to prepare project documentation including as built drawings & documents, specifications, operation and maintenance manual, vendor data book etc. In addition to the hard copies, soft copies of all as built drawings on DVD/Portable Hard discs using latest version of software shall be provided. During detailed engineering all drawings and documents shall be generated for submission to the company in hard copy as well as electronic form.

xxv. Contractor shall be required to follow Company's on-line documentation system (OPMAC) for uploading and online review of documents, drawings etc.

xxvi. Instructions for submission of project documentation including as-built (in addition to the hard copy documents) shall be as follows:

Soft copy: - In electronic format using CD/DVD/Portable Hard Discs media

Sl. No.	Description	Format
1	Project Documents	Latest Version of Microsoft Office
2	Vendor Drawings, Specifications, Operation & Maintenance Manual, Vendor Data Book etc. (All documents pertaining to packaged items delivered by third party)	Latest Version of PDF
3	All Drawings pertaining to modification job (wherein PDS 3D model creation is not envisaged)	Latest Version of AUTOCAD AND/OR MICROSTATION (As per contractor's convenience)
4	All drawings for new platform	Latest Version of MICROSTATION ONLY

xxvii. The entire Project Management should be done by using Microsoft Project Professional management software, considering all the realistic project data, dates and contract stipulated periods of performances. Any other works specified elsewhere in the bid package.

Contractor shall furnish all the information as sought by the company in formats for its data storage and retrieval system at no extra cost to company. The formats shall be provided to the Contractor during detailed engineering/ kick-off meeting.

In accomplishing the above tasks, the Contractor will take total responsibility of executing the project in accordance with this bid document including supply of all materials and consumables, construction equipment, labour etc. and will adhere to bid document instructions and requirements in respect of all matters relating to the project.

The contractor shall ensure that all modifications are designed and carried out such that it will have no adverse effect on existing operations of the platforms.

Reference to basic bid work, design criteria, functional/general specification and drawings need to be made by contractor to follow while executing the work described in project description.

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