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| **طرح نگهداشت و افزایش تولید 27 مخزن** | | | | | | | |
| **PMR FOR PRESSURE VESSELS**  **نگهداشت و افزایش تولید میدان نفتی بینک** | | | | | | | |
|  |  |  |  |  |  |  |
| D03 | SEP. 2024 | IFI | V.Amjadi | M.Fakharian | M. Sadeghian |  |
| D02 | JUL. 2023 | IFI | H. Adineh | M.Fakharian | A.M.Mohseni |  |
| D01 | JUL. 2022 | IFI | H. Adineh | M.Fakharian | M.Mehrshad |  |
| D00 | FEB. 2022 | IFI | H. Adineh | M.Fakharian | M.Mehrshad |  |
| **Rev.** | **Date** | **Purpose of Issue/Status** | **Prepared by:** | **Checked by:** | **Approved by:** | **CLIENT Approval** |
| **Class: 3** | | **CLIENT Doc. Number: F0Z-709221** | | | | |
| **Status:** | **IDC: Inter-Discipline Check**  **IFC: Issued For Comment**  **IFA: Issued For Approval**  **AFD: Approved For Design**  **AFC: Approved For Construction**  **AFP: Approved For Purchase**  **AFQ:** Approved For Quotation  **IFI: Issued For Information**  **AB-R: As-Built for CLIENT Review**  **AB-A: As-Built –Approved** | | | | | |

**REVISION RECORD SHEET**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **PAGE** | **D00** | **D01** | **D02** | **D03** | **D04** |  | **PAGE** | **D00** | **D01** | **D02** | **D03** | **D04** |
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| **2** | X | X | X | X |  | **67** |  |  |  |  |  |
| **3** | X |  |  |  |  | **68** |  |  |  |  |  |
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| **5** | X | X | X | X |  | **70** |  |  |  |  |  |
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| **9** | X |  |  |  |  | **74** |  |  |  |  |  |
| **10** | X |  | X | X |  | **75** |  |  |  |  |  |
| **11** | X | X | X | X |  | **76** |  |  |  |  |  |
| **12** | X |  | X | X |  | **77** |  |  |  |  |  |
| **13** | X |  |  | X |  | **78** |  |  |  |  |  |
| **14** | X |  | X | X |  | **79** |  |  |  |  |  |
| **15** | X |  | X | X |  | **80** |  |  |  |  |  |
| **16** | X |  |  | X |  | **81** |  |  |  |  |  |
| **17** | X | X |  | X |  | **82** |  |  |  |  |  |
| **18** | X |  |  | X |  | **83** |  |  |  |  |  |
| **19** | X | X | X | X |  | **84** |  |  |  |  |  |
| **20** | X | X | X | X |  | **85** |  |  |  |  |  |
| **21** | X | X |  |  |  | **86** |  |  |  |  |  |
| **22** | X |  |  |  |  | **87** |  |  |  |  |  |
| **23** | X |  |  |  |  | **88** |  |  |  |  |  |
| **24** | X |  | X |  |  | **89** |  |  |  |  |  |
| **25** | X |  |  |  |  | **90** |  |  |  |  |  |
| **26** | X | X | X |  |  | **91** |  |  |  |  |  |
| **27** | X |  |  |  |  | **92** |  |  |  |  |  |
| **28** | X |  |  |  |  | **93** |  |  |  |  |  |
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1. **INTRODUCTION**

Binak oilfield in Bushehr province is a part of the southern oilfields of Iran, is located 20 km northwest of Genaveh city.

With the aim of increasing production of oil from Binak oilfield, an EPC/EPD Project has been defined by NIOC/NISOC and awarded to Petro Iran Development Company (PEDCO). Also PEDCO (as General Contractor) has assigned the EPC-packages of the Project to "Hirgan Energy - Design and Inspection" JV.

As a part of the Project, a New Gas Compressor Station (adjacent to existing Binak GCS) shall be constructed to gather of 15 MMSCFD (approx.) associated gases and compress & transfer them to Siahmakan GIS.

**GENERAL DEFINITION**

The following terms shall be used in this document.

|  |  |
| --- | --- |
| CLIENT: | National Iranian South Oilfields Company (NISOC) |
| PROJECT: | Binak Oilfield Development – Surface Facilities; New Gas Compressor Station |
| EPD/EPC CONTRACTOR (GC): | Petro Iran Development Company (PEDCO) |
| EPC CONTRACTOR /PURCHASER: | Joint Venture of : Hirgan Energy – Design & Inspection (D&I) Companies |
| VENDOR: | The firm or person who will fabricate/supply the equipment or material. |
| EXECUTOR: | Executor is the party which carries out all or part of construction and/or commissioning for the project. |
| THIRD PARTY INSPECTOR (TPI): | The firm appointed by EPD/EPC CONTRACTOR (GC) and approved by CLIENT (in writing) for the inspection of goods. |
| SHALL: | Is used where a provision is mandatory. |
| SHOULD: | Is used where a provision is advisory only. |
| WILL: | Is normally used in connection with the action by CLIENT rather than by an EPC/EPD CONTRACTOR, supplier or VENDOR. |
| MAY: | Is used where a provision is completely discretionary. |

1. **GENERAL**

* This document presents the item material requisitions for Contractor’s use as appropriate.
* This material requisition covers the requirements for the design, manufacturing, testing and supply of Pressure Vessels as listed below. All equipment/devices/items shall conform to this requisition and all specifications which have been mentioned in attachment 1 of this material requisition.
* VENDOR’s supply shall include:

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|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Item** | **Description** | **QTY.** |
| 1 | V-2101A/B/C | 1st Stage G.C. Suction Drums | 3 |
| 2 | V-2102A/B/C | 2nd Stage G.C. Suction Drums | 3 |
| 3 | V-2103 | Discharge Gas K.O. Drum | 1 |
| 4 | V-2104 | Slug Catcher | 1 |
| 5 | V-2105 | Inlet Gas K.O. Drum | 1 |
| 6 | V-2107 | Glycol Sump Drum | 1 |
| 7 | V-2201 | Flare K.O. Drum | 1 |
| 8 | V-2202 | Close Drain Drum | 1 |
| 9 | V-2203 | Instrument Air Receiver | 1 |
| 10 | V-2204 | Nitrogen Receiver | 1 |
| 11 | V-2205 | Fuel Gas K.O. Drum | 1 |
| 12 | V-2206 | Diesel Oil Drum | 1 |

1. **reference / ATTACHED DOCUMENTS**
2. Specified documents in attachment 1 shall be considered as a part of this material Requisition.
3. All codes and standards which have been referenced in above mentioned specs shall be considered.
4. In case of any conflict between the contents of this document or any discrepancy between this document and other project documents or reference standards, this issue must be reported to the CLIENT. The final decision in this situation will be made by CLIENT.
5. Deviations

Any exceptions/clarifications to codes/standards and specifications listed in attachment 1 must be clearly stated in a separate dedicated section of the proposal in the format submitted in attachment 3.

The proposed deviations/comments list shall include as minimum:

* Reference for the involved specification, chapter and paragraph.
* Technical justification for the non-compliance.
* Detailed description of the proposed alternative.

If no exceptions or clarifications exist, either for the complete referenced document or an individual paragraph, VENDOR shall be considered to be in full compliance with the relevant document.

VENDOR may propose materials of equivalent or better quality compared to those indicated in the equipment data sheet. Even these cases shall be duly included/technically supported in the deviations/clarifications list.

1. **SUBJECT OF THE SUPPLY**

The VENDOR shall supply Pressure Vessel that completely assembled and tested. The scope of supply is detailed at para. 5.1 The VENDOR shall include in the supply, all other equipment/devices/items not listed in the following, but necessary for a good design and a safe operation, taking into account process data and installation conditions such as area classification and climatic conditions.

The grade of shop assembly of the equipment/devices/items supplied shall be at maximum extent to facilitate site erection and pre-commissioning activities.

1. **LIMITS OF SUPPLY**
   1. **scope of supply**

Vendor’s technical proposal shall include but not be limited to, equipment, materials specified in the following table. Here under articles marked with "X" shall be within Vendor’s Scope of Supply and articles marked with “O” shall be considered as optional.

| **Description** | **Required by Purchaser** | **Bidder’s**  **Proposal (\*)** | **Remarks** |
| --- | --- | --- | --- |
| 1. Equipment and/or Materials (Including Certificates) (Refer to Table “1”) | [ X ] | [ ] |  |
| 1. All Welded Internals/External attachment | [ X ] | [ ] |  |
| 1. Insulation support clips and rings (where applicable) | [ X ] | [ ] |  |
| 1. Paint | [ X ] | [ ] |  |
| 1. Gasket, Bolts, Nuts and Washers For Nozzles With Companion Flanges, Internal Flanges, Blinded Flanges | [ X ] | [ ] |  |
| 1. Name plate made of stainless steel and its support bracket | [ X ] | [ ] |  |
| 1. Temporary support for transportation, if necessary | [ X ] | [ ] |  |
| 1. Davit/hinge & safe inter luck for Closures | [ X ] | [ ] |  |
| 1. Material for External surface preparation | [ X ] | [ ] |  |
| 1. Other Traps accessories, appurtenances and penetrations as defined in the Pressure Vessel data sheet | [ X ] | [ ] |  |
| 1. Inhibition materials against internal corrosion for transportation and longtime storage at stockyard | [ X ] | [ ] |  |
| 1. Spare parts for insurance, construction, pre commissioning, commissioning and start‐up as per Att#5 | [ X ] | [ ] |  |
| 1. Spare Parts for Two Years Operation As Per Att#5 | [ O ] | [ ] |  |
| 1. Special tools for erection, maintenance and all required tests | [ O ] | [ ] |  |
| 1. Consumable materials such as welding electrodes and etc. | [ X ] | [ ] |  |
| 1. Temporary blinds for hydro test | [ X ] | [ ] |  |
| 1. Material Certificates for all parts | [ X ] | [ ] |  |
| 1. All documents and certificates for CLIENT approval as required | [ X ] | [ ] |  |
| 1. All certificates requested in this specification | [ X ] | [ ] |  |
| 1. Nozzles and Closure | [ X ] | [ ] |  |

(\*) : Bidder to put “C” as confirmation or “D” as deviation and to fill the related form (Att. #3) accordingly.

Commissioning and start-up spare parts shall be listed in a separate SPIR form (Att. #5 If requested).

During bid stage and if requested by the Purchaser, Vendor shall submit a detail list of spare parts for two years of operation (Based on Project’s Spare Part requirements)

**Notes:**

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Sub-Vendors shall be from the latest edition of MOP(Iran Ministry of Petroleum)-AVL. Sub-Vendors list shall be specified and it will be subject to Purchaser's Approval.

Vendor shall confirm and clarify suitability of above mentioned scope of supply based on technical aspect, safe operation, his experience and industrial normal practices

* 1. **SCOPE OF WORK**

Scope of WORK includes all items specified in documents, mentioned in “LIST OF REFERENCE / APPLICABLE DOCUMENTS”, included in clause 5.2.

Vendor’s technical proposal shall include but not be limited to works specified in the following table. Hereunder Articles marked with "X" shall be within Vendor’s Scope of Work and articles marked with “O” shall be considered as optional.

| **Description** | **Required by Purchaser** | **Bidder’s**  **Proposal (\*)** | **Remarks** |
| --- | --- | --- | --- |
| 1. Engineering Design and Documentation | [ X ] | [ ] |  |
| 1. Strength calculation and stress analysis based on the relevant specifications and codes, FEA where required by PURCHASER | [ X ] | [ ] |  |
| 1. Strength calculation and stress analysis based on the relevant specifications and codes, FEA where required by PURCHASER | [ X ] | [ ] |  |
| 1. Preparation of shop/site pre-fabrication, inspection, test and installation procedures | [ X ] | [ ] |  |
| 1. PWHT or Stress reliving, if required | [ X ] | [ ] |  |
| 1. External surface preparation | [ X ] | [ ] |  |
| 1. Guarantee of the suitability of all used materials (chemical composition, mechanical properties and origin of materials) | [ X ] | [ ] |  |
| 1. Equipment identification | [ X ] | [ ] |  |
| 1. Sub‐Vendor Coordination | [ X ] | [ ] |  |
| 1. Rust prevention for transportation and long time storage and any provisions against corrosive during shipment to site | [ X ] | [ ] |  |
| 1. Marking, packing and Loading on the truck (for transportation) | [ X ] | [ ] |  |
| 1. Documentation as per the requirements of this specification | [ X ] | [ ] |  |
| 1. Reinforcement for transportation, and loading/unloading during shipping (It is Vendor responsibility to define the necessity of reinforcements) | [ X ] | [ ] |  |
| 1. Quantity and Size of anchor bolts, relevant B.C.D and finalized loading data including erection, operating and hydro test shear and moment due to wind and earthquake | [ X ] | [ ] |  |
| 1. Document control and submissions to Purchaser for review/ comments/ final filling and uploading them progressively | [ X ] | [ ] |  |
| 1. As built drawings and documents | [ X ] | [ ] |  |

**Notes:**

(\*) Bidder to put “C” as confirmation or “D” as deviation and to fill the related form (Att. #3) accordingly.

The Design and Construction shall comply with all Regulations of the Project Defined Codes and Standards.

All document to be submitted with vendor's proposal shall be in reproducible(s)according to attachment #2 requirements and be written in English.

All documents and drawings shall state the name of purchaser work No., Identification No. and the name of commodity.

Vendor should submit the commercial quotation according to procurement instruction for proposal commercial part.

All prefabricated components or loose-supplied components shall be clearly identified by suitable marking method in order to simplify field handling, storage and erection.

All rolled plates shall be shipped on temporary saddles to prevent any deformation during handling and storage (such temporary saddles shall be supplied by VENDOR)

* 1. **Spare parts**

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Following items shall be considered (supplied) and included in the bid documentation:

* Spare parts for erection, pre-commissioning, commissioning and start-up; a qualified and complete list based on PROJECT SPARE PART SUPPLY PROCEDURE (Doc. No. E&C-QC-SP-1).
* Spare parts for two years operation; a qualified and complete list based on PROJECT SPARE PART SUPPLY PROCEDURE (Doc. No. E&C-QC-SP-1).
* Capital spare parts (as option / if any)
  1. **exclusion**
* Deluge system
* Foundation anchor bolts
* Traps foundation
* Civil work at site
* Instrumentation

1. **INSPECTION AND TESTS**

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The equipment shall be inspected and tested in accordance with the Inspection & Test plan (ITP) issued by VENDOR and approved by the "PURCHASER, GC & CLIENT” after the award of the order. The Inspection & Test plan (ITP) shall at least be according to the Commodity Procurement and Manufacturing Inspection Instruction (Doc. No. ICE-EID-MI-SP01-Rev01), Inspection Level of Commodity and Equipment (Doc. No. ICE-EID-MI-SP02-REV-01), and data sheets. VENDOR shall in any case conduct all the tests required by contractual documents, specifications, codes and standards, manufacturer standard quality system and keep the relevant documentation. All required manufacturing and function test/ inspection also Factory Acceptance Tests/ Site Acceptance Test and Quality Assurance requirements shall be considered in VENDOR responsibility as pre-project specification.

1. **VENDOR DOCUMENTATION REQUIREMENTS & SCHEDULE**

* Vendor document shall be according to attachment 2 of this document.
* All documents, preliminary or final, are to be stamped and signed by VENDOR.
* Failure in dispatch of the required documents shall cause the supply to be considered as unfulfilled.
* PURCHASER’s approval does not relieve vendor, in any way, from his obligation to fulfill the requirements of the purchase order documents.
* All vendor drawings and documents shall be in English language.

All drawings and documents are to be identified as per clause 1 **“GENERAL DEFINITION”**

1. **UNIT RESPONSIBILITY**

VENDOR shall be responsible for the design, engineering, co-ordination, supply, manufacturing/fabrication delivery, testing, final check-out and satisfactory operation of the equipment/devices/items. The engineering coordination also includes responsibility for handing and expediting drawings.

Also VENDOR shall be responsible for ensuring that all relevant information and documentation is passed on the sub-VENDORS.

1. **GUARANTEE AND WARRANTY**

All material and Equipment/Devices/Items in VENDOR’s scope of work/supply shall be guaranteed by VENDOR.

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The guarantee period shall be twenty (24) months from the date of delivery or twelve (18) months from the installation date of each equipment/packages at site.

VENDOR shall guarantee the performance of supplied items (if any).

VENDOR shall guarantee that the Equipment/Device/Item is suitable for the operating conditions herein specified, and that all materials and components are free from any defects; verifications of all calculations are in VENDOR’s responsibility.

VENDOR shall unconditionally guarantee the materials and workmanship of all material and/or services. If, within the guarantee period, any defects occur which are due to faulty material and/or services included in his scope (design, manufacturing, inspection, testing, supply & etc.), VENDOR shall, at his own expense, repair or adjust the condition, or replace the material and/or services to the complete satisfaction of CLIENT’s representative. These repairs, replacement or adjustments shall be made only at such time as will be least detrimental to the operation of the CLIENT’s business.

VENDOR warrants promptly repairing or replacing the defective parts in the warranty period.

Vendor shall ensure a correct and safe operation of the unit, providing all safety protection Devices.

Vendor shall be responsible for the safe, reliable, continuous functioning of the Equipment/Devices/Items.

VENDOR is fully responsible for the design of Equipment for correct and safe operation based on project requirement during Equipment life time; therefore, VENDOR shall specify any documents/specifications which may be required for design, manufacture and finalizing of Equipment/Devices/Items to avoid any problems during the Equipment operation at site before P.O; otherwise, VENDOR shall be hold responsible for any corresponding deviation from expectations from the Equipment/Devices/Items.

1. **DEVIATION**

VENDOR’s proposal shall be prepared in strict compliance with the requirements set forth in the relevant specifications of tender documents.

VENDOR shall include in his proposal the statement of compliance with the tender documents should VENDOR wish to submit exception to the requirements of tender documents. They shall be submitted for PURCHASER’s approval.

1. **PRICE BREAKDOWN**

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Breakdown price of following items shall be included in the proposal, as well as total price.

1. Material and Fabrication for each Section Separately
2. Pre-commissioning & commissioning spare parts (E&C-QC-SP-1)
3. 2 years operational spare parts (E&C-QC-SP-1)
4. Packing & loading on truck
5. Other fee (if any)

# ATTACHMENT #1

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## LIST OF REFERENCE / APPLICABLE DOCUMENTS

| **No.** | **Document No.** | **Document Title** | **Rev.** |
| --- | --- | --- | --- |
| **Process** | | | |
| **1** | BK-GNRAL-PEDCO-000-PR-DB-0001 | Process Basis of Design | D08 |
| **2** | BK-GNRAL-PEDCO-000-PR-DC-0001 | Process Design Criteria | D02 |
| **Mechanical** | | | |
| **3** | BK-GNRAL-PEDCO-000-ME-DC-0001 | Mechanical Design Criteria | D04 |
| **4** | BK-GNRAL-PEDCO-000-ME-SP-0001 | Specification for Pressure Vessels | D03 |
| **5** | BK-GCS-PEDCO-120-ME-DT-0001 | Mech. D/Sh. For Inlet Gas K.O. Drum | D04 |
| **6** | BK-GCS-PEDCO-120-ME-DT-0002 | Mech. D/Sh. For 1st Stage G.C. Suction Drums | D05 |
| **7** | BK-GCS-PEDCO-120-ME-DT-0004 | Mech. D/Sh. For 2nd Stage G.C. Suction Drums | D05 |
| **8** | BK-GCS-PEDCO-120-ME-DT-0006 | Mech. D/Sh. For Discharge Gas K.O. Drum | D04 |
| **9** | BK-GCS-PEDCO-120-ME-DT-0007 | Mech. D/Sh. For Diesel Oil Drum | D03 |
| **10** | BK-GCS-PEDCO-120-ME-DT-0008 | Mech. D/Sh. For Instrument Air Receiver | D03 |
| **11** | BK-GCS-PEDCO-120-ME-DT-0009 | Mech. D/Sh. For Nitrogen Receiver | D04 |
| **12** | BK-GCS-PEDCO-120-ME-DT-0010 | Mech. D/Sh. For Close Drain Drum | D03 |
| **13** | BK-GCS-PEDCO-120-ME-DT-0012 | Mech. D/Sh. For Flare K.O. Drum | D03 |
| **14** | BK-GCS-PEDCO-120-ME-DT-0013 | Mech. D/Sh. For Fuel Gas K.O. Drum | D03 |
| **15** | BK-GCS-PEDCO-120-ME-DT-0014 | Mech. D/Sh. For Slug Catcher | D03 |
| **16** | BK-GCS-PEDCO-120-ME-DT-0036 | Mech. D/Sh. For Glycol sump drum | D03 |
| **General** | | | |
| **17** | BK-GNRAL-PEDCO-000-QC-PR-0045 | Packing, Marking, Transportation Procedure | D00 |
| **18** | ICE-EID-MI-SP01 | دستورالعمل بازرسی، خرید و ساخت کالا | D01 |
| **19** | E&C-QC-SP-1 | دستورالعمل تامین قطعات یدکی راه اندازی وراهبری دو سالانه | D01 |
| **20** | ICE-EID-MI-SP02 | دستورالعمل انتخاب سطح بازرسي كالا و تجهيزات | D01 |
| **21** | BK-GNRAL-PEDCO-000-QC-PR-0022 | Spec. For Final Data Book (FDB) requirements | D00 |
| **Structure** | | | |
| **22** | BK-GNRAL-PEDCO-000-ST-DW-0002 | Standard Drawing for Anchor Bolts | D02 |
| **23** | BK-GNRAL-PEDCO-000-ST-SP-0003 | Specification for Fabrication of Steel Structures | D02 |
| **24** | BK-GNRAL-PEDCO-000-ST-SP-0005 | Specification for Erection of Steel Structures | D02 |
| **25** | BK-GNRAL-PEDCO-000-ST-SP-0006 | Specification for Fireproofing | D03 |
| **Piping & Material** | | | |
| **26** | BK-GNRAL-PEDCO-000-PI-SP-0008 | Spec. for Material Requirements in Sour service | D02 |
| **27** | BK-GCS-PEDCO-120-PI-SP-0001 | Piping Material Specification (PMS) | D06 |
| **28** | BK-GNRAL-PEDCO-000-PI-SP-0005 | Spec. for Fittings, Flanges, Gaskets and Bolts | D02 |
| **29** | BK-GNRAL-PEDCO-000-PI-SP-0006 | Specification for Painting | D04 |
| **30** | BK-GNRAL-PEDCO-000-PI-SP-0007 | Specification for Lining | D03 |
| **31** | BK-GNRAL-PEDCO-000-PI-SP-0001 | Specification for color coding and marking | D02 |
| **32** | BK-GNRAL-PEDCO-000-PI-SP-0017 | Specification for Cleaning and Flushing | D03 |
| **33** | BK-GNRAL-PEDCO-000-PI-SP-0019 | Specification for Insulation | D02 |
| **Drawing** | | | |
| **34** | BK-GNRAL-PEDCO-000-ME-DW-0002 | Standard Detail Drawing for Pressure Vessel | D02 |
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# ATTACHMENT #2

D03

## VENDOR DOCUMENTS MIN. REQUIREMENT

| **Item No.** | **Document** | **With Bid** | **TIME SCHEDULE** | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **For Review** | | **Final Issue** | |
| **Copies**  **No./Type**  **(7)** | **Copies**  **No./Type (1)** | **Solar**  **days**  **(2)** | **Copies**  **No./Type (1)** | **Calendar days**  **(3)** |
| **MANAGEMENT** | | | | | | |
| 001 | Vendor Document Index and Schedule  (Deleted) | 4N | 6C+E |  | 6C+E |  |
| 002 | Organization Brief | 3N | 6C+E |  |  |  |
| 003 | Schedule Level 1, 2, 3 & 4 showing Engineering, Procurement, Fabrication, Inspection, Testing, and Delivery Plan. | 4N | 6C+E |  | 6C+E |  |
| 004 | Physically Progress Report (Every 2 Weeks) |  | 6C+E |  |  |  |
| 005 | Project Organization Chart | 3N | 6C+E |  |  |  |
| 006 | Reference List | 3N |  |  |  |  |
| 007 | Vendor Catalogue | 3N |  |  |  |  |
| **QUALITY** | | | | | | |
| 008 | Quality Assurance Manual /Quality Management System Certificate (according to latest rev. of ISO) | 4N |  |  | 6C+E |  |
| 009 | Preliminary Inspection and Test Plan | 4N |  |  |  |  |
| 010 | Inspection and Test Plan |  | 6C+E |  | 6C+E |  |
| **INTERFACE** | | | | | | |
| 012 | General Arrangements Drawings |  | 6C+E |  | 6C+E |  |
| 013 | Earthing Details |  | 6C+E |  | 6C+E |  |
| 014 | Weight / Centre of Gravity Drawings & Data's | 4N | 6C+E |  | 6C+E |  |
| 015 | External Static and Dynamic Forces & Moments (present during test, start-up, normal/maximum operation, shutdown, and other conditions of service) | 4N | 6C+E |  | 6C+E |  |
| 016 | Wind and Seismic Loads including shear and moment forces on supports and foundation. |  | 6C+E |  | 6C+E |  |
| 017 | Anchor Bolt Details Drawings (incl. size, type, locations relative to the equipment center-lines in three planes). | 4N | 6C+E |  | 6C+E |  |
| 018 | Earthing Details | 3N | 6C+E |  | 6C+E | 020 |
| 019 | Weight / Centre of Gravity Drawings & Data's | 3N | 6C+E |  | 6C+E | 021 |
| 020 | External Static and Dynamic Forces & Moments (present during test, start-up, normal/maximum operation, shutdown, and other conditions of service) |  | 6C+E |  | 6C+E | 022 |
| **ENGINEERING** | | | | | | |
| 021 | Breakdown Weight and Dimensions of Equipment |  | 6C+E |  | 6C+E |  |
| 022 | Mechanical Design Calculation Book (Including Lifting & WRC, ...)/ Local Stress Analysis |  | 6C+E |  | 6C+E |  |
| 023 | General Arrangement Drawing including Loading Table/ Nozzle list and any required information |  | 6C+E |  | 6C+E |  |
| 024 | Nozzles & Manholes Detail Drawing |  | 6C+E |  | 6C+E |  |
| 025 | Ladder & Platform Detail Drawings (Including Dimensions, weight, …) |  | 6C+E |  | 6C+E |  |
| 026 | Internal Attachment Detail Drawing |  | 6C+E |  | 6C+E |  |
| 027 | External Attachment Detail Drawing |  | 6C+E |  | 6C+E |  |
| 028 | Pipe Clips Detail Drawing |  | 6C+E |  | 6C+E |  |
| 029 | Name Plate Detail Drawing |  | 6C+E |  | 6C+E |  |
| 030 | Template/ Gauge Plate Detail Drawing |  | 6C+E |  | 6C+E |  |
| 031 | Developed Drawings (including exploded drawings) |  | 6C+E |  | 6C+E |  |
| 032 | Breakdown Weight and Dimensions of Equipment |  | 6C+E |  | 6C+E |  |
| 033 | Mechanical Design Calculation Book (Including Lifting & WRC, ...)/ Local Stress Analysis |  | 6C+E |  | 6C+E |  |
| 034 | Welding Book (Including WPS, PQR  & Weld Map) |  | 6C+E |  | 6C+E |  |
| 035 | NDE & Inspection Procedures |  | 6C+E |  | 6C+E |  |
| 036 | NDT map |  | 6C+E |  | 6C+E |  |
| 037 | Rust prevention, Surface Preparation/ Painting Procedure |  | 6C+E |  | 6C+E |  |
| 038 | Painting procedure |  | 6C+E |  | 6C+E |  |
| 039 | Hydro-Test Procedures |  | 6C+E |  | 6C+E |  |
| 040 | Repair Procedure (If Any) |  | 6C+E |  | 6C+E |  |
| 041 | PWHT / PFHT Procedure (If Required) |  | 6C+E |  | 6C+E |  |
| 042 | As Built Drawings |  | 6C+E |  | 6C+E |  |
| 043 | Bolt Tightening Procedure |  | 6C+E |  | 6C+E |  |
| 044 | Marked-up Mechanical Data Sheet (as per As Built Drawing) |  | 6C+E |  | 6C+E |  |
| 045 | Parts/Material List |  | 6C+E |  | 6C+E |  |
| **PROCUREMENT** | | | | | | |
| 046 | Sub Vendor List | 4N |  |  | 6C+E |  |
| 047 | Sub-Contractor List |  | 6C+E |  |  |  |
| 048 | Packing List |  |  |  |  |  |
| 049 | Loose Parts List |  |  |  |  |  |
| **MANUFACTURING** | | | | | | |
| 050 | Weld and NDT Map |  | 6C+E |  | 6C+E |  |
| 051 | Surface Preparation and Painting Procedures |  | 6C+E |  | 6C+E |  |
| 052 | Heat Treatment Procedures |  | 6C+E |  | 6C+E |  |
| 053 | Welding Procedure Specification (including repair procedures). |  | 6C+E |  | 6C+E |  |
| 054 | Welder Qualification Procedure |  | 6C+E |  | 6C+E |  |
| 055 | Fabrication Degree | 3N |  |  |  |  |
| **TESTING** | | | | | | |
| 056 | Hydrostatic / Pneumatic Testing Procedure |  | 6C+E |  | 6C+E |  |
| 057 | Non-Destructive Testing/Examination Procedures |  | 6C+E |  | 6C+E |  |
| **RECORDS, REPORTS & CERTIFICATES** | | | | | | |
| 058 | Material Conformity Certificate |  | 6C+E |  | 6C+E |  |
| 059 | Testing Authority Approval Certificate (if any) |  | 6C+E |  | 6C+E |  |
| 060 | Ingress Protection Certificate |  | 6C+E |  | 6C+E |  |
| 061 | Conformity Certificates (sub-VENDOR/equipment) |  | 6C+E |  | 6C+E |  |
| 062 | Material Certificates Identification Diagram. (cross-reference material location ; certificates for critical components) |  | 6C+E |  | 6C+E |  |
| 063 | Welding Procedure Qualification Record |  | 6C+E |  | 6C+E |  |
| 064 | Welder Qualification Records. |  | 6C+E |  | 6C+E |  |
| 065 | NDT Operator Qualifications |  | 6C+E |  | 6C+E |  |
| 066 | Detailed NDT Reports |  | 6C+E |  | 6C+E |  |
| 067 | Weld/ NDT Identification Diagram. (Cross-reference weld locations, WPS, welders, NDT reports). |  | 6C+E |  | 6C+E |  |
| 068 | Dimensional Control Reports |  | 6C+E |  | 6C+E |  |
| 069 | Hardness Test Reports |  | 6C+E |  | 6C+E |  |
| 070 | PWHT Charts & Reports, including calibration records of recorders (for each heat treatment) |  | 6C+E |  | 6C+E |  |
| 071 | Surface Preparation & Coating Reports |  | 6C+E |  | 6C+E |  |
| 072 | Hydrostatic / Pneumatic Testing Certificates |  | 6C+E |  | 6C+E |  |
| 073 | Welding Consumable Certificate |  | 6C+E |  | 6C+E |  |
| 074 | Inspection and Test Reports(if any) |  | 6C+E |  | 6C+E |  |
| 075 | Rust Prevention Report |  | 6C+E |  | 6C+E |  |
| 076 | Non-Conformities Report |  | 6C+E |  | 6C+E |  |
| 077 | Painting Operator Certification Record |  | 6C+E |  | 6C+E |  |
| **INSTALLATION** | | | | | | |
| 078 | Sub-Assembly Documentation |  | 6C+E |  | 6C+E |  |
| 079 | Sub-Assembly Drawings |  | 6C+E |  | 6C+E |  |
| 080 | Erection/Installation Manual (if required) |  | 6C+E |  | 6C+E |  |
| 081 | Name Plate Documents |  | 6C+E |  | 6C+E |  |
| 082 | Handling, Transportation & Storage Instructions |  | 6C+E |  | 6C+E |  |
| 083 | Unpacking & Inspection Instructions |  | 6C+E |  |  |  |
| 084 | Preliminary Packing List | 4N |  |  |  |  |
| 085 | Packing List |  | 6C+E |  | 6C+E |  |
| **OPERATION & MAINTENANCE** | | | | | | |
| 086 | List of Spare Parts Commissioning & Start-up | 4N | 6C+E |  | 6C+E | 136 |
| 087 | List of Spare Parts 2 Years Operation | 4N | 6C+E |  | 6C+E | 136 |
| **VENDOR FINAL DOCUMENTS** | | | | | | |
| 088 | Vendor Final Book |  |  |  | 6C+E |  |
| 089 | All others documents (if required) will be listed in the order |  | 6C+E |  |  |  |
| NOTES:  (1) N= Number of document, C=Copy, E=Electronic Copy  (2) Starting from date of order placement  (3) Starting from reception of documentation without comments  (4) First issue of the document is subjected to the release of payment milestone as per purchase order  (5) Calendar days after reception of drive data  (6) Prior to testing  (7) One copy each bid copy  (8) List of Documents will be Finalized in Vendor Document Index and Schedule  (9) List of Documents will be finalized in Vendor Document Index and Schedule. | | | | | | |

# ATTACHMENT #3

## DEVIATIONS / EXCEPTIONS TO JOB SPECIFICATION

Requisition No.:

Description:

Equipment No.:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item No.** | **Description**  **of proposed exception** | **Recommended revision to job specification** | **Reason for proposed exception** | **Effect on base**  **proposal if CONTRACTOR rejects exception** |
|  |  |  |  |  |

## Attachment #4

## SUB VENDOR LIST

## (To be in accordance with MOP-AVL)

|  |  |  |
| --- | --- | --- |
| **Item No.** | **Material Description** | **Proposed Sub-Vendor** |
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## Attachment #5

## SPARE PARTS LIST

(Based on E & C- QC- SP-1)

|  |  |
| --- | --- |
| **(TABLE 1-14) PRESSURE VESSELS & TANKS** | |
| **ITEMS** | **QUANTITIES** |
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|  |  |