





| <br><b>NISOC</b> | <p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>فعالیت های رو زمینی در بسته های کاری تحت الارض</p> <p>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،</p> <p>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه</p> <p>چندراهه کلاستر بینک</p>   |  |         |      |          |       |  |  |       |           |            |         |      |          |       |    |       |       |     |    |    |      |  |  |  |  |  |  |      |  |  |  |  |  |  |     |                     |
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## 1.0 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, construction of well location, access road, wellhead facilities (with electric power supply) for W007S shall be done. In addition, construction of new flowline from aforementioned well location to Binak B/C unit (with extension of relevant manifold) are in the Project scope of work.

### **GENERAL DEFINITION**

The following terms shall be used in this document.

|                              |  |
|------------------------------|--|
| CLIENT:                      | National Iranian South Oilfields Company (NISOC)   |
| PROJECT:                     | Binak Oilfield Development – Construction of Well Location, Wellhead Facilities, Electrification Facilities, Flowlines for W007S and Extension of Binak B/C Manifold |
| EPD/EPC CONTRACTOR (GC):     | Petro Iran Development Company (PEDCO)   |
| EPC CONTRACTOR:              | Joint Venture of : Hirgan Energy – Design & Inspection(D&I) Companies  |
| VENDOR:                      | The firm or person who will fabricate 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.   |

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## 2.0 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 ESD control system as listed in item 4.0 "SUBJECT OF THE SUPPLY"

All equipment/devices/items shall conform to this requisition and all specifications which have been mentioned in attachment 1 of this material requisition.

## 3.0 REFERENCE / ATTACHED DOCUMENTS

- a. Specified documents in attachment 1 shall be considered as a part of this material Requisition.
- b. All codes and standards which have been referenced in above mentioned specs shall be considered.
- c. 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.
- d. 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, the supplier shall be considered to be in full compliance with the relevant document.

The supplier 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.

## 4.0 SUBJECT OF THE SUPPLY

The supplier shall supply ESD System and related furniture and Engineering Work Station for ESD System. The scope of supply is detailed at para. 5. The supplier shall include in the supply, all other equipment/devices/items not listed in the following, but necessary for a good design and

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| پروژه  | بسته کاری   | صادر کننده  | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                     |
| BK   | W007S   | PEDCO   | 110     | IN   | MR       | 0002  | D01  |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                     |
| 053 - 073 - 9184   |   |   |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                     |

a safe operation, taking into account process data and installation conditions such as area classification and climatic conditions.



- The vendor's supply shall include:

| No. | Item                   | Description  | Total QTY.   |
|-----|------------------------|--|--------------|
| 1   | ESD System             | ESD System ( including marshaling and system cabinets)for signals in EXTENSION OF BINAK B/C MANIFOLD | 1            |
| 2   | ESD EWS                | 32" ESD Engineering Workstation including required softwares and software licenses                   | 1            |
| 3   | <del>ESD Cabinet</del> | <del>ESD Cabinet and all required accessories</del>  | <del>4</del> |
| 4   | <del>PRINTER</del>     | <del>Black &amp; White Laser Printers (for ESD)</del>  | <del>4</del> |
|     |                        |  |              |



Note: All interface required facilities such as communication network/cables, switches, printers, furniture... will be considered in DCS vendor scope of work.

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

## 5.0 LIMITS OF SUPPLY

### 5.1 THE VENDOR'S SCOPE OF ENGINEERING

Scope of Engineering services includes all items specified in documents, mentioned in "LIST OF REFERENCE / APPLICABLE DOCUMENTS" included in Attachment 1, but not limited to the followings:

- Design, Engineering and Documentation Drawings, documentation and certification in accordance with section 8.0 of this requisition
- Project management including coordination with all Package Suppliers/Vendors and other subsystems Vendors.
- Systems' hardware engineering studies including:
  - System sizing
  - System architecture specification
  - System cabinets design and arrangement
  - Etc.
- Systems' software engineering including :

|  |   |   |           |            |            |         |          |          |       |      |    |       |       |     |    |    |      |     |
|--|---|---|-----------|------------|------------|---------|----------|----------|-------|------|----|-------|-------|-----|----|----|------|-----|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>فعالیت های رو زمینی در بسته های کاری تحت الارض</p> <p>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،</p> <p>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه</p> <p>چندراهه کلاستر بینک</p>                      |  |           |            |            |         |          |          |       |      |    |       |       |     |    |    |      |     |
| شماره پیمان:   | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD   | شماره صفحه : 7 از 20  |           |            |            |         |          |          |       |      |    |       |       |     |    |    |      |     |
| 053 - 073 - 9184   | <table><tr><td>پروژه</td><td>بسته کاری</td><td>صادر کننده</td><td>تسهیلات</td><td>رشته</td><td>نوع مدرک</td><td>سریال</td><td>نسخه</td></tr><tr><td>BK</td><td>W007S</td><td>PEDCO</td><td>110</td><td>IN</td><td>MR</td><td>0002</td><td>D01</td></tr></table> |   | پروژه     | بسته کاری  | صادر کننده | تسهیلات | رشته     | نوع مدرک | سریال | نسخه | BK | W007S | PEDCO | 110 | IN | MR | 0002 | D01 |
|  | پروژه   |   | بسته کاری | صادر کننده | تسهیلات    | رشته    | نوع مدرک | سریال    | نسخه  |      |    |       |       |     |    |    |      |     |
| BK   | W007S   | PEDCO   | 110       | IN         | MR         | 0002    | D01      |          |       |      |    |       |       |     |    |    |      |     |

- ESD functional design specifications
- I/O segregation and assignment
- Control strategy and typical I/O loop specification
- ESD communication interface database definition
- Specification of communication interfaces with other subsystems including coordination with subsystems' Vendors
- Standard, graphic displays and report definition
- Etc
- Marshaling cabinets' engineering studies
- Distribution cabinets' engineering studies
- ESD Marshaling / Distribution cabinets' hardware and software factory acceptance tests.
- System integration tests
- On site erection supervision, pre-commissioning, commissioning and startup assistance.
- ESD Engineer daily assistance (on site).
- ESD hardware technician daily assistance (on site).
- Training for ESD system shall be according to project documents ( refer to BK-GNRAL-PEDCO-000-IN-SP-0003)
- Transportation to Site (including insurance)
- Packing, marking, preparation for shipment, and delivery



## 5.2 THE VENDOR'S SCOPE OF SUPPLY:

Scope of supply includes all items specified in documents, mentioned in "LIST OF REFERENCE / APPLICABLE DOCUMENTS included in Attachment 1, but not limited to the followings:

- ESD System, power distribute and marshaling Cabinets contain all required hardware, CPUs, Power supply , redundancy modules, I/Os, relays and barriers, communication devices, internal wiring and interconnections, terminations, fan, heater, hydrostat... and all required accessories required for control and monitoring of the plant as per Doc.no. BK-GNRAL-PEDCO-000-IN-SP-0003 and all other referenced documents.
- All PC and Laptop required to be provided as operator/engineering work stations as per Doc.no. BK-GNRAL-PEDCO-000-IN-SP-0003 and all other referenced documents.
- Licensed software as minimum in accordance with Doc.no. BK-GNRAL-PEDCO-000-IN-SP-0003 and all other referenced documents
- Furniture to place common control room devices, and ... as per Doc.no. BK-W007S-PEDCO 110 IN-PY 0001 and all other referenced documents



## 5.3 SCOPE OF RESPONSIBILITY:

- Resolve engineering issues relating to equipment within the scope of supply

|  |  |           |            |         |      |          |       |   |
|--|--|-----------|------------|---------|------|----------|-------|---|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>فعالیت های رو زمینی در بسته های کاری تحت الارض</p> <p>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،</p> <p>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه</p> <p>چندراهه کلاستر بینک</p> |           |            |         |      |          |       |  |
| شماره پیمان:<br><br>053 - 073 - 9184   | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD  |           |            |         |      |          |       | شماره صفحه : 8 از 20  |
|  | پروژه  | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |   |
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- Provide complete engineering of ESD system including detailed engineering, documentation, specifications, data sheet, Drawings,... for all the components
- Provide complete engineering of Interface documents for instrumentation and control of the package including all termination, signal list and communication ports
- Provide detailed design and documentation of all equipment and components within the scope of supply in accordance with attachment 2 of this document.
- Provide all necessary information documents in order to allow the contractor to erect, install and verify the proposed equipment
- Implement a quality assurance plan
- The quality plan applied to the scope of supply shall include:
  - QA/QC organization and procedures that shall be submitted for approval
  - Plan for HOLD points in the production process proposed to PURCHASER for witness or approval particular activities
  - Production schedule indicating main quality manufacturing processes, inspection and tests
  - Qualification of all personnel performing tests to be reviewed by the inspector
  - Supplier shall also provide the description of the following quality activities:
    - o Sub suppliers products quality
    - o Quality check and identification of the materials and equipment entering in their manufacturing shop.
- The supplier shall take the full responsibility for the whole package control/protection system and shall be responsible for SAT and Commissioning of the package



#### 5.4 SPARE PARTS

- Spare parts for commissioning and start-up; a qualified and complete list based on PROJECT SPARE PART SUPPLY PROCEDURE (Doc. No. E&D-QC-SP-1)
- Spare parts for two years operation; a qualified and complete list based on PROJECT SPARE PART SUPPLY PROCEDURE (Doc. No. E&D-QC-SP-1)
- Special Tools (as option /if any; to be recommended by Vendor)
- Capital spare parts (as option /if any; to be recommended by Vendor)



#### 5.5 OTHER ITEMS

- Special tools required for installation and maintenance (a qualified and complete list has to be included in the bid documentation)
- Noise acoustic protection and relevant ancillaries in order to match with max. noise level requirements (if necessary)
- Spreader bars for lifting of the panels (if necessary)



|  |   |   |           |            |            |         |          |          |       |      |    |       |       |     |    |    |      |     |
|--|---|---|-----------|------------|------------|---------|----------|----------|-------|------|----|-------|-------|-----|----|----|------|-----|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>فعالیت های رو زمینی در بسته های کاری تحت الارض</p> <p>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،</p> <p>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه</p> <p>چندراهه کلاستر بینک</p>                      |  |           |            |            |         |          |          |       |      |    |       |       |     |    |    |      |     |
| شماره پیمان:   | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD   | شماره صفحه : 9 از 20  |           |            |            |         |          |          |       |      |    |       |       |     |    |    |      |     |
| 053 - 073 - 9184   | <table><tr><td>پروژه</td><td>بسته کاری</td><td>صادر کننده</td><td>تسهیلات</td><td>رشته</td><td>نوع مدرک</td><td>سریال</td><td>نسخه</td></tr><tr><td>BK</td><td>W007S</td><td>PEDCO</td><td>110</td><td>IN</td><td>MR</td><td>0002</td><td>D01</td></tr></table> |   | پروژه     | بسته کاری  | صادر کننده | تسهیلات | رشته     | نوع مدرک | سریال | نسخه | BK | W007S | PEDCO | 110 | IN | MR | 0002 | D01 |
|  | پروژه   |   | بسته کاری | صادر کننده | تسهیلات    | رشته    | نوع مدرک | سریال    | نسخه  |      |    |       |       |     |    |    |      |     |
| BK   | W007S   | PEDCO   | 110       | IN         | MR         | 0002    | D01      |          |       |      |    |       |       |     |    |    |      |     |

- Name plate
- Earthing plate
- Painting of all cabinet in accordance with “Specification for Control Panels and System Cabinets Document No BK-GNRAL-PEDCO-000-IN-SP-0011”
- Preparation for shipment
- Packing for sea freight transportation (if required)
- Shop inspections and testing as per specification System integration tests( including wiring and logic/function test as per BK-GNRAL-PEDCO-000-IN-SP-0003)
- Free access to manufacturing plants for the PURCHASER's inspectors
- Certificates or declarations of conformance (as required) Daily rate for erection supervision (separate price)
- Daily rate for commissioning and start-up supervision (separate price)
- Training for customer's personnel ( refer to BK-GNRAL-PEDCO-000-IN-SP-0003)
- All required meeting at Vendor shop/office including but not limited to:
  - KOM
  - Technical/Clarification meeting
  - Pre-Inspection Meeting



## 6.0 INSPECTION AND TESTS

The equipment shall be inspected and tested in accordance with the quality control plan issued by the supplier and approved by the PURCHASER before the award of the order. The QC plan shall at least be according to the PROJECT ITP PROCEDURE (Doc. No ICE-EID-MI-SP01-Rev01) and data sheets (if any).



Presence of an inspector in the manufacturer's factory during construction, inspecting manufacturer's shop and warehouse and construction progress as per the specific time schedule also in final stages of construction, witness of required test, final inspection, static, functional tests, etc. (Inspection Level 2) based on purchase requirements, standards and Project ITP is required.

|   |  |           |            |         |      |          |       |   |
|---|--|-----------|------------|---------|------|----------|-------|---|
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| شماره پیمان:<br><br>053 - 073 - 9184  | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD  |           |            |         |      |          |       | شماره صفحه : 10 از 20   |
|   | پروژه  | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |   |
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The supplier 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 Test /Site Acceptance Test ~~(if required)~~ and Quality Assurance Requirements shall be considered in vendor responsibility as per project specification.

## 7.0 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 the supplier.
- 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"**

## 8.0 VENDOR RESPONSIBILITY

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

Preparation of complete final book, Training courses and assistance during Pre-Commissioning/Commissioning/Startup are also in VENDOR responsibility as per project specification.

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

|  |  |           |            |         |      |          |       |   |      |
|--|--|-----------|------------|---------|------|----------|-------|---|------|
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| شماره پیمان:<br><br>053 - 073 - 9184   | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD  |           |            |         |      |          |       | شماره صفحه : 11 از 20   |      |
|  | پروژه  | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |   | نسخه |
|  | BK   | W007S     | PEDCO      | 110     | IN   | MR       | 0002  |   | D01  |

## 9.0 GUARANTEE AND WARRANTY

VENDOR shall be fully responsible for the manufacture in respect of proper design, quality, workmanship and operation of all the equipment, accessories etc. including supplied by sub-contractors/VENDORS. This includes both hardware and software. Guarantee conditions and warranty period shall be as stated in the commercial section documents.

It shall be obligatory on the part of VENDOR to modify and/or replace any hardware and modify the operating, application and diagnostic software free of cost, in case any malfunction is revealed even during on-line operation after taking over, within the warranty period.

The System shall be guaranteed against malfunction, partial or complete failure resulting from or attributed to the following:

- Sub-standard components and materials.
- Incorrectly rated components and materials.
- Sub-standard workmanship, including but not limited to sub-standard design, construction, alignment, and setting-up.
- Adjustments carried strictly in accordance with VENDOR's manuals or written instructions where those manuals of instructions are in error.

VENDOR shall assume full responsibility for his Sub-VENDORS of equipment and ancillaries supplied under this specification i.e. individual equipment warranties etc. are not to be signed over to the CONTRACTOR but will remain that of the equipment package VENDOR.

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

If poor performance occurs or defects are found during the warranty period, VENDOR shall make all necessary alternations, repairs and replacements, including shipment of parts and mobilization of assistance, free of charge.

The guarantee period shall be eighteen (18) months from the date of delivery or twelve (12) months from the date of installation, whichever occurs later. Anyway guarantee period shall not be less than twelve (12) months.

Manufacturers shall also guarantee all equipment furnished against defects in design, materials, and workmanship and will bear the entire cost of correcting such defects which would develop during the specified warranty period.

The manufacturers/suppliers shall guarantee the supply of min. 20 years spare parts for the quoted equipment.

VENDOR is to provide a list of parts and state for each the replacement time and repair turnaround time under warranty.

|   |  |           |            |         |      |          |       |   |      |
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| شماره پیمان:<br><br>053 - 073 - 9184  | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD  |           |            |         |      |          |       | شماره صفحه : 12 از 20   |      |
|   | پروژه  | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |   | نسخه |
|   | BK   | W007S     | PEDCO      | 110     | IN   | MR       | 0002  |   | D01  |

## 10.0 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.

## 11.0 PRICE BREAKDOWN

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 (END-QC-SP-1)
- 3) 2 years operational spare parts (END-QC-SP-1)
- 4) Packing & transportation
- 5) ~~Other fee (if any)~~



|  |   |   |           |            |            |         |          |          |       |      |    |       |       |     |    |    |      |     |
|--|---|---|-----------|------------|------------|---------|----------|----------|-------|------|----|-------|-------|-----|----|----|------|-----|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>فعالیت های رو زمینی در بسته های کاری تحت الارض</p> <p>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،</p> <p>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه</p> <p>چندراهه کلاستر بینک</p>                      |  |           |            |            |         |          |          |       |      |    |       |       |     |    |    |      |     |
| شماره پیمان:   | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD   | شماره صفحه : 13 از 20   |           |            |            |         |          |          |       |      |    |       |       |     |    |    |      |     |
| 053 - 073 - 9184   | <table><tr><td>پروژه</td><td>بسته کاری</td><td>صادر کننده</td><td>تسهیلات</td><td>رشته</td><td>نوع مدرک</td><td>سریال</td><td>نسخه</td></tr><tr><td>BK</td><td>W007S</td><td>PEDCO</td><td>110</td><td>IN</td><td>MR</td><td>0002</td><td>D01</td></tr></table> |   | پروژه     | بسته کاری  | صادر کننده | تسهیلات | رشته     | نوع مدرک | سریال | نسخه | BK | W007S | PEDCO | 110 | IN | MR | 0002 | D01 |
|  | پروژه   |   | بسته کاری | صادر کننده | تسهیلات    | رشته    | نوع مدرک | سریال    | نسخه  |      |    |       |       |     |    |    |      |     |
| BK   | W007S   | PEDCO   | 110       | IN         | MR         | 0002    | D01      |          |       |      |    |       |       |     |    |    |      |     |

## ATTACHMENT 1



### 11.1 LIST OF REFERENCE / APPLICABLE DOCUMENTS

| No.               | Document No.                  | Document Title   | Rev. |
|-------------------|-------------------------------|--|------|
| <b>Process</b>    |                               |  |      |
| 1                 | BK-SSGRL-PEDCO-110-PR-PH-0005 | ESD Philosophy   | D00  |
| 2                 | BK-SSGRL-PEDCO-110-PR-PI-0001 | Symbol & Legend For PFD and P&ID   | D02  |
| 3                 | BK-W007S-PEDCO-110-PR-PI-0001 | P&ID - Extension of Binak B/C Manifold   | D02  |
| <b>Instrument</b> |                               |  |      |
| 4                 | BK-SSGRL-PEDCO-110-IN-DC-0002 | Instrument & Control System Design Criteria  | D01  |
| 5                 | BK-GNRAL-PEDCO-000-IN-SP-0003 | Specification For ESD System   | D04  |
| 6                 | BK-GNRAL-PEDCO-000-IN-SP-0004 | Specification For Instrument and Control of Package Unit System (PU)                     | D01  |
| 7                 | BK-GNRAL-PEDCO-000-IN-SP-0010 | Specification For Instrument/F&G Cables  | D01  |
| 8                 | BK-GNRAL-PEDCO-000-IN-SP-0011 | Specification For Control Panels and System Cabinets                                     | D00  |
| 9                 | BK-W007S-PEDCO-110-IN-DG-0001 | Block Diagram Configuration For Control/ESD/F&G System - Extension of Binak B/C Manifold | D05  |
| 10                | BK-W007S-PEDCO-110-IN-DG-0005 | ESD System Loop Diagram - Extension of Binak B/C Manifold                                | D00  |
| 11                | BK-W007S-PEDCO-110-IN-DG-0009 | Instrument & F&G Junction Box Termination Diagram - Extension of Binak B/C Manifold      | D01  |
| 12                | BK-W007S-PEDCO-110-IN-DG-0004 | ESD Level Hierarchy - Extension of Binak B/C Manifold                                    | D01  |
| 13                | BK-W007S-PEDCO-110-IN-LD-0002 | ESD Logic Diagram - Extension of Binak B/C Manifold                                      | D01  |
| 14                | BK-W007S-PEDCO-110-IN-PY-0001 | Control Room Layout & Arrangement Drawing - Extension of Binak B/C Manifold              | D01  |
| 15                | BK-W007S-PEDCO-110-IN-DG-0011 | Wiring Diagram; Interposing Relay Panel (IRP) - Extension of Binak B/C Manifold          | -    |
| 16                | BK-W007S-PEDCO-110-IN-LI-0003 | I/O List For ESD Systems - Extension of Binak B/C Manifold                               | D02  |
| 17                | BK-W007S-PEDCO-110-IN-LI-0005 | Panels & Junction Box List - Extension of Binak B/C Manifold                             | D00  |
| 19                | BK-W007S-PEDCO-110-IN-LI-0006 | Set Point & Alarm List - Extension of Binak B/C Manifold                                 | -    |
| 20                | BK-W007S-PEDCO-110-IN-LI-0007 | I&C Power Consumption Summary - Extension of Binak B/C Manifold                          | D02  |
| 21                | BK-W007S-PEDCO-110-IN-LI-0009 | Instrument /F&G Cable List - Extension of Binak B/C Manifold                             | D00  |
| 22                | BK-W007S-PEDCO-110-IN-DG-0002 | Instrument Earthing Typical Diagram - Extension of Binak B/C Manifold                    | D02  |

|  |  |           |            |         |      |          |       |   |      |
|--|--|-----------|------------|---------|------|----------|-------|---|------|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>فعالیت های رو زمینی در بسته های کاری تحت الارض</p> <p>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،</p> <p>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه</p> <p>چندراهه کلاستر بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br><br>053 - 073 - 9184   | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD  |           |            |         |      |          |       | شماره صفحه : 14 از 20   |      |
|  | پروژه  | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |   | نسخه |
|  | BK   | W007S     | PEDCO      | 110     | IN   | MR       | 0002  | D01   |      |

| No.     | Document No.                  | Document Title  | Rev. |
|---------|-------------------------------|---|------|
| General |                               |   |      |
| 23      | ICE-EID-MI-SP01-Rev01         | دستورالعمل بازرسی، خرید و ساخت کالا                       | D01  |
| 24      | ICE-EID-MI-SP02-Rev01         | دستورالعمل انتخاب سطح بازرسی کالا و تجهیزات               | D01  |
| 25      | E&D-QC-SP-1                   | دستورالعمل تامین قطعات یدکی راه اندازی و راهبری دو سالانه | D00  |
| 26      | BK-GNRAL-PEDCO-000-QC-PR-0022 | Specification For Final Data Book (FDB) Requirements      | D00  |
| 27      | BK-GNRAL-PEDCO-000-QC-PR-0045 | Packing, Marking, Transportation Procedure                | -    |

|   |  |                    |                     |                |            |                |               |   |
|---|--|--------------------|---------------------|----------------|------------|----------------|---------------|---|
|  | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>فعالیت های رو زمینی در بسته های کاری تحت الارض<br/>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،<br/>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه<br/>چندراهه کلاستر بینک</p> |                    |                     |                |            |                |               |  |
| شماره پیمان:<br>053 - 073 - 9184  | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD  |                    |                     |                |            |                |               | شماره صفحه : 15 از 20   |
|   | پروژه<br>BK  | بسته کاری<br>W007S | صادر کننده<br>PEDCO | تسهیلات<br>110 | رشته<br>IN | نوع مدرک<br>MR | سریال<br>0002 | نسخه<br>D01   |

## ATTACHMENT 2

### 11.2 VENDOR DOCUMENTS MIN. REQUIREMENT

| Item No.    | Document  | With Bid        | TIME SCHEDULE       |                |                     |                   |
|-------------|---|-----------------|---------------------|----------------|---------------------|-------------------|
|             |   |                 | For Review          |                | Final Issue         |                   |
|             |   | Copies No./Type | Copies No./Type (1) | Solar days (2) | Copies No./Type (1) | Calendar days (3) |
| MANAGEMENT  |   |                 |                     |                |                     |                   |
| 001         | Vendor Document Index and Schedule<br>(See attachment 2)  | 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                |                   |
| HSE         |   |                 |                     |                |                     |                   |
| 011         | HSE Procedure   |                 | 6C+E                |                | 6C+E                |                   |
| 012         | ESD Instructions  |                 | 6C+E                |                | 6C+E                |                   |
| ENGINEERING |   |                 |                     |                |                     |                   |
| 013         | Supplier Document Schedule  | 3N              | 6C+E                |                | 6C+E                |                   |
| 014         | Power Consumption List  |                 | 6C+E                |                | 6C+E                |                   |
| 015         | Detailed Devices Catalogues   | 3N              | 6C+E                |                | 6C+E                |                   |



|   |  |                     |                |            |                |               |             |   |  |
|---|--|---------------------|----------------|------------|----------------|---------------|-------------|---|--|
|  | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>فعالیت های رو زمینی در بسته های کاری تحت الارض<br/>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،<br/>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه<br/>چندراهه کلاستر بینک</p> |                     |                |            |                |               |             |  |  |
| شماره پیمان:<br>053 - 073 - 9184  | PMR FOR PMR FOR ESD SYSTEM -<br>EXTENSION OF BINAK B/C MANIFOLD  |                     |                |            |                |               |             | شماره صفحه : 16 از 20   |  |
| پروژه<br>BK   | بسته کاری<br>W007S   | صادر کننده<br>PEDCO | تسهیلات<br>110 | رشته<br>IN | نوع مدرک<br>MR | سریال<br>0002 | نسخه<br>D01 |   |  |

| Item No.    | Document   | With Bid | TIME SCHEDULE       |                |                     |                   |
|-------------|--|----------|---------------------|----------------|---------------------|-------------------|
|             |  |          | For Review          |                | Final Issue         |                   |
|             |  |          | Copies No./Type (1) | Solar days (2) | Copies No./Type (1) | Calendar days (3) |
| 016         | Equipment List And Cabinet Bill Of Material  |          | 6C+E                |                | 6C+E                |                   |
| 017         | Control System Software Catalogue  | 3N       | 6C+E                |                | 6C+E                |                   |
| 018         | Electrical Panel Interconnection Wiring Diagram  |          | 6C+E                |                | 6C+E                |                   |
| 019         | Software System - Specifications   |          | 6C+E                |                | 6C+E                |                   |
| 020         | Hardware System - Specifications   |          | 6C+E                |                | 6C+E                |                   |
| 021         | Wiring Loop Diagrams   |          | 6C+E                |                | 6C+E                |                   |
| 022         | I/O assignment   |          | 6C+E                |                | 6C+E                |                   |
| 023         | Graphic Pages printout   |          | 6C+E                |                | 6C+E                |                   |
| 024         | System Architecture and Network  | 3N       | 6C+E                |                | 6C+E                |                   |
| 025         | Cable Termination's/Connection Diagrams  |          | 6C+E                |                | 6C+E                |                   |
| 026         | Panel/ESD Console Layout   |          | 6C+E                |                | 6C+E                |                   |
| 027         | Power Distribution Diagram   |          | 6C+E                |                | 6C+E                |                   |
| 028         | System Software/logic printout   |          | 6C+E                |                | 6C+E                |                   |
| 029         | Furniture details and arrangement  |          | 6C+E                |                | 6C+E                |                   |
| 030         | Earthing Diagram   |          | 6C+E                |                | 6C+E                |                   |
| 031         | Control Room And Technical Arrangement   |          | 6C+E                |                | 6C+E                |                   |
| 032         | Reliability/Availability/FEMA Report   |          | 6C+E                |                | 6C+E                |                   |
| 033         | MODBUS Mapping List  |          | 6C+E                |                | 6C+E                |                   |
| PROCUREMENT |  |          |                     |                |                     |                   |
| 034         | List of Sub-Suppliers (table giving: part of equipment, tag no., sub-supplier reference) | 4N       |                     |                | 6C+E                |                   |
| 035         | Unpriced copy of sub-orders  |          | 6C+E                |                |                     |                   |
| 036         | Packing Spec. / Shipping Schedule  | 3N       | 6C+E                |                | 6C+E                |                   |
| 037         | Weight List/ Shipping List   |          | 6C+E                |                | 6C+E                |                   |

|  |   |           |            |         |      |          |       |   |
|--|---|-----------|------------|---------|------|----------|-------|---|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>فعالیت های روزمینی در بسته های کاری تحت الارض</p> <p>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،</p> <p>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه</p> <p>چندراهه کلاستر بینک</p> |           |            |         |      |          |       | <br>HIRGAN ENERGY<br> |
| شماره پیمان:<br><br>053 - 073 - 9184   | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD   |           |            |         |      |          |       | شماره صفحه : 17 از 20   |
|  | پروژه   | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |   |
|  | BK  | W007S     | PEDCO      | 110     | IN   | MR       | 0002  | D01   |

| Item No.                                   | Document   | With Bid | TIME SCHEDULE       |                |                     |                   |
|--|--|----------|---------------------|----------------|---------------------|-------------------|
|  |  |          | For Review          |                | Final Issue         |                   |
|  |  |          | Copies No./Type (1) | Solar days (2) | Copies No./Type (1) | Calendar days (3) |
| 038  | Mechanical & Performance Guarantees  |          | 6C+E                |                | 6C+E                |                   |
| <b>TESTING</b>                             |  |          |                     |                |                     |                   |
| 039  | Manufacturing, Test & Inspection Procedures  | 3N       | 6C+E                |                | 6C+E                |                   |
| 040  | Performance & Functional Test Procedure  |          | 6C+E                |                | 6C+E                |                   |
| 041  | Factory Acceptance Test (FAT) Procedure  |          | 6C+E                |                | 6C+E                |                   |
| 042  | Site Acceptance Test (SAT) Procedure   |          | 6C+E                |                | 6C+E                |                   |
| <b>RECORDS, REPORTS &amp; CERTIFICATES</b> |  |          |                     |                |                     |                   |
| 043  | HAZARDOUS AREA CLASSIFICATION CERTIFICATES -<br>Testifying to suitability of electrical/electronic apparatus for use in the Hazardous Area Specified |          |                     |                | 6C+E                |                   |
| 044  | INGRESS PROTECTION CERTIFICATES -<br>Testifying to suitability of electrical/electronic apparatus for use in the Hazardous Area Specified            |          |                     |                | 6C+E                |                   |
| 045  | CONFORMITY/COMPLIANCE CERTIFICATES<br>Attesting conformance to type approval   |          |                     |                | 6C+E                |                   |
| 046  | MANUFACTURING RECORD BOOK INDEX (Standard index will be issued with the Purchase Order).   |          | 6C+E                |                | 6C+E                |                   |
| 047  | Pre-FAT Report   |          |                     |                | 6C+E                |                   |
| 048  | FAT Report   |          |                     |                | 6C+E                |                   |
| 049  | Conformity Certificates (sub-supplier/equipment)   |          | 6C+E                |                | 6C+E                |                   |
| <b>INSTALLATION</b>                        |  |          |                     |                |                     |                   |
| 050  | Sub-Assembly Documentation   |          | 6C+E                |                | 6C+E                |                   |
|  | Sub-Assembly Drawings  |          | 6C+E                |                | 6C+E                |                   |

|  |  |           |            |         |      |          |       |   |
|--|--|-----------|------------|---------|------|----------|-------|---|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>فعالیت های رو زمینی در بسته های کاری تحت الارض</p> <p>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،</p> <p>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه</p> <p>چندراهه کلاستر بینک</p> |           |            |         |      |          |       | <br>HIRGAN ENERGY<br> |
| شماره پیمان:<br><br>053 - 073 - 9184   | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD  |           |            |         |      |          |       | شماره صفحه : 18 از 20   |
|  | پروژه  | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |   |
|  | BK   | W007S     | PEDCO      | 110     | IN   | MR       | 0002  | D01   |

| Item No.                           | Document   | With Bid | TIME SCHEDULE       |                |                     |                   |
|------------------------------------|--|----------|---------------------|----------------|---------------------|-------------------|
|                                    |  |          | For Review          |                | Final Issue         |                   |
|                                    |  |          | Copies No./Type (1) | Solar days (2) | Copies No./Type (1) | Calendar days (3) |
| 052                                | Erection/Installation Manual (if required)                     |          | 6C+E                |                | 6C+E                |                   |
| 053                                | Name Plate Documents   |          | 6C+E                |                | 6C+E                |                   |
| 054                                | Handling, Transportation & Storage Instructions                |          | 6C+E                |                | 6C+E                |                   |
| 055                                | Unpacking & Inspection Instructions                            |          | 6C+E                |                |                     |                   |
| 056                                | Preliminary Packing List                                       | 4N       |                     |                |                     |                   |
| 057                                | Packing List   |          | 6C+E                |                | 6C+E                |                   |
| <b>OPERATION &amp; MAINTENANCE</b> |  |          |                     |                |                     |                   |
| 058                                | Operating Instructions   |          | 6C+E                |                | 6C+E                |                   |
| 059                                | Maintenance Instructions (if required)                         |          | 6C+E                |                | 6C+E                |                   |
| 060                                | Commissioning & Start-up Manual                                |          | 6C+E                |                | 6C+E                |                   |
| 061                                | List of Spare Parts Commissioning & Start-up                   | 4N       | 6C+E                |                | 6C+E                |                   |
| 062                                | List of Spare Parts 2 Years Operation                          | 4N       | 6C+E                |                | 6C+E                |                   |
| 063                                | List of Special Tools  | 4N       | 6C+E                |                | 6C+E                |                   |
|                                    | Software Manual (incl. Troubleshooting)                        |          | 6C+E                |                | 6C+E                |                   |
| 065                                | 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) List of Documents will be Finalized in Vendor Document Index and Schedule.

| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>فعالیت های رو زمینی در بسته های کاری تحت الارض</p> <p>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،</p> <p>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه</p> <p>چندراهه کلاستر بینک</p>  |  |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                       |
|--|---|---|---------|------|----------|-------|------|--|--|-------|-----------|------------|---------|------|----------|-------|------|----|-------|-------|-----|----|----|------|-----|-----------------------|
| شماره پیمان:   | <table><tr><th colspan="8">PMR FOR PMR FOR ESD SYSTEM –<br/>EXTENSION OF BINAK B/C MANIFOLD</th></tr><tr><th>پروژه</th><th>بسته کاری</th><th>صادر کننده</th><th>تسهیلات</th><th>رشته</th><th>نوع مدرک</th><th>سریال</th><th>نسخه</th></tr><tr><td>BK</td><td>W007S</td><td>PEDCO</td><td>110</td><td>IN</td><td>MR</td><td>0002</td><td>D01</td></tr></table> | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD                     |         |      |          |       |      |  |  | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | BK | W007S | PEDCO | 110 | IN | MR | 0002 | D01 | شماره صفحه : 19 از 20 |
| PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD                            |   |   |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                       |
| پروژه  | بسته کاری   | صادر کننده  | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                       |
| BK   | W007S   | PEDCO   | 110     | IN   | MR       | 0002  | D01  |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                       |
| 053 - 073 - 9184   |   |   |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                       |

### **ATTACHMENT 3**

#### **11.3 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 |
|----------|-----------------------------------|---|-------------------------------|---|
|          |                                   |   |                               |   |

| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>فعالیت های رو زمینی در بسته های کاری تحت الارض</p> <p>ساخت موقعیت چاه، تاسیسات سرچاهی، خطوط جریانی،</p> <p>تسهیلات برق رسانی مربوط به موقعیت W007S و توسعه</p> <p>چندراهه کلاستر بینک</p>  |  |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                       |
|--|---|---|---------|------|----------|-------|------|--|--|-------|-----------|------------|---------|------|----------|-------|------|----|-------|-------|-----|----|----|------|-----|-----------------------|
| شماره پیمان:   | <table><tr><th colspan="8">PMR FOR PMR FOR ESD SYSTEM –<br/>EXTENSION OF BINAK B/C MANIFOLD</th></tr><tr><th>پروژه</th><th>بسته کاری</th><th>صادر کننده</th><th>تسهیلات</th><th>رشته</th><th>نوع مدرک</th><th>سریال</th><th>نسخه</th></tr><tr><td>BK</td><td>W007S</td><td>PEDCO</td><td>110</td><td>IN</td><td>MR</td><td>0002</td><td>D01</td></tr></table> | PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD                     |         |      |          |       |      |  |  | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | BK | W007S | PEDCO | 110 | IN | MR | 0002 | D01 | شماره صفحه : 20 از 20 |
| PMR FOR PMR FOR ESD SYSTEM –<br>EXTENSION OF BINAK B/C MANIFOLD                            |   |   |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                       |
| پروژه  | بسته کاری   | صادر کننده  | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                       |
| BK   | W007S   | PEDCO   | 110     | IN   | MR       | 0002  | D01  |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                       |
| 053 - 073 - 9184   |   |   |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |       |       |     |    |    |      |     |                       |

## **ATTACHMENT 4**

### **11.4 ALTERNATIVES TO JOB SPECIFICATION**

Requisition No.:

Description:

Equipment No.:

| Item No. | Job Specification No. & Paragraph No. | Requirements of Job Specification | Description of Proposed Alternative | Reason for Proposed Alternative |
|----------|---------------------------------------|-----------------------------------|-------------------------------------|---------------------------------|
|          |                                       |                                   |                                     |                                 |