

| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>                                                                                                                                                                                                                                |  |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |
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| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | <table><tr><th colspan="8">PMR FOR INSTRUMENT/PLANT AIR &amp; NITROGEN PACKAGES</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>GCS</td><td>PEDCO</td><td>120</td><td>ME</td><td>MR</td><td>0006</td><td>D03</td></tr></table> | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                    |         |      |          |       |      |  |  | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | BK | GCS | PEDCO | 120 | ME | MR | 0006 | D03 | شماره صفحه: ۱ از ۳۰ |
| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |
| پروژه                                                                                      | بسته کاری                                                                                                                                                                                                                                                                                                                                       | صادر کننده                                                                          | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |
| BK                                                                                         | GCS                                                                                                                                                                                                                                                                                                                                             | PEDCO                                                                               | 120     | ME   | MR       | 0006  | D03  |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |

## طرح نگهداشت و افزایش تولید ۲۷ مخزن

### PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES

#### نگهداشت و افزایش تولید میدان نفتی بینک

| Rev. | Date      | Purpose of Issue/Status | Prepared by: | Checked by: | Approved by: | CLIENT Approval |
|------|-----------|-------------------------|--------------|-------------|--------------|-----------------|
| D03  | AUG. 2023 | IFI                     | H.Ghadyani   | M.Fakharian | A.M.Mohseni  |                 |
| D02  | FEB. 2023 | IFI                     | H. Adineh    | M.Fakharian | M.Mehrshad   |                 |
| D01  | NOV. 2022 | IFI                     | H. Adineh    | M.Fakharian | M.Mehrshad   |                 |
| D00  | AUG. 2022 | IFI                     | H. Adineh    | M.Fakharian | M.Mehrshad   |                 |

Class: 3

CLIENT Doc. Number: F0Z-709227

#### 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

| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>                                                                                                                                                                                                                                |  |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |
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| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |
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| BK                                                                                         | GCS                                                                                                                                                                                                                                                                                                                                             | PEDCO                                                                               | 120     | ME   | MR       | 0006  | D03  |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |

### REVISION RECORD SHEET

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| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |
| پروژه                                                                                      | بسته کاری                                                                                                                                                                                                                                                                                                                                       | صادر کننده                                                                          | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |
| BK                                                                                         | GCS                                                                                                                                                                                                                                                                                                                                             | PEDCO                                                                               | 120     | ME   | MR       | 0006  | D03  |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |

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|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

## 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, 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:              | 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.                                                             |

| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>                                                                                                                                                                                                                                |  |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |
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| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |
| پروژه                                                                                      | بسته کاری                                                                                                                                                                                                                                                                                                                                       | صادر کننده                                                                          | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |
| BK                                                                                         | GCS                                                                                                                                                                                                                                                                                                                                             | PEDCO                                                                               | 120     | ME   | MR       | 0006  | D03  |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |

## 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 air compressor & dryer packages 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.
- The vendor's supply shall include:

| No. | Item           | Description                   | Total QTY. |
|-----|----------------|-------------------------------|------------|
| 1   | PK-C-2203 A/B  | Air Compressor Packages       | 2(1+1)     |
| 2   | PK-DR-2203 A/B | Air Dryer Packages            | 2(1+1)     |
| 3   | PK-G-2204      | Nitrogen Package              | 1          |
| 4   | PK-C-2204      | Air Compressor for N2 Package | 1          |

## 3.0 REFERENCE / ATTACHED DOCUMENTS

- Specified documents in attachment 1 shall be considered as a part of this material Requisition.
- All codes and standards which have been referenced in above mentioned specs shall be considered.
- 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.
- 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.

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
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| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه: ۶ از ۳۰                                                                 |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

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 air compressor & dryer packages that completely assembled and tested. 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 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.

#### 5.0 LIMITS OF SUPPLY

##### 5.1 SCOPE OF SUPPLY

###### 5.1.1 MAIN DESCRIPTION

❖ For the Air Compressors:

- Complete set of oil free screw compressor including control system, MCC, compressor element, air cooling system, lube oil system, cooling fan, electrical motor, separator system, control valves
- Electrical motor:
  - On-skid cabling, tray and fittings
  - Anti-condensation heaters for motor
  - Outdoor MCC for Auxiliaries Electrical Load (if any)
- Coupling (dry flexible Spacer with Non sparking guard)
- Common baseplate for driver and compressor

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| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | <table><tr><th colspan="8">PMR FOR INSTRUMENT/PLANT AIR &amp; NITROGEN PACKAGES</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>GCS</td><td>PEDCO</td><td>120</td><td>ME</td><td>MR</td><td>0006</td><td>D03</td></tr></table> | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                    |         |      |          |       |      |  |  | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | BK | GCS | PEDCO | 120 | ME | MR | 0006 | D03 | شماره صفحه: ۷ از ۳۰ |
| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |
| پروژه                                                                                      | بسته کاری                                                                                                                                                                                                                                                                                                                                       | صادر کننده                                                                          | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |
| BK                                                                                         | GCS                                                                                                                                                                                                                                                                                                                                             | PEDCO                                                                               | 120     | ME   | MR       | 0006  | D03  |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                     |

- Foundation bolts (anchor bolt), skid leveling screws, shims, sub-plates
- Inlet filter (auto cleaning type)
- Inlet silencer
- Inlet IGV
- Inter-stage air cooler
- Inter-stage water separator and water trap
- After cooler (Air cooler)
- Outlet water separator (at downstream of after cooler) with water trap
- Compressor auxiliary equipment
- Blow off silencer
- Outlet FT for surge control
- PSV at discharge of each compressor
- All required instrumentations for safe operation of compressors
- Instrumentation, wiring & control within baseplates including junction box
- . PLC based UCPs (one for each compressor) shall be considered to be mounted in control room and one of them shall be authorized as master logic controller of complete air package. UCPs shall be connected to the PCS, ESD, for required monitoring, control functions and shutdowns as per P&ID. UCP panel door mounted HMI shall including alarm, trip and interlock logic annunciator lamp and buzzer (if any). LCP for local command is required for each compressor. SIL rated loops for safety and trip commands shall be considered. Lap top for engineering and maintenance and all original software and licences shall be prepared by vendor.
- All piping interconnections
- Manifolded single connections at the edge of skid for utility connections & drain and vent connections
- Relevant equipment for compressor control and safety.
- PT,TT & FT on common discharge header of compressors for load sharing and load management
- PDT for inlet Air Filters
- LT for water separators
- PT& TT for inlet and out let of each stage of compressor
- First filling of consumables such as lube oil and ... is in vendor scope of supply



| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>                                                                                                                                                                                                                                |  |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |
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| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | <table><tr><th colspan="8">PMR FOR INSTRUMENT/PLANT AIR &amp; NITROGEN PACKAGES</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>GCS</td><td>PEDCO</td><td>120</td><td>ME</td><td>MR</td><td>0006</td><td>D03</td></tr></table> | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                    |         |      |          |       |      |  |  | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | BK | GCS | PEDCO | 120 | ME | MR | 0006 | D03 | شماره صفحه : ۸ از ۳۰ |
| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |
| پروژه                                                                                      | بسته کاری                                                                                                                                                                                                                                                                                                                                       | صادر کننده                                                                          | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |
| BK                                                                                         | GCS                                                                                                                                                                                                                                                                                                                                             | PEDCO                                                                               | 120     | ME   | MR       | 0006  | D03  |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |

- All transmitters shall transferred to DCS for operator monitoring purpose
- Package running status /common alarms/faults to be transferred to DCS from UCP by MODBUS RTU
- Anti-surge controller for each compressor shall be considered.
- Surge drum
- Spare compressor shall be provided.
- Acoustic Enclosure (If required)
- Two earthing bars
- Lifting lugs for four points for each baseplate
- Sand blast & painting
- Special tools for erection and maintenance
- Thermal insulation (if needed)
- Name plates
- Spare Parts for erection, pre-commissioning, commissioning and start up and two years operation.
- Capital spare parts (as option)
- Any other items not listed above which are necessary for satisfactory design and operation of the pump shall be furnished by vendor

❖ For the Air Dryer Package:

- Air dryers beds (mole sieve adsorption type) (for each package one bed in adsorption and one bed in regeneration mode)
- Dual-pre-filters & dual-after-filters (Cartridge Element) with spares filters
- Silencer for air regeneration discharge line
- All required instrumentations for safe operation of compressors
- All piping interconnections
- Manual globe valve and FT for regeneration line
- Dew point meter at discharge of each air dryers(at downstream of after filters)
- PSV for each beds
- All required sequencing valves for adsorption and regeneration of beds
- All transmitters shall transferred to DCS for operator monitoring purpose( if any)



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| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | <table><tr><th colspan="8">PMR FOR INSTRUMENT/PLANT AIR &amp; NITROGEN PACKAGES</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>GCS</td><td>PEDCO</td><td>120</td><td>ME</td><td>MR</td><td>0006</td><td>D03</td></tr></table> | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                    |         |      |          |       |      |  |  | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | BK | GCS | PEDCO | 120 | ME | MR | 0006 | D03 | شماره صفحه : ۹ از ۳۰ |
| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |
| پروژه                                                                                      | بسته کاری                                                                                                                                                                                                                                                                                                                                       | صادر کننده                                                                          | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |
| BK                                                                                         | GCS                                                                                                                                                                                                                                                                                                                                             | PEDCO                                                                               | 120     | ME   | MR       | 0006  | D03  |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |



- The life time of Air dryer's adsorbent shall be minimum 3 years
- Water trap for dual filters
- PDT for inlet and outlet filters and Air Dryer beds
- First filling of mole sieves are in vendor scope of supply All transmitters shall transferred to DCS for operator monitoring purpose
- Package running status /common alarms/faults to be transferred to DCS via Air compressor UCP. Standalone control panel ( as minimum microprocessor based) located on dryer skid for all required signaling, local logic, monitoring and etc. which shall be connected to control room mounted UCP of air compressor. Master UCP of package shall allow each dryer to be worked as duty independent of compressor duty/standby selection.
- Automatic starting of standby Dryer in case of shutdown of running air dryer to be considered.
- Manual & automatic drains
- Common skid for all equipment in package
- Foundation bolts (anchor bolt), skid leveling screws, shims, sub-plates
- Instrumentation, wiring & control within baseplates including junction box
- Controls system including alarm, trip and interlock logic; annunciator lamp and buzzer; push button switches; Terminal box
- On-skid cabling, tray and fittings
- Anti-condensation heaters for motor
- Outdoor MCC for Auxiliaries Electrical Load (if any)
- Manifolded single connections at the edge of skid for utility connections & drain and vent connections
- Two earthing bars
- Lifting lugs for four points for each baseplate
- Sand blast & painting
- Special tools for erection and maintenance
- Name plates
- Spare Parts for erection, pre-commissioning, commissioning and start up and two years operation.

| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>                                                                                                                                                                                                                                |  |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                       |
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| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | <table><tr><th colspan="8">PMR FOR INSTRUMENT/PLANT AIR &amp; NITROGEN PACKAGES</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>GCS</td><td>PEDCO</td><td>120</td><td>ME</td><td>MR</td><td>0006</td><td>D03</td></tr></table> | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                    |         |      |          |       |      |  |  | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | BK | GCS | PEDCO | 120 | ME | MR | 0006 | D03 | شماره صفحه : ۱۰ از ۳۰ |
| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                       |
| پروژه                                                                                      | بسته کاری                                                                                                                                                                                                                                                                                                                                       | صادر کننده                                                                          | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                       |
| BK                                                                                         | GCS                                                                                                                                                                                                                                                                                                                                             | PEDCO                                                                               | 120     | ME   | MR       | 0006  | D03  |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                       |

- Capital spare parts (as option)
- Any other items not listed above which are necessary for satisfactory design and operation of the pump shall be furnished by vendor

❖ For the Nitrogen Package:

- Air K.O. drum
- Surge drum
- Air compressor
- Air cooler
- Inlet silencer
- Outlet water separator
- pressure swing adsorption system
- Chiller for cooling of inlet wet air(if required)
- Silencer for air regeneration discharge line
- Dual-pre-filters & dual-after-filters(Cartridge Element)
- N<sub>2</sub> Generator
- Dual Particulate Filters(Cartridge Element) (if required)
- O<sub>2</sub> analyzer at discharge of air N<sub>2</sub> Generator(at downstream of particulate filters)
- H<sub>2</sub>O analyzer at discharge of air N<sub>2</sub> Generator(at downstream of particulate filters)
- PDI for Filters and beds
- UV (on-off valve) for temperature control, TT, check valve for Nitrogen Gaseous discharge line.
- All required TSV,PSV and on/off valves for gaseous nitrogen lines for safe operation
- Common skid for all equipment in package
- Foundation bolts (anchor bolt), skid leveling screws, shims, sub-plates
- Overall piping/tubing, valves and fittings within the package for complete operation
- Instrumentation, wiring & control within baseplates including junction box
- A PLC based UCP mounted in control room for each Nitrogen package. UCP shall be connected to the PCS, ESD, for required monitoring, control functions and shutdowns as per P&ID. UCP panel door shall including alarm, trip and interlock

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| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | <table><tr><th colspan="8">PMR FOR INSTRUMENT/PLANT AIR &amp; NITROGEN PACKAGES</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>GCS</td><td>PEDCO</td><td>120</td><td>ME</td><td>MR</td><td>0006</td><td>D03</td></tr></table> | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                    |         |      |          |       |      |  |  | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | BK | GCS | PEDCO | 120 | ME | MR | 0006 | D03 | شماره صفحه : ۱۱ از ۳۰ |
| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                       |
| پروژه                                                                                      | بسته کاری                                                                                                                                                                                                                                                                                                                                       | صادر کننده                                                                          | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                       |
| BK                                                                                         | GCS                                                                                                                                                                                                                                                                                                                                             | PEDCO                                                                               | 120     | ME   | MR       | 0006  | D03  |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                       |

logic; annunciator lamp and buzzer; push button switches; Terminal box, LCP for local command is required.

- On-skid cabling, tray and fittings
- Anti-condensation heaters for motor
- Outdoor MCC for Auxiliaries Electrical Load (if any)
- Manifolded single connections at the edge of skid for utility connections & drain and vent connections
- Two earthing bars
- Lifting lugs for four points for each baseplate
- Sand blast & painting
- Special tools for erection and maintenance
- Name plates
- Spare Parts for erection, pre-commissioning, commissioning and start up and two years operation.
- Capital spare parts (as option)
- All requirements for safe and easy startup of package
- Any other items not listed above which are necessary for satisfactory design and operation of the pump shall be furnished by vendor

The supplier shall assume overall responsibility for the design, manufacture, assembly, test and performance of all equipment/devices/items supplied as indicated in this requisition. This shall include, but not be limited to:

- Resolve engineering issues relating to equipment/devices/items within the scope of supply.
- Provide detailed design and documentation of all equipment/devices/items 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/devices/items.
- Implement a quality assurance plan
- The quality plan applied to the scope of supply shall include:
  - QA/QC Organization Chart and procedures that shall be submitted for approval.

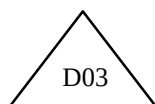
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| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۱۲ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

- 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.
- Calibration of test instruments and equipment
- Provide detailed specifications and data sheets.

#### 5.1.2 SPARE PARTS

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

- Spare parts for 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)



#### 5.1.3 OTHER ITEMS

- Special tools required for installation and maintenance including compressor internals dismantling cradle (a qualified and complete list has to be included in the bid documentation)
- Name plate
- Earthing plate
- Painting of all items in accordance with "Painting Specification".
- Preparation for shipment
- Packing for sea freight transportation
- Stairs, ladders and walkways if required
- Shop inspections and testing as per specifications & data sheets
- Free access to manufacturing plants for the PURCHASER's inspectors

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
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| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br><br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                       | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۱۳ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

- Certificates or declarations of conformance (as required) of all Ex-equipment.
- Daily rate for erection supervision (separate price)
- Daily rate for commissioning and start-up supervision (separate price)
- Training for customer's personnel (separate price)
- KOM
- Technical/Clarification meeting
- Pre-Inspection Meeting

## 5.2 SCOPE OF WORK

- Engineering and Documentation
- Manufacturing and assembling
- Mechanical Guarantee
- Performance Guarantee
- Sub-Vendor Coordination
- Mounting of main driver and auxiliary driver on baseplate at shop
- Inspection and testing at shop
- Piping within the Package
- Painting
- Prime Coats at Shop
- Finish Coats at Shop
- Packing Preservation suitable for more than 18 months at outdoor conditions of the site environment
- Packing including suitable protection for both sea transport and road transport on rough tracks
- Rust prevention for long term (over 6 month)
- Shipping and transportation to point of delivery (according to delivery condition)
- Supervision for installation (Per diem rate and/or lump sum - as an option)
- Supervision for erection, commissioning and start up (Per Diem rate and/or lump sum - as an option)
- Preparing of Final Book (Data Book)

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
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| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br><br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                       | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۱۴ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

### 5.3 EXCLUSIONS

The following items are excluded by the supplier scope of supply and will be provided by purchaser:

- Concrete foundation (which shall be anyway designed based on supplier's technical data)
- Instrument air supply
- Nitrogen supply (if any)
- Electrical supply
- Interconnecting power cables among each skid mounted terminal boxes and remote switch gear
- Interconnecting cabling, serial link, between the remotely mounted unit control panel and the process control system in the main control room
- Connection to plant earthing system
- Transport from receiving port to site
- Shelter for Package
- Site erection
- Lubricants (except first filling)

### 5.4 BATTERY LIMITS

The battery limits are summarized as follows:

- Process
  - Inlet and outlet flanges on skid
- Instrumentation and control
  - terminal strips inside junction boxes at skid edges
  - terminal strips inside unit control panel
  - terminal strips inside UCP for integrated safety system (ESD and F&G) connections
  - terminal strips inside UCP for IRP connections
  - MODBUS TCP\IP connections on modules
- Electrical
  - Incoming Power Supply of Local MCC
  - Incoming Power Supply of AC or DC UPS (if Any)

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |                       |
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| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |                       |
| شماره پیمان:<br><br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                       | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       |                                                                                     | شماره صفحه : ۱۵ از ۳۰ |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه                                                                                |                       |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |                       |

- Earth Bosses on Skids
- d) Vents and Drains
  - Drain flanges manifold
  - Outlet vent piping flanges

## 6.0 INSECTION AND TESTS



The equipment shall be inspected and tested in accordance with the Inspection & Test plan (ITP) issued by the vendor and approved by the CLIENT/EPC CONTRACTOR before the award of the order . The Inspection & Test plan (ITP ) shall be at least according to the Commodity Procurement and Manufacturing Inspection Instruction ( Docs .Nos. ICE-EID-MI-SP01-Rev01 ) , Inspection Level of Commodity and Equipment ( Docs .Nos. ICE-EID-MI-SP02-Rev01) and Data Sheets. The 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 Test /Site Acceptance Test 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 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.
- ITP, QCP, MPS documents shall be presented at the PIM by vendor



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

## 8.0 UNIT 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.

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
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| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۱۶ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

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

## 9.0 GUARANTEE AND WARRANTY

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

The guarantee period shall be eighteen (18) months from the date of delivery or twelve (12) 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 package for correct and safe operation based on project requirement during package 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 package operation at site before P.O;



|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
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| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br><br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                       | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۱۷ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

otherwise, VENDOR shall be hold responsible for any corresponding deviation from expectations from the Equipment/Devices/Items.

## 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

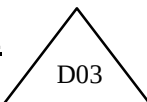


Breakdown price of following items shall be included in the proposal, as well as total price.

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

| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>                                                                                                                                                                                                                                |  |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |
|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------|------|----------|-------|------|--|--|-------|-----------|------------|---------|------|----------|-------|------|----|-----|-------|-----|----|----|------|-----|----------------------|
| شماره پیمان:<br><br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                       | <table><tr><th colspan="8">PMR FOR INSTRUMENT/PLANT AIR &amp; NITROGEN PACKAGES</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>GCS</td><td>PEDCO</td><td>120</td><td>ME</td><td>MR</td><td>0006</td><td>D03</td></tr></table> | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                    |         |      |          |       |      |  |  | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | BK | GCS | PEDCO | 120 | ME | MR | 0006 | D03 | شماره صفحه: ۱۸ از ۳۰ |
| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |
| پروژه                                                                                      | بسته کاری                                                                                                                                                                                                                                                                                                                                       | صادر کننده                                                                          | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |
| BK                                                                                         | GCS                                                                                                                                                                                                                                                                                                                                             | PEDCO                                                                               | 120     | ME   | MR       | 0006  | D03  |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                      |

## ATTACHMENT 1



### 11.1 LIST OF REFERENCE / APPLICABLE DOCUMENTS

| No.                          | Document No.                                                            | Document Title                | Rev. |
|------------------------------|-------------------------------------------------------------------------|-------------------------------|------|
| <b>Process</b>               |                                                                         |                               |      |
| 1                            | Process Basis Of Design                                                 | BK-GNRAL-PEDCO-000-PR-DB-0001 | D08  |
| 2                            | Process Design Criteria                                                 | BK-GNRAL-PEDCO-000-PR-DC-0001 | D02  |
| 3                            | Symbol & Legend For PFD and P&ID                                        | BK-GCS-PEDCO-120-PR-PI-0001   | D04  |
| 4                            | P&ID - Instrument & Plant Air System                                    | BK-GCS-PEDCO-120-PR-PI-0015   | D06  |
| 5                            | P&ID - Nitrogen Generation System                                       | BK-GCS-PEDCO-120-PR-PI-0016   | D06  |
| 6                            | Duty Specification for Instrument/Plant Air & Nitrogen Packages         | BK-GCS-PEDCO-120-PR-SP-0002   | D05  |
| <b>Mechanical</b>            |                                                                         |                               |      |
| 7                            | Mechanical Design Criteria                                              | BK-GNRAL-PEDCO-000-ME-DC-0001 | D04  |
| 8                            | Specification For Pressure Vessels                                      | BK-GNRAL-PEDCO-000-ME-SP-0001 | D03  |
| 9                            | Specification For Air Compressor Package                                | BK-GCS-PEDCO-120-ME-SP-0006   | D06  |
| 10                           | Specification For Air Dryer Package                                     | BK-GCS-PEDCO-120-ME-SP-0007   | D02  |
| 11                           | Specification For Nitrogen Package                                      | BK-GCS-PEDCO-120-ME-SP-0014   | D05  |
| 12                           | Standard Detail Drawing For Pressure Vessels and Heat Exchangers        | BK-GNRAL-PEDCO-000-ME-DW-0001 | D02  |
| <b>Piping &amp; Material</b> |                                                                         |                               |      |
| 13                           | Piping Design Criteria                                                  | BK-GNRAL-PEDCO-000-PI-DC-0001 | D03  |
| 14                           | Piping Material Specification                                           | BK-GCS-PEDCO-120-PI-SP-0001   | D02  |
| 15                           | Specification for Painting                                              | BK-GNRAL-PEDCO-000-PI-SP-0006 | D04  |
| 16                           | Piping Corrosion Study & Material Selection Report                      | BK-GCS-PEDCO-120-PI-RT-0001   | D04  |
| 17                           | Specification For Metallic Pipes                                        | BK-GNRAL-PEDCO-000-PI-SP-0004 | D06  |
| 18                           | Specification For Fittings, Flanges, Gaskets and Bolts                  | BK-GNRAL-PEDCO-000-PI-SP-0005 | D02  |
| 19                           | Specification For Welding of Plant Piping System                        | BK-GNRAL-PEDCO-000-PI-SP-0011 | D01  |
| 20                           | Specification For Manual Valves                                         | BK-GNRAL-PEDCO-000-PI-SP-0009 | D01  |
| 21                           | Unit Plot Plan Drawing                                                  | BK-GCS-PEDCO-120-PI-PY-0001   | D04  |
| 22                           | Specification For the Design of Piping in Mechanical Package            | BK-GNRAL-PEDCO-000-PI-SP-0003 | D01  |
| 23                           | Specification For Lining (Internal Protection of Equipment by Painting) | BK-GNRAL-PEDCO-000-PI-SP-0007 | D02  |
| 24                           | Specification For Piping Cleaning and Flushing                          | BK-GNRAL-PEDCO-000-PI-SP-0017 | D03  |
| 25                           | NDT Plan For steel Structures                                           | BK-GNRAL-PEDCO-000-QC-PR-0041 | D00  |

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| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | <table><tr><th colspan="8">PMR FOR INSTRUMENT/PLANT AIR &amp; NITROGEN PACKAGES</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>GCS</td><td>PEDCO</td><td>120</td><td>ME</td><td>MR</td><td>0006</td><td>D03</td></tr></table> | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                    |         |      |          |       |      |  |  | پروژه | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال | نسخه | BK | GCS | PEDCO | 120 | ME | MR | 0006 | D03 | شماره صفحه : ۱۹ از ۳۰ |
| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |         |      |          |       |      |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                       |
| پروژه                                                                                      | بسته کاری                                                                                                                                                                                                                                                                                                                                       | صادر کننده                                                                          | تسهیلات | رشته | نوع مدرک | سریال | نسخه |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                       |
| BK                                                                                         | GCS                                                                                                                                                                                                                                                                                                                                             | PEDCO                                                                               | 120     | ME   | MR       | 0006  | D03  |  |  |       |           |            |         |      |          |       |      |    |     |       |     |    |    |      |     |                       |

| No.                                  | Document No.                                                         | Document Title                                            | Rev. |
|--------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------|------|
| 26                                   | Specification For Material Requirements in Sour service              | BK-GNRAL-PEDCO-000-PI-SP-0008                             | D01  |
| 27                                   | Specification For Color Coding and Marking                           | BK-GNRAL-PEDCO-000-PI-SP-0001                             | D02  |
| 28                                   | Specification For Plant Piping Systems Pressure Testing              | BK-GNRAL-PEDCO-000-PI-SP-0010                             | D02  |
| <b>Structure</b>                     |                                                                      |                                                           |      |
| 29                                   | Structural Design Criteria                                           | BK-GNRAL-PEDCO-000-ST-DC-0001                             | D02  |
| 30                                   | Specification For Concrete Work                                      | BK-GNRAL-PEDCO-000-ST-SP-0001                             | D03  |
| 31                                   | Standard Drawing For Anchor Bolts                                    | BK-GNRAL-PEDCO-000-ST-DW-0002                             | D02  |
| <b>Control &amp; Instrumentation</b> |                                                                      |                                                           |      |
| 32                                   | Specification For Instrumentation                                    | BK-GNRAL-PEDCO-000-IN-SP-0001                             | D04  |
| 33                                   | Specification For Instrument and Control of package Unit System (PU) | BK-GNRAL-PEDCO-000-IN-SP-0004                             | D02  |
| 34                                   | Specification For On-off /Shut Down Valves(ESDV/MOV)                 | BK-GNRAL-PEDCO-000-IN-SP-0006                             | D03  |
| 35                                   | Specification For Pressure Safety Valves(PSV)                        | BK-GNRAL-PEDCO-000-IN-SP-0007                             | D04  |
| 36                                   | Specification For Instrument/F&G Cables                              | BK-GNRAL-PEDCO-000-IN-SP-0010                             | D02  |
| 37                                   | Specification For Control Valves                                     | BK-GNRAL-PEDCO-000-IN-SP-0005                             | D03  |
| 38                                   | Instrument Hook-Up Diagram                                           | BK-GCS-PEDCO-120-IN-DG-0002                               | D03  |
| <b>Electrical</b>                    |                                                                      |                                                           |      |
| 39                                   | Electrical System Design Criteria                                    | BK-GNRAL-PEDCO-000-EL-DC-0001                             | D02  |
| 40                                   | Specification For LV Switchgear & Motor Control Centers              | BK-GNRAL-PEDCO-000-EL-SP-0001                             | D03  |
| 41                                   | Specification For LV Induction Motors                                | BK-GNRAL-PEDCO-000-EL-SP-0010                             | D03  |
| 42                                   | Specification For Electrical Requirements of Packaged Units          | BK-GNRAL-PEDCO-000-EL-SP-0011                             | D03  |
| 43                                   | Specification For Distribution & Lighting Panels                     | BK-GNRAL-PEDCO-000-EL-SP-0013                             | D03  |
| 44                                   | Specification For Power & Control Cables                             | BK-GNRAL-PEDCO-000-EL-SP-0014                             | D03  |
| 45                                   | Data Sheets For LV Induction Motors                                  | BK-GCS-PEDCO-120-EL-DT-0008                               | D03  |
| <b>Safety &amp; Fire Fighting</b>    |                                                                      |                                                           |      |
| 46                                   | Specification For Hazardous Area Classification                      | BK-GNRAL-PEDCO-000-SA-SP-0002                             | D03  |
| 47                                   | Specification For passive Fire protection                            | BK-GNRAL-PEDCO-000-SA-SP-0007                             | D02  |
| 48                                   | Hazardous Area Classification Layout                                 | BK-GCS-PEDCO-120-SA-PY-0002                               | D00  |
| <b>General</b>                       |                                                                      |                                                           |      |
| 49                                   | ICE-EID-MI-SP01-Rev01                                                | دستورالعمل بازرسی، خرید و ساخت کالا                       | -    |
| 50                                   | E&C-QC-SP-1                                                          | دستورالعمل تامین قطعات یدکی راه اندازی و راهبری دو سالانه | -    |

| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>                                                                                                                                                                                                                                |  |      |         |            |           |       |  |  |      |       |          |      |         |            |           |       |     |      |    |    |     |       |     |    |                       |
|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|---------|------------|-----------|-------|--|--|------|-------|----------|------|---------|------------|-----------|-------|-----|------|----|----|-----|-------|-----|----|-----------------------|
| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | <table><tr><th colspan="8">PMR FOR INSTRUMENT/PLANT AIR &amp; NITROGEN PACKAGES</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تسهیلات</th><th>صادر کننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>D03</td><td>0006</td><td>MR</td><td>ME</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table> | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                    |      |         |            |           |       |  |  | نسخه | سریال | نوع مدرک | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه | D03 | 0006 | MR | ME | 120 | PEDCO | GCS | BK | شماره صفحه : ۲۰ از ۳۰ |
| PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                           |                                                                                                                                                                                                                                                                                                                                                 |                                                                                     |      |         |            |           |       |  |  |      |       |          |      |         |            |           |       |     |      |    |    |     |       |     |    |                       |
| نسخه                                                                                       | سریال                                                                                                                                                                                                                                                                                                                                           | نوع مدرک                                                                            | رشته | تسهیلات | صادر کننده | بسته کاری | پروژه |  |  |      |       |          |      |         |            |           |       |     |      |    |    |     |       |     |    |                       |
| D03                                                                                        | 0006                                                                                                                                                                                                                                                                                                                                            | MR                                                                                  | ME   | 120     | PEDCO      | GCS       | BK    |  |  |      |       |          |      |         |            |           |       |     |      |    |    |     |       |     |    |                       |

| No. | Document No.                  | Document Title                                       | Rev. |
|-----|-------------------------------|------------------------------------------------------|------|
| 51  | ICE-EID-MI-SP02-REV-01        | دستورالعمل انتخاب سطح بازرسی کالا و تجهیزات          | D01  |
| 52  | BK-GNRAL-PEDCO-000-QC-PR-0022 | Specification For Final Data Book (FDB) Requirements | D00  |
| 53  | BK-GNRAL-PEDCO-000-QC-PR-0045 | Packing, Marking, Transportation Procedure           | D00  |

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------|----------|-------|-------------------------------------------------------------------------------------|------|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br><br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                       | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۲۱ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

## ATTACHMENT 2

D03

### 11.2 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                                                                                | 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        | Noise & Vibrations Calculations / Reports (If any)                                                                |                     | 6C+E                |                | 6C+E                |                   |
| 013        | ESD Instructions                                                                                                  |                     | 6C+E                |                | 6C+E                |                   |
| INTERFACE  |                                                                                                                   |                     |                     |                |                     |                   |
| 014        | Electrical & Instrumentation Cable Schedule (for all systems)                                                     |                     | 6C+E                |                | 6C+E                |                   |
| 015        | Electrical & Instrumentation Wiring                                                                               |                     | 6C+E                |                | 6C+E                |                   |

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
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| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br><br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                       | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۲۲ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

| 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) |
|          | Drawings (for all systems)                                                                                                                        |          |                     |                |                     |                   |
| 016      | Package Data Sheets                                                                                                                               | 4N       | 6C+E                |                | 6C+E                |                   |
| 020      | Reliability, Availability, Maintainability Calculations/Reports                                                                                   | 4N       | 6C+E                |                | 6C+E                |                   |
| 021      | Performance Curves                                                                                                                                |          | 6C+E                |                | 6C+E                |                   |
| 022      | PFD's                                                                                                                                             | 4N       | 6C+E                |                | 6C+E                |                   |
| 023      | Functional Description                                                                                                                            |          | 6C+E                |                | 6C+E                |                   |
| 024      | General Arrangements Drawings                                                                                                                     | 4N       | 6C+E                |                | 6C+E                |                   |
| 025      | Mechanical Equipment List                                                                                                                         | 3N       | 6C+E                |                | 6C+E                |                   |
| 026      | Electrical Equipment List                                                                                                                         | 3N       | 6C+E                |                | 6C+E                |                   |
| 027      | Control, Instrument & Cable List                                                                                                                  |          | 6C+E                |                | 6C+E                |                   |
| 028      | Interface Block Diagrams                                                                                                                          | 3N       | 6C+E                |                | 6C+E                |                   |
| 029      | Junction Box, Local Panels & Cabinets: wiring diagrams & termination drawings                                                                     |          | 6C+E                |                | 6C+E                |                   |
| 030      | Functional Logic Diagram                                                                                                                          |          | 6C+E                |                | 6C+E                |                   |
| 031      | P & ID's                                                                                                                                          | 3N       | 6C+E                |                | 6C+E                |                   |
| 032      | Utility Consumption List                                                                                                                          | 3N       | 6C+E                |                | 6C+E                |                   |
| 033      | Power Supply Requirements                                                                                                                         | 3N       | 6C+E                |                | 6C+E                |                   |
| 034      | Single Line Diagram                                                                                                                               | 3N       | 6C+E                |                | 6C+E                |                   |
| 035      | Earthing Details                                                                                                                                  | 3N       | 6C+E                |                | 6C+E                |                   |
| 036      | Weight / Centre of Gravity Drawings & Data's                                                                                                      |          | 6C+E                |                | 6C+E                |                   |
| 037      | External Static and Dynamic Forces & Moments (present during test, start-up, normal/maximum operation, shutdown, and other conditions of service) |          | 6C+E                |                | 6C+E                |                   |
| 038      | Wind and Seismic Loads including shear and moment forces on supports and foundation.                                                              |          | 6C+E                |                | 6C+E                |                   |
| 039      | Anchor Bolt Details Drawings (incl. size, type, locations relative to the equipment center-lines in three planes).                                |          | 6C+E                |                | 6C+E                |                   |

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------|----------|-------|-------------------------------------------------------------------------------------|------|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۲۳ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

| 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) |
| 040                | Ladder & Platform Detail Drawing                                                                 |                     | 6C+E                |                | 6C+E                |                   |
| 041                | Steel Structure Detail Drawing                                                                   |                     | 6C+E                |                | 6C+E                |                   |
| <b>ENGINEERING</b> |                                                                                                  |                     |                     |                |                     |                   |
| 042                | Detailed Functional Design Specification                                                         |                     | 6C+E                |                | 6C+E                |                   |
| 043                | Detailed Overall Description                                                                     |                     | 6C+E                |                | 6C+E                |                   |
| 044                | Mechanical Detailed Specifications (one per component)                                           |                     | 6C+E                |                | 6C+E                |                   |
| 045                | Detailed Design / Fabrication Drawings for Equipment & Auxiliary Parts                           |                     | 6C+E                |                | 6C+E                |                   |
| 046                | Cross Sectional Drawings with Part Lists                                                         |                     | 6C+E                |                | 6C+E                |                   |
| 047                | Assembly Drawings                                                                                |                     | 6C+E                |                | 6C+E                |                   |
| 048                | Design Calculation Notes                                                                         |                     | 6C+E                |                | 6C+E                |                   |
| 049                | Pressure Parts Calculations                                                                      |                     | 6C+E                |                | 6C+E                |                   |
| 050                | Piping Detailed Specifications (one per component)                                               |                     | 6C+E                |                | 6C+E                |                   |
| 051                | Piping Routing                                                                                   |                     | 6C+E                |                | 6C+E                |                   |
| 052                | Valves & Instruments Location Drawings (incl. provisions for operational and maintenance access) |                     | 6C+E                |                | 6C+E                |                   |
| 053                | Electrical Detailed Specifications (one per component)                                           |                     | 6C+E                |                | 6C+E                |                   |
| 054                | Electrical Cables Routing (incl. cable trays & junction boxes)                                   |                     | 6C+E                |                | 6C+E                |                   |
| 055                | Electrical Equipment Location Drawings (incl. provisions for operational and maintenance access) |                     | 6C+E                |                | 6C+E                |                   |
| 056                | Protection Device Operating Curves                                                               |                     | 6C+E                |                | 6C+E                |                   |
| 057                | Electrical Control Schematics                                                                    |                     | 6C+E                |                | 6C+E                |                   |
| 058                | Instrument & Control Detailed Specifications (one per component)                                 |                     | 6C+E                |                | 6C+E                |                   |
| 059                | Instrument cables routing (incl. cable trays & junction boxes)                                   |                     | 6C+E                |                | 6C+E                |                   |

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------|----------|-------|-------------------------------------------------------------------------------------|------|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br><br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                       | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۲۴ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

| 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) |
| 060      | Instrument Equipment Location Drawings (incl. provisions for operational and maintenance access) |                     | 6C+E                |                | 6C+E                |                   |
| 061      | Hook-Up Diagrams                                                                                 |                     | 6C+E                |                | 6C+E                |                   |
| 062      | Wiring Loops Diagrams                                                                            |                     | 6C+E                |                | 6C+E                |                   |
| 063      | Instrument Control Schematics                                                                    |                     | 6C+E                |                | 6C+E                |                   |
| 064      | Instrument Mounting & Housing Instructions                                                       |                     | 6C+E                |                | 6C+E                |                   |
| 065      | Power Distribution & Consumption                                                                 |                     | 6C+E                |                | 6C+E                |                   |
| 066      | Cause & Effect Charts                                                                            |                     | 6C+E                |                | 6C+E                |                   |
| 067      | Original Software for Control & Monitoring System                                                |                     | 6C+E                |                | 6C+E                |                   |
| 068      | Software System Specifications                                                                   |                     | 6C+E                |                | 6C+E                |                   |
| 069      | Approximate Weight & Dimension                                                                   | 4N                  |                     |                |                     |                   |
| 070      | Shipping Detail Drawing                                                                          |                     | 6C+E                |                | 6C+E                |                   |
| 071      | Final Data Book                                                                                  |                     | 6C+E                |                | 6C+E                |                   |
| 072      | Pressure Loss Calculations                                                                       |                     | 6C+E                |                | 6C+E                |                   |
| 073      | Lubrication System Detailed Specifications / Drawings                                            |                     | 6C+E                |                | 6C+E                |                   |
| 074      | Cooling System Detailed Specifications/Drawings                                                  |                     | 6C+E                |                | 6C+E                |                   |
| 075      | Shaft Sealing System Detailed Specifications/Drawings                                            | 4N                  | 6C+E                |                | 6C+E                |                   |
| 076      | Completed Equipment Datasheets                                                                   | 4N                  | 6C+E                |                | 6C+E                |                   |
| 077      | Calculation sheets for safety valves, control valves & orifice plate                             |                     | 6C+E                |                | 6C+E                |                   |
| 078      | Complex loop & automation descriptions, list of alarms & shutdown with set points                |                     | 6C+E                |                | 6C+E                |                   |
| 079      | Electrical Equipment Catalogue                                                                   | 3N                  | 6C+E                |                | 6C+E                |                   |
| 080      | Electrical Interface Block Diagrams                                                              |                     | 6C+E                |                | 6C+E                |                   |
| 081      | Local Control Station of motors wiring diagram, termination drawing and general arrangement      |                     | 6C+E                |                | 6C+E                |                   |



|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------|----------|-------|-------------------------------------------------------------------------------------|------|
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| شماره پیمان:<br><br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                       | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۲۵ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

| 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) |
| 082                             | Gear System Detailed Specifications / Drawings                                            |                     | 6C+E                |                | 6C+E                |                   |
| 083                             | Coupling System Detailed Specifications / Drawings                                        |                     | 6C+E                |                | 6C+E                |                   |
| PROCUREMENT                     |                                                                                           |                     |                     |                |                     |                   |
| 084                             | List of Sub-Suppliers ( table giving: part of equipment, tag no., sub-supplier reference) | 4N                  |                     |                | 6C+E                |                   |
| 085                             | Unpriced copy of sub-orders                                                               |                     | 6C+E                |                |                     |                   |
| MANUFACTURING                   |                                                                                           |                     |                     |                |                     |                   |
| 086                             | Weld and NDT Map                                                                          |                     | 6C+E                |                | 6C+E                |                   |
| 087                             | Surface Preparation and Painting Procedures                                               |                     | 6C+E                |                | 6C+E                |                   |
| 088                             | Heat Treatment Procedures                                                                 |                     | 6C+E                |                | 6C+E                |                   |
| 089                             | Welding Procedure Specification (including repair procedures).                            |                     | 6C+E                |                | 6C+E                |                   |
| 090                             | Welder Qualification Procedure                                                            |                     | 6C+E                |                | 6C+E                |                   |
| 091                             | Fabrication Degree                                                                        | 3N                  |                     |                |                     |                   |
| TESTING                         |                                                                                           |                     |                     |                |                     |                   |
| 092                             | Hydrostatic / Pneumatic Testing Procedure                                                 |                     | 6C+E                |                | 6C+E                |                   |
| 093                             | Performance & Functional Test Procedure                                                   |                     | 6C+E                |                | 6C+E                |                   |
| 094                             | Non-Destructive Testing/Examination Procedures                                            |                     | 6C+E                |                | 6C+E                |                   |
| 095                             | Factory Acceptance Test (FAT) Procedure                                                   |                     | 6C+E                |                | 6C+E                |                   |
| 096                             | SITE Acceptance Test (SAT) Procedure                                                      |                     | 6C+E                |                | 6C+E                |                   |
| RECORDS, REPORTS & CERTIFICATES |                                                                                           |                     |                     |                |                     |                   |
| 097                             | Material Conformity Certificate                                                           |                     | 6C+E                |                | 6C+E                |                   |
| 098                             | Testing Authority Approval Certificate (if any)                                           |                     | 6C+E                |                | 6C+E                |                   |
| 099                             | Hazardous Area Certificates.                                                              |                     | 6C+E                |                | 6C+E                |                   |

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------|----------|-------|-------------------------------------------------------------------------------------|------|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۲۶ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

| 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) |
| 100      | Ingress Protection Certificate                                                                                           |          | 6C+E                |                | 6C+E                |                   |
| 101      | Conformity Certificates (sub-supplier/equipment)                                                                         |          | 6C+E                |                | 6C+E                |                   |
| 102      | Material Certificates Identification Diagram. (cross-reference material location ; certificates for critical components) |          | 6C+E                |                | 6C+E                |                   |
| 103      | Welding Procedure Qualification Record                                                                                   |          | 6C+E                |                | 6C+E                |                   |
| 104      | Welder Qualification Records.                                                                                            |          | 6C+E                |                | 6C+E                |                   |
| 105      | NDT Operator Qualifications                                                                                              |          | 6C+E                |                | 6C+E                |                   |
| 106      | Detailed NDT Reports                                                                                                     |          | 6C+E                |                | 6C+E                |                   |
| 107      | Weld/ NDT Identification Diagram. (Cross-reference weld locations, WPS, welders, NDT reports).                           |          | 6C+E                |                | 6C+E                |                   |
| 108      | Dimensional Control Reports                                                                                              |          | 6C+E                |                | 6C+E                |                   |
| 109      | Hardness Test Reports                                                                                                    |          | 6C+E                |                | 6C+E                |                   |
| 110      | PWHT Charts & Reports, including calibration records of recorders (for each heat treatment)                              |          | 6C+E                |                | 6C+E                |                   |
| 111      | Pressure Test Reports / Certificates                                                                                     |          | 6C+E                |                | 6C+E                |                   |
| 112      | FAT Test Report / Certificates                                                                                           |          | 6C+E                |                | 6C+E                |                   |
| 113      | Performance Test Report / Certificates                                                                                   |          | 6C+E                |                | 6C+E                |                   |
| 114      | Noise & Vibration Test Report / Certificates                                                                             |          | 6C+E                |                | 6C+E                |                   |
| 115      | Electric Motor Type Test Report (if any)                                                                                 |          | 6C+E                |                | 6C+E                |                   |
| 116      | Electric Motor Routine Test Report                                                                                       |          | 6C+E                |                | 6C+E                |                   |
| 117      | Cable Continuity and Resistance Test Reports                                                                             |          | 6C+E                |                | 6C+E                |                   |
| 118      | Calibration Curves of Control Equipment                                                                                  |          | 6C+E                |                | 6C+E                |                   |
| 119      | Calibration Test Certificates                                                                                            |          | 6C+E                |                | 6C+E                |                   |
| 120      | Surface Preparation & Coating Reports                                                                                    |          | 6C+E                |                | 6C+E                |                   |
| 121      | Hydrostatic / Pneumatic Testing Certificates                                                                             |          | 6C+E                |                | 6C+E                |                   |

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------|----------|-------|-------------------------------------------------------------------------------------|------|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه: ۲۷ از ۳۰                                                                |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

| 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) |
| 122                     | Welding Consumable Certificate                                 |                     | 6C+E                |                | 6C+E                |                   |
| 123                     | Inspection and Test Reports(if any)                            |                     | 6C+E                |                | 6C+E                |                   |
| 124                     | Rust Prevention Report                                         |                     | 6C+E                |                | 6C+E                |                   |
| 125                     | Non-Conformities Report                                        |                     | 6C+E                |                | 6C+E                |                   |
| INSTALLATION            |                                                                |                     |                     |                |                     |                   |
| 126                     | Sub-Assembly Documentation                                     |                     | 6C+E                |                | 6C+E                |                   |
| 127                     | Sub-Assembly Drawings                                          |                     | 6C+E                |                | 6C+E                |                   |
| 128                     | Erection/Installation Manual (if required)                     |                     | 6C+E                |                | 6C+E                |                   |
| 129                     | Name Plate Documents                                           |                     | 6C+E                |                | 6C+E                |                   |
| 130                     | Handling, Transportation & Storage Instructions                |                     | 6C+E                |                | 6C+E                |                   |
| 131                     | Unpacking & Inspection Instructions                            |                     | 6C+E                |                |                     |                   |
| 132                     | Preliminary Packing List                                       | 4N                  |                     |                |                     |                   |
| 132                     | Packing List                                                   |                     | 6C+E                |                | 6C+E                |                   |
| OPERATION & MAINTENANCE |                                                                |                     |                     |                |                     |                   |
| 133                     | Operating Instructions                                         |                     | 6C+E                |                | 6C+E                |                   |
| 134                     | Maintenance Instructions (if required)                         |                     | 6C+E                |                | 6C+E                |                   |
| 135                     | Commissioning & Start-up Manual                                |                     | 6C+E                |                | 6C+E                |                   |
| 136                     | List of Spare Parts Commissioning & Start-up                   | 4N                  | 6C+E                |                | 6C+E                |                   |
| 136                     | List of Spare Parts 2 Years Operation                          | 4N                  | 6C+E                |                | 6C+E                |                   |
| 137                     | List of Special Tools                                          | 4N                  | 6C+E                |                | 6C+E                |                   |
| 138                     | Lube Oil Schedule                                              |                     | 6C+E                |                | 6C+E                |                   |
| 139                     | Software Manual (incl. Troubleshooting)                        |                     | 6C+E                |                | 6C+E                |                   |
| 140                     | Consumables List                                               |                     | 6C+E                |                | 6C+E                |                   |
| 141                     | Function Test Procedure                                        |                     | 6C+E                |                | 6C+E                |                   |
| OTHERS                  |                                                                |                     |                     |                |                     |                   |
| 142                     | All others documents (if required) will be listed in the order |                     | 6C+E                |                |                     |                   |

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------|----------|-------|-------------------------------------------------------------------------------------|------|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br><br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                       | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۲۸ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

| 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) |

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 VPIS

D03



|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
|--------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------|------------|---------|------|----------|-------|-------------------------------------------------------------------------------------|------|
| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۲۹ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

### 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 |
|----------|-----------------------------------|-------------------------------------------|-------------------------------|---------------------------------------------------------|
|          |                                   |                                           |                               |                                                         |

|                                                                                            |                                                                                                                  |           |            |         |      |          |       |                                                                                     |      |
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| <br>NISOC | <p>نگهداشت و افزایش تولید میدان نفتی بینک<br/>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p> |           |            |         |      |          |       |  |      |
| شماره پیمان:<br>۰۵۳ - ۰۷۳ - ۹۱۸۴                                                           | PMR FOR INSTRUMENT/PLANT AIR & NITROGEN PACKAGES                                                                 |           |            |         |      |          |       | شماره صفحه : ۳۰ از ۳۰                                                               |      |
|                                                                                            | پروژه                                                                                                            | بسته کاری | صادر کننده | تسهیلات | رشته | نوع مدرک | سریال |                                                                                     | نسخه |
|                                                                                            | BK                                                                                                               | GCS       | PEDCO      | 120     | ME   | MR       | 0006  | D03                                                                                 |      |

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