



نگهداشت و افزایش تولید میدان نفتی بینک  
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

053 - 073 - 9184

PMR FOR ESD SYSTEM

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
D04	0002	MR	IN	120	PEDCO	GCS	BK

شماره صفحه : 1 از 20

## طرح نگهداشت و افزایش تولید 27 مخزن

### PMR FOR ESD SYSTEM

نگهداشت و افزایش تولید میدان نفتی بینک

D04	FEB. 2025	IFI	P.Hajisadeghi	M.Fakharian	S.Faramarzpour	
D03	DEC. 2023	IFI	P.Hajisadeghi	M.Fakharian	S.Faramarzpour	
D02	DEC. 2022	IFI	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D01	OCT. 2022	IFI	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
D00	AUG. 2022	IFI	P.Hajisadeghi	M.Fakharian	M.Mehrshad	
Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

Class: 3

CLIENT Doc. Number: F0Z-709269

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



نگهداشت و افزایش تولید میدان نفتی بینک  
سطح الارض

احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

053 - 073 - 9184

PMR FOR ESD SYSTEM



نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D04	0002	MR	IN	120	PEDCO	GCS	BK

شماره صفحه : 2 از 20

REVISION RECORD SHEET



PAGE	D00	D01	D02	D03	D04
1	X	X	X	X	X
2	X	X	X	X	X
3	X				
4	X			X	
5	X				X
6	X	X	X	X	
7	X	X			
8	X	X		X	X
9	X	X		X	
10	X	X		X	X
11	X				X
12	X	X			X
13	X	X	X	X	X
14	X	X	X	X	X
15	X		X	X	
16	X			X	
17	X				
18	X	X			
19	X	X			
20	X				
21	X				
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
61					
62					
63					
64					
65					

PAGE	D00	D01	D02	D03	D04
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					
90					
91					
92					
93					
94					
95					
96					
97					
98					
99					
100					
101					
102					
103					
104					
105					
106					
107					
108					
109					
110					
111					
112					
113					
114					
115					
116					
117					
118					
119					
120					
121					
122					
123					
124					
125					
126					
127					
128					
129					
130					

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>																									
شماره پیمان: 053 - 073 - 9184	<table><tr><th colspan="8">PMR FOR ESD SYSTEM</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>D04</td><td>0002</td><td>MR</td><td>IN</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	PMR FOR ESD SYSTEM								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D04	0002	MR	IN	120	PEDCO	GCS	BK	شماره صفحه : 3 از 20
PMR FOR ESD SYSTEM																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																			
D04	0002	MR	IN	120	PEDCO	GCS	BK																			

## CONTENTS

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>4</b>
<b>2.0</b>	<b>GENERAL .....</b>	<b>5</b>
<b>3.0</b>	<b>REFERENCE / ATTACHED DOCUMENTS .....</b>	<b>5</b>
<b>4.0</b>	<b>SUBJECT OF THE SUPPLY .....</b>	<b>5</b>
<b>5.0</b>	<b>LIMITS OF SUPPLY .....</b>	<b>6</b>
5.1	THE VENDOR'S SCOPE OF ENGINEERING .....	6
5.2	THE VENDOR'S SCOPE OF SUPPLY: .....	7
5.3	SCOPE OF RESPONSIBILITY: .....	8
5.4	SPARE PARTS .....	8
5.5	OTHER ITEMS .....	9
<b>6.0</b>	<b>INSPECTION AND TESTS .....</b>	<b>9</b>
<b>7.0</b>	<b>VENDOR DOCUMENTATION REQUIREMENTS &amp; SCHEDULE .....</b>	<b>10</b>
<b>8.0</b>	<b>VENDOR RESPONSIBILITY .....</b>	<b>10</b>
<b>9.0</b>	<b>GUARANTEE AND WARRANTY .....</b>	<b>10</b>
<b>10.0</b>	<b>DEVIATION .....</b>	<b>11</b>
<b>11.0</b>	<b>PRICE BREAKDOWN .....</b>	<b>11</b>
<b>ATTACHMENT 1 .....</b>		<b>12</b>
11.1	LIST OF REFERENCE / APPLICABLE DOCUMENTS .....	12
<b>ATTACHMENT 2 .....</b>		<b>15</b>
11.2	VENDOR DOCUMENTS MIN. REQUIREMENT .....	15
<b>ATTACHMENT 3 .....</b>		<b>19</b>
11.3	DEVIATIONS / EXCEPTIONS TO JOB SPECIFICATION .....	19
<b>ATTACHMENT 4 .....</b>		<b>20</b>
11.4	ALTERNATIVES TO JOB SPECIFICATION .....	20

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>																									
شماره پیمان: 053 - 073 – 9184	<table><tr><th colspan="8">PMR FOR ESD SYSTEM</th></tr><tr><th>نسخه</th><th>سریال</th><th>نوع مدرک</th><th>رشته</th><th>تسهیلات</th><th>صادرکننده</th><th>بسته کاری</th><th>پروژه</th></tr><tr><td>D04</td><td>0002</td><td>MR</td><td>IN</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	PMR FOR ESD SYSTEM								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه	D04	0002	MR	IN	120	PEDCO	GCS	BK	شماره صفحه : 4 از 20
PMR FOR ESD SYSTEM																										
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه																			
D04	0002	MR	IN	120	PEDCO	GCS	BK																			

## 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.
SUB VENDOR:	The firm or person who will have a direct contract with the Vendor or another Sub-vendor to perform a part or parts of the Work
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 or VENDOR.

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>								
شماره پیمان: 053 - 073 – 9184	PMR FOR ESD SYSTEM							شماره صفحه : 5 از 20	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	IN	MR	0002		D04

## 2.0 GENERAL

- This document presents the item material requisitions for Contractor's use as appropriate.

This material requisition covers the requirements for the design, manufacturing, testing and supply of ESD system as listed in item 4.0 "SUBJECT OF THE SUPPLY"

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

## 3.0 REFERENCE / ATTACHED DOCUMENTS

- 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.

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

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

## 4.0 SUBJECT OF THE SUPPLY

The vendor shall supply ESD System, console, and required PC/Laptops with software and licenses. The scope of supply is detailed at para. 5. The **vendor** shall include in the supply, all other equipment/devices/items not listed in the following, but necessary for a good design and a safe operation, taking into account process data and installation conditions such as area classification and climatic conditions.

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>								
شماره پیمان: 053 - 073 – 9184	PMR FOR ESD SYSTEM							شماره صفحه : 6 از 20	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	IN	MR	0002		D04

- The vendor's supply shall include:

No.	Item	Description	Total QTY.
1	ESD System	ESD System (including marshaling and system cabinets) for signals in New Gas Compressor Station	1
3	ESD EWS/OWS	ESD Engineering/Operator Workstation including required software and software licenses	1
4	LAPTOP	ESD maintenance Laptop as per project Specification including required software and Software Licenses	1
5	ESD Console	ESD Console including push buttons, lamps, switches, and all required accessories and furniture as per Data Sheets For ESD Console/F&G Matrix Panel (BK-GCS-PEDCO-120-IN-DT-0017)	1

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



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

## 5.0 LIMITS OF SUPPLY

### 5.1 THE VENDOR'S SCOPE OF ENGINEERING

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

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



 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان: 053 - 073 – 9184	PMR FOR ESD SYSTEM							شماره صفحه : 7 از 20
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	IN	MR	0002	
							D04	

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

## 5.2 THE VENDOR'S SCOPE OF SUPPLY:

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

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

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>								
شماره پیمان: 053 - 073 - 9184	PMR FOR ESD SYSTEM							شماره صفحه : 8 از 20	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	IN	MR	0002		D04



### 5.3 SCOPE OF RESPONSIBILITY:

- Resolve engineering issues relating to equipment within the scope of supply
- Provide complete engineering of ESD system including detailed engineering, documentation, specifications, data sheet, Drawings,... for all the components
- Provide complete engineering of Interface documents for instrumentation and control of the package including all termination, signal list and communication ports
- Provide detailed design and documentation of all equipment and components within the scope of supply in accordance with attachment 2 of this document.
- Provide all necessary information documents in order to allow the contractor to erect, install and verify the proposed equipment
- Implement a quality assurance plan
- The quality plan applied to the scope of supply shall include:
  - QA/QC organization and procedures that shall be submitted for approval
  - Plan for HOLD points in the production process proposed to PURCHASER for witness or approval particular activities
  - Production schedule indicating main quality manufacturing processes, inspection and tests
  - Qualification of all personnel performing NDT to be reviewed by the inspector
  - Vendor shall also provide the description of the following quality activities:
  - Sub vendors' products quality
  - 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 for primary measure elements for complete package control and automat control and isolation valves.
- The vendor shall take the full responsibility for the whole package control/protection system and shall be responsible for SAT and Commissioning of the package

### 5.4 SPARE PARTS

D04

- 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)
- Special Tools (as option; to be recommended by Vendor)
- Capital spare parts (as option; to be recommended by Vendor)



 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>																							
شماره پیمان: 053 - 073 – 9184	<p>PMR FOR ESD SYSTEM</p> <table><tr><td>نسخه</td><td>سریال</td><td>نوع مدرک</td><td>رشته</td><td>تسهیلات</td><td>صادر کننده</td><td>بسته کاری</td><td>پروژه</td></tr><tr><td>D04</td><td>0002</td><td>MR</td><td>IN</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>							نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D04	0002	MR	IN	120	PEDCO	GCS	BK	شماره صفحه : 9 از 20
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه																	
D04	0002	MR	IN	120	PEDCO	GCS	BK																	

## 5.5 OTHER ITEMS

- Special tools required for installation and maintenance (a qualified and complete list has to be included in the bid documentation)
- Noise acoustic protection and relevant ancillaries in order to match with max. noise level requirements (if necessary)
- Spreader bars for lifting of the panels (if necessary)
- Name plate
- Earthing plate
- Painting of all cabinet in accordance with "Specification for Control Panels and System Cabinets Doc. No. BK-GNRAL-PEDCO-000-IN-SP-0011"
- Preparation for shipment
- Packing for sea freight transportation
- Shop inspections and testing as per specification
- Free access to manufacturing plants for the PURCHASER's inspectors
- Certificates or declarations of conformance (as required) Daily rate for erection supervision (separate price)
- Daily rate for commissioning and start-up supervision (separate price)
- Training for customer's personnel (refer to BK-GNRAL-PEDCO-000-IN-SP-0003)
- All required meeting at Vendor shop/office including but not limited to:
  - KOM
  - Technical/Clarification meeting
  - Pre-Inspection Meeting

## 6.0 INSPECTION AND TESTS

The equipment shall be inspected and tested in accordance with the Inspection & Test plan ( ITP ) issued by the vendor and approved by the K and EPC/EPD CONTRACTOR (GC) 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.

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض  احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان:  053 - 073 – 9184	PMR FOR ESD SYSTEM								شماره صفحه : 10 از 20
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	
	BK	GCS	PEDCO	120	IN	MR	0002	D04	

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.
- All drawings and documents are to be identified as per clause 1 **"GENERAL DEFINITION"**

## 8.0 VENDOR RESPONSIBILITY

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

Preparation of complete final book, Training courses (as per BK-GNRAL-PEDCO-000-IN-SP-0003) and assistance during Pre-Commissioning/Commissioning/Startup are also in VENDOR responsibility as per project specification.



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

## 9.0 GUARANTEE AND WARRANTY

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

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

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

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان: 053 - 073 - 9184	PMR FOR ESD SYSTEM							شماره صفحه : 11 از 20
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	IN	MR	0002	D04

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

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

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

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

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

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

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

## 10.0 DEVIATION

D04



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



 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>																									
شماره پیمان: 053 - 073 - 9184	<table><tr><th colspan="8">PMR FOR ESD SYSTEM</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>IN</td><td>MR</td><td>0002</td><td>D04</td></tr></table>	PMR FOR ESD SYSTEM								پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	PEDCO	120	IN	MR	0002	D04	شماره صفحه : 12 از 20
PMR FOR ESD SYSTEM																										
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	GCS	PEDCO	120	IN	MR	0002	D04																			

# ATTACHMENT 1

## 11.1 LIST OF REFERENCE / APPLICABLE DOCUMENTS



No.	Document No.	Document Title	Rev.
<b>Process</b>			
1	BK-GCS-PEDCO-120-PR-PH-0002	Control Philosophy	D02
2	BK-GCS-PEDCO-120-PR-PI-0001	Symbol & Legend For PFD and P&ID	D06
3	BK-GCS-PEDCO-120-PR-PI-0002	P&ID - Gas Compression Inlet Gas Pipeline (Binak)	D08
4	BK-GCS-PEDCO-120-PR-PI-0003	P&ID - Gas Compression Inlet Gas Pipeline (Golkhari)	D08
5	BK-GCS-PEDCO-120-PR-PI-0004	P&ID - Slug Catcher System	D10
6	BK-GCS-PEDCO-120-PR-PI-0005	P&ID - Gas Compression Inlet Knock Out Drum	D10
7	BK-GCS-PEDCO-120-PR-PI-0006	P&ID - 1st Stage Gas Compression Suction Drums	D10
8	BK-GCS-PEDCO-120-PR-PI-0007	P&ID - 1st Stage Gas Compression Compressors	D09
9	BK-GCS-PEDCO-120-PR-PI-0008	P&ID - 1st Stage Gas Compression Air Coolers	D10
10	BK-GCS-PEDCO-120-PR-PI-0009	P&ID - 2nd Stage Gas Compression Suction Drums	D09
11	BK-GCS-PEDCO-120-PR-PI-0010	P&ID - 2nd Stage Gas Compression Compressors	D08
12	BK-GCS-PEDCO-120-PR-PI-0011	P&ID - 2nd Stage Gas Compression Air Coolers	D10
13	BK-GCS-PEDCO-120-PR-PI-0012	P&ID - 2nd Stage Gas Compression Discharge Drum	D09
14	BK-GCS-PEDCO-120-PR-PI-0013	P&ID - Gas Compression Dehydration Package	D09
15	BK-GCS-PEDCO-120-PR-PI-0014	P&ID - Lean Glycol Storage Tank	D09
16	BK-GCS-PEDCO-120-PR-PI-0015	P&ID - Instrument & Plant Air System	D08
17	BK-GCS-PEDCO-120-PR-PI-0016	P&ID - Nitrogen Generation System	D08
18	BK-GCS-PEDCO-120-PR-PI-0017	P&ID - Close Drain System	D09
19	BK-GCS-PEDCO-120-PR-PI-0018	P&ID - Corrosion Inhibitor Package	D09
20	BK-GCS-PEDCO-120-PR-PI-0019	P&ID - Methanol Injection Package	D07
21	BK-GCS-PEDCO-120-PR-PI-0020	P&ID - LP Flare System	D09
22	BK-GCS-PEDCO-120-PR-PI-0021	P&ID - Oily Water Sewer	D06
23	BK-GCS-PEDCO-120-PR-PI-0022	P&ID - Fuel Gas System	D09
24	BK-GCS-PEDCO-120-PR-PI-	P&ID - Diesel Oil System	D09

D04

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>																									
شماره پیمان: 053 - 073 - 9184	<table><tr><th colspan="8">PMR FOR ESD SYSTEM</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>IN</td><td>MR</td><td>0002</td><td>D04</td></tr></table>	PMR FOR ESD SYSTEM								پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	PEDCO	120	IN	MR	0002	D04	شماره صفحه : 13 از 20
PMR FOR ESD SYSTEM																										
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	GCS	PEDCO	120	IN	MR	0002	D04																			

No.	Document No.	Document Title	Rev.
	0023		
25	BK-GCS-PEDCO-120-PR-PI-0024	P&ID - Potable Water System	D08
26	BK-GCS-PEDCO-120-PR-PI-0025	P&ID - Glycol Sump Drum	D09
27	BK-GCS-PEDCO-120-PR-PH-0005	ESD Philosophy	D04
28	BK-GCS-PEDCO-120-PR-BD-0001	ESD Block Diagram	D03
29	BK-GCS-PEDCO-120-PR-CE-0001	Cause & Effect Diagram	D01
30	BK-PPL-PEDCO-320-PR-PI-0001 (1 OF 3)	P&ID - Gas Pipeline (to Siahmakan G.I. Station)	D05
<b>Safety</b>			
31	BK-GCS-PEDCO-120-SA-PI-0001	P&ID - Fire Water Network	D07
32	BK-GCS-PEDCO-120-SA-PI-0002	P&ID - Total Flooding System For Extension of Existing Elect. Building	D03
<b>Instrument</b>			
33	BK-GNRAL-PEDCO-000-IN-SP-0003	Specification For ESD System	D06
34	BK-GNRAL-PEDCO-000-IN-SP-0004	Specification For Instrument and Control of Package Unit System (PU)	D02
35	BK-GNRAL-PEDCO-000-IN-SP-0010	Specification For Instrument/F&G Cables	D02
36	BK-GCS-PEDCO-120-IN-DC-0002	Instrument & Control System Design Criteria	D03
37	BK-GCS-PEDCO-120-IN-DT-0021	Data Sheets For IRP Panel	D02
38	BK-GCS-PEDCO-120-IN-BD-0001	Control/ESD/F&G System Block Diagram Configuration	D08
39	BK-GCS-PEDCO-120-IN-DG-0001	Instrument Earthing Typical Diagram	D03
40	BK-GCS-PEDCO-120-IN-DG-0003	ESD Level Hierarchy	D02
41	BK-GCS-PEDCO-120-IN-DG-0004	ESD System Loop Diagram	D03
42	BK-GCS-PEDCO-120-IN-DG-0008	Instrument & F&G Junction Box Termination Diagram	D04
43	BK-GCS-PEDCO-120-IN-LD-0002	ESD Logic Diagram	D02
44	BK-GCS-PEDCO-120-IN-PY-0001	Control Room Layout & Arrangement Drawing	D04
45	BK-GCS-PEDCO-120-IN-LI-0003	I/O List For ESD Systems	D04
46	BK-GCS-PEDCO-120-IN-LI-0005	Panels & Junction Box List	D04
47	BK-GCS-PEDCO-120-IN-LI-0006	Set Point & Alarm List	D01
48	BK-GCS-PEDCO-120-IN-LI-	I&C Power Consumption Summary	D06



D04

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>																									
شماره پیمان: 053 - 073 - 9184	<table><tr><th colspan="8">PMR FOR ESD SYSTEM</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>IN</td><td>MR</td><td>0002</td><td>D04</td></tr></table>	PMR FOR ESD SYSTEM								پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	PEDCO	120	IN	MR	0002	D04	شماره صفحه : 14 از 20
PMR FOR ESD SYSTEM																										
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	GCS	PEDCO	120	IN	MR	0002	D04																			

No.	Document No.	Document Title	Rev.
	0007		
49	BK-GCS-PEDCO-120-IN-LI-0009	Instrument /F&G Cable List	D04
50	BK-GCS-PEDCO-120-EL-DG-0011	Wiring Diagram For Interposing Relay Panel (IRP)	D03
51	BK-GCS-PEDCO-120-IN-DT-0017	Data Sheets For ESD Console/F&G Matrix Panel	D04
General			
52	ICE-EID-MI-SP01-Rev01	دستورالعمل بازرسی، خرید و ساخت کالا	D01
52	ICE-EID-MI-SP02-Rev01	دستورالعمل انتخاب سطح بازرسی کالا و تجهیزات	D01
53	E&C-QC-SP-1	دستورالعمل تامین قطعات یدکی راه اندازی و راهبری دو سالانه	D00
54	BK-GNRAL-PEDCO-000-QC-PR-0002	QUALITY CONTROL PLAN (QCP)	D00
54	BK-GNRAL-PEDCO-000-QC-PR-0022	Specification For Final Data Book (FDB) Requirements	D00
55	BK-GNRAL-PEDCO-000-QC-PR-0045	Packing, Marking, Transportation Procedure	D00

**\*\*NOTE: THE LATEST REVISION OF PROJECT DOCUMENT IN ATTACHMENT 1 TO BE CONSIDERED AS REFERENCE BY VENDOR.**

D04



 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان: 053 - 073 – 9184	PMR FOR ESD SYSTEM							شماره صفحه : 15 از 20
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	IN	MR	0002	D04

## ATTACHMENT 2



### 11.2 VENDOR DOCUMENTS MIN. REQUIREMENT

Item No.	Document	With Bid	TIME SCHEDULE			
			For Review		Final Issue	
		Copies No./Type	Copies No./Type (1)	Solar days (2)	Copies No./Type (1)	Calendar days (3)
MANAGEMENT						
001	Vendor Document Index and Schedule	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				
010-1	Inspection and Test Plan		6C+E		6C+E	
010-2	Quality Control Plan	4N				
HSE						
011	HSE Procedure		6C+E		6C+E	
ENGINEERING						
012	Vendor Document Schedule	3N	6C+E		6C+E	
013	Power Consumption List	3N	6C+E		6C+E	
014	Detailed Devices Catalogues	3N	6C+E		6C+E	
015	Equipment List And Cabinet Bill Of		6C+E		6C+E	

D04

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>								
شماره پیمان: 053 - 073 - 9184	PMR FOR ESD SYSTEM							شماره صفحه : 16 از 20	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	IN	MR	0002		D04

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)
	Material					
016	Control System Software Catalogue	3N	6C+E		6C+E	
017	Electrical Panel/ESD Console Interconnection Wiring Diagram		6C+E		6C+E	
018	Software System - Specifications		6C+E		6C+E	
019	Hardware System - Specifications		6C+E		6C+E	
020	Loop Diagrams		6C+E		6C+E	
021	I/O assignment		6C+E		6C+E	
022	Graphic Pages printout		6C+E		6C+E	
023	System Architecture and Network	3N	6C+E		6C+E	
024	Cable Termination's/Connection Diagrams		6C+E		6C+E	
025	Panel/ESD Console Layout		6C+E		6C+E	
026	Power Distribution Diagram		6C+E		6C+E	
027	System Software/logic printout		6C+E		6C+E	
028	Furniture details and arrangement		6C+E		6C+E	
029	Earthing Diagram		6C+E		6C+E	
030	Control Room And Technical Arrangement		6C+E		6C+E	
031	Reliability/Availability/FEMA Report		6C+E		6C+E	
032	MODBUS Mapping List		6C+E		6C+E	
PROCUREMENT						
D04	033 List of Sub-vendors ( table giving: part of equipment, tag no., sub-vendor reference)	4N			6C+E	
	034 Unpriced copy of sub-orders		6C+E			
	035 Packing Spec. / Shipping Schedule	3N	6C+E		6C+E	

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>								
شماره پیمان: 053 - 073 - 9184	PMR FOR ESD SYSTEM							شماره صفحه : 17 از 20	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	IN	MR	0002	D04	

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)
036	Weight List/ Shipping List	3N	6C+E		6C+E	
037	Mechanical & Performance Guarantees	3N	6C+E		6C+E	
<b>TESTING</b>						
038	Manufacturing, Test & Inspection Procedures	3N	6C+E		6C+E	
039	Performance & Functional Test Procedure		6C+E		6C+E	
040	Factory Acceptance Test (FAT) Procedure		6C+E		6C+E	
041	Site Acceptance Test (SAT) Procedure		6C+E		6C+E	
<b>RECORDS, REPORTS &amp; CERTIFICATES</b>						
042	HAZARDOUS AREA CLASSIFICATION CERTIFICATES - Testifying to suitability of electrical/electronic apparatus for use in the Hazardous Area Specified.				6C+E	
043	INGRESS PROTECTION CERTIFICATES - Testifying to suitability of electrical/electronic apparatus for use in the Hazardous Area Specified.				6C+E	
044	CONFORMITY/COMPLIANCE CERTIFICATES Attesting conformance to type approval.				6C+E	
045	MANUFACTURING RECORD BOOK INDEX (Standard index will be issued with the Purchase Order).		6C+E		6C+E	
046	Pre-FAT Report				6C+E	
047	FAT Report				6C+E	
048	Conformity Certificates (sub- vendor /equipment)		6C+E		6C+E	
<b>INSTALLATION</b>						
049	Sub-Assembly Documentation		6C+E		6C+E	

D04



شماره صفحه : 18 از 20

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D04	0002	MR	IN	120	PEDCO	GCS	BK

Item No.	Document	With Bid	TIME SCHEDULE			
			For Review		Final Issue	
		Copies No./Type	Copies No./Type (1)	Solar days (2)	Copies No./Type (1)	Calendar days (3)
050	Sub-Assembly Drawings		6C+E		6C+E	
051	Erection/Installation Manual		6C+E		6C+E	
052	Name Plate Documents		6C+E		6C+E	
053	Handling, Transportation & Storage Instructions		6C+E		6C+E	
054	Unpacking & Inspection Instructions		6C+E			
055	Preliminary Packing List	4N				
056	Packing List		6C+E		6C+E	
<b>OPERATION &amp; MAINTENANCE</b>						
057	Operating Instructions		6C+E		6C+E	
058	Maintenance Instructions		6C+E		6C+E	
059	Commissioning & Start-up Manual		6C+E		6C+E	
060	List of Spare Parts Commissioning & Start-up	4N	6C+E		6C+E	
061	List of Spare Parts 2 Years Operation	4N	6C+E		6C+E	
062	List of Special Tools	4N	6C+E		6C+E	
063	Software Manual (incl. Troubleshooting)		6C+E		6C+E	
<b>OTHERS</b>						
064	Vendor Final Book				6C+E	1 week after delivery
065	All others documents will be listed in the order		6C+E			

NOTES:(1) N= Number of document, C=Copy, E=Electronic Copy



(2) Starting from date of order placement

(3) Starting from reception of documentation without comments

(4) First issue of the document is subjected to the release of payment milestone as per purchase order

(5) Calendar days after reception of drive data

(6) Prior to testing

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>																							
شماره پیمان: 053 - 073 – 9184	<p>PMR FOR ESD SYSTEM</p> <table><tr><td>نسخه</td><td>سریال</td><td>نوع مدرک</td><td>رشته</td><td>تسهیلات</td><td>صادرکننده</td><td>بسته کاری</td><td>پروژه</td></tr><tr><td>D04</td><td>0002</td><td>MR</td><td>IN</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>							نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه	D04	0002	MR	IN	120	PEDCO	GCS	BK	شماره صفحه : 19 از 20
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه																	
D04	0002	MR	IN	120	PEDCO	GCS	BK																	

### **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

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>								
شماره پیمان:	PMR FOR ESD SYSTEM							شماره صفحه : 20 از 20	
053 - 073 – 9184	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	IN	MR	0002		D04

## **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