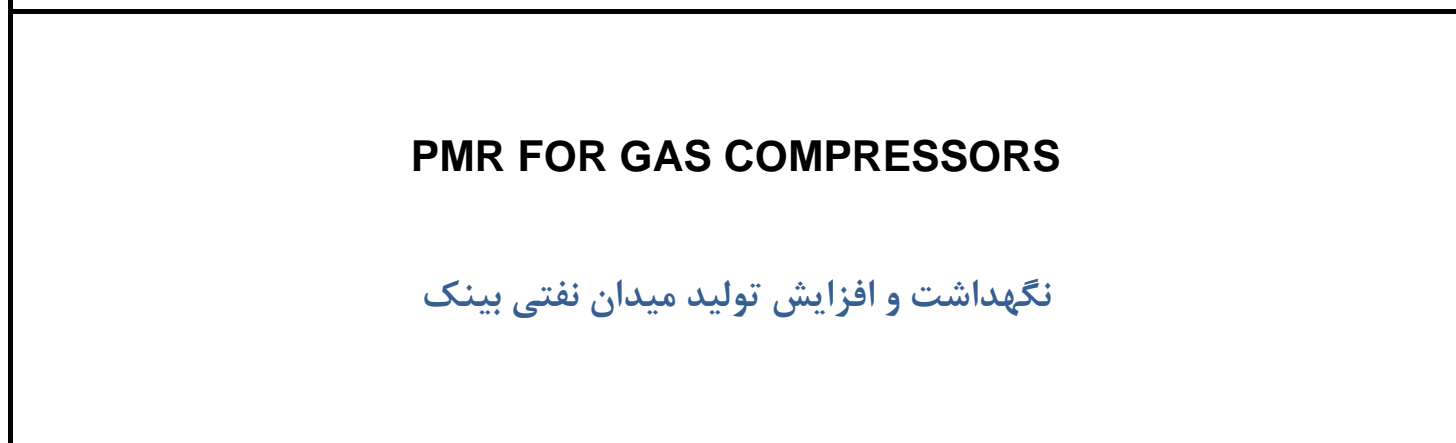
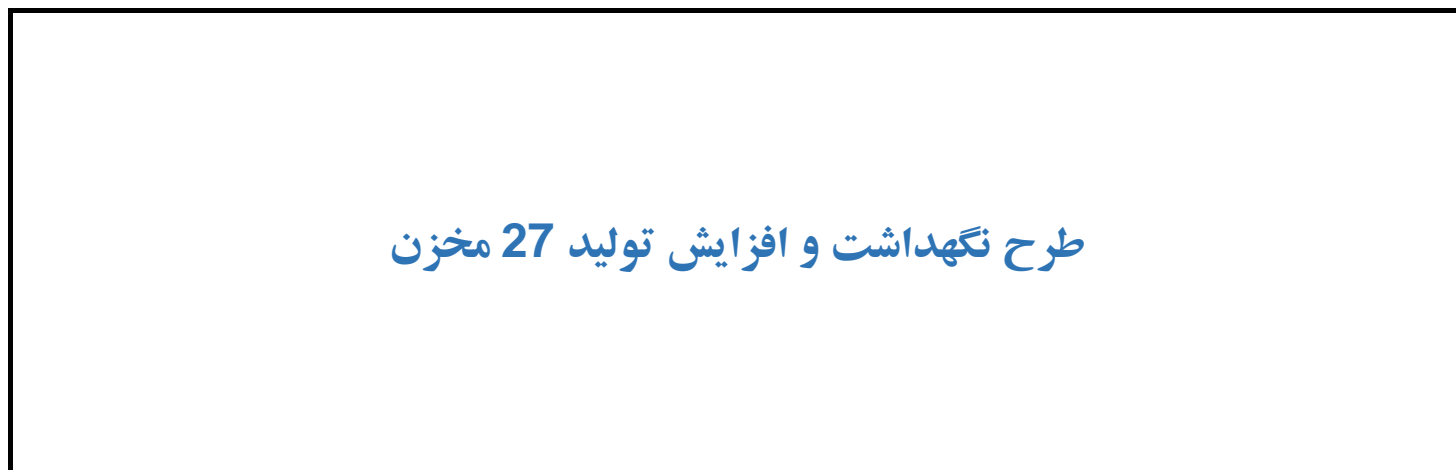
 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک								
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 1 از 49	
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری		پروژه
	D03	0001	MR	ME	120	PEDCO	GCS		BK






Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval
D03	MAY. 2022	IFI	H. Adineh	M.Fakharian	M. Mehrshad	
D02	FEB. 2022	IFI	H. Adineh	M.Fakharian	M. Mehrshad	
D01	JAN. 2022	IFI	H. Adineh	M.Fakharian	M. Mehrshad	
D00	NOV. 2021	IFC	H. Adineh	M.Fakharian	M. Mehrshad	

Class: 4

CLIENT Doc. Number:F0Z-709217

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

 <p>NISOC</p>	<p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>	 																
<p>شماره پیمان:</p> <p>053 - 073 - 9184</p>	<p style="text-align: center;">PMR FOR GAS COMPRESSOR</p> <table border="1" style="width: 100%; text-align: center;"> <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>D03</td> <td>0001</td> <td>MR</td> <td>ME</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	D03	0001	MR	ME	120	PEDCO	GCS	BK	<p>شماره صفحه : 2 از 49</p>
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه											
D03	0001	MR	ME	120	PEDCO	GCS	BK											

REVISION RECORD SHEET

PAGE	D00	D01	D02	D03	D04
1	X	X	X	X	
2	X	X	X	X	
3	X	X			
4	X	X			
5	X	X			
6	X	X			
7	X	X			
8	X	X		X	
9	X	X			
10	X	X			
11	X	X			
12	X	X			
13	X	X			
14	X	X			
15	X	X			
16	X	X	X		
17	X	X			
18	X	X			
19	X	X			
20	X	X			
21	X	X			
22	X	X			
23	X	X			
24	X	X			
25	X	X			
26	X	X			
27	X	X	X		
28	X	X	X		
29	X	X			
30	X	X			
31	X	X	X		
32	X	X	X		
33	X	X			
34	X	X			
35	X	X			
36	X	X			
37	X	X			
38	X	X			
39	X	X			
40	X	X			
41	X	X			
42	X	X			
43	X	X			
44	X	X			
45	X	X	X		
46	X	X	X		
47		X	X		
48		X			
49		X		X	
50		X			
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	PMR FOR GAS COMPRESSOR							شماره صفحه : 3 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

Table of Contents

1.0 INTRODUCTION	4
2.0 GENERAL	5
3.0 REFERENCE / ATTACHED DOCUMENTS	5
4.0 SUBJECT OF THE SUPPLY	6
5.0 LIMITS OF SUPPLY	6
5.1 SCOPE OF SUPPLY	6
5.2 SCOPE OF WORK	12
5.3 BATTERY LIMITS	16
6.0 INSPECTION AND TESTS	16
7.0 VENDOR DOCUMENTATION REQUIREMENTS & SCHEDULE	16
8.0 UNIT RESPONSIBILITY	17
9.0 GUARANTEE AND WARRANTY	17
10.0 DEVIATION	18
11.0 PRICE BREAKDOWN	18
12.0 SPECIAL NOTES	19
13.0 PRESERVATION AND PROTECTION	25
14.0 COORDINATION MEETING	25
15.0 CONFORMITY	26
ATTACHMENT #1	27
ATTACHMENT #2	31
ATTACHMENT #3	48
ATTACHMENT #4	49

 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>							 شرکت تولید گاز ایران
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 4 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	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 defines the meaning of specific words used in this specification:

CLIENT:	National Iranian South Oilfields Company (NISOC)
PROJECT:	Binak Oilfield Development – Surface Facilities; New Gas Compressor Station
GENERAL 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.

 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 GAS COMPRESSOR							شماره صفحه : 5 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

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.


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 Gas Compressor Package 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:

Tag No.	Description	Qty.
C-2101 & 2102 A/B/C	Gas Compressor Package	3 Set
	Main Electrical Motor Driver	3 Set
	All accessories and auxiliary systems	

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

 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 GAS COMPRESSOR							شماره صفحه : 6 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

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 4.

The proposed deviations/comments list shall include as minimum:

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

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

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

4.0 SUBJECT OF THE SUPPLY


The supplier shall supply Gas Compressor Package 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

VENDOR'S scope of work and supply shall include but not limited to items in below tables under requirements stated in this requisition and all of its attachments. The scope of supply must include all necessary components and materials of Gas Compressors Package in full compliance to this




 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 GAS COMPRESSOR							شماره صفحه : 7 از 49	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		D03

MR and its attachments, required for all modes of operation and safe and smooth operation of the plant.



As a note all required items by purchaser which shall be in the vendor's base offer are specified with ✓ and all items which shall be quoted as option are specified by O.

Vendor shall fill out below tables and mark all his proposed items with ✓


No.	Description	Required by Purchaser	Proposed by vendor	Remark
1.	Reciprocating Compressor proper	✓		
2.	Electric motor driver with terminal box and accessories	✓		
3.	Coupling, flywheel & non-spark guard	✓		
4.	Spill back recycle control valve	✓		
5.	Permanent and temporary Inlet strainers	✓		
6.	Suction and discharge pulsation suppressor (volume bottle) for each stage and supports	✓		
7.	All on skid interconnecting piping and tubing c/w all valves, fitting, instruments and etc. on them Note: All on skid piping and tubing shall be fully assembled at shop	✓		
8.	All between skids (Compressor skid, oil skid, cooling water skid and etc.) interconnecting piping and tubing c/w all valves, fitting, instruments and etc. on them Note: All between skids piping and tubing shall be prefabricated and match marked at shop Note2: A detailed isometric DWG for them shall be provided by vendor.	✓		

 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>							 شرکت تولید و پترو ایران  
شماره پیمان: 053 - 073 - 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 8 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							



No.	Description	Required by Purchaser	Proposed by vendor	Remark
9.	UPS (If required)	✓		
<div data-bbox="146 810 268 900" style="border: 1px solid black; padding: 2px; text-align: center;">D03</div> <div data-bbox="188 1086 226 1120">10.</div>	<p>One cooling water system per each compression train including but not limited to:</p> <ul style="list-style-type: none"> - Water Reservoir c/w thermostatically electrical heater and relevant instruments - Motor driven main water pump - Motor driven standby water pump - Twin filter with switch over valve - Air cooled water cooler - PCV, TCV with relevant instruments - Piping and tubing c/w all valves, instruments and etc. on them - Local Gauge Board - Baseplate 	✓		
<div data-bbox="140 1438 261 1527" style="border: 1px solid black; padding: 2px; text-align: center;">D03</div> <div data-bbox="188 1697 226 1731">11.</div>	<p>One lube oil system per each compression train including but not limited to:</p> <ul style="list-style-type: none"> - Oil reservoir c/w thermostatically electrical heater and relevant instruments - Shaft driven main oil pump - Air cooled oil cooler - PCV, TCV with relevant instruments - Oil filter (Twin with switch over valve) - Local temp. Gauge and pressure gauge - Oil piping and valve, sight glass, etc. - Baseplate 	✓		
12.	<div data-bbox="702 1971 826 2060" style="border: 1px solid black; padding: 2px; text-align: center;">D03</div> Cylinder lubricator	✓		

 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 GAS COMPRESSOR							شماره صفحه : 9 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

No.	Description	Required by Purchaser	Proposed by vendor	Remark
13.	Buffer gas system including purging system and all related auxiliary equipment (as per figure I-2 of API618)	✓		
14.	Barring device with electrical motor	✓		
15.	Baseplate for compressor, motor, aux. systems with anchor bolts and foundation bolts	✓		
16.	Jackscrews for all equipment	✓		
17.	Shim packs with jackscrews for baseplates	✓		
18.	Name plate for main equipment as well as all auxiliary equipment as per purchaser specification	✓		
19.	Capacity control system	✓		
20.	PSVs on process lines, oil lines, cooling water lines and etc.	✓		
21.	Heat tracing, Insulation and jacketing for on skid equipment and piping Note: All required heat tracing and insulation within the skids shall be assembled at shop	✓		
22.	Heat tracing, Insulation and jacketing for between skids piping Note: Design and providing relevant MTO for all required heat tracing and insulation for between the skids piping shall be in the vendor's scope of work and shall be considered in his base offer	O		
23.	Clips and supports required for equipment fire proofing	✓		
24.	Any required ladder, platforms, handrails for the package	O		

 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 GAS COMPRESSOR								شماره صفحه : 10 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه	
	D03	0001	MR	ME	120	PEDCO	GCS	BK	

No.	Description	Required by Purchaser	Proposed by vendor	Remark
25.	Coupling hydraulic mount/ removal equipment	✓		
26.	Hold down supports	✓		
27.	All terminal points terminating in flanged and valved connections (as shown in P&ID). For flange connection others than ASME type, mating flanges to be supplied by vendor	✓		
28.	All manifolds for pressure instruments	✓		
29.	All necessary accessories for utility distribution Note: Each utility will be supply in one tie-in and any required accessories for distribution of these utilities is in the vendor's scope.	✓		
30.	All on-skid wiring and cabling terminating to skid edge junction boxes and all relevant material (metallic conduit and cable tray with cover)	✓		
31.	Cabling, wiring & tubing between skids and local panel	✓		
32.	Unit control and shutdown panel, load sharing panel,... as per project specification/ data sheet	✓		
33.	Instrumentation / control valves / block valves / PSV required for safe and reliable operation of compressor including but not limited to the items specified in purchaser data sheet and P&ID's, field instruments, hook-up material, Cable glands and junction boxes in compliance with the project specifications	✓		
34.	Cable glands for all instruments and junction boxes	✓		
35.	Local gauge boards (LGBs)	✓		
36.	Work station, lap top, licensed software,...	✓		

 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>							 شرکت تولید و پترو ایران
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 11 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

No.	Description	Required by Purchaser	Proposed by vendor	Remark
37.	PLC based Remote control panels (UCP with redundant CPU and power) common for all trains with dedicated SIL rated loop for protection/ESD signals. (Spill back control loop, load sharing if required,... to be included) with redundant Modbus serial communication links to plant DCS system with modbus RTU protocol and RS-485 as per Project Specifications.	✓		
38.	Local control panels	✓		
39.	Machine monitoring sensors as per API 670 , connected directly to UCP or to related system such as VMS. field instruments, hook-up material, Cable glands and junction boxes in compliance with the project specification - Key-phasor probe and proximator - Vibration probes and proximators - Rod drop detector - Packing temperature indicator - Bearing Temperature Sensors	✓		
40.	Earthing material as per Technical Specification	✓		
41.	Installation, Pre-Commissioning, Commissioning and Start up Spare Parts as per attachment #1	✓		
42.	Capital Spare Parts as per attachment #1	O		
43.	Spare parts for 2 years operation (with separate price and as per attachment#1)	O		
44.	Special tools for installation and maintenance for all equipment in train	✓		
45.	All necessary lifting lugs and beams	✓		
46.	All necessary device for noise attenuation such as hood and etc.	✓		
47.	Documentation as per "RFD"(fixed during Pre-Order Meeting)	✓		

 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>							 شرکت تولید و پراکنش  HIRGAN ENERGY 	
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 12 از 49	
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		D03



No.	Description	Required by Purchaser	Proposed by vendor	Remark
48.	First fill of grease	✓		
49.	First fill of oil	O		

5.1.1 Exclusion


- Electrical cabling between junction boxes on skids and CONTRACTOR's electrical cabin.
- Instrumentation cables between FIELD (Local Control Panel, Junction Box) and Rack Room
- Main cable and cable glands on battery limit (between package junction boxes and remote mounted package control panels)

5.2 SCOPE OF WORK


NO.	Description	Required by Purchaser	Proposed by vendor	Remark
1	Planning, coordination and project control (covering all sub Vendors)	✓		
2	Engineering, Design and Procurement of all material	✓		
3	Document control and submissions to Purchaser for review/ comments / final filling and updating them progressively	✓		
4	Pulsation analysis (Acoustical simulation, and piping restraint analysis plus mechanical response analysis - approach 3) till damping all vibrations	✓		

 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>							 شرکت تولید و پترو ایران	
شماره پیمان: 053 - 073 - 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 13 از 49	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		D03

NO.	Description	Required by Purchaser	Proposed by vendor	Remark
5	Manufacturing and Assembling	✓		
6	Mounting of Main Equipment, Driver and Auxiliary Systems on their skids	✓		
7	Units Assembly at Factory and unit responsibility for the entire unit, including compatibility with entire unit	✓		
8	Lateral and critical speed analysis for compressor and driver	✓		
9	Torsional analysis for the complete train	✓		
10	Design of heat tracing (steam/electrical), insulation and personnel protection and MTO (if required)	✓		
11	Heat tracing including panels, heating cables and relevant connectors, electrical cables, junction boxes and thermostats (if required)	✓		
12	Surface preparation and Painting at shop including primer, intermediate & finish coats conform to the specification for painting	✓		
13	Design of All inter/after coolers and separators	0		
14	Design of all instruments and control panels for proper work of package including all field instruments in pipe works out of piping scope (loose instruments)	✓		
15	All on skid wiring terminating at skid edge junction boxes	✓		
16	All between skids wiring and cabling	✓		
17	All on skid pipe work	✓		
18	Design and providing relevant MTO and isometric DWG for all interconnecting piping including on skid piping, between skids piping	✓		

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک	 																								
شماره پیمان: 053 - 073 - 9184	<table border="1"> <tr> <th colspan="8">PMR FOR GAS COMPRESSOR</th> </tr> <tr> <th>نسخه</th> <th>سریال</th> <th>نوع مدرک</th> <th>رشته</th> <th>تجهیزات</th> <th>صادرکننده</th> <th>بسته کاری</th> <th>پروژه</th> </tr> <tr> <td>D03</td> <td>0001</td> <td>MR</td> <td>ME</td> <td>120</td> <td>PEDCO</td> <td>GCS</td> <td>BK</td> </tr> </table>	PMR FOR GAS COMPRESSOR								نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادرکننده	بسته کاری	پروژه	D03	0001	MR	ME	120	PEDCO	GCS	BK	شماره صفحه : 14 از 49
PMR FOR GAS COMPRESSOR																										
نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادرکننده	بسته کاری	پروژه																			
D03	0001	MR	ME	120	PEDCO	GCS	BK																			

NO.	Description	Required by Purchaser	Proposed by vendor	Remark
19	Design and providing relevant MTO and isometric DWG for main process piping between compressor, KO drums, coolers and etc.	O		
20	Verify purchaser piping and supporting design	✓		
21	P&ID mark-up and checking for specifying requirements of acid washing and oil flushing	✓		
22	PDMS 3D model	✓		
23	Hold down supports complete design and detailed drawings	✓		
24	Anchor/Setting bolt design	✓		
25	Foundation loading diagram and information, anchor/setting bolts arrangement and details	✓		
26	Specify any requirement for walkways, platforms, ladders and handrails on related drawings	✓		
27	Design and providing relevant MTO for walkways, platforms, ladders and handrails required for whole the compressor packages	✓		
28	Inspection and tests at shop and providing reports	✓		
29	MRT for compressor at shop	✓		
30	Complete Unit Test at site (Compressor + Driver+ Auxiliary Systems)	O		
31	Performance Test at site	O		



 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 GAS COMPRESSOR								شماره صفحه : 15 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه	
	D03	0001	MR	ME	120	PEDCO	GCS	BK	

NO.	Description	Required by Purchaser	Proposed by vendor	Remark
32	Instrumentation and control system FAT (at vendor shop)	✓		
33	IFAT (at plant DCS vendor shop)	O		
34	HAZOP & SIL study	✓		
35	Performance guarantee	✓		
36	Mechanical guarantee	✓		
37	Material guarantee	✓		
38	UCP and Instruments Guarantee	✓		
39	As built drawings and documents	✓		
40	Packing including export and rust prevention for long term storage (such as N2 purge)	✓		
41	Shipping and transportation according to delivery condition	✓		
42	Supervision for Installation, Pre-Commissioning, Commissioning and Start-Up including time schedule & supervision stages	O		
43	Training (Syllabus, number of man days and duration to be specified in the quotation)	O		

5.2.1 Exclusion

In addition to exclusion items of engineering data sheets, the following shall be considered as exclusion:

- Foundations design (But foundation loading diagram and information shall be provided by vendor)

 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 GAS COMPRESSOR							شماره صفحه : 16 از 49	
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		D03

- Civil works
- Installation of equipment

5.3 BATTERY LIMITS

Refer to “P&ID for Gas Compressor Package with Doc.No:BK-GCS-PEDCO-120-PR-PI-0007 & 0010”. All items in battery limits to be provided by Vendor.



6.0 INSPECTION AND TESTS

The equipment shall be inspected and tested in accordance with the quality control plan issued by the supplier and approved by the PURCHASER before the award of the order. The QC plan shall at least be according to the Commodity Procurement and Manufacturing Inspection Instruction; Doc. No. ICE-EID-MI-SP01-Rev.01) and Instructions for selecting the level of inspection of goods and equipment; Doc No. ICE-EID-MI-SP02-Rev.01 and data sheets (if any).

The supplier shall in any case conduct all the tests required by contractual documents, specifications, codes and standards, manufacturer standard quality system and keep the relevant documentation.

7.0 VENDOR DOCUMENTATION REQUIREMENTS & SCHEDULE

- Vendor document shall be according to attachment 2 of this document.
- All documents, preliminary or final, are to be stamped and signed by the supplier.
- Failure in dispatch of the required documents shall cause the supply to be considered as unfulfilled.
- PURCHASER’s approval does not relieve vendor, in any way, from his obligation to fulfill the requirements of the purchase order documents.
- All vendor drawings and documents shall be in English language.
- VENDOR shall provide list of drawings and documents by one week after order award.
- VENDOR of Equipment/material shall provide all documents and drawings listed in RFD and submit required number of copies.

 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 GAS COMPRESSOR								شماره صفحه : 17 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه	
	D03	0001	MR	ME	120	PEDCO	GCS	BK	

- All Vendor documents shall be categorized either “FOR INFORMATION”, or “FOR REVIEW/COMMENTS” according to Vendor Documents Min. Requirement.
- Purchaser will reply according to each categories and return to Vendor documents and Vendor shall take necessary actions on them.
- All vendor’s documents and drawings shall be submitted in both Native and PDF format upon each issue.
- Native file of PDMS and all software applicable for control system shall be submitted by vendor as well.

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.

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 and/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

 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 GAS COMPRESSOR							شماره صفحه : 18 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

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

 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 GAS COMPRESSOR							شماره صفحه : 19 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							



12.0 SPECIAL NOTES

Unless otherwise stated in the specification, data sheet and/or the under mentioned shall be followed:

- 12.1 Vendor's quotation for equipment and/or materials shall be in strict accordance with conditions and specifications stated in this requisition and all attached documents. Vendor shall clearly state any exceptions, deviations and alternatives in the Deviation List and will be valid only if approved by the purchaser.
- 12.2 Process Flow Diagrams and Piping and Instrumentation Diagrams are required for equipment, packaged process plants, and pressure lubrication and seal support systems.
- 12.3 P&ID shall included but not limited to:
 - a) Each piece of equipment, including spare equipment, along with equipment numbers
 - b) Each instrument used shall be shown on P&ID drawing e.g. gauges, indicators, control valves, solenoids, position switches as well as tag numbers.
 - c) All customer connections with connection reference symbol/number
 - d) An indication of all components and accessories that are to be shipped loose
 - e) All pipelines and inline piping devices
 - f) All valves and the type of valve
 - g) All vent, drain, and purge connections
 - h) The purpose of all connections e.g., startup vent, sample point
 - i) The size, schedule and material of all lines or piping class
 - j) Flow direction

 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 GAS COMPRESSOR								شماره صفحه : 20 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه	
	D03	0001	MR	ME	120	PEDCO	GCS	BK	

- k) Changes in rating class or pipe specification
- l) The type of nozzle connection to equipment, e.g., flange, weld end, threaded
- m) Manholes and hand holes, including size
- n) Location of vessel connections relative to essential internals
- o) Critical elevation notes
- p) All pressure relief devices, including the set pressure, inlet flange size, and outlet flange size
- q) Special requirements, e.g., heights of seal loops, slope of lines, no pockets, sensor in liquid phase only.
- r) The failure position of control valves
- s) Hand wheels when supplied on control valves
- t) Requirement for tight shutoff valves
- u) Push buttons and switches associated with interlock systems and sequential control systems
- v) Insulation requirements including thickness, type and reason for insulation
- w) Extent and type of heat tracing
- x) All Vendor/Purchaser scope breaks
- y) Symbology Legend (If other than ISA or Purchaser).
- z) Specific/Special requirements via notes
- aa) Instrumentation, Control Loop including interlocks, sequences and emergency shut down

 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 GAS COMPRESSOR							شماره صفحه : 21 از 49	
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		D03

bb) Sample connection

cc) Size and set pressure of safety valves

dd) Measuring and control signal transmission of signals

ee) Kind of signaling lines representation

12.4 Implementation of HAZOP and SIL study in related documents and supply of any added equipment/instrumentation shall be done by vendor without any cost impact.




12.5 Instrument calibration loose items shall be checked at site before installation. In case of any inaccuracy or drift faced during guarantee period instrument shall be re- calibrated in calibration shop at site and extra charges to be borne by vendor.

12.6 Isometric drawing shall include, but not limited to:

- a) Length
- b) Bill of Material
- c) Piping data including pressure, temperature
- d) Hydrostatic test medium as well as required pressure and time
- e) Material information
- f) NDT

12.7 Dimensional Outline Drawing" shall be included and not limited to:

- a) Compressor/driver/train baseplate leveling diagram
- b) Anticipated thermal movement on major connection Nozzle Allowable
- c) Thermal Growth

 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>							 شرکت تولید و پترو ایران  HIRGAN ENERGY 
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 22 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
BK								

d) Lifting lugs detail

e) Allowable piping forces and moments

12.8 "Foundation Layout Drawing" shall be included and not limited to:

a) Anchor Bolt/Erection Bolt list & Arrangement with appropriate drawing

b) Grouting requirements

c) Static & Dynamic loads for foundation design

12.9 Auxiliary equipment includes and not limited to: "Sealing System", "Lubrication System", "Buffer Gas System"

12.10 Oil Flushing, Acid Washing, Warm-up and Steam Blow out procedure and Steam blow out acceptance criteria shall be specified in IOM manual.

12.11 "Equipment list" document shall be included (at least but not limited to) tag number, service description, quantity, fluid name, density, driver type, power, design and operation data including capacity/inlet/outlet pressure/temperature, material).



12.12 Type and characteristics of lubricants, volume, first fill volume and interval changes shall be specified in "Lubricant list" as well as equivalent brands.

12.13 All materials shall be as per ASTM standard. Also all materials shall be new and first quality.

12.14 Anchor supports (fix point) shall be considered at this Tie-in point. It means that Tie- in point has zero displacement/rotation; otherwise displacements shall be specified by vendor at this tie-in point.

12.15 The static equipment, supplied as a part of the package unit shall comply with the requirements of Technical Specification for Pressure Vessels and Shell & Tube Heat Exchangers.

12.16 Spare parts shall be packed separately from the equipment.

 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>							 شرکت تولید و پترو ایران  HIRGAN ENERGY 	
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 23 از 49	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		D03

12.17 All instruments & valves to be installed in proper height for easy access.

12.18 Head room height shall be at least 2200 mm.

12.19 Foundation bolts delivery time will be finalized during Pre-Order meeting.

12.20 Tagging and Numbering of the I&C and relevant cables and wires to be in compliance with package numbering procedure.

12.21 Vendor shall consider all the mentioned seismic parameters and confirm that all of them have been considered in its calculation.


12.22 The vendor shall submit performance curves or tables of power and capacity versus suction pressure with parameters of discharge pressure, showing the effects of unloading devices and showing any operating limitation and with calculation input and output data identified, all as mutually agreed between the vendor and the purchaser.

12.23 Torsional analysis report shall be included but not limited to the following:

- a) Complete description of method used.
- b) Graphic display of mass elastic system.
- c) Tabulation identifying the mass moment and torsional stiffness for each component identified in the mass elastic system.
- d) Graphic display of exciting forces versus speed and frequency.
- e) Graphic display of torsional critical speeds and deflections (mode shape diagram).
- f) Effects of proposed changes on analysis.
- g) Current pulsation analysis.

12.24 Acoustic and mechanical analysis report, including but not limited to:

- a) Design approach and method used (complete description), including description of design

 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 GAS COMPRESSOR							شماره صفحه : 24 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

techniques used.

- b) Findings and comparison with permitted values.
- c) Effects of required modifications; and marked up drawings showing changes.

12.25 As-built dimensions and data shall be included, but not limited to:

- a) Fits, clearances and run outs measured during final assembly.
- b) Nameplate data for each cylinder.
- c) Cylinder minimum and design clearances for each end of each cylinder.
- d) Volume of all clearance pockets, plugs or bottles installed on each cylinder.
- e) Crank angle phasing

12.26 Anticipated Maintenance area, maximum maintenance weight and minimum required hook elevation shall be specified in proposal and exact values shall be shown in "General Arrangement Drawing" as much as possible.




12.27 Vendor to fill in native SPIR form mentioned in PURCHASER's documents including description of each part, manufacturing part number, manufacturing drawing number, price, showing interchangeability and etc.

12.28 Flanges for nozzles shall be as per ANSI/ASME B16.5.

12.29 Single inlet/outlet to be provided by vendor for all identical mediums.

12.30 Pulsation bottles shall be rigidly mounted such that the piping interface with the bottle is limited to the loads and moments same as vessels.

12.31 For reciprocating compressor, Pulsation and vibration study shall be performed by vendor. Vendor shall locate Tie-in points in positions where pulsation and vibration do not affect purchaser side's piping. Tie-in point has zero displacement and rotation, otherwise

 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 GAS COMPRESSOR							شماره صفحه : 25 از 49	
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		D03

displacements shall be specified by vendor at this tie-in point (clause: 6.14). In the event that pulsation study result has impact on purchaser piping routes and/or pipe supports, all vendor requirements shall be informed to purchaser by marking-up pipe route clearly. Since space management and piping static stress analysis are in purchaser scope of work, vendor to obtain purchaser approval on marked-up isometric drawings.

12.32 Vendor shall provide allowable piping loads at the tie-in points. Allowable nozzle loads shall be in accordance with "Appendix N in Specification For Pressure Vessels". In case of unavoidable over loaded, then the loads should be submitted to the vendor for consideration and approval.

12.33 All external surfaces of equipment shall be painted (3 layers primary, inter & finish) according to manufacturer's painting procedure with considering project's painting specification.

12.34 Material Safety Data Sheets in accordance with ISO 11014 or OSHA 1910-1200 are required for catalysts, chemicals, absorbents, desiccants, resins, molecular sieves, purging/cleaning and passivating fluids, lubricants, hydraulic fluid oils, coolants and refrigerants supplied or recommended by the Vendor for use with the equipment.

13.0 PRESERVATION AND PROTECTION

Vendor shall advise any requirement for preservation of material that requires long-term storage after delivery at site. Vendor shall provide all preservation and protection required for shipment and storage at site prior to installation.

14.0 COORDINATION MEETING

VENDOR shall, upon receipt of PURCHASE NOTICE, send a sufficient number of qualified personnel to HIRGAN Energy office (in Tehran) at VENDOR's cost to hold the coordination meeting(s) according to following schedule:



 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 GAS COMPRESSOR							شماره صفحه : 26 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

Pre-Order Meeting:	for 4 days after 2 weeks after Purchase Notice
PIM Meeting:	for 2 days as per schedule
Design Clarification Meeting:	will be defined in Pre-Order Meeting (If Required)

15.0 CONFORMITY

VENDOR'S proposal shall be in strict conformity with PURCHASER'S requirements as stated in this Requisition and all of its attachments. Any deviation or exception to Purchaser's requirements shall be raised to Purchaser to obtain prior Approval. Without such Approval any claims will be rejected and Vendor shall correct the non-conformities at her own cost.

Purchaser Approval on Vendor documents shall in no way to relieve Vendor of any of his obligation, responsibility or liability under the condition of this requisition.

 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 GAS COMPRESSOR							شماره صفحه : 27 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

ATTACHMENT #1





LIST OF REFERENCE / APPLICABLE DOCUMENTS

No.	Document Title	Document No.	Rev.
Process			
1	Process Basis of design	BK-GNRAL-PEDCO-000-PR-DB-0001	D05
2	Process Design criteria	BK-GNRAL-PEDCO-000-PR-DC-0001	D02
3	Process Data Sheets for Gas Compressors Packages	BK-GCS-PEDCO-120-PR-DT-0030	D02
Mechanical			
3	Mechanical Design Criteria	BK-GNRAL-PEDCO-000-ME-DC-0001	D00
4	Specification for reciprocating compressor (API 618)	BK-GCS-PEDCO-120-ME-SP-0002	D05
5	Specification for centrifugal pump (API 610)	BK-GCS-PEDCO-120-ME-SP-0003	D04
6	Specification for air cooled heat exchangers	BK-GCS-PEDCO-120-ME-SP-0001	D00
7	Specification for pressure vessels	BK-GNRAL-PEDCO-000-ME-SP-0001	D00
8	Mechanical datasheet for gas compressor packages (C-2101 A/B/C & C-2102 A/B/C)	BK-GCS-PEDCO-120-ME-DT-0031	D06
General			
9	Specification For Welding Procedure	BK-GNRAL-PEDCO-000-QC-PR-0015	D00
10	Packing, Marking, Transportation Procedure	BK-GNRAL-PEDCO-000-QC-PR-0045	D00
11	ICE-EID-MI-SP01-Rev01	دستور العمل بازرسی، خرید و ساخت کالا	D01
12	E&C-QC-SP-1	دستور العمل تامین قطعات یدکی راه اندازی و راهبری دو سالانه	D00

 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 GAS COMPRESSOR							شماره صفحه : 28 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							


No.	Document Title	Document No.	Rev.
13	ICE-EID-MI-SP02-REV-01	دستور العمل انتخاب سطح بازرسی کالا و تجهیزات	D01
14	Document numbering procedure	BK-GNRAL-PEDCO-000-PM-PR-0003	D00
15	SIL study procedure	BK-GNRAL-PEDCO-000-GE-PR-0003	D01
16	HAZOP study procedure	BK-GNRAL-PEDCO-000-GE-PR-0001	D02
Piping			
17	Data sheets for manual valves	BK-GCS-PEDCO-120-PI-DT-0002	D00
18	Specification for the design of piping in mechanical packages	BK-GNRAL-PEDCO-000-PI-SP-0003	D00
19	Specification for material requirements in sour service	BK-GNRAL-PEDCO-000-PI-SP-0008	D00
20	Piping material specification	BK-GCS-PEDCO-120-PI-SP-0001	D01
21	Specification for painting	BK-GNRAL-PEDCO-000-PI-SP-0006	D04
22	Specification for insulation	BK-GNRAL-PEDCO-000-PI-SP-0019	D02
23	Specification for metallic pipes	BK-GNRAL-PEDCO-000-PI-SP-0004	D05
24	Specification for fitting & flange & gasket & bolts	BK-GNRAL-PEDCO-000-PI-SP-0005	D02
25	Specification for manual valves	BK-GNRAL-PEDCO-000-PI-SP-0009	D00
26	Piping design criteria	BK-GNRAL-PEDCO-000-PI-DC-0001	D03
Electrical			
27	Data sheets for MV induction motors	BK-GCS-PEDCO-120-EL-DT-0009	D02

 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 GAS COMPRESSOR							شماره صفحه : 29 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

No.	Document Title	Document No.	Rev.
28	Data sheets for LV induction motors	BK-GCS-PEDCO-120-EL-DT-0008	D02
29	Specification for lv induction motors	BK-GNRAL-PEDCO-000-EL-SP-0010	D03
30	Specification for mv induction motors	BK-GNRAL-PEDCO-000-EL-SP-0017	D03
31	Specification for Earthing & lightning system	BK-GNRAL-PEDCO-000-EL-SP-0006	D03
32	Electrical system design criteria	BK-GNRAL-PEDCO-000-EL-DC-0001	D02
33	Specification for power & control cable	BK-GNRAL-PEDCO-000-EL-SP-0014	D03
34	Data Sheets for Local Control Stations(LCS)	BK-GCS-PEDCO-120-EL-DT-0006	D01
I & C			
35	Specification for instrumentation	BK-GNRAL-PEDCO-000-IN-SP-0001	D03
36	Specification for instrument and control of package unit system (PU)	BK-GNRAL-PEDCO-000-IN-SP-0004	D01
37	Specification for control valves	BK-GNRAL-PEDCO-000-IN-SP-0005	D02
38	Specification for instrument and F&G cables	BK-GNRAL-PEDCO-000-IN-SP-0010	D00
39	Specification for pressure safety valves (PSV)	BK-GNRAL-PEDCO-000-IN-SP-0007	D03
Drawing			
40	Symbol & legend for PFD and P&ID	BK-GCS-PEDCO-120-PR-PI-0001	D02

 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 GAS COMPRESSOR							شماره صفحه : 30 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							


No.	Document Title	Document No.	Rev.
41	Standard drawing for pressure vessel and Heat Exchangers	BK-GNRAL-PEDCO-000-ME-DW-0001	D00
42	Standard Drawing For Anchor Bolts	BK-GNRAL-PEDCO-000-ST-DW-0002	D02
43	P&ID - 1st Stage Gas Compression Compressors	BK-GCS-PEDCO-120-PR-PI-0007	D02
44	P&ID - 2nd Stage Gas Compression Compressors	BK-GCS-PEDCO-120-PR-PI-0010	D02
45	Process Flow Diagram (PFD)	BK-GCS-PEDCO-120-PR-PF-0001	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: 31 از 49
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 31 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	BK




ATTACHMENT #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	Work Load Chart	4N	6C+E		6C+E	
002	Vendor Document List & Schedule (VDLS)	3N	6C+E			
003	Organization Chart	4N	6C+E		6C+E	
004	Monthly /Weekly Progress Report		6C+E			
005	Engineering, Procurement, Fabrication, Testing and Delivery Schedule	3N	6C+E			
006	Deviation & Clarification List	3N				
007	Experience List(For Similar jobs)	3N				
008	Vendor Catalogue	4N	6C+E		6C+E	
QUALITY						
001	Project Quality Assurance Plan	4N			6C+E	
002	Vendor Quality Control Records	4N			6C+E	
003	Welders & NDE operator qualification records	4N			6C+E	
004	Final Book Index	4N	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>							 شرکت تولید و پراکنش  	
شماره پیمان: 053 - 073 - 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 32 از 49	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		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)
005	Welding procedure for fabrication of pulsation suppression devices		6C+E		6C+E	
006	Weld procedures (PQR/WPS)		6C+E		6C+E	
007	FAT/SAT procedures		6C+E		6C+E	
008	Final Data Book	4N	6C+E		6C+E	
HSE						
001	HSE Procedures/Policy		6C+E		6C+E	
002	Material safety data sheets		6C+E		6C+E	
003	Safety instructions		6C+E		6C+E	
INTERFACE						
001	Electrical & Instrumentation Cable Schedule (for all systems)		6C+E		6C+E	
002	Electrical & Instrumentation Wiring Drawings (for all systems)		6C+E		6C+E	
003	Package Data Sheets	4N	6C+E		6C+E	
004	Reliability, Availability, Maintainability Calculations/Reports	4N	6C+E		6C+E	
005	Performance Curves		6C+E		6C+E	
006	PFD's	4N	6C+E		6C+E	
007	Functional Description		6C+E		6C+E	
008	General Arrangements Drawings	4N	6C+E		6C+E	
009	Mechanical Equipment List	3N	6C+E		6C+E	
010	Electrical Equipment List	3N	6C+E		6C+E	
011	Control, Instrument & Cable List		6C+E		6C+E	
012	Interface Block Diagrams	3N	6C+E		6C+E	
013	Junction Box, Local Panels & Cabinets:		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>							 شرکت تولید و پترو ایران  HIRGAN ENERGY 
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 33 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							



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)
	wiring diagrams & termination drawings					
014	Functional Logic Diagram		6C+E		6C+E	
015	P & ID's	3N	6C+E		6C+E	
016	Utility Consumption List	3N	6C+E		6C+E	
017	Power Supply Requirements	3N	6C+E		6C+E	
018	Single Line Diagram	3N	6C+E		6C+E	
019	Earthing Details	3N	6C+E		6C+E	
020	Weight / Centre of Gravity Drawings & Data's		6C+E		6C+E	
021	External Static and Dynamic Forces & Moments (present during test, start-up, normal/maximum operation, shutdown, and other conditions of service)		6C+E		6C+E	
022	Wind and Seismic Loads including shear and moment forces on supports and foundation.		6C+E		6C+E	
023	Anchor Bolt Details Drawings (incl. size, type, locations relative to the equipment center-lines in three planes).		6C+E		6C+E	
024	Ladder & Platform Detail Drawing		6C+E		6C+E	
025	Steel Structure Detail Drawing		6C+E		6C+E	
ENGINEERING						
001	Deviation list to Standards / Codes / Technical Specifications of Mechanical / I&C / Electrical		6C+E		6C+E	
002	List of components requiring PURCHASER's approval [any components that can be construe as being of alternative design, requiring purchaser's acceptance]		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 GAS COMPRESSOR							شماره صفحه : 34 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
BK								

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)
003	P&ID and Schematic Diagrams for compressor and Auxiliaries		6C+E		6C+E	
004	Minimum length of straight pipe required at machine inlet or side inlets		6C+E		6C+E	
005	Metallurgy of major components		6C+E		6C+E	
006	Tabulation of all utilities		6C+E		6C+E	
007	Lubricant List		6C+E		6C+E	
008	Painting SPEC		6C+E		6C+E	
009	Piping Material SPEC		6C+E		6C+E	
010	Insulation SPEC		6C+E		6C+E	
011	Terminal Points list		6C+E		6C+E	
012	PDMS 3D Model data base		6C+E		6C+E	
013	Isometric drawing for between skids piping		6C+E		6C+E	
014	Data sheets applicable to proposals, purchase and as-built		6C+E		6C+E	
015	Noise data sheets		6C+E		6C+E	
016	Gas load, rod load, and crosshead load reversal and duration charts.		6C+E		6C+E	
017	Starting torque versus speed curves for compressor		6C+E		6C+E	
018	Loading sequence		6C+E		6C+E	
019	Predicted Performance curves for each section as well as overall curve for train [with surge points]		6C+E		6C+E	
020	Performance curves and data after test		6C+E		6C+E	

 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 GAS COMPRESSOR							شماره صفحه : 35 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
BK								


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)
021	Maximum and minimum allowable seal pressure for each compressor		6C+E		6C+E	
022	Capacity control schematics and bill of material		6C+E		6C+E	
023	Pulsation suppression device arrangement drawing and bill of material		6C+E		6C+E	
024	Pulsation suppression device detail drawings and final pressure code calculations		6C+E		6C+E	
025	Auxiliary equipment Data Sheet		6C+E		6C+E	
026	Auxiliary equipment outline drawing		6C+E		6C+E	
027						
028	Thermal rating and Mechanical Design for Heat Exchangers	4N				
029	Vessel general arrangement & detail drawings and data		6C+E		6C+E	
030	pulsation suppressors general arrangement and bill of material		6C+E		6C+E	
031	Strength Calculation for Casings		6C+E		6C+E	
032	Strength Calculation for Pressure Vessels		6C+E		6C+E	
033	Coupling selection and rating		6C+E		6C+E	
034	Shaft coupling assembly drawing and bill of materials	4N	6C+E		6C+E	
035	Coupling & shaft alignment diagram	4N	6C+E		6C+E	
036	Inter stage/After stage/Kick Back cooler system data [Drawing showing cooling system details/Data for purchasers heat and material balances/Details of provisions for separating and		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>							 شرکت تولید و پراوران  HIRGAN ENERGY 	
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 36 از 49	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		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)
	withdrawing condensate/vendor's recommendations regarding provisions for support and piping expansion]					
037	Shaft end gap and tolerance		6C+E		6C+E	
038	Coupling guards drawing and bill of material	3N	6C+E		6C+E	
038	Dimensional outline drawing including maximum maintenance weight & minimum required hook elevation, Flywheel data, driver and transmission mass, Moments on inertia, Stator shift, Air gap		6C+E		6C+E	
039	Foundation Layout Drawing		6C+E		6C+E	
040	Allowable flange loading (either cylinder or pulsation suppression device) and coordinates Allowable flange loading(s) for all cylinder (or pulsation bottle) connections, including anticipated thermal movements referenced to a defined point, and x, y, z-coordinate system.		6C+E		6C+E	
041	Lifting lugs detail		6C+E		6C+E	
042	Dismantling clearances		6C+E		6C+E	
043	Field assembly procedures, including frame and cylinder alignment requirements		6C+E		6C+E	
044	Calculation sheets for lifting attachments, wind loading and hydrotest support		6C+E		6C+E	
045	Anticipated thermal movement on major connection Nozzle Allowable Thermal Growth		6C+E		6C+E	

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 شرکت تولید و پراکنش گاز  HIRGAN ENERGY 	
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 37 از 49	
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		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)
046	Anchor Bolt/Erection Bolt list		6C+E		6C+E	
047	Grouting requirements		6C+E		6C+E	
048	Static & Dynamic loads for foundation design		6C+E		6C+E	
049	Hold down supports detail drawing and data		6C+E		6C+E	
050	Cross sectional drawings and bill of materials		6C+E		6C+E	
051	Piston, Rider rings Piston rod Crankcase assembly drawings and bill of materials		6C+E		6C+E	
052	Crosshead to rod assembly drawing		6C+E		6C+E	
053	Pressure packing drawings		6C+E		6C+E	
054	Distance Piece (including vents, drains & buffer) schematic and bills of materials		6C+E		6C+E	
055	Distance Piece (including vents, drains & buffer) arrangement drawing and list of connections		6C+E		6C+E	
056	Distance Piece (including vents, drains & buffer) components drawings and data		6C+E		6C+E	
057	Distance Piece (including vents, drains & buffer) drawing and part number		6C+E		6C+E	
058	Seal leakage rates		6C+E		6C+E	
059	Oil wiper unit sectional drawing with bill of material		6C+E		6C+E	
060	Oil wiper unit schematic and arrangement drawing with part numbers		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>							 شرکت تولید و پراکنش گاز	
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 38 از 49	
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		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)
061	Lubricating oil system schematic and bill of materials		6C+E		6C+E	
062	Lubricating oil system arrangement drawing & list of connect		6C+E		6C+E	
063	Lubricating oil system component drawing and data		6C+E		6C+E	
064	Cooling or Heating system (including packing cooling) schematic and bill of materials		6C+E		6C+E	
065	Cooling or Heating system (including packing cooling) arrangement drawing & list of connections		6C+E		6C+E	
066	Cooling or Heating system (including packing cooling) component drawing and data		6C+E		6C+E	
067	Silencer(s), intake cap(s) or hood(s), trash screen(s), and transition piece(s) drawing		6C+E		6C+E	
068	Oil wiper unit schematic and arrangement drawing with part numbers		6C+E		6C+E	
069	Lubricating oil system schematic and bill of materials		6C+E		6C+E	
070	Lubricating oil system arrangement drawing & list of connect		6C+E		6C+E	
071	Lubricating oil system component drawing and data		6C+E		6C+E	
072	Cooling or Heating system (including packing cooling) schematic and bill of materials		6C+E		6C+E	
073	Lateral critical speed analysis		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 GAS COMPRESSOR							شماره صفحه : 39 از 49	
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		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)
074	Train Torsional analysis report		6C+E		6C+E	
075	Data for an independent torsional analysis		6C+E		6C+E	
076	Acoustic and mechanical analysis report		6C+E		6C+E	
077	Engineering analysis for fabricated cylinders		6C+E		6C+E	
078	Balancing data tabulation. Listing of mass balance data for each throw, including piston, rod, crosshead, nuts, bushings, bearings and balance masses and including both design target masses and actual assembly masses. The allowable mass tolerance per throw shall be stated.		6C+E		6C+E	
079	Valve dynamics report		6C+E		6C+E	
080	Data for an independent valve dynamic analysis.		6C+E		6C+E	
081	Vibration analysis data		6C+E		6C+E	
082	Damped unbalanced response analysis		6C+E		6C+E	
083	Vibration monitoring system details		6C+E		6C+E	
084	Mechanical Equipment List		6C+E		6C+E	
085	Nameplate details (for main and auxiliary equipment)		6C+E		6C+E	
086	Mechanical Final MTO		6C+E		6C+E	
087	Insulation & Tracing Final MTO		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>							 شرکت تولید و پراکنش 
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 40 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
BK								


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)
088	As-built drawing and clearances		6C+E		6C+E	
089	HAZOP & SIL study report		6C+E		6C+E	
090	General layout drawing including compressor and auxiliary equipments		6C+E		6C+E	
091	Motor speed-torque/current curve		6C+E		6C+E	
092	Thermal limit curve		6C+E		6C+E	
093	List of electrical consumers		6C+E		6C+E	
094	Electrical Final MTO		6C+E		6C+E	
095	Electrical I/O List between package and MCC		6C+E		6C+E	
096	Electrical Cable Lists		6C+E		6C+E	
097	Cross sectional drawing and bill of material of Motor		6C+E		6C+E	
098	Data sheets applicable to proposal, purchaser and as built for Motors		6C+E		6C+E	
099	Predicted noise sound level		6C+E		6C+E	
100	Predicted temperature rise		6C+E		6C+E	
101	Predicted vibration level		6C+E		6C+E	
102	Dimensional outline drawings, bill of materials and connection list for Motor and auxiliaries		6C+E		6C+E	
103	Termination / Connection diagrams		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>							 شرکت تولید پترو ایران  HIRGAN ENERGY 	
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 41 از 49	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		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)
104	Power & control wiring diagrams		6C+E		6C+E	
105	Catalogue for auxiliary equipment such as heater, transformer, PTC or PT100, ... (if applicable)		6C+E		6C+E	
106	Motor terminal box drawing including terminal box for main power cable, space heaters, protection devices and current transformer		6C+E		6C+E	
107	Hazard source list / layout		6C+E		6C+E	
108	Instrument list of the package		6C+E		6C+E	
109	Instrument data sheets & sizing calculation		6C+E		6C+E	
110	Loop diagrams, logic diagrams, alarm & trip set points list, I/O list		6C+E		6C+E	
111	Cause and Effect		6C+E		6C+E	
112	Control narrative / Interlocks & sequences description		6C+E		6C+E	
113	Trend group & control group schedule		6C+E		6C+E	
114	Interposing diagram & philosophy with electrical systems		6C+E		6C+E	
115	Air & pressure hook-up drawings		6C+E		6C+E	
116	Mounting hook-up drawing		6C+E		6C+E	
117	Location layouts, cable routings & sections		6C+E		6C+E	
118	Instrument cable list		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 GAS COMPRESSOR							شماره صفحه : 42 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							



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)
119	Panels & junction boxes termination diagrams		6C+E		6C+E	
120	Instrumentation bulk material MTO		6C+E		6C+E	
121	Catalogues & Brochures for all systems and devices		6C+E		6C+E	
122	Hardware, software, HMI & communication FDS		6C+E		6C+E	
123	UCP systems block diagram		6C+E		6C+E	
124	System I/O Assignment List		6C+E		6C+E	
125	Mod bus serial link I/O list and address mapping		6C+E		6C+E	
126	Safety validation plan		6C+E		6C+E	
127	System loading calculations, Reliability & Availability calculations		6C+E		6C+E	
128	System cabinets & consoles outline drawings		6C+E		6C+E	
129	Power distribution plan, consumption and heat load calculations		6C+E		6C+E	
130	Cabinets front, back and internal layout drawings & internal wiring details (System, marshaling, PDB, AUX & HMI consoles)		6C+E		6C+E	
131	Termination diagrams (Marshaling cabinets, consoles, ...)		6C+E		6C+E	
132	Instrumentation general assembly drawings, section drawings, weights & dimensions		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>							 شرکت تولید و پترو ایران
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 43 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							



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)
133	Instrument earthing drawing		6C+E		6C+E	
134	Local Gauge Board drawing		6C+E		6C+E	
135	Machine monitoring system details		6C+E		6C+E	
136	Control & application software of control, safety and monitoring system		6C+E		6C+E	
137	Graphic displays		6C+E		6C+E	
138	System Cables Schedule		6C+E		6C+E	
139	As-Built Drawings		6C+E		6C+E	
PROCUREMENT						
001	Sub-Vendor List	4N			6C+E	
002	Sub-Contractor List	4N			6C+E	
003	Un-priced Copy of Sub Orders	4N			6C+E	
004	Packing List	4N			6C+E	
005	Master Packing List	4N			6C+E	
TRANSPORTATION, INSPECTION, OPERATION AND MAINTENANCE MANUALS						
001	Shipping volume information that is best estimation (Net weight, gross weight for all packings)		6C+E		6C+E	
002	Shipping list (Net weight, gross weight for all packings)		6C+E		6C+E	
003	Transportation Drawing		6C+E		6C+E	
004	Installation Instruction		6C+E		6C+E	
005	Operation & Maintenance Instruction		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>							 شرکت تولید و پترو ایران  HIRGAN ENERGY 	
شماره پیمان: 053 - 073 - 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 44 از 49	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		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)
006	Software Manual (Including Trouble Shooting)		6C+E		6C+E	
007	Commissioning & Start-Up Manual		6C+E		6C+E	
008	Operating / Maintenance / Configuration Manuals of PLC		6C+E		6C+E	
009	IOM manuals for all systems and devices		6C+E		6C+E	
010	Trouble shooting diagram	3N	6C+E		6C+E	
011	Steam blow out acceptance criteria		6C+E		6C+E	
012	Oil Flushing procedure		6C+E		6C+E	
013	Spare Parts List (Installation, Pre-commissioning, Commissioning & Start-Up)		6C+E		6C+E	
014	Spare Parts List (Capital), If Required		6C+E		6C+E	
015	Spare Parts Lists (Two Years & Operation)		6C+E		6C+E	
016	Special Tools for installation and maintenance for all equipment in package		6C+E		6C+E	
017	(Packing, Knockdown and transportation procedure) Handling and Transport Protective Measures at Site		6C+E		6C+E	
018	Preservation procedures [Long term storage procedure/ Preparation for storage at job site before installation/ Weather protection at job site]		6C+E		6C+E	
TESTING						
001	QC Inspection & Test Plan		6C+E		6C+E	
002	Shop Test Procedure		6C+E		6C+E	
003	Statement of manufacturer's testing		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>							 شرکت تولید و پترو ایران
شماره پیمان: 053 - 073 - 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 45 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

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)
	capabilities					
004	Rotor mechanical and electrical run out for compressor (and gearbox, if applicable)		6C+E		6C+E	
005	Coupling balance log		6C+E		6C+E	
006	Hydrotest Procedure		6C+E		6C+E	
007	MRT Procedure		6C+E		6C+E	
008	Performance Test Procedure		6C+E		6C+E	
009	Rotor Test Procedure		6C+E		6C+E	
010	Balance Test Procedure		6C+E		6C+E	
011	Surface Preparation & Painting Procedure		6C+E		6C+E	
012	NDT Procedure		6C+E		6C+E	
013	PWHT Procedure		6C+E		6C+E	
RECORDS, REPORTS & CERTIFICATES						
001	Certification Dossier		6C+E		6C+E	
002	Certificates of electrical classification (including instrument devices)		6C+E		6C+E	
003	Certificates of materials (including instrument devices)		6C+E		6C+E	
004	Crankshaft ultrasonic test certificate		6C+E		6C+E	
005	Valve leak test certificate		6C+E		6C+E	
006	Certificates of calibrations		6C+E		6C+E	
007	Certification for motors		6C+E		6C+E	
008	Material Certification (for pressure parts)		6C+E		6C+E	
009	Material Certification (for Non pressure parts)		6C+E		6C+E	

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 شرکت تولید و پراکنش  HIRGAN ENERGY 	
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 46 از 49	
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0001		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)
010	Hazardous Area certification for electrical items		6C+E		6C+E	
011	Mill test reports		6C+E		6C+E	
012	Test reports (fully) for motors		6C+E		6C+E	
013	Hydrostatic test report		6C+E		6C+E	
014	Rotor balancing logs including residual unbalance report		6C+E		6C+E	
015	Performance Test Report		6C+E		6C+E	
016	Rotor clearance report		6C+E		6C+E	
017	FAT test report		6C+E		6C+E	
018	IFAT test report		6C+E		6C+E	
019	Inspection & Test Records		6C+E		6C+E	
INSTALLATION						
001	Sub-Assembly Documentation		6C+E		6C+E	
002	Sub-Assembly Drawings		6C+E		6C+E	
003	Erection/Installation Manual (if required)		6C+E		6C+E	
004	Name Plate Documents		6C+E		6C+E	
005	Handling, Transportation & Storage Instructions		6C+E		6C+E	
006	Unpacking & Inspection Instructions		6C+E			
007	Preliminary Packing List	4N				
008	Packing List		6C+E		6C+E	
OPERATION & MAINTENANCE						
001	Operating Instructions		6C+E		6C+E	
002	Maintenance Instructions (if required)		6C+E		6C+E	
003	Commissioning & Start-up Manual		6C+E		6C+E	



احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



PMR FOR GAS COMPRESSOR

053-073-9184

شماره صفحه : 47 از 49

پروژه

بسته کاری

صادرکننده

تسهيلات

رشته

نوع مدرک

سویال

خه

3

4 از

BK

GC

PEDCO

120

ME

MR

0001

D0

OTHERS

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 VDLS

 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 GAS COMPRESSOR							شماره صفحه : 48 از 49
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D03	0001	MR	ME	120	PEDCO	GCS	
	BK							

ATTACHMENT #3

SPARE PART LIST

The Spare Parts list provided here is the 'minimum' required ones. Vendor offer for Spare Parts shall comply the minimum required Spare Parts listed here in MR.

1. Erection/Pre-commissioning/Commissioning/Start-up as follows but not limited (vendor to check and confirm):




As per Project Document (E&D-QC-SP-1)

2. Two years spare parts as follows but not limited (vendor to check and confirm):

As per Project Document (E&D-QC-SP-1)

3. Capital spare part

(As per Vendor Recommendation)

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							 شرکت تولید و پترو ایران  HIRGAN ENERGY 	
شماره پیمان: 053 – 073 – 9184	PMR FOR GAS COMPRESSOR							شماره صفحه : 49 از 49	
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری		پروژه
	D03	0001	MR	ME	120	PEDCO	GCS		BK

ATTACHMENT #4

DEVIATIONS / EXCEPTIONS / ALTERNATIVES TO REQUISITION

Requisition No.:

Description:

Vendor Name:

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