
	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
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طرح نگهداشت و افزایش تولید 27 مخزن

PMR FOR GAS AIR COOLERS

نگهداشت و افزایش تولید میدان نفتی بینک



D01	AUG.2022	IFI	H.Adineh	M.Fakharian	M.Mehrshad	
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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

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شماره پیمان: 053-073-9184	<table><tr><th colspan="8">PMR FOR GAS AIR COOLERS</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>D01</td><td>0004</td><td>MR</td><td>ME</td><td>120</td><td>PEDCO</td><td>GCS</td><td>BK</td></tr></table>	PMR FOR GAS AIR COOLERS								نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه	D01	0004	MR	ME	120	PEDCO	GCS	BK	شماره صفحه : 2 از 22
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1.0 INTRODUCTION

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

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

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


GENERAL DEFINITION

The following terms shall be used in this document.

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

2.0 GENERAL

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

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- This material requisition covers the requirements for the design, manufacturing, testing and supply of gas air coolers as listed below. All equipment/devices/items shall conform to this requisition and all specifications which have been mentioned in attachment 1 of this material requisition.
- The vendor's supply shall include:

No.	Item	Description	Total QTY.
1	AE-2101 A/B/C	1 st Stage Gas Air Coolers	2+1
2	AE-2102 A/B/C	2 nd Stage Gas Air Coolers	2+1

3.0 REFERENCE / ATTACHED DOCUMENTS

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

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

The proposed deviations/comments list shall include as minimum:


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

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 air coolers 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

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account process data and installation conditions such as area classification and climatic conditions.

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


5.0 LIMITS OF SUPPLY

5.1 SCOPE OF SUPPLY

5.1.1 MAIN DESCRIPTION

Vendor's technical proposal shall include but not be limited to equipment, materials specified in the following items:

- Equipment and/or Materials (refer to clause 2)
- Tube bundle and headers
- Wire mesh on headers for personnel protection
- Steel structure
- Electric motors with individual lubrication
- Belts
- Cut out vibration switches
- Fans with transmissions, supports, guards and grease connection
- Fan rings, plenum chambers
- Louvers, actuators with positioners if specified
- Driving devices / Double speed / VSD (optional)
- Supply of materials and fabrication
- Piping Supports directly connected to Air Cooler structure
- Gussets for support of external piping (if any)
- Lifting lugs or trunnions and all necessary devices for transport and lifting, including spreader beams and erection / lifting sketches indicating lifting points
- Ladders and platforms and relative support gussets (walkways for both side of headers and connection walkways between headers walkways, fan and motor maintenance walkway, gratings)
- Rack adoption beam
- Stainless steel earth lugs
- Bolts, nuts and gaskets for all blinded flanges (where required)
- Setting bolts & nuts w/washer for pipe rack installation
- Sliding plates
- Vent, drain and chemical cleaning connections (blind flange, bolts, nuts and spiral wound gaskets shall be provided)
- Nameplates and relevant supports

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- Insulation and fireproofing supports
- I/P convertor equipped with a hand valve
- Grease connection lines
- First filling for lubricants
- V.V.V.F. Control Panel , if required

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

- Resolve engineering issues relating to equipment/devices/items within the scope of supply.
- Provide detailed design and documentation of all equipment/devices/items and components within the scope of supply in accordance with attachment 2 of this document.
- Provide all necessary information documents in order to allow the contractor to erect, install and verify the proposed equipment/devices/items.
- Implement a quality assurance plan
- The quality plan applied to the scope of supply shall include:
 - QA / QC Organization Chart and procedures that shall be submitted for approval.
 - Plan for HOLD points in the production process proposed to PURCHASER for witness or approval particular activities.
 - Production schedule indicating main quality manufacturing processes, inspection and tests.
 - Qualification of all personnel performing tests to be reviewed by the inspector
 - Supplier shall also provide the description of the following quality activities:
 - Sub suppliers 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.



5.1.2 SPARE PARTS


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

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

5.1.3 OTHER ITEMS

- Special tools required for installation and maintenance (a qualified and complete list has to be included in the bid documentation)



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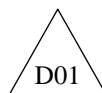
- Name plate
- Painting of all items in accordance with "Painting Specification".
- Preparation for shipment
- Stairs, ladders and walkways if required
- Free access to manufacturing plants for the CLIENT's inspectors
- Certificates or declarations of conformance (as required) of all Ex-equipment.
- Daily rate for erection supervision (separate price)
- Daily rate for commissioning and start-up supervision (separate price)
- Training for customer's personnel (separate price)
- KOM
- Technical/Clarification meeting
- Pre-Inspection Meeting

5.2 EXCLUSIONS

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

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

5.3 BATTERY LIMITS





The battery limits are summarized as follows:

Refer to "P&ID for 1st & 2nd Stage Gas Compression Air Coolers" with Doc. No: BK-GCS-PEDCO-120-PR-PI-0008 & 0011". 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

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shall at least be according to the “دستورالعمل بازرسی خرید و ساخت کالا” (Doc. No. ICE-EID-MI-SP01-Rev01), the “دستورالعمل انتخاب سطح بازرسی کالا و تجهیزات” (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.

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).

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

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

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

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

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

VENDOR is fully responsible for the design of package for correct and safe operation based on project requirement during package life time; therefore, VENDOR shall specify any documents/specifications which may be required for design, manufacture and finalizing of Equipment/Devices/Items to avoid any problems during the package operation at site before P.O; 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 (END-QC-SP-1)
- 3) 2 years operational spare parts (END-QC-SP-1)
- 4) Packing & transportation
- 5) Other fee (if any)


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ATTACHMENT 1

LIST OF REFERENCE / APPLICABLE DOCUMENTS




No.	Document No.	Document Title.	Rev.
Process			
1.	BK-GNRAL-PEDCO-000-PR-DC-0001	Process Design Criteria	D02
2.	BK-GNRAL-PEDCO-000-PR-DB-0001	Process Basis of Design	D06
3.	BK-GCS-PEDCO-120-PR-PI-0008	P&ID – 1 st Stage Gas Compression Air Coolers	D03
4.	BK-GCS-PEDCO-120-PR-PI-0011	P&ID – 2 nd Stage Gas Compression Air Coolers	D03
5.	BK-GCS-PEDCO-120-PR-DT-0003	Process Data Sheets for 1 st Stage Gas Air Coolers	D02
6.	BK-GCS-PEDCO-120-PR-DT-0005	Process Data Sheets for 2 nd Stage Gas Air Coolers	D02
Mechanical			
7.	BK-GNRAL-PEDCO-000-ME-DC-0001	Mechanical Design Criteria	D01
8.	BK-GCS-PEDCO-120-ME-SP-0001	Specification for Air Cooled Heat Exchangers	D00
9.	BK-GNRAL-PEDCO-000-ME-SP-0001	Specification for Pressure Vessels	D01
10.	BK-GCS-PEDCO-120-ME-DT-0003	Mechanical Data Sheets for 1 st Stage Gas Air Coolers	D01
11.	BK-GCS-PEDCO-120-ME-DT-0005	Mechanical Data Sheets for 2 nd Stage Gas Air Coolers	D01
12.	BK-GNRAL-PEDCO-000-ME-DW-0001	Standard Detail Drawing For Pressure Vessels and Heat Exchangers	D00
Piping			
13.	BK-GNRAL-PEDCO-000-PI-DC-0001	Piping Design Criteria	D03
14.	BK-GNRAL-PEDCO-000-PI-SP-0005	Specification for Fittings, Flanges, Gaskets and Bolts	D02
15.	BK-GNRAL-PEDCO-000-PI-SP-0006	Specification for Painting	D04
16.	BK-GNRAL-PEDCO-000-PI-SP-0008	Specification for Material Requirement in Sour Service	D00
17.	BK-GNRAL-PEDCO-000-PI-SP-0011	Specification for Welding of Plant Piping System	D00
18.	BK-GNRAL-PEDCO-000-PI-SP-0019	Specification for Insulation	D02
19.	BK-GCS-PEDCO-120-PI-PY-0001	Unit Plot Plan Drawing	D02
20.	BK-GCS-PEDCO-120-PI-SP-0001	Piping Material Specification	D01
21.	BK-GNRAL-PEDCO-000-PI-SP-0004	Specification for Metallic Pipes	D05
Structure			
22.	BK-GNRAL-PEDCO-000-CV-DC-0001	Civil Design Criteria	D00
23.	BK-GNRAL-PEDCO-000-ST-DW-0002	Standard Drawing for Anchor Bolts	D02
24.	BK-GNRAL-PEDCO-000-ST-SP-0004	Specification for Grouting	D02
25.	BK-GNRAL-PEDCO-000-ST-SP-0006	Specification for Fireproofing	D03

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شماره پیمان: 053 – 073 – 9184	PMR FOR GAS AIR COOLERS							شماره صفحه : 12 از 22	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0004		D01

No.	Document No.	Document Title.	Rev.
26.	BK-GNRAL-PEDCO-000-ST-SP-0003	Specification for Fabrication of Steel Structures	D02
27.	BK-GNRAL-PEDCO-000-ST-SP-0005	Specification for Erection of Steel Structures	D02
Safety & Fire Fighting			
28.	BK-GNRAL-PEDCO-000-SA-SP-0002	Specification for Hazardous Area Classification	D03
Electrical			
29.	BK-GNRAL-PEDCO-000-EL-DC-0001	Electrical System Design Criteria	D02
30.	BK-GNRAL-PEDCO-000-EL-SP-0010	Specification For LV Induction Motors	D03
31.	BK-GNRAL-PEDCO-000-EL-SP-0011	Specification for Electrical Requirements of Packaged Units	D03
Instrument			
32.	BK-GNRAL-PEDCO-000-IN-SP-0001	Specification for Instrumentation	D03
33.	BK-GNRAL-PEDCO-000-IN-SP-0002	Specification for Control System	D03
34.	BK-GNRAL-PEDCO-000-IN-SP-0005	Specification for Control Valves	D02
35.	BK-GNRAL-PEDCO-000-IN-SP-0007	Specification for Pressure Safety Valves (PSV)	D03
36.	BK-GNRAL-PEDCO-000-IN-SP-0010	Specification for Instrument/F&G Cables	D01
General			
37.	ICE-EID-MI-SP01-Rev01	دستورالعمل بازرسی، خرید و ساخت کالا	-
38.	ICE-EID-MI-SP02-Rev01	دستورالعمل انتخاب سطح بازرسی کالا و تجهیزات	-
39.	E&D-QC-SP-1	دستورالعمل تامین قطعات یدکی راه اندازی و راهبری دو سالانه	-
40.	BK-GNRAL-PEDCO-000-QC-PR-0022	Specification For Final Data Book (FDB) Requirements	D00
41.	BK-GNRAL-PEDCO-000-QC-PR-0045	Packing, Marking, Transportation Procedure	D00





 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							 شرکت توسعه تروابران 	
شماره پیمان: 053 - 073 - 9184	PMR FOR GAS AIR COOLERS							شماره صفحه : 13 از 22	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
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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	Vendor Document Index and Schedule (Deleted)	4N	6C+E		6C+E	
002	Organization Brief	3N	6C+E			
003	Schedule Level 1, 2, 3 & 4 showing Engineering, Procurement, Fabrication, Inspection, Testing, and Delivery Plan.	4N	6C+E		6C+E	
004	Physically Progress Report (Every 2 Weeks))		6C+E			
005	Project Organization Chart	3N	6C+E			
006	Reference List	3N				
007	Vendor Catalogue	3N				
QUALITY						
008	Quality Assurance Manual /Quality Management System Certificate (according to latest rev. of ISO)	4N			6C+E	
009	Preliminary Inspection and Test Plan	4N				
010	Inspection and Test Plan		6C+E		6C+E	
HSE						
011	HSE Procedure		6C+E		6C+E	
012	Noise & Vibrations Calculations / Reports (If any)		6C+E		6C+E	
013	ESD Instructions		6C+E		6C+E	
INTERFACE						
014	Electrical & Instrumentation Cable Schedule (for all systems)		6C+E		6C+E	
015	Electrical & Instrumentation Wiring		6C+E		6C+E	


D01

	<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 GAS AIR COOLERS								شماره صفحه : 14 از 22
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	
	BK	GCS	PEDCO	120	ME	MR	0004	D01	



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

 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 GAS AIR COOLERS							شماره صفحه : 15 از 22	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0004		D01


Item No.	Document	With Bid	TIME SCHEDULE			
			For Review		Final Issue	
			Copies No./Type (1)	Solar days (2)	Copies No./Type (1)	Calendar days (3)
040	Ladder & Platform Detail Drawing		6C+E		6C+E	
041	Steel Structure Detail Drawing		6C+E		6C+E	
ENGINEERING						
042	Detailed Functional Design Specification		6C+E		6C+E	
043	Detailed Overall Description		6C+E		6C+E	
044	Mechanical Detailed Specifications (one per component)		6C+E		6C+E	
045	Detailed Design / Fabrication Drawings for Equipment & Auxiliary Parts		6C+E		6C+E	
046	Cross Sectional Drawings with Part Lists		6C+E		6C+E	
047	Assembly Drawings		6C+E		6C+E	
048	Design Calculation Notes		6C+E		6C+E	
049	Pressure Parts Calculations		6C+E		6C+E	
050	Piping Detailed Specifications (one per component)		6C+E		6C+E	
051	Piping Routing		6C+E		6C+E	
052	Valves & Instruments Location Drawings (incl. provisions for operational and maintenance access)		6C+E		6C+E	
053	Electrical Detailed Specifications (one per component)		6C+E		6C+E	
054	Electrical Cables Routing (incl. cable trays & junction boxes)		6C+E		6C+E	
055	Electrical Equipment Location Drawings (incl. provisions for operational and maintenance access)		6C+E		6C+E	
056	Protection Device Operating Curves		6C+E		6C+E	
057	Electrical Control Schematics		6C+E		6C+E	
058	Instrument & Control Detailed Specifications (one per component)		6C+E		6C+E	
059	Instrument cables routing (incl. cable trays & junction boxes)		6C+E		6C+E	

	<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 GAS AIR COOLERS							شماره صفحه : 16 از 22	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
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Item No.	Document	With Bid	TIME SCHEDULE			
			For Review		Final Issue	
		Copies No./Type (7)	Copies No./Type (1)	Solar days (2)	Copies No./Type (1)	Calendar days (3)
060	Instrument Equipment Location Drawings (incl. provisions for operational and maintenance access)		6C+E		6C+E	
061	Hook-Up Diagrams		6C+E		6C+E	
062	Wiring Loops Diagrams		6C+E		6C+E	
063	Instrument Control Schematics		6C+E		6C+E	
064	Instrument Mounting & Housing Instructions		6C+E		6C+E	
065	Power Distribution & Consumption		6C+E		6C+E	
066	Cause & Effect Charts		6C+E		6C+E	
067	Original Software for Control & Monitoring System		6C+E		6C+E	
068	Software System Specifications		6C+E		6C+E	
069	Approximate Weight & Dimension	4N				
070	Shipping Detail Drawing		6C+E		6C+E	
071	Final Data Book		6C+E		6C+E	
072	Pressure Loss Calculations		6C+E		6C+E	
073	Lubrication System Detailed Specifications / Drawings		6C+E		6C+E	
074	Cooling System Detailed Specifications/Drawings		6C+E		6C+E	
075	Shaft Sealing System Detailed Specifications/Drawings	4N	6C+E		6C+E	
076	Completed Equipment Datasheets	4N	6C+E		6C+E	
077	Calculation sheets for safety valves, control valves & orifice plate		6C+E		6C+E	
078	Complex loop & automation descriptions, list of alarms & shutdown with set points		6C+E		6C+E	
079	Electrical Equipment Catalogue	3N	6C+E		6C+E	
080	Electrical Interface Block Diagrams		6C+E		6C+E	
081	Local Control Station of motors wiring diagram, termination drawing and general arrangement		6C+E		6C+E	

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							 شرکت توسعه ترابریان 	
شماره پیمان: 053 - 073 - 9184	PMR FOR GAS AIR COOLERS							شماره صفحه : 17 از 22	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
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			For Review		Final Issue	
			Copies No./Type (1)	Solar days (2)	Copies No./Type (1)	Calendar days (3)
082	Gear System Detailed Specifications / Drawings		6C+E		6C+E	
083	Coupling System Detailed Specifications / Drawings		6C+E		6C+E	
PROCUREMENT						
084	List of Sub-Suppliers (table giving: part of equipment, tag no., sub-supplier reference)(5.1.3)	4N			6C+E	
085	Unpriced copy of sub-orders		6C+E			
MANUFACTURING						
086	Weld and NDT Map		6C+E		6C+E	
087	Surface Preparation and Painting Procedures		6C+E		6C+E	
088	Heat Treatment Procedures		6C+E		6C+E	
089	Welding Procedure Specification (including repair procedures).		6C+E		6C+E	
090	Welder Qualification Procedure		6C+E		6C+E	
091	Fabrication Degree	3N				
TESTING						
092	Hydrostatic / Pneumatic Testing Procedure		6C+E		6C+E	
093	Performance & Functional Test Procedure		6C+E		6C+E	
094	Non-Destructive Testing/Examination Procedures		6C+E		6C+E	
095	Factory Acceptance Test (FAT) Procedure		6C+E		6C+E	
RECORDS, REPORTS & CERTIFICATES						
097	Material Conformity Certificate		6C+E		6C+E	
098	Testing Authority Approval Certificate (if any)		6C+E		6C+E	
099	Hazardous Area Certificates.		6C+E		6C+E	
100	Ingress Protection Certificate		6C+E		6C+E	

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شماره پیمان: 053 – 073 – 9184	PMR FOR GAS AIR COOLERS							شماره صفحه : 18 از 22	
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0004		D01

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


 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							 شرکت توسعه ترابریان 
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	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	
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							D01	

Item No.	Document	With Bid	TIME SCHEDULE			
			For Review		Final Issue	
			Copies No./Type (1)	Solar days (2)	Copies No./Type (1)	Calendar days (3)
123	Inspection and Test Reports(if any)		6C+E		6C+E	
124	Rust Prevention Report		6C+E		6C+E	
125	Non-Conformities Report		6C+E		6C+E	
INSTALLATION						
126	Sub-Assembly Documentation		6C+E		6C+E	
127	Sub-Assembly Drawings		6C+E		6C+E	
128	Erection/Installation Manual (if required)		6C+E		6C+E	
129	Name Plate Documents		6C+E		6C+E	
130	Handling, Transportation & Storage Instructions		6C+E		6C+E	
131	Unpacking & Inspection Instructions		6C+E			
132	Preliminary Packing List	4N				
132	Packing List		6C+E		6C+E	
OPERATION & MAINTENANCE						
133	Operating Instructions		6C+E		6C+E	
134	Maintenance Instructions (if required)		6C+E		6C+E	
135	Commissioning & Start-up Manual		6C+E		6C+E	
136	List of Spare Parts Commissioning & Start-up	4N	6C+E		6C+E	
136	List of Spare Parts 2 Years Operation	4N	6C+E		6C+E	
137	List of Special Tools	4N	6C+E		6C+E	
138	Lube Oil Schedule		6C+E		6C+E	
139	Software Manual (incl. Troubleshooting)		6C+E		6C+E	
140	Consumables List		6C+E		6C+E	
141	Function Test Procedure		6C+E		6C+E	
OTHERS						
142	All others documents (if required) will be listed in the order		6C+E			

	<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 GAS AIR COOLERS							شماره صفحه : 20 از 22	
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0004		D01

Item No.	Document	With Bid	TIME SCHEDULE			
			For Review		Final Issue	
		Copies No./Type (7)	Copies No./Type (1)	Solar days (2)	Copies No./Type (1)	Calendar days (3)
NOTES:						
(1) N= Number of document, C=Copy, E=Electronic Copy						
(2) Starting from date of order placement						
(3) Starting from reception of documentation without comments						
(4) First issue of the document is subjected to the release of payment milestone as per purchase order						
(5) Calendar days after reception of drive data						
(6) Prior to testing						
(7) One copy each bid copy						
(8) List of Documents will be Finalized in Vendor Document Index and Schedule						



 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>								
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	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
	BK	GCS	PEDCO	120	ME	MR	0004	D01	

ATTACHMENT 3


DEVIATIONS / EXCEPTIONS TO JOB SPECIFICATION

Requisition No.:

Description:

Equipment No.:

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

 NISOC	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>								
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	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال		نسخه
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ATTACHMENT 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