



نگهداشت و افزایش تولید میدان نفتی بینک  
سطح الارض  
احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک



شماره پیمان:

PMR FOR FIRE WATER PUMP

شماره صفحه: ۱ از ۲۶

۰۵۳ - ۰۷۳ - ۹۱۸۴

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
D04	0011	MR	ME	120	PEDCO	GCS	BK

طرح نگهداشت و افزایش تولید ۲۷ مخزن

PMR FOR FIRE WATER PUMP

نگهداشت و افزایش تولید میدان نفتی بینک

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

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## 2.0 GENERAL

- This document presents the item material requisitions for Contractor's use as appropriate.
- This material requisition covers the requirements for the design, manufacturing, testing and supply of fire water pumps 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:

No.	Item	Description	Total QTY.
1	P-2302 A/B	Fire water jockey pumps	2 (1+1)
2	P-2301 A	Fire water pump-electrical motor driven	1
3	P-2301 B	Fire water pumps-diesel engine driven	1



## 3.0 REFERENCE / ATTACHED DOCUMENTS

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

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

The proposed deviations/comments list shall include as minimum:

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

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

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

#### 4.0 SUBJECT OF THE SUPPLY



The **Vendor** shall supply fire water pumps package completely assembled and tested. The scope of supply is detailed at para. 5. The **Vendor** shall include in the supply, all other equipment/devices/items not listed in the following, but necessary for a good design and a safe operation, taking into account process data and installation conditions such as area classification and climatic conditions.

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

❖ The scope of supply is detailed below:

- Complete set of fire water pumps
- Electrical motor:
  - On-skid cabling, tray and fittings
  - Anti-condensation heaters for motor
  - Outdoor MCC for Auxiliaries Electrical Load (if any)
- Diesel Engine:
  - Diesel Fuel System, including Duplex Filter, Pump & Shut-Off Valve

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- Lubrication Oil System, Including Main Shaft-Driven Pump, Priming Pump, Duplex Filter, Oil Cooler & Heater
- Electric Starting System, Including Electric Motor, Ni-Ca Batteries & Charger
- Fuel Day Tank
- Combustion Air Inlet System Including Filter
- Exhaust System Including Flexible Pipe, Bellows Ductwork, Support, Personnel Protection Insulation, Silencer & Tailpipe
- Closed Circuit Cooling Water System Complying With NFPA 20 Requirements
- Anti-Reverse Rotation Device
- Local Firewater Pump Controller In Accordance With NFPA 20 Requirements (for minimum requirements of electrical /control signals refer to “P&ID for Fire Water Network”, Doc. No: BK-GCS-PEDCO-120-SA-PI-0001.
- The Separate Power Panels for Jockey and main pump electric motors and the Separate Power & control Panels for main Pump diesel engine.
- LCP to manage all required monitoring and control signals to be located next to the pumps.
- Automatic Air Release-Vacuum Breaker Valve
- Coupling (dry flexible Spacer with Non sparking guard)
- Anti-vibration Mounts
- Common baseplate for driver and pump
- Foundation bolts (anchor bolt), skid leveling screws, shims, sub-plates
- Overall piping/tubing, valves and fittings within the package for complete operation
- Two earthing bars
- Lifting lugs for four points for each baseplate

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- Instrumentation (for minimum requirements of instrumentation refer to “P&ID for Fire Water Network”, Doc. No: BK-GCS-PEDCO-120-SA-PI-0001.)
- Instrument wiring within baseplates including junction box
- Mating flange with bolts, nuts and gaskets
- First fill oil
- Special tools for erection and maintenance
- Thermal insulation (if needed)
- Valved casing drain & vent (for horizontal items)
- Any other accessories and auxiliaries specify in data sheet
- Name plates
- Spare Parts for erection, pre-commissioning, commissioning and start up and two years operation.
- Capital spare parts (as option)
- All requirements for safe and easy start up of pumps
- Pressure sensing line, PRV and sight glass
- Any other items not listed above which are necessary for satisfactory design and operation of the pump shall be furnished by vendor


#### 5.1.2 ENGINEERING SERVICES



The **Vendor** 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.



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- 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
  - Vendor shall also provide the description of the following quality activities:
    - Sub Vendors products quality
    - Quality check and identification of the materials and equipment entering in their manufacturing shop.
- Calibration of test instruments and equipment
- Provide detailed specifications and data sheets.

#### 5.1.3 SPARE PARTS





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

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

#### 5.1.4 OTHER ITEMS



- Special tools required for installation and maintenance
- Noise acoustic protection and relevant ancillaries in order to match with max. noise level requirements (if necessary)
- Name plate
- Earthing plate
- Painting of all items in accordance with "Painting Specification; Doc. No: BK-GNRAL-PEDCO-000-PI-SP-0006".
- Preparation for shipment

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پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	GCS	PEDCO	120	ME	MR	0011	D04											

- Packing for sea freight transportation
- Shop inspections and testing as per specifications & data sheets
- Free access to manufacturing plants for the PURCHASER'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 SCOPE OF WORK

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

 <p>NISOC</p>	<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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BK	GCS	PEDCO	120	ME	MR	0011	D04											

- Preparing of Final Book (Data Book)

### 5.3 EXCLUSIONS





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

- Concrete foundation (which shall be anyway designed based on Vendor '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 Pumps
- Site erection
- Lubricants (except first filling)

### 5.4 BATTERY LIMITS

The battery limits are summarized as follows:

- a) Process
  - Inlet and outlet flanges on skid
- b) Lube Oil
  - Lube oil filling point
- c) Instrumentation and control
  - terminal strips inside junction boxes at skid edges
  - terminal strips inside unit control panel
  - terminal strips inside UCP for integrated safety system (ESD and F&G) connections
  - terminal strips inside UCP for IRP connections
  - MODBUS TCP\IP connections on modules
- d) Electrical

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نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه											
D04	0011	MR	ME	120	PEDCO	GCS	BK											

- Incoming Power Supply of Local MCC
- Incoming Power Supply of AC or DC UPS (if Any)
- Earth Bosses on Skids.
- e) Vents and Drains
  - Drain flanges manifold
  - Outlet vent piping flanges

## 6.0 INSPECTION AND TESTS





The equipment shall be inspected and tested in accordance with the Inspection & Test plan (ITP) issued by the vendor and approved by the CLIENT and EPC/EPD CONTRACTOR(GC) before the award of the order . The Inspection & Test plan (ITP ) shall be at least according to the Commodity Procurement and Manufacturing Inspection Instruction ( Docs .Nos. ICE-EID-MI-SP01-Rev01) , Inspection Level of Commodity and Equipment ( Docs .Nos. ICE-EID-MI-SP02-Rev01) and Data Sheets. The vendor shall in any case conduct all the tests required by contractual documents, specifications, codes and standards, manufacturer standard quality system and keep the relevant documentation. All required manufacturing and function test/inspection also Factory Acceptance Test /Site Acceptance Test and Quality Assurance requirements shall be considered in vendor responsibility as per project specification.

## 7.0 VENDOR DOCUMENTATION REQUIREMENTS & SCHEDULE



- Vendor document shall be according to attachment 2 of this document.
- All documents, preliminary or final, are to be stamped and signed by the **Vendor**.
- Failure in dispatch of the required documents shall cause the supply to be considered as unfulfilled.
- PURCHASER's approval does not relieve vendor, in any way, from his obligation to fulfill the requirements of the purchase order documents.
- All vendor drawings and documents shall be in English language.

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

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## 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- Vendors.

## 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 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.

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BK	GCS	PEDCO	120	ME	MR	0011	D04											

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&C-QC-SP-1)
- 3) 2 years operational spare parts (E&C-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.
<b>Process</b>			
1	BK-GNRRAL-PEDCO-000-PR-DB-0001	Process Basis of Design	D08
2	BK-GNRRAL-PEDCO-000-PR-DC-0001	Process Design Criteria	D02
<b>Mechanical</b>			
3	BK-GNRRAL-PEDCO-000-ME-DC-0001	Mechanical Design Criteria	D04
4	BK-GCS-PEDCO-120-ME-SP-0005	Specification For Fire Water Pumps	D04
5	BK-GCS-PEDCO-120-ME-DT-0028	Mechanical Data Sheets For Fire Water Jockey Pumps	D05
6	BK-GCS-PEDCO-120-ME-DT-0029	Mechanical Data Sheets For Fire Water Main Pump - Elect. Motor Driven	D06
7	BK-GCS-PEDCO-120-ME-DT-0030	Mechanical Data Sheets For Fire Water Main Pump - Diesel Engine Driven	D06
8	BK-GCS-PEDCO-120-ME-SP-0012	Specification For Diesel Engines	D03
<b>Piping &amp; Material</b>			
9	BK-GCS-PEDCO-120-PI-SP-0001	Piping Material Specification	D05
10	BK-GNRRAL-PEDCO-000-PI-SP-0005	Specification For Fittings, Flanges, Gaskets and Bolts	D02
11	BK-GNRRAL-PEDCO-000-PI-SP-0006	Specification For Painting	D04
12	BK-GNRRAL-PEDCO-000-PI-SP-0019	Specification For Insulation	D02
13	BK-GNRRAL-PEDCO-000-PI-SP-0009	Specification For Manual Valves	D01
14	BK-GNRRAL-PEDCO-000-PI-SP-0011	Specification For Welding of Plant Piping System	D02
15	BK-GNRRAL-PEDCO-000-PI-DC-0001	Piping Design Criteria	D03
16	BK-GCS-PEDCO-120-PI-RT-0001	Piping Corrosion Study & Material Selection Report	D05
17	BK-GNRRAL-PEDCO-000-PI-SP-0004	Specification For Metallic Pipes	D06
18	BK-GCS-PEDCO-120-PI-PY-0001	Unit Plot Plan Drawing	D05
19	BK-GNRRAL-PEDCO-000-PI-SP-0003	Specification For the Design of Piping in Mechanical Packages	D02
20	BK-GNRRAL-PEDCO-000-PI-SP-0007	Specification For Lining (Internal Protection of Equipment by Painting)	D02
21	BK-GNRRAL-PEDCO-000-PI-SP-0017	Specification For Piping Cleaning and Flushing	D03
22	BK-GNRRAL-PEDCO-000-QC-PR-0041	NDT Plan For steel Structures	D00
23	BK-GNRRAL-PEDCO-000-PI-SP-0001	Specification For Color Coding and Marking	D02
24	BK-GNRRAL-PEDCO-000-PI-SP-0010	Specification For Plant Piping Systems Pressure Testing	D03
<b>Structure</b>			
25	BK-GNRRAL-PEDCO-000-ST-DC-0001	Structural Design Criteria	D02
26	BK-GNRRAL-PEDCO-000-ST-DW-0002	Standard Drawing For Anchor Bolts	D02
<b>Control &amp; Instrumentation</b>			

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No.	Document No.	Document Title	Rev.
27	BK-GNRAL-PEDCO-000-IN-SP-0001	Specification For Instrumentation	D04
28	BK-GNRAL-PEDCO-000-IN-SP-0004	Specification For Instrument and Control of package Unit System (PU)	D02
29	BK-GNRAL-PEDCO-000-IN-SP-0010	Specification For Instrument/F&G Cables	D02
<b>Electrical</b>			
30	BK-GNRAL-PEDCO-000-EL-DC-0001	Electrical System Design Criteria	D02
31	BK-GNRAL-PEDCO-000-EL-SP-0001	Specification For LV Switchgear & Motor Control Centers	D03
32	BK-GNRAL-PEDCO-000-EL-SP-0010	Specification For LV Induction Motors	D03
33	BK-GNRAL-PEDCO-000-EL-SP-0017	Specification For MV Induction Motors	D03
34	BK-GNRAL-PEDCO-000-EL-SP-0011	Specification For Electrical Requirements of Packaged Units	D03
35	BK-GCS-PEDCO-120-EL-DT-0008	Data Sheets For LV Induction Motors	D03
<b>Safety &amp; Fire Fighting</b>			
36	BK-GNRAL-PEDCO-000-SA-SP-0002	Specification For Hazardous Area Classification	D03
37	BK-GNRAL-PEDCO-000-SA-SP-0003	Specification For Fire Water System	D05
38	BK-GNRAL-PEDCO-000-SA-SP-0007	Specification For passive Fire protection	D02
39	BK-GCS-PEDCO-120-SA-PY-0002	Hazardous Area Classification Layout	D01
40	BK-GCS-PEDCO-120-SA-PI-0001	P&ID - Fire Water Network	D05
<b>General</b>			
41	ICE-EID-MI-SP01- Rev01	دستورالعمل بازرسی، خرید و ساخت کالا	D01
42	E&C-QC-SP-1-Rev01	دستورالعمل تامین قطعات یدکی راه اندازی و راهبری دوسالانه	D01
43	ICE-EID-MI-SP02-Rev-01	دستورالعمل انتخاب سطح بازرسی کالا و تجهیزات	D01
44	BK-GNRAL-PEDCO-000-QC-PR-0022	Specification For Final Data Book (FDB) Requirements	D00
45	BK-GNRAL-PEDCO-000-QC-PR-0045	Packing, Marking, Transportation Procedure	D00





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## ATTACHMENT 2

### VENDOR DOCUMENTS MIN. REQUIREMENT



Item No.	Document	With Bid Copies No./Type (7)	TIME SCHEDULE			
			For Review		Final Issue	
			Copies No./Type (1)	Solar days (2)	Copies No./Type (1)	Calenda r days (3)
<b>MANAGEMENT</b>						
001	Vendor Document Index and Schedule	4N	6C+E		6C+E	
002	Organization Brief	3N	6C+E			
003	Schedule Level 1, 2, 3 & 4 showing Engineering, Procurement, Fabrication, Inspection, Testing, and Delivery Plan.	4N	6C+E		6C+E	
004	Physically Progress Report (Every 2 Weeks))		6C+E			
005	Project Organization Chart	3N	6C+E			
006	Reference List	3N				
007	Vendor Catalogue	3N				
<b>QUALITY</b>						
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	
<b>HSE</b>						
011	HSE Procedure		6C+E		6C+E	
012	Noise & Vibrations Calculations / Reports (If any)		6C+E		6C+E	
<b>INTERFACE</b>						
013	Electrical & Instrumentation Cable Schedule (for all systems)		6C+E		6C+E	
014	Electrical & Instrumentation Wiring Drawings (for all systems)		6C+E		6C+E	

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Item No.	Document	With Bid Copies No./Type (7)	TIME SCHEDULE			
			For Review		Final Issue	
			Copies No./Type (1)	Solar days (2)	Copies No./Type (1)	Calenda r days (3)
015	Data Sheets	4N	6C+E		6C+E	
016	Reliability, Availability, Maintainability Calculations/Reports	4N	6C+E		6C+E	
017	Performance Curves		6C+E		6C+E	
018	PFD's	4N	6C+E		6C+E	
019	Functional Description		6C+E		6C+E	
020	General Arrangements Drawings	4N	6C+E		6C+E	
021	Mechanical Equipment List	3N	6C+E		6C+E	
022	Electrical Equipment List	3N	6C+E		6C+E	
023	Control, Instrument & Cable List		6C+E		6C+E	
024	Interface Block Diagrams	3N	6C+E		6C+E	
025	Junction Box, Local Panels & Cabinets: wiring diagrams & termination drawings		6C+E		6C+E	
026	Functional Logic Diagram		6C+E		6C+E	
027	P & ID's	3N	6C+E		6C+E	
028	Utility Consumption List	3N	6C+E		6C+E	
029	Power Supply Requirements	3N	6C+E		6C+E	
030	Single Line Diagram	3N	6C+E		6C+E	
031	Earthing Details	3N	6C+E		6C+E	
032	Weight / Centre of Gravity Drawings & Data's		6C+E		6C+E	
033	External Static and Dynamic Forces & Moments (present during test, start-up, normal/maximum operation, shutdown, and other conditions of service)		6C+E		6C+E	
034	Wind and Seismic Loads including shear and moment forces on supports and foundation.		6C+E		6C+E	
035	Anchor Bolt Details Drawings (incl. size, type, locations relative to the equipment center-lines in three planes).		6C+E		6C+E	

 <p>NISOC</p>	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>								
	<p>PMR FOR FIRE WATER PUMP</p>							<p>شماره صفحه : ۱۹ از ۲۶</p>	
<p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p>		<p>پروژه</p> <p>BK</p>	<p>بسته کاری</p> <p>GCS</p>	<p>صادر کننده</p> <p>PEDCO</p>	<p>تسهیلات</p> <p>120</p>	<p>رشته</p> <p>ME</p>	<p>نوع مدرک</p> <p>MR</p>	<p>سریال</p> <p>0011</p>	<p>نسخه</p> <p>D04</p>



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

 <p>NISOC</p>	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>								
	<p>PMR FOR FIRE WATER PUMP</p>								
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک MR	سریال 0011	نسخه D04	شماره صفحه : ۲۰ از ۲۶



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

 <b>NISOC</b>	<b>نگهداشت و افزایش تولید میدان نفتی بینک</b> <b>سطح الارض</b> <b>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</b>							
	<b>PMR FOR FIRE WATER PUMP</b>							
شماره پیمان : ۰۵۳ - ۰۷۳ - ۹۱۸۴	پروژه BK	بسته کاری GCS	صادر کننده PEDCO	تسهیلات 120	رشته ME	نوع مدرک MR	سریال 0011	نسخه D04



Item No.	Document	With Bid Copies No./Type (7)	TIME SCHEDULE			
			For Review		Final Issue	
			Copies No./Type (1)	Solar days (2)	Copies No./Type e (1)	Calenda r days (3)
	diagram, termination drawing and general arrangement					
079	Gear System Detailed Specifications / Drawings		6C+E		6C+E	
080	Coupling System Detailed Specifications / Drawings		6C+E		6C+E	
<b>PROCUREMENT</b>						
081	List of Sub-Suppliers ( table giving: part of equipment, tag no., sub-supplier reference)(5.1.3)	4N			6C+E	
082	Unpriced copy of sub-orders		6C+E			
<b>MANUFACTURING</b>						
083	Weld and NDT Map		6C+E		6C+E	
084	Surface Preparation and Painting Procedures		6C+E		6C+E	
085	Heat Treatment Procedures		6C+E		6C+E	
086	Welding Procedure Specification (including repair procedures).		6C+E		6C+E	
087	Welder Qualification Procedure		6C+E		6C+E	
088	Fabrication Degree	3N				
<b>TESTING</b>						
089	Hydrostatic / Pneumatic Testing Procedure		6C+E		6C+E	
090	Performance & Functional Test Procedure		6C+E		6C+E	
091	Non-Destructive Testing/Examination Procedures		6C+E		6C+E	
092	Factory Acceptance Test (FAT) Procedure		6C+E		6C+E	
093	Site Acceptance Test (SAT) Procedure		6C+E		6C+E	
<b>RECORDS, REPORTS &amp; CERTIFICATES</b>						
094	Material Conformity Certificate		6C+E		6C+E	
095	Testing Authority Approval Certificate (if any)		6C+E		6C+E	
096	Hazardous Area Certificates.		6C+E		6C+E	

 <p>NISOC</p>	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
	<p>PMR FOR FIRE WATER PUMP</p>							
<p>شماره پیمان : ۰۵۳ - ۰۷۳ - ۹۱۸۴</p>	<p>پروژه BK</p>	<p>بسته کاری GCS</p>	<p>صادر کننده PEDCO</p>	<p>تسهیلات 120</p>	<p>رشته ME</p>	<p>نوع مدرک MR</p>	<p>سریال 0011</p>	<p>نسخه D04</p>

Item No.	Document	With Bid Copies No./Type (7)	TIME SCHEDULE			
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			Copies No./Type (1)	Solar days (2)	Copies No./Type e (1)	Calenda r days (3)
097	Ingress Protection Certificate		6C+E		6C+E	
098	Conformity Certificates (sub-supplier/equipment)		6C+E		6C+E	
099	Material Certificates Identification Diagram. (cross-reference material location ; certificates for critical components)		6C+E		6C+E	
100	Welding Procedure Qualification Record		6C+E		6C+E	
101	Welder Qualification Records.		6C+E		6C+E	
102	NDT Operator Qualifications		6C+E		6C+E	
103	Detailed NDT Reports		6C+E		6C+E	
104	Weld/ NDT Identification Diagram. (Cross-reference weld locations, WPS, welders, NDT reports).		6C+E		6C+E	
105	Dimensional Control Reports		6C+E		6C+E	
106	Hardness Test Reports		6C+E		6C+E	
107	PWHT Charts & Reports, including calibration records of recorders (for each heat treatment)		6C+E		6C+E	
108	Pressure Test Reports / Certificates		6C+E		6C+E	
109	FAT Test Report / Certificates		6C+E		6C+E	
110	Performance Test Report / Certificates		6C+E		6C+E	
111	Noise & Vibration Test Report / Certificates		6C+E		6C+E	
112	Electric Motor Type Test Report (if any)		6C+E		6C+E	
113	Electric Motor Routine Test Report		6C+E		6C+E	
114	Cable Continuity and Resistance Test Reports		6C+E		6C+E	
115	Calibration Curves of Control Equipment		6C+E		6C+E	
116	Calibration Test Certificates		6C+E		6C+E	
117	Surface Preparation & Coating Reports		6C+E		6C+E	
118	Hydrostatic / Pneumatic Testing Certificates		6C+E		6C+E	
119	Welding Consumable Certificate		6C+E		6C+E	

 <p>NISOC</p>	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
	<p>PMR FOR FIRE WATER PUMP</p>							
<p>شماره پیمان : ۰۵۳ - ۰۷۳ - ۹۱۸۴</p>	<p>پروژه BK</p>	<p>بسته کاری GCS</p>	<p>صادر کننده PEDCO</p>	<p>تسهیلات 120</p>	<p>رشته ME</p>	<p>نوع مدرک MR</p>	<p>سریال 0011</p>	<p>نسخه D04</p>

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



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<p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p>	<p>PMR FOR FIRE WATER PUMP</p> <table border="1"> <tr> <td>پروژه</td> <td>بسته کاری</td> <td>صادر کننده</td> <td>تسهیلات</td> <td>رشته</td> <td>نوع مدرک</td> <td>سریال</td> <td>نسخه</td> </tr> <tr> <td>BK</td> <td>GCS</td> <td>PEDCO</td> <td>120</td> <td>ME</td> <td>MR</td> <td>0011</td> <td>D04</td> </tr> </table>	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	PEDCO	120	ME	MR	0011	D04	<p>شماره صفحه : ۲۴ از ۲۶</p>
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	GCS	PEDCO	120	ME	MR	0011	D04											

Item No.	Document	With Bid	TIME SCHEDULE			
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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



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<p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p>	<p>PMR FOR FIRE WATER PUMP</p> <table border="1"> <tr> <td>پروژه</td> <td>بسته کاری</td> <td>صادر کننده</td> <td>تسهیلات</td> <td>رشته</td> <td>نوع مدرک</td> <td>سریال</td> <td>نسخه</td> </tr> <tr> <td>BK</td> <td>GCS</td> <td>PEDCO</td> <td>120</td> <td>ME</td> <td>MR</td> <td>0011</td> <td>D04</td> </tr> </table>	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	PEDCO	120	ME	MR	0011	D04	<p>شماره صفحه : ۲۵ از ۲۶</p>
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	GCS	PEDCO	120	ME	MR	0011	D04											



**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

 <p>NISOC</p>	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>																	
<p>شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴</p>	<p>PMR FOR FIRE WATER PUMP</p> <table border="1"> <tr> <td>نسخه</td> <td>سریال</td> <td>نوع مدرک</td> <td>رشته</td> <td>تسهیلات</td> <td>صادر کننده</td> <td>بسته کاری</td> <td>پروژه</td> </tr> <tr> <td>D04</td> <td>0011</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	صادر کننده	بسته کاری	پروژه	D04	0011	MR	ME	120	PEDCO	GCS	BK	<p>شماره صفحه : ۲۶ از ۲۶</p>
نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه											
D04	0011	MR	ME	120	PEDCO	GCS	BK											

**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