

	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض تسهیلات برق رسانی و انجام اصلاحات مربوط به چاه تعمیری BK05																	
شماره پیمان:	PMR FOR EARTHING & LIGHTNING SYSTEM - BK05	شماره صفحه: ۱ از ۱۴																
۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><tr><td>پروژه</td><td>بسته کاری</td><td>صادرکننده</td><td>تسهیلات</td><td>رشته</td><td>نوع مدرک</td><td>سریال</td><td>نسخه</td></tr><tr><td>BK</td><td>BK05</td><td>PEDCO</td><td>110</td><td>EL</td><td>MR</td><td>0008</td><td>D00</td></tr></table>		پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	BK05	PEDCO	110	EL	MR	0008	D00
	پروژه		بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه									
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طرح نگهداشت و افزایش تولید ۲۷ مخزن

PMR FOR EARTHING & LIGHTNING SYSTEM - BK05

نگهداشت و افزایش تولید میدان نفتی بینک

D00	Apr.2023	IFI	H.Shakiba	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:	PMR FOR EARTHING & LIGHTNING SYSTEM - BK05	شماره صفحه: ۲ از ۱۴																
۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><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>BK05</td><td>PEDCO</td><td>110</td><td>EL</td><td>MR</td><td>0008</td><td>D00</td></tr></table>		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	BK05	PEDCO	110	EL	MR	0008	D00
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BK	BK05	PEDCO	110	EL	MR	0008	D00											

REVISION RECORD SHEET

PAGE	D00	D01	D02	D03	D04		PAGE	D00	D01	D02	D03	D04
1	X						51					
2	X						52					
3	X						53					
4	X						54					
5	X						55					
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 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض تسهیلات برق رسانی و انجام اصلاحات مربوط به چاه تعمیری BK05																	
شماره پیمان:	PMR FOR EARTHING & LIGHTNING SYSTEM - BK05	شماره صفحه: ۳ از ۱۴																
۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><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>BK05</td><td>PEDCO</td><td>110</td><td>EL</td><td>MR</td><td>0008</td><td>D00</td></tr></table>		پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	BK05	PEDCO	110	EL	MR	0008	D00
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BK	BK05	PEDCO	110	EL	MR	0008	D00											

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
5.1.1	MAIN DESCRIPTION	6
5.1.2	SPARE PARTS	7
5.1.3	OTHER ITEMS	7
5.2	EXCLUSIONS	7
5.3	BATTERY LIMITS	7
6.0	INSPECTION AND TESTS	7
7.0	VENDOR DOCUMENTATION REQUIREMENTS & SCHEDULE.....	8
8.0	UNIT RESPONSIBILITY	8
9.0	GUARANTEE AND WARRANTY	8
10.0	DEVIATION	9
11.0	PRICE BREAKDOWN.....	9
	ATTACHMENT 1.....	10
11.1	LIST OF REFERENCE / APPLICABLE DOCUMENTS.....	10
	ATTACHMENT 2.....	10
11.2	VENDOR DOCUMENTS MIN. REQUIREMENT	10
	ATTACHMENT 3.....	13
11.3	DEVIATIONS / EXCEPTIONS TO JOB SPECIFICATION	13
	ATTACHMENT 4.....	14
11.4	ALTERNATIVES TO JOB SPECIFICATION	14

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض تسهیلات برق رسانی و انجام اصلاحات مربوط به چاه تعمیری BK05	 شماره صفحه : ۴ از ۱۴																
شماره پیمان:	PMR FOR EARTHING & LIGHTNING SYSTEM - BK05																	
۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><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>BK05</td><td>PEDCO</td><td>110</td><td>EL</td><td>MR</td><td>0008</td><td>D00</td></tr></table>	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	BK05	PEDCO	110	EL	MR	0008	D00	
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BK	BK05	PEDCO	110	EL	MR	0008	D00											

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, required modifications on BK05 work over well (with electric power supply) shall be done.

GENERAL DEFINITION

The following terms shall be used in this document.

CLIENT:	National Iranian South Oilfields Company (NISOC)
PROJECT:	Binak Oilfield Development –Modifications on BK05 Work over Well & Electrification Facilities
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.

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض تسهیلات برق رسانی و انجام اصلاحات مربوط به چاه تعمیری BK05																	
شماره پیمان:	PMR FOR EARTHING & LIGHTNING SYSTEM - BK05 <table><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>BK05</td><td>PEDCO</td><td>110</td><td>EL</td><td>MR</td><td>0008</td><td>D00</td></tr></table>	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	BK05	PEDCO	110	EL	MR	0008	D00	شماره صفحه : ۵ از ۱۴
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	BK05	PEDCO	110	EL	MR	0008	D00											
۰۵۳ - ۰۷۳ - ۹۱۸۴																		

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 Earthing & Lightning System 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	Description
1	Earthing & Lightning System for BK-05

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.

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پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	BK05	PEDCO	110	EL	MR	0008	D00											
۰۵۳ - ۰۷۳ - ۹۱۸۴																		

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 Earthing system of well pad. The scope of supply is detailed at para. 5. The supplier shall include in the supply, all other equipment/devices/items not listed in the following, but necessary for a good design and a safe operation, taking into account process data and installation conditions such as area classification and climatic conditions.

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

5.0 LIMITS OF SUPPLY

5.1 SCOPE OF SUPPLY

5.1.1 MAIN DESCRIPTION

Earthing system of well BK-05 Acc. to "Earthing & Lightning Layout for well pads", "BK-SSGRL-PEDCO-110-EL-PY-0010". 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.

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شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><tr><th colspan="8">PMR FOR EARTHING & LIGHTNING SYSTEM - BK05</th></tr><tr><th>پروژه</th><th>بسته کاری</th><th>صادر کننده</th><th>تسهیلات</th><th>رشته</th><th>نوع مدرک</th><th>سریال</th><th>نسخه</th></tr><tr><td>BK</td><td>BK05</td><td>PEDCO</td><td>110</td><td>EL</td><td>MR</td><td>0008</td><td>D00</td></tr></table>	PMR FOR EARTHING & LIGHTNING SYSTEM - BK05								پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	BK05	PEDCO	110	EL	MR	0008	D00	شماره صفحه: ۷ از ۱۴
PMR FOR EARTHING & LIGHTNING SYSTEM - BK05																										
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BK	BK05	PEDCO	110	EL	MR	0008	D00																			

- Production schedule indicating main quality manufacturing processes, inspection and tests.
- Qualification of all personnel performing tests to be reviewed by the inspector
- Supplier shall also provide the description of the following quality activities:
 - o Sub suppliers products quality
 - o Quality check and identification of the materials and equipment entering in their manufacturing shop.

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

5.1.2 SPARE PARTS

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

- Spare parts for commissioning and start-up; a qualified and complete list based on PROJECT SPARE PART SUPPLY PROCEDURE (Doc. No. E&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

5.2 EXCLUSIONS

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

Not Applicable

5.3 BATTERY LIMITS

The battery limits are summarized as follows:

Not Applicable

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 PROJECT ITP PROCEDURE (Doc. No. ICE-EID-MI-SP01-Rev01 & ICE-EID-MI-SP02-Rev01) and data sheets (if any).

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PMR FOR EARTHING & LIGHTNING SYSTEM - BK05																										
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۰۵۳ - ۰۷۳ - ۹۱۸۴																										

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 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

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۰۵۳ - ۰۷۳ - ۹۱۸۴																		

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)

	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض تسهیلات برق رسانی و انجام اصلاحات مربوط به چاه تعمیری BK05																	
شماره پیمان:	PMR FOR EARTHING & LIGHTNING SYSTEM - BK05 <table><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>BK05</td><td>PEDCO</td><td>110</td><td>EL</td><td>MR</td><td>0008</td><td>D00</td></tr></table>	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	BK05	PEDCO	110	EL	MR	0008	D00	شماره صفحه : ۱۰ از ۱۴
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	BK05	PEDCO	110	EL	MR	0008	D00											
۰۵۳ - ۰۷۳ - ۹۱۸۴																		

ATTACHMENT 1

11.1 LIST OF REFERENCE / APPLICABLE DOCUMENTS

No.	Document No.	Document Title	Rev.
Process			
1	BK-GNRAL-PEDCO-000-PR-DB-0001	Process Basis of Design	D08
Electrical			
2	BK-GNRAL-PEDCO-000-EL-DC-0001	Electrical Design Criteria	D02
3	BK-GNRAL-PEDCO-000-EL-SP-0006	Specification for Earthing & Lightning System	D03
4	BK-SSGRL-PEDCO-110-EL-CN-0007	Calculation Note for Earthing & Lightning System of Well Pads	D02
5	BK-SSGRL-PEDCO-110-EL-PY-0010	Earthing & Lightning Layout for well pads	D01
6	BK-BK05-PEDCO-110-EL-MT-0006	MTO for Earthing & Lightning Systems - BK05	D00
7	BK-GNRAL-PEDCO-000-EL-DW-0002	Typical Installation Details & Notes for Earthing and Lightning Protection System	D04
General			
8	BK-GNRAL-PEDCO-000-QC-PR-0022	Specification for Final Data Book (FDB) Requirements	D00
9	BK-GNRAL-PEDCO-000-QC-PR-0045	Packing , Marking , Transportation Procedure	D00
10	ICE-EID-MI-SP01-Rev01	دستورالعمل بازرسی، خرید و ساخت کالا	-
11	ICE-EID-MI-SP02-Rev01	سطح بازرسی کالا و تجهیزات	-
12	E&C-QC-SP-1	دستورالعمل تامین قطعات یدکی راه اندازی و راهبری دو سالانه	-
13	BK-GNRAL-PEDCO-000-PI-SP-0006	Specification For Painting	D04
14	BK-GNRAL-HD-000-PM-PR-0001	Project Coordination Procedure	G04

ATTACHMENT 2

11.2 VENDOR DOCUMENTS MIN. REQUIREMENT

Item No.	Document	With Bid	TIME SCHEDULE			
			For Review		Final Issue	
		Copies No./Type (7)	Copies No./Type (1)	Solar days (2)	Copies No./Type (1)	Calendar days (3)
MANAGEMENT						
1	Vendor Document Index and Schedule	4N	6C+E		6C+E	
2	Organization Brief	3N	6C+E			
3	Schedule Level 1, 2, 3 & 4 showing Engineering, Procurement, Fabrication, Inspection, Testing, and Delivery Plan.	4N	6C+E		6C+E	

	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض تسهیلات برق رسانی و انجام اصلاحات مربوط به چاه تعمیری BK05																	
شماره پیمان:	PMR FOR EARTHING & LIGHTNING SYSTEM - BK05 <table><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>BK05</td><td>PEDCO</td><td>110</td><td>EL</td><td>MR</td><td>0008</td><td>D00</td></tr></table>	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	BK05	PEDCO	110	EL	MR	0008	D00	شماره صفحه: ۱۱ از ۱۴
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	BK05	PEDCO	110	EL	MR	0008	D00											
۰۵۳ - ۰۷۳ - ۹۱۸۴																		

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)
4	Physically Progress Report (Every 2 Weeks))		6C+E			
5	Project Organization Chart	3N	6C+E			
6	Reference List	3N				
7	Vendor Catalogue	3N				
8	Sub-vendors list	3N				
QUALITY						
9	Quality Assurance Manual /Quality Management System Certificate (according to latest rev. of ISO)	4N			6C+E	
10	Preliminary Inspection and Test Plan	4N				
11	Inspection and Test Plan		6C+E		6C+E	
HSE						
12	HSE Procedure		6C+E		6C+E	
ENGINEERING						
13	Bill of Material (BOM)		6C+E		6C+E	
14	Data Sheet		6C+E		6C+E	
15	Detail Drawing of Equipment		6C+E		6C+E	
16	General Catalogue		6C+E		6C+E	
PROCUREMENT						
17	List of Sub-Suppliers (table giving: part of equipment, tag no., sub-supplier reference)(5.1.3)	4N			6C+E	
18	Unpriced copy of sub-orders		6C+E			
MANUFACTURING						
19	Surface Preparation and Painting Procedures		6C+E		6C+E	
20	Welder Qualification Procedure		6C+E		6C+E	
TESTING						
21	Factory Acceptance Test (FAT) Procedure		6C+E		6C+E	

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض تسهیلات برق رسانی و انجام اصلاحات مربوط به چاه تعمیری BK05																									
شماره پیمان: ۰۵۳ - ۰۷۳ - ۹۱۸۴	<table><tr><th colspan="8">PMR FOR EARTHING & LIGHTNING SYSTEM - BK05</th></tr><tr><th>پروژه</th><th>بسته کاری</th><th>صادر کننده</th><th>تسهیلات</th><th>رشته</th><th>نوع مدرک</th><th>سریال</th><th>نسخه</th></tr><tr><td>BK</td><td>BK05</td><td>PEDCO</td><td>110</td><td>EL</td><td>MR</td><td>0008</td><td>D00</td></tr></table>	PMR FOR EARTHING & LIGHTNING SYSTEM - BK05								پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	BK05	PEDCO	110	EL	MR	0008	D00	شماره صفحه: ۱۲ از ۱۴
PMR FOR EARTHING & LIGHTNING SYSTEM - BK05																										
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	BK05	PEDCO	110	EL	MR	0008	D00																			

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)
RECORDS, REPORTS & CERTIFICATES						
22	Type Test Certificate		6C+E		6C+E	
INSTALLATION						
23	Sub-Assembly Documentation		6C+E		6C+E	
24	Sub-Assembly Drawings		6C+E		6C+E	
25	Erection/Installation Manual (if required)		6C+E		6C+E	
26	Handling, Transportation & Storage Instructions & Preservation		6C+E		6C+E	
27	Unpacking & Inspection Instructions		6C+E			
28	Packing List		6C+E		6C+E	
OPERATION & MAINTENANCE						
29	Operating Instructions		6C+E		6C+E	
30	Maintenance Instructions (if required)		6C+E		6C+E	
31	Commissioning & Start-up Manual		6C+E		6C+E	
32	List of Spare Parts Commissioning & Start-up	4N	6C+E		6C+E	
33	List of Spare Parts 2 Years Operation	4N	6C+E		6C+E	
34	List of Special Tools	4N	6C+E		6C+E	
35	Software Manual (incl. Troubleshooting)		6C+E		6C+E	
36	Function Test Procedure		6C+E		6C+E	
OTHERS						
37	All others documents (if required) will be listed in the order		6C+E			

NOTES:

- (1) N= Number of document, C=Copy, E=Electronic Copy
- (2) Starting from date of order placement
- (3) Starting from reception of documentation without comments
- (4) First issue of the document is subjected to the release of payment milestone as per purchase order
- (5) Calendar days after reception of drive data
- (6) Prior to testing
- (7) One copy each bid copy
- (8) List of Documents Will be Finalized in Vendor Document index and Schedule

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض تسهیلات برق رسانی و انجام اصلاحات مربوط به چاه تعمیری BK05																									
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PMR FOR EARTHING & LIGHTNING SYSTEM - BK05																										
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	BK05	PEDCO	110	EL	MR	0008	D00																			

ATTACHMENT 3

11.3 DEVIATIONS / EXCEPTIONS TO JOB SPECIFICATION

Requisition No.:

Description:

Equipment No.:

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

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک فعالیت های رو زمینی در بسته های کاری تحت الارض تسهیلات برق رسانی و انجام اصلاحات مربوط به چاه تعمیری BK05																									
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PMR FOR EARTHING & LIGHTNING SYSTEM - BK05																										
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه																			
BK	BK05	PEDCO	110	EL	MR	0008	D00																			

ATTACHMENT 4

11.4 ALTERNATIVES TO JOB SPECIFICATION

Requisition No.:

Description:

Equipment No.:

Item No.	Job Specification No. & Paragraph No.	Requirements of Job Specification	Description of Proposed Alternative	Reason for Proposed Alternative