

	<p>نگهداشت و افزایش تولید میدان نفتی بینک</p> <p>سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 1 از 30
	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	EL	TB	0003	D02

## طرح نگهداشت و افزایش تولید ۲۷ مخزن

## TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK

نگهداشت و افزایش تولید میدان نفتی بینک

D02	Jul. 2024	IFI	H.Shakiba	M.Fakharian	M.Sadeghian	
D01	Feb. 2024	IFI	H.Shakiba	M.Fakharian	S.Faramarzpour	
D00	Nov. 2023	IFI	H.Shakiba	M.Fakharian	S.Faramarzpour	
Rev.	Date	Purpose of Issue/Status	Prepared by:	Checked by:	Approved by:	Client Approval

Class:3

Client Doc. Number: F0Z-709332

Status:

IDC: Inter-Discipline Check  
 IFC: Issued For Comment  
 IFA: Issued For Approval  
 AFD: Approved For Design  
 AFC: Approved For Construction  
 AFP: Approved For Purchase  
 AFQ: Approved For Quotation  
 IFI: Issued For Information  
 AB-R: As-Built for Client Review  
 AB-A: As-Built –Approved

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>																	
شماره پیمان:	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK	شماره صفحه : 2 از 30																
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>GCS</td><td>PEDCO</td><td>120</td><td>EL</td><td>TB</td><td>0003</td><td>D02</td></tr></table>	پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه	BK	GCS	PEDCO	120	EL	TB	0003	D02	
پروژه	بسته کاری	صادر کننده	تسهیلات	رشته	نوع مدرک	سریال	نسخه											
BK	GCS	PEDCO	120	EL	TB	0003	D02											

### REVISION RECORD SHEET

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	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 3 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for <u>11 KV</u> Switchgear								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. Environmental Data (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
1.1	Name of Project / Plant	Binak Oilfield in Bushehr Province	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.2								
1.3	Ambient Temperature (Min/Max)	Min ~ Max: +5 ~ +52°C	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.4	Max.Design Temperature:	52 °c	Confirmed	Ok	40 °c	C	Confirmed	Ok
1.5	Max. Sun Temperature:	+ 85 °c	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.6	Max.Relative Humidity:	100%	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.7	Mean Sea Level	12.5 m Above Sea Level	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.8	Seismic Factor	0.3g	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.9	Max. Wind Velocity(Max)	120 km/hr	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2. Switchgear								
2.1	Manufacturer	By Vendor	Pars Tableau/DNF4	Ok	Runin Sanat Gostar	Ok	Confirmed	Ok
2.2	Standard(s)	IPS-M-EL-144(4), IPS-E-EL-100(1), BK-GNRAL-PEDCO-000-EL-SP-0002	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.3	Quantity	8 Feeders of Ongoing, Type C2 & C3	Confirmed	Ok	ACC to SLD	Ok	Confirmed	Ok
2.4	Service	Expansion of Exsiting MV Switchgear from Both Side	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.5	Tag Number	GCS-11-SWG-001A/B	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.6	Applicable SLD	BK-GCS-PEDCO-120-EL-SL-0001 BK-GCS-PEDCO-120-EL-SL-0003 BK-GCS-PEDCO-120-EL-DG-0001	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.7	Location	Indoor	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.8	Type and Construction	Metal Clad, Withdrawable	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.9	Rated Voltage & Variation	11 kV ± 10 %	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.10	Rated Frequency & Variation	50 Hz ± 5 %	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.11	No. of Phases	3 PH	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

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شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 4 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	BK							

TBE for <u>11 KV</u> Switchgear								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. Environmental Data (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
2.12	Rated Insulation Levels between earth & phase • One Minute Power Frequency Withstand Voltage (RMS) • One Minute Power Frequency Withstand Voltage of Aux. Circuit (RMS) • Impulse Withstand Voltage (Peak)	28 KV  2 KV  75 KV	Confirmed	Ok	Confirmed  N.A  75 Kv	Ok	Confirmed	Ok
2.13	Rated Normal Current of Busbars	1600 A	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.14	Rated Short Time Current of Busbar	25 kA; 1 sec	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.15	Rated Peak Withstand Current	63 kA	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.16	Busbars: • Material • Main Horizontal Bus Cross Section Area • Main Vertical Bus Cross Sectional Area • Earth Bus Cross Sectional Area • Busbars Color & Joints	Copper (Flame Retardant Non-Hygroscopic) Vendor to Advise Vendor to Advise Vendor to Advise Silver Plated	Confirmed	Ok	Confirmed  After Contract After Contract After Contract Confirmed	Ok	Confirmed	Ok
2.17	Maximum Tolerable Temperature Rise	Acc. to IEC62271 IPS-M-EL-144(4)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.18	Rated Voltage for Control And Protection Circuits	110 V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.19	Rated Voltage for Space Heaters and Panel Lighting	400 / 230 VAC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.20	Enclosure	Withdrawable Metal Clad, Compartmented	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.21	Degree of Protection by Enclosure	External: IP 42, Internal: IP 20, Internal partitions between functional units and shutters for bus bar & cable side: IP 4X	Confirmed	Ok	Ecternal:IP41 & other Confirmed	C	IP41	C
2.22	Installation	Floor Self-Standing, Side by Side	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.23	Rear / Front Access	Rear and Front Access	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.24	Top / Bottom Cable Entry	Cables: Bottom Entry	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.25	Sheet Steel Thickness, Fram & Walls	Minimum 2.5 mm	Minimum 2. mm	Ok	Confirmed	Ok	Confirmed	Ok
2.26	Paint	Electrostatic Powder	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.27	Color finish	RAL 7032	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

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شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 5 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for <u>11 KV</u> Switchgear								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. Environmental Data (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
2.28	Routine Tests	Required (Withstand tests and reports as per IEC 62271-200 or IEC 298, IEC 60694, IPS-M-EL-144 (4) and Specification)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.29	Type Tests	Test certificates of the SWGR type as per IEC62271-200 or IEC 298, IEC60694, and IPS-M-EL-144 (4)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.30	Overall Dimensions (HxWxD) [mm]	Vendor to Advise	According to Technical Offer	Ok	After Contract	Ok	Confirmed	Ok
2.31	Total Weight [kg]	Vendor to Advise	According to Technical Offer	Ok	After Contract	Ok	Confirmed	Ok
2.32	Overall Dimensions of 1 Cubicle (HxWxD)	Vendor to Advise	According to Technical Offer	Ok	After Contract	Ok	Confirmed	Ok
2.33	Dynamic Load of One Cubicle [kg]	Vendor to Advise	According to Technical Offer	Ok	After Contract	Ok	Confirmed	Ok
3. MV Circuit Breaker								
3.1	Manufacturer	Vendor to Advise	Hyundai/South Korea	Ok	Pars Switch		Confirmed	Ok
3.2	Standard	IEC62271-100	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.3	Type	Vacuum	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.4	Fixed/ Withdrawable	Withdrawable	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.5	Rated Voltage	12 kV ± 10 %	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.6	Rated Frequency	50 Hz ± 5 %	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.7	No. Of Phases and Poles	3-Phase	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.8	Rated Insulation Levels between earth and phase • One Minute Power Frequency Withstand Voltage (RMS) • One Minute Power Frequency Withstand Voltage of Aux. Circuit (RMS) • Impulse Withstand Voltage (Peak)	28 KV 2 KV 75 KV	Confirmed	Ok	Confirmed N.A 75 KV	Ok	Confirmed	Ok
3.9	Rated Normal Current	630 A	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.10	Rated Short Time Current	25 kA; 1 sec	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.11	Rated Peak Withstand Current	62.5 kA	Confirmed	Ok	63 KA	Ok	Confirmed	Ok

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شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 6 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	BK							

TBE for <u>11 KV</u> Switchgear								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. Environmental Data (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
3.12	Rated Short Circuit Breaking Current	Vendor to Advise	According to Catalogue	Ok	25 KA	Ok	Confirmed	Ok
3.13	Rated Short Circuit Making Current	Vendor to Advise	According to Catalogue	Ok	63 KA	Ok	Confirmed	Ok
3.14	Maximum Tolerable Temperature Rise	Acc. to IEC62271-100	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.15	Design Temperature Rise	Acc. to IEC62271-100	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.16	Operating Mechanism	Motor & Hand operated Spring Charged Stored Energy Mechanism	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.17	Release type	Shunt Trip	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.18	Rated Operating Sequence	O-0.3S-CO-3MIN-CO	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.19	Rated Voltage of Auxiliary Equipment	110V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.20	Rated Operating Voltage of Releases	110V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.21	Rated Operating Voltage of Charging Motors	110V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.22	Voltage Tolerances for Auxiliary Apparatus: • Trip Circuit • Close Circuit • Motor Running • Motor at the Instant of Start	70%-110% 85%-110% 85%-110% 70%-110%	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
3.23	Power consumption of Auxiliary Apparatus:[W] • Trip Circuit • Closed Circuit • Charging motor • Under voltage release • Multifunction relay • Transducers	110V DC  Vendor to Advise	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.24	1 C.B. Open/Close Auxiliary Contacts: • No. Of Make Contacts • No. Of Break Contacts • Rated Voltage • Rated Current at 110V DC • Breaking Current at 110V DC	6 6 110V DC VTA VTA	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.25	Truck Position Auxiliary Contacts: • No of Make Contacts • No of Break Contacts • Rated Voltage	1NO + 1NC 1NO + 1NC 110V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok



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شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 7 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for <u>11 KV</u> Switchgear								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. Environmental Data (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
	• Rated Current at 110V DC • Breaking Current at 110V DC	VTA VTA						
3.26	Routine Tests	IEC62271-100	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.27	Type Tests	IEC62271-100	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4. MV Voltage Transformers								
4.1	Manufacturers Name	Vendor to Advise	Pars Shar/Iran	Ok	Pars Shar	Ok	Confirmed	Ok
4.2	Standard	IEC60044-2	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.3	Type	Epoxy Cast Resin	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.4	Fixed/Withdrawable	Withdrawable	Tilting	N	Confirmed	Ok	Confirmed	Ok
4.5	Highest System Voltage	12 kV	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.6	Rated Frequency	50 Hz	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.7	No. of Phase	Single Phase	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.8	Rated Primary Voltage [kV]	11/√3 kV	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.9	Rated Secondary Voltage [V]	110/√3 V	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.10	Rated Insulation Levels between earth and phase • One Minute Power Frequency Withstand Voltage (RMS) • One Minute Power Frequency Withstand Voltage of Aux. Circuit (RMS) • Impulse Withstand Voltage (Peak)	28 kV / √3  2 kV / √3  75 kV / √3	Confirmed	Ok	Confirmed  N.A  Confirmed	Ok	Confirmed	Ok
4.11	System Earthing	TNS	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.12	Rated Voltage Factor	Vendor to Advise	According to Catalogue	Ok	After Contract	Ok	Confirmed	Ok
4.13	Rated Burden	Vendor to Advise	According to Catalogue	Ok	After Contract	Ok	Confirmed	Ok
4.14	Accuracy Class: • for Protection (with separate Winding) • for Measuring (with separate Winding)	CL. 3P 1.0	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.15	Insulation Class & Temperature Rise	Class E, Temp. Rise Class Y	Confirmed	Ok	Insulation (Class A)/ Temperature Rise (N.A)	C	Confirmed	Ok

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شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 8 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for <u>11 KV</u> Switchgear								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. Environmental Data (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
5. MV Current Transformers								
5.1	Manufacturer’s Name	Vendor to Advise	Pars Shar/Iran	Ok	Pars Shar	Ok	Confirmed	Ok
5.2	Standard	IEC60044-1	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.3	Type	Dry Type	Confirmed	Ok	Resin Type	Ok	Confirmed	Ok
5.4	Highest System Voltage	11 kV	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.5	Rated Frequency	50 Hz	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.6	Rated Secondary Current:	1 A / 5 A According to SLD	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.7	Rated Continuous Thermal Current	1.2 x Rated primary current	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.8	Rated Short Time, Current:	25 kA, 1 Sec	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.9	Rated Dynamic Current:	63 kA	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.10	Rated Burden	Vendor to Advise	According to Catalogue	Ok	After Contract	Ok	Confirmed	Ok
5.11	Rated Transformation Ratio and No. of Cores	According to Single Line Diagram	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.12	Accuracy Class: • Measuring • Protection	Class 1: Class 1FS5 Class X: where required Class 5P20 protections	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.13	Routine Tests	IEC60044-1	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.14	Type Tests	IEC60044-1	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.15	Rated Insulation Levels between earth and phase • One Minute Power Frequency Withstand Voltage (RMS) • One Minute Power Frequency Withstand Voltage of Aux. Circuit (RMS) • Impulse Withstand Voltage (Peak)	28 kV / √3	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
		2 kV / √3			N.A			
		75 kV / √3			Confirmed			
6. Earth Switch								
6.1	Manufacturer’s Name	Vendor to Advise	Parstableau/Iran	Ok	Runin Sanat	Ok	Confirmed	Ok
6.2	Manufacturer’s Type Designation	Vendor to Advise	Manual	Ok	After Contract	Ok	Confirmed	Ok



	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 9 از 30
	نسخه	سریال	نوع مدرک	رشته	تهیهات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	

TBE for <u>11 KV</u> Switchgear								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. Environmental Data (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
6.3	Standard	IEC62271-102	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.4	Type	Make Proof	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.5	Number of Phase	3	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.6	Frequency	50 Hz	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.7	Rated Voltage	11 kV	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.8	Rated Lighting Impulse Withstand Voltage	75 kV	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.9	Rated 1 Minute Power Frequency Voltage	28 kV	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.10	Rated Short Time (1s) Current	25 kA	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.11	Rated Peak Withstand Current	62.5 kA	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.12	Rated Short Circuit Making Current	62.5 kA	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.13	Actuation Mechanism	Pre-tension Spring	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.14	No. of Auxiliary Contacts (Min.)	2NO + 2NC	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.15	Aux. Contacts Rated Voltage	110V DC	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.16	Aux. Contacts Rated Current	1A	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.17	Interlocks	According (but not limited) to Appendix B of IPS-M-EL-144 (4) specifically: To prevent closure of Earth Switch when CB is not in Test or withdraw position To prevent Insertion of CB when Earth Switch is connected.  To prevent connection of Earth Switch when upstream Switch is not open i.e. electromagnetic coil (only for incoming)	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.18	Routine Tests	IEC62271-102	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
6.19	Type Tests (Certificates)	IEC62271-102	Confirmed	Ok	After Contract	Ok	Confirmed	Ok

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 10 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for <u>11 KV</u> Switchgear								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. Environmental Data (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
7. Motor Feeder Protection Relay								
7.1	Manufacturer’s Name	Vendor to Advise	Schneider/France	Ok	Schneider	Ok	Confirmed	Ok
7.2	Manufacturer’s Type Designation	Vendor to Advise	P3M32 & P3U20	Ok	ACC to Technical Proposal	Ok	Confirmed	Ok
7.3	Type	Digital Multi-Function Relay + Display with adjustment Menu	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.4	Installation	Flush Mounted	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.5	Included Protection (ANSI Codes)	50, 51, 46, 51LR, 49, 66, 50G, 51G, 26, 87M, 86 (Separate Relay)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.6	Rated Current [A]	5	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.7	Rated Frequency [Hz]	50 Hz	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.8	Burden [VA]	Vendor to Advise	According to Catalogue	Ok	After Contract	Ok	Confirmed	Ok
7.9	Overload Capability Of Current Path	100xIn < 1 Sec.	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.10	Rated Voltage Auxiliary Voltage [V]	110V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.11	Auxiliary Voltage Permissible Range [V]	Min. ± 15% of Un	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.12	Power Consumption [W]	Vendor to Advise	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
7.13	Trip Relay Contacts	2NO + 2NC at least	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.14	Alarm Relay Contacts	2NO + 2NC at least	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.15	Auxiliary Contacts Ratings • Contacts Voltage Rating [V] • Contacts Rated Continuous Current	110V DC Vendor to Advise	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.16	Ingress Protection	IP42	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.17	Routine Tests	IEC 255	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.18	Type Tests (Certificates)	IEC 255	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8. Transformer Feeder Protection Relay								
8.1	Manufacturer’s Name	Vendor to Advise	Schneider/France	Ok	Schneider	Ok	Confirmed	Ok

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 11 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	BK							

TBE for <u>11 KV</u> Switchgear								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. Environmental Data (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
8.2	Manufacturer’s Type Designation	Vendor to Advise	P3U20	Ok	ACC to Technical Proposal	Ok	Confirmed	Ok
8.3	Type	Digital Multi-Function Relay + Display with adjustment Menu	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.4	Installation	Flush Mounted	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.5	Included Protection (ANSI Codes)	50, 51, 51N,50G (Separate Relay)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.6	Rated Current [A]	5	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.7	Rated Frequency [Hz]	50 Hz	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.8	Burden [VA]	Vendor to Advise	According to Catalogue	Ok	After Contract	Ok	Confirmed	Ok
8.9	Overload Capability Of Current Path	100xIn < 1 Sec.	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.10	Rated Voltage Auxiliary Voltage [V]	110V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.11	Auxiliary Voltage Permissible Range [V]	Min. ± 15% of Un	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.12	Power Consumption [W]	Vendor to Advise	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
8.13	Trip Relay Contacts	2NO + 2NC at least	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.14	Alarm Relay Contacts	2NO + 2NC at least	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.15	Auxiliary Contacts Ratings • Contacts Voltage Rating [V] • Contacts Rated Continuous Current	110V DC Vendor to Advise	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.16	Ingress Protection	IP42	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.17	Routine Tests	IEC 255	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.18	Type Tests (Certificates)	IEC 255	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
9. Spare Part								
9.1	Commissioning Spare Parts according to attach 22 of MR	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
9.2	Two year Operation Spare Parts according to attach 22 of MR	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

	<div>نگهداشت و افزایش تولید میدان نفتی بینک</div> <div>سطح الارض</div> <div>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</div>								
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK								شماره صفحه : 12 از 30
	نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادرکننده	بسته کاری	پروژه	
	D02	0003	TB	EL	120	PEDCO	GCS	BK	

STATUS LEGENDS:  
A=Acceptable  
N=Not Acceptable  
N/A=Not Applicable  
INA=Information Not Available  
C=Clarification is Required  
CA= Conditionally Acceptable  
M = Requirement is Mandatory

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 13 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for <u>3.3 KV</u> Switchgear (Starter Panel of Fire Water Pump)								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. Environmental Data (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
1.1	Name of Project / Plant	Binak Oilfield in Bushehr Province	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.2	Ambient Temperature (Min/Max)	Min ~ Max: +5 ~ +52°C	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.3	Max.Design Temperature:	52 °c	Confirmed	Ok	40 °c	C	Confirmed	Ok
1.4	Max. Sun Temperature:	+ 85 °c	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.5	Max.Relative Humidity:	100%	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.6	Mean Sea Level	12.5 m Above Sea Level	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.7	Seismic Factor	0.3g	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.8	Max. Wind Velocity(Max)	120 km/hr	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2. Switchgear								
2.1	Manufacturer	By Vendor	Parstableau/DNF4	Ok	Runin Sanat Gostar	Ok	Confirmed	Ok
2.2	Standard(s)	IPS-M-EL-144(4), IPS-E-EL-100(1), BK-GNRAL-PEDCO-000-EL-SP-0002	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.3	Quantity	1 Feeder of Ongoing, Type C3	Confirmed	Ok	Acc to SLD	Ok	Confirmed	Ok
2.4	Service	ACC to General Arrangement	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.5	Tag Number	GCS-3.3-SWG-001	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.6	Applicable SLD	BK-GCS-PEDCO-120-EL-SL-0001 BK-GCS-PEDCO-120-EL-SL-0003 BK-GCS-PEDCO-120-EL-DG-0001	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.7	Location	Indoor	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.8	Type and Construction	Metal Clad, Withdrawable	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.9	Rated Voltage & Variation	11 kV ± 10 %	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.10	Rated Frequency & Variation	50 Hz ± 5 %	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.11	No. of Phases	3 PH	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.12	Rated Insulation Levels between earth and phase • One Minute Power Frequency	10 KV	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

	<div>نگهداشت و افزایش تولید میدان نفتی بینک</div> <div>سطح الارض</div> <div>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</div>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 14 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for 3.3 KV Switchgear (Starter Panel of Fire Water Pump)								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
	Withstand Voltage (RMS) • One Minute Power Frequency Withstand Voltage of Aux. Circuit (RMS) • Impulse Withstand Voltage (Peak)	2 KV  40 KV			N.A  40 Kv			
2.13	Rated Normal Current of Busbars	630 A	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.14	Rated Short Time Current of Busbar	25 kA; 1 sec	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.15	Rated Peak Withstand Current	63 kA	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.16	Busbars: • Material • Main Horizontal Bus Cross Section Area • Main Vertical Bus Cross Sectional Area • Earth Bus Cross Sectional Area • Busbars Color & Joints	Copper (Flame Retardant Non-Hygroscopic) Vendor to Advise Vendor to Advise Vendor to Advise Silver Plated	Confirmed	Ok	Confirmed After Contract After Contract After Contract Confirmed	Ok	Confirmed	Ok
2.17	Maximum Tolerable Temperature Rise	Acc. to IEC62271 IPS-M-EL-144(4)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.18	Rated Voltage for Control And Protection Circuits	110 V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.19	Rated Voltage for Space Heaters and Panel Lighting	400 / 230 VAC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.20	Enclosure	Withdrawable Metal Clad, Compartmented	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.21	Degree of Protection by Enclosure	External: IP 42, Internal: IP 20, Internal partitions between functional units and shutters for bus bar & cable side: IP 4X	Confirmed	Ok	Ecternal:IP41 & other Confirmed	C	IP41	C
2.22	Installation	Floor Self-Standing, Side by Side	Confirmed	Ok	Floor Self-Standing, ACC to General Arrangement	OK	Confirmed	Ok
2.23	Rear / Front Access	Rear and Front Access	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.24	Top / Bottom Cable Entry	Cables: Bottom Entry	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.25	Sheet Steel Thickness, Frame & Walls	Minimum 2.5 mm	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.26	Paint	Electrostatic Powder	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.27	Color Finish	RAL 7032	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.28	Routine Tests	Required (Withstand tests and reports as per IEC 62271-200 or IEC 298, IEC 60694, IPS-M-EL-144 (4) and Specification)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok



	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 15 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for 3.3 KV Switchgear (Starter Panel of Fire Water Pump)								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
2.29	Type Tests	Test certificates of the SWGR type as per IEC62271-200 or IEC 298, IEC60694, and IPS-M-EL-144 (4)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.30	Overall Dimensions (HxWxD) [mm]	Vendor to Advise	According to Technical Offer	Ok	After Contract	Ok	Confirmed	Ok
2.31	Total Weight [kg]	Vendor to Advise	According to Technical Offer	Ok	After Contract	Ok	Confirmed	Ok
2.32	Overall Dimensions of 1 Cubicle (HxWxD)	Vendor to Advise	According to Technical Offer	Ok	After Contract	Ok	Confirmed	Ok
2.33	Dynamic Load of One Cubicle [kg]	Vendor to Advise	According to Technical Offer	Ok	After Contract	Ok	Confirmed	Ok
3. MV Circuit Breaker								
3.1	Manufacturer	Vendor to Advise	Hyundai/South Korea	Ok	Pars Switch	C	Confirmed	Ok
3.2	Standard	IEC62271-100	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.3	Type	Vacuum	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.4	Fixed/ Withdrawable	Withdrawable	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.5	Rated Voltage	3.3 kV ± 10 %	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.6	Rated Frequency	50 Hz ± 5 %	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.7	No. Of Phases and Poles	3-Phase	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.8	Rated Insulation Levels between earth and phase • One Minute Power Frequency Withstand Voltage (RMS) • One Minute Power Frequency Withstand Voltage of Aux. Circuit (RMS) • Impulse Withstand Voltage (Peak)	10 KV 2 KV 40 KV	Confirmed	Ok	Confirmed N.A Confirmed	OK	Confirmed	Ok
3.9	Rated Normal Current	630 A	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.10	Rated Short Time Current	25 kA; 1 sec	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.11	Rated Peak Withstand Current	62.5 kA	Confirmed	Ok	63 KA	Ok	Confirmed	Ok
3.12	Rated Short Circuit Breaking Current	Vendor to Advise	According to Catalogue	Ok	25 KA	Ok	Confirmed	Ok
3.13	Rated Short Circuit Making Current	Vendor to Advise	According to Catalogue	Ok	63 KA	Ok	Confirmed	Ok
3.14	Maximum Tolerable Temperature Rise	Acc. to IEC62271-100	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok



TBE for <u>3.3 KV</u> Switchgear (Starter Panel of Fire Water Pump)								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
3.15	Design Temperature Rise	Acc. to IEC62271-100	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.16	Operating Mechanism	Motor & Hand operated Spring Charged Stored Energy Mechanism	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.17	Release Type	Shunt Trip	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.18	Rated Operating Sequence	O-0.3S-CO-3MIN-CO	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.19	Rated Voltage of Auxiliary Equipment	110V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.20	Rated Operating Voltage of Releases	110V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.21	Rated Operating Voltage of Charging Motors	110V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.22	Voltage Tolerances for Auxiliary Apparatus: • Trip Circuit • Close Circuit • Motor Running • Motor at the Instant of Start	70%-110% 85%-110% 85%-110% 70%-110%	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
3.23	Power consumption of Auxiliary Apparatus:[W] • Trip Circuit • Closed Circuit • Charging motor • Under voltage release • Multifunction relay • Transducers	110V DC  Vendor to Advise	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.24	1 C.B. Open/Close Auxiliary Contacts: • No. Of Make Contacts • No. Of Break Contacts • Rated Voltage • Rated Current at 110V DC • Breaking Current at 110V DC	6 6 110V DC VTA VTA	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.25	Truck Position Auxiliary Contacts: • No of Make Contacts • No of Break Contacts • Rated Voltage • Rated Current at 110V DC • Breaking Current at 110V DC	1NO + 1NC 1NO + 1NC 110V DC VTA VTA	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.26	Routine Tests	IEC62271-100	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.27	Type Tests	IEC62271-100	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4. MV Voltage Transformers								

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 17 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for 3.3 KV Switchgear (Starter Panel of Fire Water Pump)								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
4.1	Manufacturers Name	Vendor to Advise	Pars Shar/Iran	Ok	Pars Shar	Ok	Confirmed	Ok
4.2	Standard	IEC60044-2	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.3	Type	Epoxy Cast Resin	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.4	Fixed Withdrawable	Withdrawable	Tilting	N	Confirmed	Ok	Confirmed	Ok
4.5	Highest System Voltage	3.6 kV	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.6	Rated Frequency	50 Hz	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.7	No. of Phase	Single Phase	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.8	Rated Primary Voltage [kV]	3.3/√3 kV	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.9	Rated Secondary Voltage [V]	110/√3 V	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.10	Rated Insulation Levels between earth and phase • One Minute Power Frequency Withstand Voltage (RMS) • One Minute Power Frequency Withstand Voltage of Aux. Circuit (RMS) • Impulse Withstand Voltage (Peak)	10 kV / √3 2 kV / √3 40 kV / √3	Confirmed	Ok	Confirmed N.A Confirmed	Ok	Confirmed	Ok
4.11	System Earthing	TNS	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.12	Rated Voltage Factor	Vendor to Advise	According to Catalogue	Ok	After Contract	Ok	Confirmed	Ok
4.13	Rated Burden	Vendor to Advise	According to Catalogue	Ok	After Contract	Ok	Confirmed	Ok
4.14	Accuracy Class: • for Protection (with separate Winding) • for Measuring (with separate Winding)	CL. 3P 1.0	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.15	Insulation Class & Temperature Rise	Class E, Temp. Rise Class Y	Confirmed	Ok	Insulation (Class A)/ Temperature Rise (N.A)	C	Confirmed	Ok
5. MV Current Transformers								
5.1	Manufacturer’s Name	Vendor to Advise	Pars Shar/Iran	Ok	Pars Shar	Ok	Confirmed	Ok
5.2	Standard	IEC60044-1	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.3	Type	Dry Type	Confirmed	Ok	Resin Type	Ok	Confirmed	Ok
5.4	Highest System Voltage	3.6 kV	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 18 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	BK							

TBE for <u>3.3 KV</u> Switchgear (Starter Panel of Fire Water Pump)								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
5.5	Rated Frequency	50 Hz	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.6	Rated Secondary Current	1 A / 5 A According to SLD	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.7	Rated Continuous Thermal Current	1.2 x Rated primary current	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.8	Rated Short Time, Current	25 kA, 1 Sec	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.9	Rated Dynamic Current	63 kA	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.10	Rated Burden	Vendor to Advise	According to Catalogue	Ok	After Contract	Ok	Confirmed	Ok
5.11	Rated Transformation Ratio and No. of Cores	According to Single Line Diagram	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.12	Accuracy Class: • Measuring • Protection	Class 1: Class 1FS5 Class X: where required Class 5P20 protections	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.13	Routine Tests	IEC60044-1	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.14	Type Tests	IEC60044-1	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.15	Rated Insulation Levels between earth and phase	10 kV / √3	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
	• One Minute Power Frequency Withstand Voltage (RMS)	2 kV / √3			N.A			
	• One Minute Power Frequency Withstand Voltage of Aux. Circuit (RMS)	40 kV / √3			Confirmed			
6. Earth Switch								
6.1	Manufacturer’s Name	Vendor to Advise	Parstableau/Iran	Ok	Runin Sanat Gostar		Confirmed	Ok
6.2	Manufacturer’s Type Designation	Vendor to Advise	Manual	Ok	After Contract		Confirmed	Ok
6.3	Standard	IEC62271-102	Confirmed	Ok	After Contract		Confirmed	Ok
6.4	Type	Make Proof	Confirmed	Ok	After Contract		Confirmed	Ok
6.5	Number of Phase	3	Confirmed	Ok	After Contract		Confirmed	Ok
6.6	Frequency	50 Hz	Confirmed	Ok	After Contract		Confirmed	Ok
6.7	Rated Voltage	11 kV	Confirmed	Ok	After Contract		Confirmed	Ok
6.8	Rated Lighting Impulse Withstand Voltage	75 kV	Confirmed	Ok	After Contract		Confirmed	Ok

	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 19 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for 3.3 KV Switchgear (Starter Panel of Fire Water Pump)								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
6.9	Rated 1 Minute Power Frequency Voltage	28 kV	Confirmed	Ok	After Contract		Confirmed	Ok
6.10	Rated Short Time (1s) Current	25 kA	Confirmed	Ok	After Contract		Confirmed	Ok
6.11	Rated Peak Withstand Current	62.5 kA	Confirmed	Ok	After Contract		Confirmed	Ok
6.12	Rated Short Circuit Making Current	62.5 kA	Confirmed	Ok	After Contract		Confirmed	Ok
6.13	Actuation Mechanism	Pre-tension Spring	Confirmed	Ok	After Contract		Confirmed	Ok
6.14	No. of Auxiliary Contacts (Min.)	2NO + 2NC	Confirmed	Ok	After Contract		Confirmed	Ok
6.15	Aux. Contacts Rated Voltage	110V DC	Confirmed	Ok	After Contract		Confirmed	Ok
6.16	Aux. Contacts Rated Current	1A	Confirmed	Ok	After Contract		Confirmed	Ok
6.17	Interlocks	According (but not limited) to Appendix B of IPS-M-EL-144 (4) specifically: To prevent closure of Earth Switch when CB is not in Test or withdraw position To prevent Insertion of CB when Earth Switch is connected. To prevent connection of Earth Switch when upstream Switch is not open i.e. electromagnetic coil (only for incoming)	Confirmed	Ok	After Contract		Confirmed	Ok
6.18	Routine Tests	IEC62271-102	Confirmed	Ok	After Contract		Confirmed	Ok
6.19	Type Tests (Certificates)	IEC62271-102	Confirmed	Ok	After Contract		Confirmed	Ok
7. Motor Feeder Protection Relay								
7.1	Manufacturer's Name	Vendor to Advise	Schneider/France	Ok	Schneider		Confirmed	Ok
7.2	Manufacturer's Type Designation	Vendor to Advise	P3U20	Ok	ACC to Technical Proposal		Confirmed	Ok
7.3	Type	Digital Multi-Function Relay + Display with adjustment Menu	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.4	Installation	Flush Mounted	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.5	Included Protection (ANSI Codes)	50, 51, 46, 50G, 51G, 86 (Separate Relay)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.6	Rated Current [A]	5	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.7	Rated Frequency [Hz]	50 Hz	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok



	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 20 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for 3.3 KV Switchgear (Starter Panel of Fire Water Pump)								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
7.8	Burden [VA]	Vendor to Advise	According to Catalogue	Ok	After Contract	Ok	Confirmed	Ok
7.9	Overload Capability Of Current Path	100xIn < 1 Sec.	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.10	Rated Voltage Auxiliary Voltage [V]	110V DC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.11	Auxiliary Voltage Permissible Range [V]	Min. ± 15% of Un	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.12	Power Consumption [W]	Vendor to Advise	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
7.13	Trip Relay Contacts	2NO + 2NC at least	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.14	Alarm Relay Contacts	2NO + 2NC at least	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.15	Auxiliary Contacts Ratings • Contacts Voltage Rating [V] • Contacts Rated Continuous Current	110V DC Vendor to Advise	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.16	Ingress Protection	IP42	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.17	Routine Tests	IEC 255	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.18	Type Tests (Certificates)	IEC 255	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8. Spare Part								
8.1	Commissioning Spare Parts according to attach 22 of MR	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.2	Two year Operation Spare Parts according to attach 22 of MR	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

**Status Legends:**  
A=Acceptable  
N=Not Acceptable  
N/A=Not Applicable  
INA=Information Not Available  
C=Clarification is Required  
CA= Conditionally Acceptable  
M = Requirement is Mandatory



	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 21 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	BK							

TBE for <u>Remote Control Panel (RCP)</u>								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. Environmental Conditions (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
1.1	Location	Binak Oilfield in Bushehr Province	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.2	Max. Outdoor Ambient Temperature	52°C	Confirmed	Ok	40°C	C	Confirmed	Ok
1.3	Min. Outdoor Ambient Temperature	+5 °c	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.4	Direct Sunlight Temperature	85°C	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.5	Maximum Relative Outdoor Humidity	100%	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.6	Altitude	12.5 m Above Sea Level	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2. General Information								
2.1	Tag Numbers	RCP-02 (Indoor Safe)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.2	Quantity	1 Set	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.3	Application Standard	IPS-E-EL-100 IPS-M-EL-161 IPS-M-EL-143(3)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.4	Manufacturer	By Vendor	Confirmed	Ok	Runin Sanat Gostar	Ok	Confirmed	Ok
2.5	Related Document	Wiring Diagram for Remote Control Panel (RCP) “BK-GCS-PEDCO-120-EL-DG-0005”  Data Sheets for Remote Control Panel “BK-GCS-PEDCO-120-EL-DT-0015”	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3. Electrical Data								
3.1	System Voltage/ Frequency	400V AC / 50Hz	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.2	Voltage Variation/ Frequency Variation	±10 / ± 5%	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.3	Insulation Voltage	0.6/1KV	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.4	No. of Phases / Wires	1Ph+N+PE	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.5	Control Voltage	110 VDC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.6	Space Heater Voltage	230VAC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

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شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 22 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for Remote Control Panel (RCP)								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
3.7	Internal/ External Voltage Supply	External	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.8	Bus-Bars Material	Indoor: Heat Shrink Copper Outdoor: Silver Plated Copper	Confirmed	Ok	N.A	Ok	Confirmed	Ok
4. Enclosure Data								
4.1	Enclosure Type	Wall Mounted , Fixed Type, Front Access	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.2	Degree of Protection	Indoor: IP 42	Confirmed	Ok	Confirmed	Ok	IP41	C
4.3	Cable Entry	Bottom via Gland	Confirmed	Ok	N.A	C	Confirmed	Ok
4.4	Material	Painted Sheet Steel	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.5	Finish Color	RAL 7032	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.6	Dimensions (HxWxD)	By Vendor	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
4.7	Sheet Steel Thickness (Body/Frame)	Wall Mounted: 1.5mm/2mm	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.8	Painting	For Corrosive & Hot Atmosphere	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.9	Thickness	Min. 60μ	Confirmed	Ok	80~120	C	Confirmed	Ok
4.10	Type	Epoxy Powder Elector Static	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.11	Weight	By Vendor	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
5. Selector Switch								
5.1	Selector Pole	1	Confirmed	Ok	N.A	Ok	Confirmed	Ok
5.2	Selector Position	Position "OPEN-OFF-CLOSE"	Confirmed	Ok	N.A	Ok	Confirmed	Ok
5.3	Selector Type	Spring Return to Center	Confirmed	Ok	N.A	Ok	Confirmed	Ok
6. Label								
6.1	Language	English	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
6.2	Material	Stainless Steel-Screwed/Reverted	Confirmed	Ok	Laminated Plastic & Sticky Type	N	Confirmed	Ok
6.3	Main Label (Front / Back)	Engraved / Black Font-White Background	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

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شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 23 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	BK							

TBE for <u>Remote Control Panel (RCP)</u>								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
7. Panel Wiring								
7.1	Manufacturer	By Vendor	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.2	Type	CU/PVC/PVC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.3	Power Wire Color	By Vendor	Confirmed	Ok	Black	Ok	Confirmed	Ok
7.4	Signal Wire Color (Voltage Presence Indicator)	By Vendor	Confirmed	Ok	Black	Ok	Confirmed	Ok
8. Panel Terminal								
8.1	Manufacturer	By Vendor	Confirmed	Ok	ARRD	Ok	Confirmed	Ok
8.2	Model NO.	By Vendor	Confirmed	Ok	RTP	Ok	Confirmed	Ok
8.3	Type	Solderless Clamp Type-Flame Retardant	Confirmed	Ok	Screw Type was Considered	Ok	Confirmed	Ok
8.4	Rated Voltage	According to IEC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.5	Size	Min. 4sqmm	Confirmed	Ok	Min 2.5 sqmm	Ok	Confirmed	Ok
8.6	Color	Neutral (Blue) / PE (Green/ Yellow)	Confirmed	Ok	Grey was Considered for all Terminals	Ok	Confirmed	Ok
9. ACCESSORIES								
9.1	Door Key	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
9.2	Gland Plate (Undrilled)	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
9.3	Gland Plate Type (Normal/Non-Magnetic)	Normal	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
9.4	Terminal Lugs	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
9.5	Signal Lamp ( 110 VDC)	C.B. Closed : Red C.B. Opened : Green C.B Fault : Yellow	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
10. Spare Part								
10.1	Commissioning Spare Parts according to attach 22 of MR	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
10.2	Two year Operation Spare Parts according to attach 22 of MR	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

Status Legends:

	<div>نگهداشت و افزایش تولید میدان نفتی بینک</div> <div>سطح الارض</div> <div>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</div>								
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK								شماره صفحه : 24 از 30
	نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادرکننده	بسته کاری	پروژه	
	D02	0003	TB	EL	120	PEDCO	GCS	BK	

A=Acceptable  
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	<div>نگهداشت و افزایش تولید میدان نفتی بینک</div> <div>سطح الارض</div> <div>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</div>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 25 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for <u>MV Capacitor Bank</u>								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
1. General Information								
1.1	Quantity	1 Set for Each Gas Compressor	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.2	Tag Numbers	CB01~ CB03	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.3	Applicable Standards	IEC 60831 IPS-M-EL-181(2) IPS-M-EL-144(4)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
1.4	Manufacturer's Name	By Vendor	Confirmed	Ok	Runin Sanat Gostar	Ok	Confirmed	Ok
2. Environmental Conditions (Process Basis Design, BK-GNRAL-PEDCO-000-PR-DB-0001)								
2.1	Location	Binak Oilfield in Busheher Province	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.2	Hazardous Area Classification	Safe	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.3	Max. Outdoor Ambient Temperature	52°C	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.4	Minimum Indoor Ambient Temp.	+5°C	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.5	Related Document	Specification for Capacitor Bank BK-GNRAL-PEDCO-000-EL-SP-0012 Calculation Note for Capacitor Banks “BK-GCS-PEDCO-120-EL-CN-0011” Data Sheets for Capacitor Bank “BK-GCS-PEDCO-120-EL-DT-0007” Capacitor Banks Single Line Diagram “BK-GCS-PEDCO-120-EL-SL-0007”	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.6	Maximum Indoor Relative Humidity	100%	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.7	Altitude (Above Sea Level)	12.5 m	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.8	Seismic Factor	Zone 3	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
2.9	Installation	Indoor	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3. Electrical Data								
3.1	System Voltage	11KV AC ±10%	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.2	System Frequency	50 Hz ±5%	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 26 از 30
	پروژه	بسته کاری	صادرکننده	تسهیلات	رشته	نوع مدرک	سریال	
	BK	GCS	PEDCO	120	EL	TB	0003	

TBE for <u>MV Capacitor Bank</u>								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
3.3	No. of Phases	3	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.4	Control Voltage	230 VAC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.5	Space Heater Voltage	230 VAC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.6	Bus-Bar Rated Current	630A	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.7	Short Time Withstand Current	25 kA, 1 Sec.	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.8	Bus-Bars Material	Heat Shrink Copper	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
3.9	Bus-Bars Joints	Silver Plated	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4. Enclosure Data								
4.1	Enclosure Type	Cabinet Mounted Capacitor	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.2	Degree of Protection	IP 42	Confirmed	Ok	IP41	C	IP41	C
4.3	Cable Entry	Bottom (by Cable Gland)	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.4	Type & Size of Power Cable	According to “BK-GCS-PEDCO 120-EL-CN-0003” (3C×95mm <sup>l</sup> CU/XLPE/SWA/PVC )	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.5	Control Cable	2×(5C×2.5 mm <sup>l</sup> ) for Current & Voltage Sample	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.6	Material	Painted Sheet Steel	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.7	Color	RAL 7032	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.8	Dimensions (HxWxD)	By Vendor	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
4.9	Sheet Steel Thickness	2mm/2.5mm	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
4.10	Weight	By Vendor	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
5. Capacitors								
5.1	Capacitor Manufacturer/Model No.	By Vendor	Confirmed	Ok	P.K.C	Ok	Confirmed	Ok
5.2	Rating of Each Capacitor Bank	360 KVAR	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.3	Capacitor Bank Rated Current	By Vendor	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok



	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض</p> <p>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</p>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 27 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for <u>MV Capacitor Bank</u>								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
5.4	Capacitor Bank Rated Voltage	12 KV	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.5	Capacitor Bank Connection Type	Star	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
5.6	Capacitor Bank Rated Capacitance (µF)	By Vendor	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
5.7	Capacitance Variation (µF/°C)	By Vendor	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
5.8	Capacitor Unit Rated Voltage	By Vendor	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
5.9	Capacitor Unit Temp. Category	-5/D	Confirmed	Ok	N.A	Ok	Confirmed	Ok
5.10	Capacitor Unit Insulating medium	By Vendor	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
5.11	Capacitor Unit Electrode Material	By Vendor	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
5.12	Capacitor Unit Dielectric Material	By Vendor	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
5.13	Capacitor Unit Case Material	Aluminum	Confirmed	Ok	Metal Enclosed	Ok	Confirmed	Ok
5.14	Capacitor Unit Discharge Resistor (Ω)	By Vendor	Confirmed	Ok	After Contract	Ok	Confirmed	Ok
5.15	Capacitor Unit Discharge time (to 75V)	<10 Minutes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
6. Fuses								
6.1	Manufacturer / type	By Vendor	Confirmed	Ok	AEG	Ok	Confirmed	Ok
6.2	Rated Voltage	11 KV	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
6.3	Service Voltage	11 KV±10%	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
6.4	Rated Frequency	50Hz±5%	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7. Incoming Circuit Breaker								
7.1	Manufacturer / Type	By Vendor	Confirmed	Ok	MV HRC Fuse was Considered for Incoming	Ok	Confirmed	Ok
7.2	Type	VCS & HRC Fuse, Fixed Type	Confirmed	Ok	MV HRC Fuse was Considered for Incoming	Ok	Confirmed	Ok
7.3	Rated Current	630A	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.4	Rated Short Circuit Breaking Current	25 KA	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

	<div>نگهداشت و افزایش تولید میدان نفتی بینک</div> <div>سطح الارض</div> <div>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</div>							
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK							شماره صفحه : 28 از 30
	نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	
	D02	0003	TB	EL	120	PEDCO	GCS	
	پروژه	BK						

TBE for <u>MV Capacitor Bank</u>								
MR	PMR for Existent MV Switchgear Expansion & RCP (BK-GCS-PEDCO-120-EL-MR-0003)	Purchaser Requirement	Pars Tableau	Status	Runin Sanat Gostar	Status	Taban Tablo	Status
Item	Description							
7.5	Rated Insulation Voltage	12 KV AC	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.6	Service Voltage	11 KV	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
7.7	Internal Protections	49, 50, 51	Confirmed	Ok	N.A	Ok	Confirmed	C
7.8	Voltage Protection	110 DC	Confirmed	Ok	N.A	Ok	Confirmed	C
7.9	Trip and Status aux. switches	Yes	Confirmed	Ok	N.A	Ok	Confirmed	C
8. Accessories								
8.1	Panel Lighting & Space Heater with Thermostat	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.2	Door Key	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.3	Gland Plate	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.4	Terminal Lugs	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.5	Commissioning Spare Parts according to attach 22 of MR	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.6	Two year Operation Spare Parts according to attach 22 of MR	Yes	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.7	Routine Test	Witnessed and Report	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok
8.8	Type Test Certificate	Certificate	Confirmed	Ok	Confirmed	Ok	Confirmed	Ok

**Status Legends:**  
A=Acceptable  
N=Not Acceptable  
N/A=Not Applicable  
INA=Information Not Available  
C=Clarification is Required  
CA= Conditionally Acceptable  
M = Requirement is Mandatory

	<div>نگهداشت و افزایش تولید میدان نفتی بینک</div> <div>سطح الارض</div> <div>احداث ردیف تراکم گاز در ایستگاه جمع آوری بینک</div>								
شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK								شماره صفحه : 29 از 30
	نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادر کننده	بسته کاری	پروژه	
	D02	0003	TB	EL	120	PEDCO	GCS	BK	

Conclusion Table:

Item	Equipment	PARS TABLEAU	RUNIN SANAT GOSTAR	TABAN TABLO
1	11 KV Switchgear	Acceptable	Acceptable	Acceptable
2	3.3 KV Switchgear	Acceptable	Acceptable	Acceptable
3	RCP Panel	Acceptable	Acceptable	Acceptable
4	MV Capacitor Bank	Acceptable	Acceptable	Acceptable



Conclusion Note:

PARS TABLEAU

- 1- For these brands of breaker, type test for switchgear shall be submitted.
- 2- Vendor will supply MV voltage transformer in Tilting instead of withdrawable.
- 3- According to data sheet, the minimum thickness of sheet steel is 2.5 mm while vendor will supply minimum as 2 mm.

RUNIN SANAT GOSTAR

- 1- While the ingress protection (IP) of MV switchgear, RCP & Capacitor bank in project data sheet is IP42, but this vendor will supply IP41, according to item 5.1.5 of IPS-M-EL-144(4), IP41 is acceptable.
- 2- Adaptor will be supplied in both sides of 11 KV switchgear for connection new panels to existing panels. Therefore more space is required. However in “Electrical Equipment Arrangement Layout for Building (BK-GCS-PEDCO-120-EL-PY-0008)”, adaptor is considered by contractor & in the case when there is no need after PO, it will be deleted.
- 3- Vendor will consider relay “P3M32” for differential protection “87M”. This relay is low impedance.
- 4- According to “Existent MV Switchgear Expansion Single Line Diagram” & “Electrical Typical Schematic Diagrams for MV panel“, there is withdrawable PT on 3.3 KV switchgear. Therefore a bus riser shall be considered while the number of 3.3 KV panel will be 2.
- 5- The maximum design temperature of MV switchgear is 40 °C.
- 6- According to MV switchgear data sheet, insulation class & temperature rise of Voltage Transformer shall be Class “E” & “Y” respectively but vendor will supply class “A” for temp rise only.

TABAN TABLO

- 1- While the ingress protection (IP) of MV switchgear, RCP & Capacitor bank in project data sheet is IP42, but this vendor will supply IP41, according to item 5.1.5 of IPS-M-EL-144(4), IP41 is acceptable.
- 2- Vendor will provide MV circuit breaker in two alternatives “ABB” & “Pars Switch”.
- 3- Adaptor will be supplied in both sides of 11 KV switchgear for connection new panels to existing panels. Therefore more space is required. However in “Electrical Equipment Arrangement Layout for Building (BK-GCS-PEDCO-120-EL-PY-0008)”, adaptor is considered by contractor & therefore there is no concern.

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شماره پیمان:  ۰۵۳ - ۰۷۳ - ۹۱۸۴	TBE FOR EXISTENT MV SWITCHGEAR EXPANSION, RCP & MV CAPACITOR BANK								شماره صفحه : 30 از 30
	نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادرکننده	بسته کاری	پروژه	
	D02	0003	TB	EL	120	PEDCO	GCS	BK	

- 4- Vendor will consider relay “EASERGY P3M32” for differential protection “87M”. This relay is low impedance.
- 5- According to “Existent MV Switchgear Expansion Single Line Diagram” & “Electrical Typical Schematic Diagrams for MV panel“, there is withdrawable PT on 3.3 KV switchgear. Therefore a bus riser shall be considered while the number of 3.3 KV panel will be 2.