



**Government of Pakistan  
PAKISTAN ORDNANCE FACTORIES  
TENDER ENQUIRY**

Dear Sir,

Reference: Tender Enquiry **482-LP-Capt-DS-Elect** dated: **13-01-2021**

You are requested to submit quotations for the item(s) noted in the Schedule to the Tender. Offer should be sent duly sealed in an envelope. Please note the following instructions for filling the tender.

1. **SUBMISSION OF TECHNICAL OFFER**

1.1 Tender will be opened at **1230** hours on **03-02-2021** at Bid Centre adjacent to Rabita Hall, POF Wah Cantt and must reach at below mentioned address before 30 minutes of opening time. The tender received late will not be entertained. You may witness the opening of the tender if you so desire. If representative is deputed, he should bring a letter of authority from you.

1.2 Only one tender should be included in one envelope. The outside of the envelope should be inscribed with:

Tender Enquiry No. **482-LP-Capt-DS-Elect**

Offer to be opened on **03-02-2021**

Address as follows: **BID CENTER, ADJACENT TO RABITA HALL POF  
Wah Cantt.**

**TELE: 051-905533399**

**FAX: 051-9314100,9271400**

1.3 If envelope do not indicate reference of T.E or received late the same may be returned un-opened.

2. **GENERAL INSTRUCTIONS REGARDING PREPARATION OF QUOTATIONS**

2.1 For materials, the prices should be filled in column 5 and delivery date in column 6 of the schedule to this Tender Enquiry. The undertaking should be signed at the bottom of the schedule, which shall form the Quotation. You may use a separate sheet, if necessary.

2.2 For plant and Machinery, You are required to quote in two parts:-

**Part I "Technical Offer"**. It should exclusively give technical details and literatures/brochures of the offered plant, machinery and equipment; validity date; delivery schedule; and signed undertaking given on the schedule to this Tender Enquiry. It must not indicate price, costs etc.

**Part II "Commercial Offer"**. It should indicate the commercial terms e.g. price, terms of payment, mode of payment, mode of supply.

Each part should be placed in a separate sealed cover. The envelopes should be inscribed with: Part I "Technical Quotation without price" and Part II "Commercial Quotation with price".

- 2.3 The quotation must remain valid for, at least **120 days** from the date of opening of tenders.
- 2.4 The quotation should hold good for any reduced or enhanced quantities without notice.
- 2.5 In the event of non acceptance of offer, intimation may be given to the tenderers on their request.
- 2.6 Conditional offers or alternative offers are likely to be ignored.
- 2.7 Quotations should be based on:  
F.O.R. station of dispatch basis, i.e. delivered free on rail, inclusive of packing and forwarding charges. The stores will be booked under military credit note, to be provided by the purchaser.  
and/or  
Free delivery at POF's stores at Wah Cantt. In this case Octori duty will be payable by the supplier.
- 2.8 Taxes and duties etc. where applicable, must be shown separately, quoting references to Registration No. in cases of Sales Tax and relevant authority, in case of others. Offers without these clarifications and inclusive of Taxes and duties, may be ignored.
- 2.9 Taxes and duties levied on or after Tender opening date or on or after the date offer was signed and dispatched will be allowed to include in the offered rates.
- 2.10 "Suppliers will furnish a certificate, issued by Excise & Taxation deptt, that he has cleared all Professional Tax payable by him". Offers received without this certificate will be rejected.
- 2.11 Supplier will render necessary information regarding hazardous effects on environment of the materials/products supplied by them, in their quotations and shipping / dispatch documents.
- 2.12 If the requisite information is not furnished on the T.E forms or offer received is not conformity with the requirement of the T.E such offer shall be ignored.

### 3. **INSPECTION**

- 3.1 Supplies shall be subject to the inspection and acceptance by the competent inspection authority nominated by the purchaser, who will arrange it at his own cost. Inspection facilities such as tools, test equipment, instruments etc will, however, be provided by the Suppliers in accordance with the relevant specifications.
- 3.2 Where considered necessary by the Purchaser, stores may be obtained on Warranty/Guarantee, subject to inspection on receipt. Rejected stores will be removed and replaced with the acceptable stores by the Supplier at his own expense, within a specified time.

### 4. **TENDER FEE**

The tender must be accompanied by a non-refundable fee by means of a crossed postal order / pay order of **Rs. 500** in favor of **Director Services, POFs Wah Cantt.**

4.1 **Tender Sample:**

Where required, offer must a company tender sample, strictly according to the description and specification given in tender enquiry. Offer not accompanied by tender sample will not be entertained excepting the established and reputable firms who have either previously satisfactorily supplied the same or similar stores or have submitted an acceptable sample thereof against previous T.E.

5. **BID MONEY**

5.1 Bid Money at the rate of 2% (for registered firms with POFs) and 5% (for un-registered firms with POFs) of the quoted value should accompany the tender in the shape of Deposit At Call Receipt/ pay order/ Banker's Cheque, from a scheduled Bank drawn in favor of **Director Services, POFs Wah Cantt.**

Tenders received without Bid Money will be rejected.

5.2 Bid Money of the un-successful tenders will be returned as soon as the scrutiny of the tenders is completed. Bid Money of the successful tenders will be retained until the contract is finalized. Bid Money will be forfeited in case the quotation is withdrawn before the expiry of its validity date.

5.3 State owned organizations are not required to provide Bid Money.

6.1 **ACCEPTANCE OF OFFERS**

- a) The procuring agency may reject all bids or proposals at any time prior to the acceptance of a bid or proposal. The procuring agency shall upon request communicate to any supplier or contractor who submitted a bid or proposal, the grounds of all bids or proposal, but is not required justify those grounds.
- b) Procuring agency shall incur no liability, solely by virtue of its invoking sub-rule (1.1) towards suppliers or contractors who have submitted or proposals.
- c) Notice of the rejection of all bids or proposals shall be given promptly to all suppliers or contractors that submitted bids or proposals.

6.2 **PERFORMANCE BOND**

- a) The successful bidders shall provide performance bond at the rate, prescribed by POF Board according to the value of contract which shall not exceed 10% of contract value, in the form of a deposit at call receipt from a scheduled Bank or an un-conditional Bank Guarantee valid for 12 Months (03 months extendable to 12 month in case of cloth items required by clothing Fy.) after receipt of store in POFs on a prescribed format. The Performance Bond will be in favor of **CMA - POF Wah Cantt.** It will be returned on satisfactory completion of the contract.
  - b) If the Supplier fails to furnish the Performance Bond within the specified time, such failure will constitute a breach of the contract and the Purchaser shall be entitled to make other arrangements for purchase of the stores at the risk and expense of the supplier.
- 6.3 Performance bond from state owned organizations may be waived off at the discretion of the purchaser.

6.4 **FAILURE TO SUPPLY THE STORES:**

All deliveries must be completed by the specified date. If the failure to deliver the stores within the scheduled time should have arisen from "Force Majeure", which the purchaser may admit as reasonable ground for further time, he will allow such additional time as he may consider to have been required by the circumstances of the case. Otherwise, he will be entitled, at his discretion, to cancel the contract; and/or claim liquidated damages upto 2% but not less than 1% of the contract price of the items and their quantities for each and every month or part of a month, beyond the specified delivery date, during which these may not be delivered, subject to a maximum of 10% of the total contract value of the particular stores which remained unsupplied either in part or in full; or to purchase from elsewhere the unsupplied stores at the risk and cost of the supplier.

6.5 **PAYMENT**

- a Payment will be made by CMA- POF Wah Cantt through crossed Cheque on receipt/acceptance of stores on our prescribed bill form supported by receipt voucher on part/full supply basis.
- b Payment of duties / Taxes including professional tax (where applicable) must be supported by proof of having paid these to concerned Govt. Taxation Deptt.

7. **SECURITY OF INFORMATION**

The tenderer and his employees must not communicate any information relating to the sale/purchase of stores under this enquiry to any person other than the manufacturer or to any press or agent not authorized in writing by POFs to receive it.

Please return the schedule to the Tender duly signed by the specified date, alongwith the specifications, drawings etc. if any, enclosed herewith even if you are unable to quote.

**WARNING**

In case the firm abstain from making offers or fail to return / acknowledge the tender form by the specified date on three consecutive occasions, no further tender enquiry may be issued to them and their names would liable to be removed from the approved list.

Yours faithfully,

Director Services

Tele (051) 9055(21090/33399)

Fax (051) 9271400 & 9314100

**PAKISTAN ORDNANCE FACTORIES**Schedule to Tender Enquiry NO. **482-LP-Capt-DS-Elect**, dated **13-01-2021**.To be opened on **03-02-2021**.**(1) FOR MATERIALS**

1	2	3	4	5		6
Item No	Description	Unit	Qty	Price per unit For free delivery at POF-Wah		Delivery date
				Price in figure	Price in words	
1)	11KV 630A, 25KA Feeder Panel	Nos	07			
2)	11KV 630A, 25KA Transformer Panel	Nos	05			
3)	LT 1600A Feeder Panel	Nos	04			
4)	LT 1600A Transformer Panel	No	01			
5)	Transformer 1000KVA Indoor Type	Nos	02			
6)	Transformer 1000KVA Outdoor Type	Nos	03			
7)	Transformer 200KVA Outdoor Type	No	01			
8)	HT Cable Indoor End Termination Kit for 185mm <sup>2</sup> /3-core	Nos	04			
9)	HT Cable Straight Through Joint Kit for 185mm <sup>2</sup> /3-core	Nos	04			
10)	HT Cable Indoor End Termination Kit for 70mm <sup>2</sup> /3-core	Nos	15			
11)	LT Cable Indoor End Termination kit for 185mm <sup>2</sup> / 4-core	Nos	05			
12)	LT Cable Straight Through Joint Kit for 185mm <sup>2</sup> /4-core	Nos	05			

## 2. For Plant &amp; Machinery:

Specifications: - Attached as **Annexure- A,B,C,D,E,F,G & H**.Specifications may also be downloaded from POF Website ([www.pof.gov.pk](http://www.pof.gov.pk)).3. **Miscellaneous Requirements:**

i)	Indicate the model, name of the manufacturer, country of origin and also provide authorization letter from their respective OEM along with technical brochure of the material / product in English language being offered.
ii)	Breakdown of rates be given showing price and sales tax separately. Otherwise your quoted rates will be considered inclusive of GST.

iii)	Quotation may be submitted if you are registered with sales tax department. Sales tax registration number may also be indicated in your offer.
iv)	Only registered suppliers (with sales Tax & income Tax Deptt), who are on Active Taxpayers List (ATL) of FBR are eligible to supply goods/ services.
v)	The payment to the registered firms may be linked with the active taxpayer status of the suppliers as per FBR database. If any registered supplier is not in ATL, their payment will be stopped till they file their mandatory return and appear on ATL of FBR.
vi)	The product shall conform to latest IEC/BSS standards.
	a. Firm will provide their complete company profile along with following information in the technical part of the tender
	b. Detail of firm's capabilities, experience & performance in relevant field as mentioned in this tender.
	c. Complete data of the similar product supplied to any organization/industry or installed anywhere in Pakistan during last five year.
	d. Detail of testing facilities of the product available at firm's premises.
Vii)	Firm will provide guarantee for provision of spares for 15 years.
ix)	<b>Documentation &amp; Literature:</b> 02 sets wiring diagram, also provide panel internal wiring.
x)	<b>Inspection:</b> Preliminary Inspection at firm's premises and final inspection at POF Wah Cantt.
Xi)	<b>warranty/guarantee:-</b> The supplier will have to provide a warranty/guarantee for 02 years of free replacement of all parts of 11KV 630A, 25KA Feeder Panel , 11KV 630A, 25KA Transformer Panel, LT Transformer Panel 1600A, LT Feeder Panel 1600A, Power transformer 1000KVA (indoor Type), Power transformer 1000KVA (Outdoor Type) and Power transformer 200KVA (Outdoor Type) from the date of final acceptance test (FAT) at POF Wah.

(4) Undertaking:-

Should our offer be accepted, we hereby undertake to supply the stores/render the services contracted on the basis of General Conditions of Contract embodied in Form POF 1281 - A, and to deposit the performance bond within the prescribed time, failing which it will constitute a breach of contract, and POF will have the right to purchase the stores/services elsewhere at our risk and cost.

Place \_\_\_\_\_  
Date \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature of the Tenderer \_\_\_\_\_  
Name \_\_\_\_\_  
Position \_\_\_\_\_  
Address \_\_\_\_\_  
Income Tax G.I.R No. \_\_\_\_\_  
Official stamp.

**TECHNICAL SPECIFICATION****11 KV, 630 A, 25KA FEEDER PANEL (MOTORIZED) WITH VACUUM CIRCUIT BREAKER (QTY- 07 NOs)**

Rated voltage 17.5KV, 630A, 25KA feeder Panel (Motorized) with vacuum circuit breaker, Sheet Steel, floor mounting, metal clad, totally enclosed, indoor type, fully interlocked, air insulated, medium voltage switchgear suitable for operation on 11KV,3-phase, 50Hz supply tested in accordance with latest IEC standard for rupturing capacity of 25KA Bil 95KV. Each panel comprising of Following:-

<b>S/NO</b>	<b>DESCRIPTION</b>	<b>QTY</b>
1.	Mild Steel sheet (14SWG) , floor-mounting cubical structure provided with anti corrosive base coat of painting uniform layer (70-80 microns) on internal and external surfaces spray finished powder coated with standard color RAL-7032, width: 600mm each	01 No
2.	3-phase set of H.D.H.C Main copper bus bar 800A rating (Size : 1x60x10mm or 2x60x5mm) & dropper bus bar 630A rating (Size : 1x50x10mm or 2x50x5mm)	01 Set
3.	Single pole, fixed and moving cluster type isolating contact giving double isolating facilities per phase.	06 Nos
4.	Sets of automatic safety shutters marked "BUSBARS & CABLES" respectively	02 Sets
5.	<p>Triple pole, draw out cassette type Vacuum Circuit Breaker            Rated voltage =17.5KV            Normal current = 630A            Short circuit breaking current = 25KA            Duration of short circuit = 3 sec            Rated peak with stand current making capacity (Peak value) = 63 KA            Power frequency with stand voltage = 38KV/95 KV            Lightning impulse with stand voltage = 95KV            Frequency = 50Hz            Model : VD4/P 17.06.25 or Equivalent European brand            duly certified and mounted on with draw able truck to facilitate horizontal isolation and withdrawal fitted with the following:-</p> <ul style="list-style-type: none"> <li>1- Circuit breaker isolating mechanism.</li> <li>1- Motor Charging mechanism 230V A.C along with manual charging facility.</li> <li>1- Shunt trip coil 24-30V DC.</li> <li>1- Closing coil 24-30V DC.</li> <li>1- Push button to trip.</li> <li>1- Push button to close.</li> <li>1- Auxiliary switch.</li> <li>1- Counter Meter.</li> </ul> <p><b>(Make: ABB, Italy or Equivalent any European country)</b></p>	01 No

6.	Dry Type Current Transformer ratio 400/5/5A, 15VA,5P 20 class for protection and 10 VA, class 1 for metering, BIL12/36/ 95 KV, <b>( Make: FICO, PEL Pakistan/ Equivalent)</b>	03 Nos
7.	Dry Type SP Potential Transformer ratio 11000/1.732/110V/1.732, burden 100VA, class 0.5, BIL 12/36/95KV <b>( Make: FICO Pakistan/ or Equivalent)</b>	03 Nos
8.	3-phase, 4-wire, 50 Hz Digital KWH meter CT input 5A, PT 110V/AC <b>(Make: PEL, Elster/Equivalent)</b>	01 No
9.	Digital type Ammeter with selector switch <b>(Make: Ziegler/Equivalent)</b>	01 No
10.	Digital Volt meter with selector switch <b>(Make: Ziegler/Equivalent)</b>	01 No
11.	MICOM P-521, Feeder differential protection relay, Communication Mod Bus, BOGZ112DEO, Fiber optical cable connection, Aux voltage 24-250VDC/48-240VAC Make: Schneider Electric France	01 No
12.	Anti condensation Heater with thermostate 230V AC-50Watt in bus bar and cable compartment <b>(Make: China/ local)</b>	02 No
13.	TP MCB 06A-10A for control <b>(Make: Schneider/Equivalent)</b>	As per requirement
14.	DP, MCB 06A-10A for control <b>(Make: Schneider/Equivalent)</b>	As per requirement
15.	Designation label	01 No
16.	LED type indication light (Red, Yellow, Green) <b>(Make: Schneider/Equivalent)</b>	03 Nos
17.	Push button for ON <b>(Make: Lovato/Equivalent)</b>	01 No
18.	Push Button for OFF <b>(Make: Lovato/Equivalent)</b>	01 No
19.	Set of vermin screen	01 No
20.	Door limit switch, Door operated 230VAC, 50Hz	01 No
21.	Panel Light/Lamp, 60 Watt, 230VAC	01 No
22.	Cable clamp for suitable cable on bottom	01 No
A.	Panel internal wiring diagram, booklet of relay & VCB are also to be provided	
B.	The product shall confirm latest IEC/BSS	
C.	All panels will be coupled with one another on site by user. Therefore, coupling facility/arrangement and extendibility on both sides of panel is necessary. Panel to panel coupling copper bus bar pieces/fish plats are also to be provided.	
D.	i) Offered type Breaker of 11KV panel must have type tested report from any STL lab. ii) Panel manufacturing firm should be WAPDA approved & must have Type Tested report of 11KV Panel from any foreign STL Lab or HVSC Lab Rawat Pakistan.	
E.	Provision of 30V DC for relay and trip/close coil will be user scope.	



**TECHNICAL SPECIFICATION****11 KV, 630 A, 25KA TRANSFORMER PANEL (MOTORIZED) WITH VACUUM CIRCUIT BREAKER (QTY- 05 NOS)**

Rated voltage 17.5KV, 630A, 25KA transformer Panel (Motorized) with vacuum circuit breaker, Sheet Steel, floor mounting, metal clad, totally enclosed, indoor type, fully interlocked, air insulated, medium voltage switchgear suitable for operation on 11KV, 3-phase, 50Hz supply tested in accordance with latest IEC standard For rupturing capacity of 25KA Bil 95KV. Each panel comprising of Following:-

S/NO	DESCRIPTION	QTY
1.	Mild Steel sheet (14SWG) , floor-mounting cubical structure provided with anti corrosive base coat of painting uniform layer (70-80 microns) on internal and external surfaces spray finished powder coated with standard color RAL-7032. width: 600mm each	01 No
2.	3-phase set of H.D.H.C Main copper bus bar 800A rating (Size : 1x60x10mm or 2x60x5mm) & dropper bus bar 630A rating (Size: 1x50x10mm or 2x50x5mm)	01 Set
3.	Single pole, fixed and moving cluster type isolating contact giving double isolating facilities per phase.	06 Nos
4.	Sets of automatic safety shutters marked "BUSBARS & CABLES" respectively	02 Set
5.	<p>Triple pole, draw out cassette type Vacuum Circuit Breaker            Rated voltage =17.5KV            Normal current = 630A            Short circuit breaking current = 25KA            Duration of short circuit = 3 sec            Rated peak with stand current making capacity (Peak value) = 63 KA            Power frequency with stand voltage = 38KV/95 KV            Lightning impulse with stand voltage = 95KV            Frequency = 50Hz            Model : VD4/P 17.06.25 or Equivalent European brand            duly certified and mounted on with draw able truck to facilitate horizontal isolation and withdrawal fitted with the following:-</p> <ul style="list-style-type: none"> <li>1- Circuit breaker isolating mechanism.</li> <li>2- Motor Charging mechanism 230V A.C along with manual charging facility.</li> <li>1- Shunt trip coil 24-30V DC.</li> <li>1- Closing coil 24-30V DC.</li> <li>1- Push button to trip.</li> <li>1- Push button to close.</li> <li>1- Auxiliary switch.</li> <li>1- Counter Meter.</li> </ul> <p><b>(Make: ABB, Italy or Equivalent any European country)</b></p>	01 No

6.	Dry Type Current Transformer ratio 200/5/5A, 15VA,5P 20 class for protection and 10 VA, class 1 for metering, BIL12/36/ 95 KV, <b>( Make: FICO, PEL Pakistan/ Equivalent)</b>	03 Nos
7.	Dry Type SP Potential Transformer ratio 11000/1.732/110V/1.732, burden 100VA, class 0.5, BIL 12/36/95KV <b>( Make: FICO Pakistan/ or Equivalent)</b>	03 Nos
8.	3-phase, 4-wire, 50 Hz Digital KWH meter CT input 5A, PT 110V/AC <b>(Make: PEL, Elster/Equivalent)</b>	01 No
9.	Digital type Ammeter with selector switch <b>(Make: Ziegler/Equivalent)</b>	01 No
10.	Digital Volt meter with selector switch <b>(Make: Ziegler/Equivalent)</b>	01 No
11.	MICOM P-122, Earth Fault, Over current protection Relay, Communication Mod Bus, Aux voltage 24-250VDC/48-240VAC <b>(Make: Schneider Electric France)</b>	01 No
12.	Anti condensation Heater with thermostat 230V AC-50Watt in bus bar and cable compartment <b>(Make: China/ local)</b>	02 No
13.	TP MCB 06A-10A for control <b>(Make: Schneider/Equivalent)</b>	As per requirement
14.	DP, MCB 06A-10A for control <b>(Make: Schneider/Equivalent)</b>	As per requirement
15.	Designation label	01 No
16.	LED type indication light (Red, Yellow, Green) <b>(Make: Schneider/Equivalent)</b>	03 Nos
17.	Push button for ON <b>(Make: Lovato/Equivalent)</b>	01 No
18.	Push Button for OFF <b>(Make: Lovato/Equivalent)</b>	01 No
19.	Set of vermin screen	01 No
20.	Door limit switch, Door operated 230VAC, 50Hz	01 No
21.	Panel Light/Lamp, 60 Watt, 230VAC	01 No
22.	Cable clamp for suitable cable on bottom	01 No
A. Panel internal wiring diagram, booklet of relay, E.Meter & VCB are also to be provided.		
B. The product shall confirm latest IEC/BSS		
C. All panels will be coupled with one another on site by user. Therefore, coupling facility/arrangement and extendibility on both sides of panel is necessary. Panel to panel coupling copper bus bar pieces/fish plats are also to be provided.		
D. i) Offered type Breaker of 11KV panel must have type tested report from any STL lab. ii) Panel manufacturing firm should be WAPDA approved & must have Type Tested report of 11KV Panel from any foreign STL Lab or HVSC Lab Rawat Pakistan.		
E. Provision of 30V DC for relay and trip/close coil will be user scope.		

**TECHNICAL SPECIFICATION**

DESCRIPTION OF ITEM	QTY	
<p><b><u>LT 1600A FEEDER PANEL</u></b></p> <p>Low tension, industrial cubical pattern indoor type, 14SWG Sheet steel Fabricated, totally enclosed, Finished with powder coated paint RAL-7032, floor mounting, Feeder Panel, suitable for operation on 3-phase, 4 wire, 50 HZ, 400-600 volts system. Each panel comprising of Following:-</p>	<b>04 Nos</b>	
Sheet steel, floor mounting, cubical structure of standard Height, Width & Depth		01 No
<p>3 phase, set of HDHC copper bus bars.  <b>Main Bus bar 3000A Rating:</b> Size 2x100x10 mm per phase ,  <b>Link/Dropper Bus Bar 1600A Rating:</b> Size 2x60x10 mm per phase,  <b>Neutral Bus Bar :</b> Size 1x100x10 mm  <b>Earth Bus bar:</b> Size 1x50x10 mm</p>		01 Set
<p>Triple Pole Air Circuit Breaker 1600 Amp, 100KA, In-1600A, 415-690Volt, 50-60Hz, Draw out type, ABB Model SACEE 2.2H/ Equivalent European brand  <b>(Make: ABB Italy or Equivalent any European country)</b></p>		01 No
<p>Shunt trip Coil 30V DC  <b>(Make: Schneider France/Equivalent)</b></p>		01 No
<p>Digital Ammeter  <b>(Make: Frer Italy/Equivalent)</b></p>		01 No
<p>Ammeter selector Switch 4-Position  <b>(Make: COMSCO, Taiwan/Equivalent)</b></p>		01 No
<p>Digital Volt meter  <b>(Make: Frer Italy/Equivalent)</b></p>		01 No
<p>Voltmeter selector Switch 7-Position  <b>(Make: COMSCO, Taiwan/Equivalent)</b></p>		01 No
<p>CTs 1600/5A, Burden 15VA class 1 for protection. (R-Y-B &amp; N)  <b>(Make: FICO/Equivalent)</b></p>		04 Nos
<p>CTs 1600/5A, Burden 10VA class 0.5 for metering (R-Y-B &amp; N)  <b>(Make: FICO/Equivalent)</b></p>		04 Nos
<p>3-Phase, 4-wire Static meter (Energy meter) Kwh, Kvarh &amp; maximum Demand KW  <b>(Make: PEL/KBK /Creative Pakistan/ Equivalent)</b></p>		01 No
<p>Numerical Over current &amp; Earth fault Relay Micom P-122 or Equivalent  <b>(Make: Schneider France/Equivalent)</b></p>	01 No	
LED Type indication lights( imported) (R-Y-B)	03 Nos	

Panel light 230V AC, 50Hz with Panel door limit switch (imported)	01 No	
SP, DP & TP MCCB 6A, 6-10KA <b>(Make: Schneider France/Equivalent)</b>	As per requirement	
<ul style="list-style-type: none"> <li>• Only WAPDA approved firms/manufacturers can participate in bid of LT Panel.</li> <li>• All panels will be coupled with one another on site by user. Therefore, coupling facility/arrangement and extendibility on both sides of panel is necessary. Panel to panel coupling copper bus bar pieces/fish plates are also to be provided.</li> <li>• 3xCable Glad for 300mm<sup>2</sup>/4-core should be on bottom side of each panel.</li> <li>• Panel internal wiring diagram, Booklet of relay, Energy Meter &amp; ACB are also to be provided.</li> <li>• Provision of 24-30V DC for LT Panels/relays will be user scope.</li> </ul>		

**TECHNICAL SPECIFICATION**

DESCRIPTION OF ITEM	QTY	
<p><b><u>LT 1600A TRANSFORMER PANEL</u></b></p> <p>Low tension, industrial cubical pattern indoor type, 14SWG Sheet steel Fabricated, totally enclosed, Finished with powder coated paint RAL-7032, floor mounting, Transformer Panel, suitable for operation on 3-phase, 4 wire, 50 HZ, 400-600 volts system. Each panel comprising of following: -</p>	<b>01 No</b>	
Sheet steel, floor mounting, cubical structure of standard Height, Width & Depth		01 No
<p>3 phase, set of HDHC copper bus bars.  <b><u>Main Bus bar 3000A Rating:</u></b> Size 2x100x10 mm per phase ,  <b><u>Link/Dropper Bus Bar 1600A Rating:</u></b> Size 2x60x10 mm per phase,  <b><u>Neutral Bus Bar :</u></b> Size 1x100x10 mm  <b><u>Earth Bus bar:</u></b> Size 1x50x10 mm</p>		01 Set
Triple Pole Air Circuit Breaker 1600 Amp, 100KA, In-1600A, 415-690Volt, 50-60Hz, Draw out type, ABB Model SACEE 2.2H/ Equivalent European brand <b>(Make: ABB Italy or Equivalent any European country)</b>		01 No
Shunt trip Coil 30V DC <b>(Make: Schneider France/Equivalent)</b>		01 No
Digital Ammeter <b>(Make: Frer Italy/Equivalent)</b>		01 No
Ammeter selector Switch 4-Position <b>(Make: COMSCO, Taiwan/Equivalent)</b>		01 No
Digital Volt meter <b>(Make: Frer Italy/Equivalent)</b>		01 No
Voltmeter selector Switch 7-Position <b>(Make: COMSCO, Taiwan/Equivalent)</b>		01 No
CTs 1600/5A, Burden 15VA class 1 for protection. (R-Y-B & N) <b>(Make: FICO/Equivalent)</b>		04 Nos
CTs 1600/5A, Burden 10VA class 0.5 for metering (R-Y-B & N) <b>(Make: FICO/Equivalent)</b>		04 Nos
3-Phase, 4-wire Static meter (Energy meter) Kwh, Kvarh & maximum Demand KW <b>(Make: Creative Pakistan/Equivalent)</b>		01 No
Numerical Over current & Earth fault Relay Micom P-122 or Equivalent <b>(Make: Schneider France/Equivalent)</b>		01 No

LED Type indication lights( imported) (R-Y-B)	03 Nos	
Panel light 230V AC, 50Hz with Panel door limit switch (imported)	01 No	
SP, DP & TP MCCB 6A, 6-10KA <b>(Make: Schneider France/Equivalent)</b>	As per requirement	
<ul style="list-style-type: none"> <li>• Only WAPDA approved firms/manufacturers can participate in bid of LT Panel.</li> <li>• All panels will be coupled with one another on site by user. Therefore, coupling facility/arrangement and extendibility on both sides of panel is necessary. Panel to panel coupling copper bus bar pieces/fish plates are also to be provided.</li> <li>• 7xCable Gland for 800mm<sup>2</sup>/SC should be on bottom side of panel.</li> <li>• Panel internal wiring diagram, Booklet of relay, Energy Meter &amp; ACB are also to be provided.</li> <li>• Provision of 24-30V DC for LT Panels/relays will be user scope.</li> </ul>		

**TECHNICAL SPECIFICATION**

DESCRIPTION OF ITEM		QTY
<b><u>TRANSFORMER 1000 KVA (IN DOOR TYPE)</u></b>		<b>02 Nos</b>
Indoor Type 1000 KVA 3-Phase 50HZ. Oil immersed natural cooled for use in an ambient temperature of 50 °C. Delta star winding with neutral brought on LV side. Vector Group – Dyn 11, A dial indicating thermometer on the tank, silica gel breather, an oil gauge with the conservator and Buchholz relay to be incorporated.		
Rated Power	=	1000KVA
Rated Voltage	=	11000/415-230 Volts
Rated Frequency	=	50Hz
Full load current	=	52.4/1391 Amps
No. of Phases	=	03
Neutral	=	On LV Side
Impedance	=	5% ± 10%
Type of cooling	=	Natural
Ambient Temperature	=	50 °C
Temperature rise	=	50 °C
Tapping of HV side	=	+ 2.5% ± 5% ± 7.5%
Efficiency	=	98.45%
Winding connection.	=	Dyn-11
<b><u>FOLLOWING STANDARD FITTING TO BE PROVIDED</u></b>		
<ol style="list-style-type: none"> <li>1. Oil conservator with oil level gauge.</li> <li>2. Silica gel breather</li> <li>3. Rollers Bi-Directional</li> <li>4. Off Load tape changer</li> <li>5. Rating and diagram name plates.</li> <li>6. Oil drain valve.</li> <li>7. Earthing terminal.</li> <li>8. Dial type thermometer</li> <li>9. Buchholz relay..</li> <li>10. Pressure relief device.</li> <li>11. Lifting lug.</li> </ol>		
Note: <ol style="list-style-type: none"> <li>i) Transformer must have HV/LV bushings on sides covered with boxes.</li> <li>ii) Cable Glands for HV/LV side Cables.</li> <li>iii) Only WAPDA approved firms/manufacturers can participate in bid of transformer.</li> <li>iv) Firm / manufacturer must have valid type test certificate of any 1000KVA or above capacity transformer from HV&amp;SC Lab Rawat (Wapda) or any foreign STL Lab.</li> <li>v) The product shall be confirmed to latest IEC/BSS.</li> </ol>		

**TECHNICAL SPECIFICATION**

DESCRIPTION OF ITEM		QTY
<b><u>TRANSFORMER 1000 KVA (OUTDOOR TYPE)</u></b>		<b>03 Nos</b>
Outdoor type 1000 KVA 3-Phase 50HZ. Oil immersed natural cooled for use in an ambient temperature of 50 °C. Delta star winding with neutral brought on LV side. Vector Group – Dyn 11, A dial indicating thermometer on the tank, silica gel breather, an oil gauge with the conservator and Buchholz relay to be incorporated.		
Rated Power	= 1000KVA	
Rated Voltage	= 11000/415-230 Volts	
Rated Frequency	= 50Hz	
Full load current	= 52.4/1391 Amps	
No. of Phases	= 03	
Neutral	= On LV Side	
Impedance	= 5% $\pm$ 10%	
Type of cooling	= Natural	
Ambient Temperature	= 50 °C	
Temperature rise	= 50 °C	
Tapping of HV side	= $\pm$ 2.5% $\pm$ 5% $\pm$ 7.5%	
Efficiency	= 98.45%	
Winding connection.	= Dyn-11	
<b><u>FOLLOWING STANDARD FITTING TO BE PROVIDED</u></b>		
<ol style="list-style-type: none"> <li>1. Oil conservator with oil level gauge.</li> <li>2. Silica gel breather</li> <li>3. Rollers Bi-Directional</li> <li>4. Off Load tape changer</li> <li>5. Rating and diagram name plates.</li> <li>6. Oil drain valve.</li> <li>7. Earthing terminal.</li> <li>8. Dial type thermometer</li> <li>9. Buchholz relay..</li> <li>10. Pressure relief device.</li> <li>11. Lifting lug.</li> </ol>		
<p>Note: i) Transformer must have HV/LV bushings on top.</p> <p>ii) Transformer should be compact in size :- Length: 2130mm, Width: 1200mm, Hight: 2020mm</p> <p>iii) Only WAPDA approved firms/manufacturers can participate in bid of transformer.</p> <p>iv) Firm / manufacturer must have valid type test certificate of any 1000KVA or above capacity transformer from HV&amp;SC Lab Rawat (Wapda) or any foreign STL Lab.</p> <p>iv) The product shall be confirmed to latest IEC/BSS.</p>		



**TECHNICAL SPECIFICATION**

DESCRIPTION OF ITEM		QTY
<b><u>TRANSFORMER 200 KVA (OUTDOOR TYPE)</u></b>		<b>01 Nos</b>
Outdoor sealed type Pole mounted 200 KVA 3-Phase 50HZ. Oil immersed natural cooled for use in an ambient temperature of 50 °C. Delta star winding with neutral brought on LV side. Vector Group – Dyn 11,		
Rated Power	=	200KVA
Rated Voltage	=	11000/415-230 Volts
Rated Frequency	=	50Hz
Full load current	=	10.5/278
No. of Phases	=	03
Neutral	=	On LV Side
Impedance	=	5% + 10%
Type of cooling	=	Natural
Ambient Temperature	=	50 °C
Temperature rise	=	50 °C
Efficiency	=	98.45%
Winding connection.	=	Dyn-11
<b><u>FOLLOWING STANDARD FITTING TO BE PROVIDED</u></b>		
<ol style="list-style-type: none"> <li>1. Off Load tape changer</li> <li>2. Rating and diagram name plates.</li> <li>3. Oil drain valve.</li> <li>4. Earthing terminal.</li> <li>5. Oil filling valve</li> <li>6. Lifting lug.</li> <li>7. Oil level gauge</li> <li>8. Bi-directional wheels</li> </ol>		
Note: i) Transformer must have HV/LV bushings on top. ii) Only WAPDA approved firms/manufacturers can participate in bid of transformer. iii) Firm / manufacturer must have valid type test certificate HV&SC Lab Rawat (Wapda) or any foreign STL Lab. iv) The product shall be confirmed to latest IEC/BSS.		

**TECHNICAL SPECIFICATION OF HT/LT CABLE JOINT KITS**

DESCRIPTION OF ITEMS	QTY
<p><b><u>HT CABLE INDOOR END TERMINATION KIT FOR 185MM<sup>2</sup>/3-CORE</u></b>  <b>Make: Raychem/Germany</b>  <b><u>ACCESSORIES:-</u></b></p> <p>i) Heat shrink, insulating, Non-tracking tube (HVOT) - 03 Nos  ii) Heat shrink, stress control tube (SCPM) - 03 Nos  iii) Heat shrink, Cable breakout (402W248) - 01 No  iv) Stress relief void filling Yellow mastic (S 1189- 1-100) - 03 Nos  v) Track and weather resistant sealant (S-1085-1-300) - 06 Nos  vi) Silicon grease (EPPA-007) - 01 No  vii) Cleaning Tissue (EPPA-004) - 03 Nos  viii) Binding wire - 02 Mtrs  ix) Soldering wire with flux - 02 Mtrs  x) Abrasive strip - 01 No  xi) Copper Braid - 01 Mtr  xii) PVC Tape (Red, Yellow, blue) - 03 Nos  xiii) Earth Lug copper - 01 No  xiv) Copper Lugs According to cable size - 03 Nos  xv) Soldering Paste - 01 No  xvi) Jublee clamp according to cable size - 01 No  xvii) Installation instruction in English - 01 No</p> <p>Note:-  i) Supply jointing kit will be tested at 33KV.  ii) WAPDA test report from WAPDA lab is also required.</p>	04 Nos
<p><b><u>HT CABLE STARIGHT THROUGH JOINT KIT 185MM<sup>2</sup>/3-CORE</u></b>  <b>Make: Raychem/Germany</b>  <b><u>ACCESSORIES:-</u></b></p> <p>i) Heat shrink, insulating/Conducting tube (CICM) - 03 Nos  ii) Heat shrink, insulating tube (MWJS) - 03 Nos  iii) Heat shrink, Stress control tube (JSCR) - 03 Nos  iv) Heat shrink, outer jacket Tube (MWTM) - 02 Nos  v) Stress relief void filling yellow mastic ( S-1189-1-100) - 06 Nos  vi) Stress relief void filling yellow mastic (S-1189-1-600) - 06 Nos  vii) Stress relief void filling red mastic (S-1085-1-300) - 09 Nos  viii) Silicon Grease (EPPA-007) - 01 No  ix) Cleaning Tissue (EPPA-004) - 06 Nos  x) Binding wire - 02 Mtrs  xi) Soldering wire - 02 Mtrs  xii) Abrasive Strip - 01 No  xiii) Copper Mesh (EPPA 009-2000) - 03 Nos  xiv) PVC Tape (Red, Yellow, Blue) - 03 Nos  xv) Copper ferrule - 03 Nos  xvi) Armour Joint Case EPPA 040-12-1260)- 01 No</p>	04 Nos

xvii) Soldering Paste -01 No xviii) Jublee Clamp according to cable size - 04 Nos xix) Textile tape - 01 No xx) Installation instruction in English - 01 No Note:- i) Supply jointing kit will be tested at 33KV. WAPDA test report from WAPDA lab is also required.	
<p><b><u>HT CABLE INDOOR END TERMINATION KIT FOR 70MM<sup>2</sup>/3-CORE</u></b></p> <p><b>Make: Raychem/Germany</b></p> <p><b><u>ACCESSORIES:-</u></b></p> xvii) Heat shrink, insulating, Non-tracking tube (HVOT) - 03 Nos xviii) Heat shrink, stress control tube (SCPM) - 03 Nos xix) Heat shrink, Cable breakout (402W248) - 01 No xx) Stress relief void filling Yellow mastic (S 1189- 1-100) - 03 Nos xxi) Track and weather resistant sealant (S-1085-1-300) - 06 Nos xxii) Silicon grease (EPPA-007) - 01 No xxiii) Cleaning Tissue (EPPA-004) - 03 Nos xxiv) Binding wire - 02 Mtrs xxv) Soldering wire with flux - 02 Mtrs xxvi) Abrasive strip - 01 No xxvii) Copper Braid - 01 Mtr xxviii) PVC Tape (Red, Yellow, blue) - 03 Nos xxix) Earth Lug copper - 01 No xxx) Copper Lugs According to cable size - 03 Nos xxxii) Soldering Paste -01 No xxxii) Jublee clamp according to cable size - 01 No xvii) Installation instruction in English - 01 No Note:- iii) Supply jointing kit will be tested at 33KV. iv) WAPDA test report from WAPDA lab is also required.	<b>15 Nos</b>
<p><b><u>LT CABLE INDOOR END TERMINATION KIT 185 MM<sup>2</sup>/4-CORE</u></b></p> <p><b>Make: Raychem/Germany</b></p> <p><b><u>ACCESSORIES:-</u></b></p> <ul style="list-style-type: none"> <li>• Heat shrink cable breakout (502K) - 01 No</li> <li>• Heat shrink lug sealing sleeve (MWTM) - 04 Nos</li> <li>• Abrasive strip - 01 No</li> <li>• Jubilee clamp - 01 No</li> <li>• Copper Braid - 01 Meter</li> <li>• PVC Tape (Red, Yellow, Blue, Black) - 01Each</li> <li>• Copper compression lugs - 01 No</li> <li>• Earthing Lug -01 No</li> <li>• Insulation instruction in English - 01 No</li> </ul>	<b>05 Nos</b>

5.	<p><b><u>LT CABLE STRAIGHT THROUGH JOINT KIT FOR 185MM<sup>2</sup> /4-CORE</u></b>  <b>Make: Raychem/Germany</b>  <b><u>ACCESSORIES:-</u></b></p> <p>i) Heat shrink Tube (outer sleeve) - 01 No  ii) Heat shrink (Insulating sleeve) for core - 04 Nos  iii) Abrasive strip - 01 No  iv) Copper ferrule - 04 Nos  v) Jubly clamp - 02 No  vi) Copper Braid (Earthing Lead) - 01 Meter  vii) PVC Tape (Red, Yellow, Blue, Black) - 01 Each  viii) Insulation instruction in English - 01 No</p>	05 Nos
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