



OIL & GAS DEVELOPMENT COMPANY LIMITED
PROCUREMENT DEPARTMENT (LOCAL), ISLAMABAD
SCHEDULE OF REQUIREMENT

Material : **DIGITAL PROTECTION RELAYS**

Due Date:

Tender Enquiry No: **PROC-LD/P&P/17431/18-AA**

Bid Bond Value : 100000

EVALUATION WILL BE CARRIED OUT ON FULL

Attachment(if any) : YES

Sr No	Description	Quantity	Make/Brand offered	Unit	Unit Price (PKR) Inclusive Of All Taxes Except GST	Unit Price (PKR) Inclusive of GST	Total Price (PKR) Inclusive of GST	Delivery Period Offered	deviation from Tender Spec. If Any
1	DIGITAL STATIC MOTOR PROTECTION RELAY ALONGWITH INSTALLATION,COMMISSIONING AND TESTING,(DETAIL ATTACHED)	9		Number					
2	DIGITAL STATIC TRASFORMER FEEDER PROTECTION RELAY ALONGWITH INSTALLATION,COMMISSIONING AND TESTING,(DETAIL ATTACHED)	3		Number					

Special Note:- The prospective bidders also download the master set of Tender Document

- The prospective bidders may keep in touch with OGDCL web site for downloading the clarifications/amendments (if any) issued by OGDCL.
- DELIVERY LOCATION: DAKHNI OIL FIELD, DELIVERY PERIOD:90 DAYS AFTER ISSUANCE OF LPO, PAYMENT TERM: 100% AFTEF DELIVERY

Discount (if any) shall only be entertained on Schedule of Requirement of Bidding Document (Financial Proposal). If the discount is mentioned elsewhere in the bid, the same shall not be entertained.



OIL & GAS DEVELOPMENT COMPANY LIMITED
PROCUREMENT DEPARTMENT (LOCAL), ISLAMABAD
SCHEDULE OF REQUIREMENT

Mandatory Checklist

Please confirm the compliance of the following mandatory information along with the bid(s) (failing which bids(s) will not be accepted)

Documents	To be Attached with the Technical/Financial Bids	Compliance	
		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Original Bid Bond	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Copy of NTN Certificate	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Copy of GST Certificate	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Confirmation that the Firm is appearing on FBR's Active Taxpayer List	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly signed and stamped Annexure-A (Un-priced)	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-B	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-D	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-L on Company's Letterhead	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly signed and stamped Annexure-M on Company's Letterhead	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly signed and stamped Annexure-N on Non-Judicial Stamp Paper duly attested by Notary Public	Technical Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-A (Priced)	Financial Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-C	Financial Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Duly filled, signed and stamped Annexure-E	Financial Bid	Yes <input type="checkbox"/>	No <input type="checkbox"/>

TENDER # PROC-LD/PT/P&P/17431/18 – PROTECTION RELAYS

	OIL & GAS DEVELOPMENT COMPANY LIMITED		
Document		BOQ FOR SUPPLY OF DIGITAL MICROPROCESSOR BASED MULTIFUNCTION STATIC PROTECTION RELAYS FOR MOTORS AND TRANSFORMERS FOR DAKHNI GAS PROCESSING PLANT	Sheets
Document #	BOQ	Attachment	17

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S#	Description	Sheet No.
0	System detail	SHEET - 5
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3	BOQ & Specs for new relays	SHEET - 8
4	Scope of Services	SHEET - 9
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6	Transformers DATA	SHEET - 11-12
7	Motors DATA	SHEET - 13-17
8	Single Line Diagram	Can be provided on demand
9	Schematics & Wiring Diagram of existing relays	Can be provided on demand
10	Switchboard & Relay Snapshots	Can be provided on demand
11	Existing Relay Catalogues	Can be provided on demand

0- SYSTEM DETAILS

The Electrical power systems at various utilization voltages are as follow:

Medium Voltages (MV) 6kV, 3 Phase, 3 Wire, 50Hz, resistance earthed
Low Voltage (LV) 0.4kV, 3 phase, 4 Wire, 50Hz, neutral solidly earthed

- 800A, 6kV medium voltage Bus bar
- Gas Turbines Generators = 3 Nos. (5MW + 2.5 MW + 2.5MW)
- Distribution transformer feeders = 4 Nos. (Including 1 Spare)
- MV motor feeders = 12 Nos.

Installed Relays:

- Generator Incomer Relays = 3 x 7UM62
- Motor Feeder Relays = 3 x P225 + 8 x CTM42 + 1 x CTM41
- Transformer Feeder Relays = 3 x CDG61 + 1 x P115

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SUPPLY OF DIGITAL MICROPROCESSOR BASED MULTIFUNCTION STATIC RELAYS FOR PROTECTION OF MOTORS AND TRANSFORMERS FOR DAKHUL GAS PROCESSING PLANT.

S/No	Description	Specified	Offered (To be filled by Vendor)
1	General		
1.1	Application.	Motor & Transformer Feeder Protection	
1.2	Reference data.	-This Document - Single Line Diagram shall be provided on demand - Schematics & Wiring Diagram shall be provided on demand - Switchboard & Relay Snapshots shall be provided on demand - Existing Relay Catalogues shall be provided on demand	
1.3	Standards.	- IEC 60255 - Applicable IEC/ANSI standards	
1.4	Applicable Documents	- Factory test certificates. - Schematics & Wiring Diagram - FAT procedure documents - All applicable as per standards.	
1.5	Documentation required with quotation.	- This BOQ with vendor response on all items individually. - Technical Data of the items offered. - Price Schedule of each item & services offered as per SOR.	
1.6	Project Documentation.	-As Built documents, hard and soft copies; catalogues; Reports of inspections, tests, settings, commissioning. Software shall be provided for system configuration.	
1.7	Delivery Schedule	-As per SOR.	

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SUPPLY OF DIGITAL MICROPROCESSOR BASED MULTIFUNCTION STATIC RELAYS FOR
PROTECTION OF MOTORS AND TRANSFORMERS FOR DAKHIL GAS PROCESSING PLANT.

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BOQ: NEW DIGITAL RELAYS & SWITCHGEAR MODIFICATION

S/No	Parameter	Specified	Offered: (To be filled by Vendor)
3	Technical		
A	Motor Protection Relays: (Required quantity = 09 Nos.)	VTS = Vendor To Specify	
3.1	Make	VTS	
3.2	Model	VTS	
3.3	Thermal (Th) Protection	Required	
3.4	Instantaneous three phase overcurrent (I1) Protection	Required	
3.5	Instantaneous unbalance & single phasing (I2) Protection	Required	
3.6	Instantaneous earth fault (I0) Protection	Required	
3.7	RTD Functionality	Required	
3.8	No. of RTD Inputs	VTS as per existing schematics	
3.9	Measurement Functionality (Voltage, Current)	Required	
3.10	Communication protocol	Required	
3.11	AC Current Inputs	Required	
3.12	Power Supply	Control Supply= 110VDC ; Aux. Supply= 220/230VAC	
3.13	Contacts	Required	
3.14	Frequency	50 Hz	
3.15	Operating Temperature	Ambient 50 deg C	
B	Transformer Protection: (Required quantity = 03 Nos.)		
3.16	Make	VTS	
3.17	Model	VTS	
3.18	IDMT Overcurrent and Earth fault Protection	Required	
3.19	Measurement Functionality (Voltage, Current)	Required	
3.20	Communication protocol	Required	
3.21	AC Current Inputs	Required	
3.22	Power Supply	Control Supply= 110VDC ; Aux. Supply= 220/230VAC	
3.23	Contacts	Required	
3.24	Frequency	50 Hz	
3.25	Operating Temperature	Ambient 50 deg C	

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SCOPE OF SERVICES FOR INSTALLATION, COMMISSIONING & TESTING OF NEW DIGITAL RELAYS AND SWITCHGEAR MODIFICATION

S#	DESCRIPTION	Specified	Offered (To be filled by Vendor)
4	Scope of Services		
4.1	<p>Modification works in the existing installed 6kV MV panel shall include but not limited to;</p> <ul style="list-style-type: none"> - Physical removal and handing over of installed relays to OGDCL site team. - Installation of new digital relays. - Supply of Control Supply (110VDC) & Aux. Supply (220/230VAC) from existing system to new relays. - Internal wiring, lugs, connectors, MCBs, power & control terminals, ferrules, nuts, bolts, lugs etc. - Cutting/modifications in the panel door for the installation of new relays shall be complete in all respects. - Site visit for assessment of panel existing metering and protection devices. - It is the responsibility of the supplier/vendor/contractor to conduct a site visit and acquire data itself for replacement of old relay and installation of new digital relays on the same cubical / panel door. All material will be arranged by the Supplier / contractor. 	Required	
4.2	Wiring diagrams for proposed digital protection relays	Required	
4.3	Testing, Pre-Commissioning, Commissioning, Setting of parameters, Performance testing etc	Required	
4.4	Warranties	Required	
4.5	Factory or Site Acceptance Tests	Required	
4.6	Onsite training of O & M team for digital protection relays	Required	
4.7	As Built Documents and Software.	Required	

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SUBJECT: TOR FOR THE SUPPLY OF DIGITAL MICROPROCESSOR BASED MULTIFUNCTION STATIC RELAYS FOR PROTECTION OF MOTORS AND TRANSFORMERS FOR DAKHNI GAS PROCESSING PLANT.

1. The bidder shall be an OEM (Original Equipment Manufacturer). The quotation must include manufacturer name and country of origin.
2. The relays shall be from reputable brands preferably American & European origin.
3. The OEM shall have at least 10 years of successful working history in the Pakistani market.
4. The bidder shall completely fill the response against each item mentioned in BOQ.
5. The project shall be executed on fast track basis during the forthcoming annual turnaround of OGDCL Dakhni plant probably in the month of March, 2019.
6. All existing protection, control & metering interfaces shall be retained.
7. Relay coordination study shall be provided by OGDCL through its consultant which will include protection settings only.
8. The Relay configuration/parameterization files shall be prepared and uploaded in the Relay by the vendor.
9. It is the responsibility of the supplier / vendor to conduct a site visit and acquire/verify all the required data itself for replacement of relays in the same panel and therefore pre bid visit is mandatory.
10. The supply cost should include the supply of relays and other related materials necessary for satisfactory installation of new digital relays alongwith services for installation, commissioning and testing (up to the level of satisfaction of OGDCL & Engineering consultant).
11. The Supplier shall provide the installation, operation and maintenance manuals of the offered system.
12. All wiring shall be properly dressed.
13. Existing System: Control Supply= 110VDC ; Aux. Supply= 220/230VAC
14. The Supplier shall specify the delivery period in its proposal.
15. It is the responsibility of Supplier to transport the equipment safely at site.
16. The successful bidder shall provide all the drawings & documents for approval to OGDCL/engineering consultant.
17. The successful bidder shall provide wiring diagrams, component list, method statement, and cut-over plan etc., prior to start any work at the site.
18. The contractor will provide 03 sets of as-built drawings to OGDCL/engineering consultant in addition to those supplied and shipped with the equipment in the document/material case.
19. Licensed Software of digital protection relays will also be provided to OGDCL site team on the suitable device for future use.
20. The supplier shall guarantee that equipment is free from fault and fulfill required / specified operating conditions. Should any defect in relay developed during guarantee period in operation, the supplier shall provide new relay in replacement of defective equipment/component at his own cost including transportation, testing and installation. Repaired equipment will not be accepted at all.

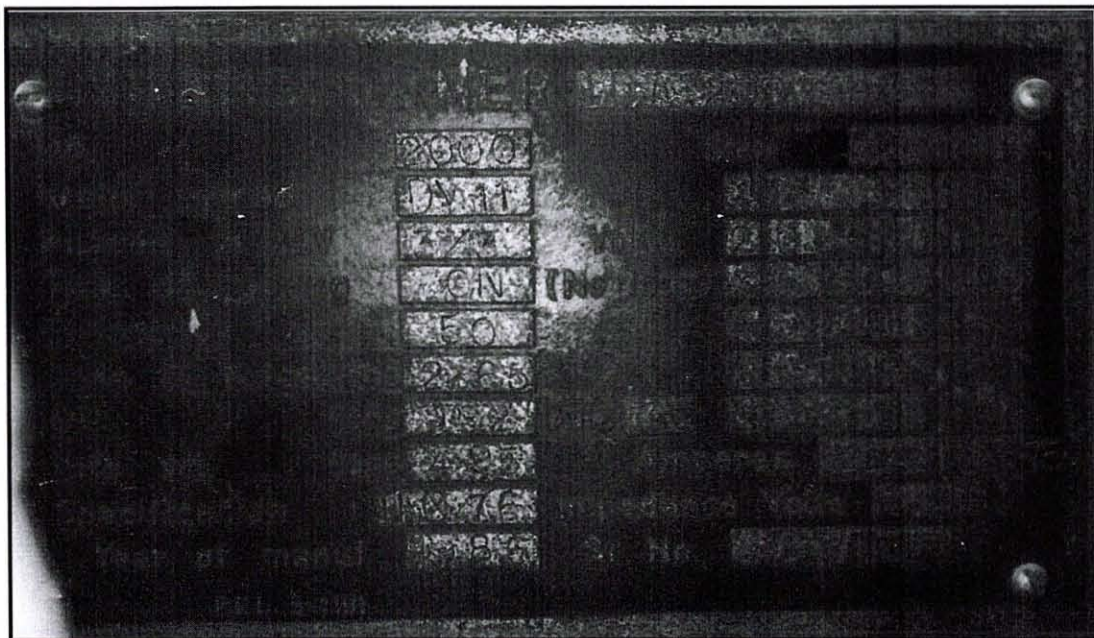
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7.2 Transformers Data

ID	T-3
kVA	630
HV	6000
LV	400
HV Amps	60.62
LV Amps	909.3
Impedance Volts	4.0 % (Assumed for this transformer size as per IEC)
Cooling	ONAN



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8.1 Motors Data

ID	830-GA-01 A/B/C
kW	187
Voltage	6000
FLA	21.5
Power Factor	0.87
Service Factor	1.15

Wheeler

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8.2 Motors Data

ID	GA-403-A/B
kW	755
Voltage	6000
FLA	89
Power Factor	0.86
RPM	2965
Service Factor	1.15

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NORWICH ENGLAND
A subsidiary of MS International plc
INDUCTION MOTOR
MADE IN GREAT BRITAIN TO BS 5000 PT.99
MOTOR TYPE NORAC MOTOR N^o K006N01/2
FRAME SIZE 400/1400 KW 755 * RPM 2965
AMPS 89 HZ 50 PHASE 3
VOLTS 600 PF 0.86 YEAR 1986
RATING MAX. CONT AMBIENT 49°C
CLASS OF INSULATION F
CONNECTION STAR L.E.F. ±3mm

MS

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8.3 Motors Data

ID	K-9851/RSC
kW	975
Voltage	6000
FLA	107
Power Factor	0.91
RPM	2989

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INDUCTION MOTOR
MADE IN GREAT BRITAIN TO BS 5000 PT 99
MOTOR TYPE NORAC MOTOR N^o K006N01/2
FRAME SIZE 400/1400 KW 755 * RPM 296
AMPS 89 HZ 50 PHASE 3
VOLTS 600 PF 0.86 YEAR 1986
RATING MAX. CONT AMBIENT 49°C
CLASS OF INSULATION F
CONNECTION STAR L.E.F. ±3mm

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MS

8.4 Motors Data

ID	830-GB-701-A/B
HP	250
Voltage	6000
FLA	23
Power Factor	Standard Manufacturer Value Considered
RPM	1485
Service Factor	1.0

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MOTOR TYPE NORAC MOTOR N° K006N01/2
FRAME SIZE 400/1400 KW 755 * RPM 296
AMPS 89 HZ 50 PHASE 3
VOLTS 600 PF 0.86 YEAR 1986
RATING MAX. CONT AMBIENT 49°C
CLASS OF INSULATION F
CONNECTION STAR L.E.F. ±3mm

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8.5 Motors Data

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ID	C-1901-A/B
kW	250
Voltage	6000
FLA	27.6
Power Factor	0.92
RPM	2975
Service Factor	1.15

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INDUCTION MOTOR

MADE IN GREAT BRITAIN TO BS 5000 PT.99

MOTOR TYPE NORAC	MOTOR N° K006N01/2
FRAME SIZE 400/1400	KW 755 * RPM 296
AMPS 89	HZ 50 PHASE 3
VOLTS 500	PF 0.86 YEAR 1986
RATING MAX. CONT	AMBIENT 49°C
CLASS OF INSULATION F	
CONNECTION STAR	LEF. ±3mm

Volter