

Annexure-1, R01
Pre-Qualification Requirement (PQR) for Electro mechanical relays under
procurement through PI 240942666

1. Technical Experience

Bidder should have supplied offered type of EM Relays in Power Plant (210 MW or above) OR 132KV Switchyard or above.

Document required: Bidder to furnish unpriced P.O/ Invoice copy or relevant documents in support of supply.

2. Financial Position:

Bidder's annual revenue/turnover for FY 2020-21, 2021-22 & 2022-23 should be more than Rs. 100 Lakhs.

Document required: Bidder to furnish a certificate issued by a practicing Chartered Cost Accountant (With membership number/firm registration number/ UDIN), certifying the claims, required as per above

OR

Annual Audited Balance sheet along with Profit and Loss account satisfying above clause.

3. Organizational Capability

Bidder must have supplied minimum 20% of total indent quantity in any one year in last 5 years.

Document required: (i) Bidder to furnish a certificate issued by a practicing Chartered Cost Accountant (With membership number/ firm registration number/ UDIN), certifying the claims.

OR

PO copy / invoice copy/relevant documents justifying supply.

ANNEXURE-A		
TECHNICAL SPECIFICATION FOR SUPPLY OF ELECTROMECHANICAL RELAYS		
DOC NO.: EMRELAYS/RC/24-25		20.06.2024
ITEM NO.	ITEM DESCRIPTION	COMPLIANCE
1	High Speed Tripping Relay, type MVAJM25 of GE(Alstom) make or equivalent, high burden type having facility for coil supervision.	Yes / No
	The relay shall have 20 NO Hand & Electrically Reset Contacts (besides the coil cut-off contacts) & a Hand Reset Operation Indicator (Flag) for each element/coil along with feature for reset inhibition	Yes / No
	Rating: 220V DC. Operating range : 70 - 110 % of rated voltage.	Yes / No
	Operating time: 10 ms typical. Reset time less than 20ms.	Yes / No
	The relay shall have a single operating coil or a group of coils in series suitable for supervision with coil supervision relay in Item 04 below. All coils and contacts shall be in one case suitable for resetting with a common resetting knob or lever or push button.	Yes / No
	In case of modular relays, single case shall be offered for the item along with modules of It-04.	Yes / No
2	High Speed Tripping Relay, type MVAJM25 of GE(Alstom) make or equivalent, high burden type having facility for coil supervision.	Yes / No
	The relay shall have 14 NO + 6 NC Hand & Electrically Reset Contacts (besides the coil cut-off contacts) & a Hand Reset Operation Indicator (Flag) for each element/coil along with feature for reset inhibition	Yes / No
	Rating: 220V DC. Operating range : 70 - 110 % of rated voltage	Yes / No
	Operating time: 10 ms typical. Reset time less than 20ms.	Yes / No
	The relay shall have a single operating coil or a group of coils in series suitable for supervision with coil supervision relay in Item 04 below. All coils and contacts shall be in one case suitable for resetting with a common resetting knob or lever or push button.	Yes / No
	In case of modular relays, single case shall be offered for the item along with modules of It-04.	Yes / No
3	High Speed Tripping Relay, type MVAJM25 of GE(Alstom) make or equivalent, high burden type having facility for coil supervision.	Yes / No
	The relay shall have 16 NO + 4 NC Hand & Electrically Reset Contacts (besides the coil cut-off contacts) & a Hand Reset Operation Indicator (Flag) for each element/coil along with feature for reset inhibition	Yes / No
	Rating: 220V DC. Operating range : 70 - 110 % of rated voltage	Yes / No
	Operating time: 10 ms typical. Reset time less than 20ms.	Yes / No
	The relay shall have a single operating coil or a group of coils in series suitable for supervision with coil supervision relay in Item 04 below. All coils and contacts shall be in one case suitable for resetting with a common resetting knob or lever or push button.	Yes / No
	In case of modular relays, single case shall be offered for the item along with modules of It-04.	Yes / No

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4	Trip Relay Coil Supervision Relay, type MVAXM21 of GE(Alstom) make or equivalent.	Yes / No
	The relay shall be suitable for trip coil supervision of trip relay covered in Item 1 to 3 above.	Yes / No
	The relay shall have atleast 1 NO + 2 NC Self Reset Contacts & a Hand Reset Reverse Operation Indicator (Flag).	Yes / No
	Rating: 220V DC. Operating range : 85 - 110 % of rated voltage	Yes / No
	The relay shall have time delay on drop-off of the order of 200ms.	Yes / No
	In case of ABB combiflex relays, this relay shall be mounted & pre-wired along with above trip relays. Also if no. of modules to meet the contact configuration of above trip relays are more, quantity of trip relay coil supervision shall be suitably considered.	Yes / No
	In view of above, relay covered under this items shall be quoted along with above trip relays.	Yes / No
5	DC supply monitoring relay, type MVAAM11 of GE(Alstom) make or equivalent.	Yes / No
	The relay shall have atleast 1 NO + 2 NC Self Reset Contacts & a Hand Reset Reverse Operation Indicator (Flag).	Yes / No
	Rating: 220V DC. Operating range : 85 - 110 % of rated voltage	Yes / No
	The relay shall have time delay on drop-off of the order of 100ms.	Yes / No
6	High Speed Tripping Relay, type MVAJ101 of GE(Alstom) make or equivalent.	Yes / No
	The relay shall have atleast 8 N/O Self Reset Contacts & a Hand Reset Operation Indicator (Flag).	Yes / No
	Rating: 220V DC. Operating range : 85 - 110 % of rated voltage	Yes / No
	Operating time: 10 ms typical. Reset time less than 20ms.	Yes / No
7	Bistable (Electrically Reset) Relay, type MVAJ104 of GE(Alstom) make or equivalent with Operating and Resetting Coils.	Yes / No
	The relay shall have 4 N/O + 4 N/C Electrically Reset Contacts and following flag. Additional contacts, if any, shall be NO.	Yes / No
	Rating: 220V DC. Operating range : 85 - 110 % of rated voltage	Yes / No
	In case of modular relays, four modules can be mounted in one RHGX8 case.	Yes / No
8	Bistable (Electrically Reset) Relay, type MVAJ104 of GE(Alstom) make or equivalent with Operating and Resetting Coils.	Yes / No
	The relay shall have 6 N/O + 2 N/C Electrically Reset Contacts and following flag. Additional contacts, if any, shall be NC.	Yes / No
	Rating: 220V DC. Operating range : 85 - 110 % of rated voltage	Yes / No

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	In case of modular relays, four modules can be mounted in one RHGX8 case.	Yes / No
9	Bistable (Electrically Reset) Relay, type MVAJ104 of GE(Alstom) make or equivalent with Operating and Resetting Coils.	Yes / No
	The relay shall have 7 N/O + 1 N/C Electrically Reset Contacts and following flag.	Yes / No
	Rating: 220V DC. Operating range : 85 - 110 % of rated voltage	Yes / No
	In case of modular relays, two modules can be mounted in one RHGX4 case.	Yes / No
10	CB Trip Coil pre-close & post close Supervision Relay, type MVAXM31 of GE(Alstom) make or equivalent.	Yes / No
	The relay shall have at least 1 N/O + 2 N/C Self Reset Contacts & a Hand Reset Reverse Operation Indicator (Flag).	Yes / No
	Rating: 220V DC. Operating range : 85 - 110 % of rated voltage	Yes / No
	The relay shall have time delay on drop-off of the order of 200ms.	Yes / No
	In case of modular relays, three modules can be mounted in one RHGX4 case.	Yes / No
11	Two Element Auxiliary Relay, type MVAAM21 of GE(Alstom) make or equivalent.	Yes / No
	Each element of the relay shall have at least 3 NO OR 2 NO + 1 C/O Self Reset Contacts and a Hand Reset Operation Indicator (Flag).	Yes / No
	Rating: 220V DC. Operating range : 85 - 110 % of rated voltage	Yes / No
	In case of modular relays, 50% of modules to be mounted in RHGX8 case and rest 50% in RHGX4 case with 25% seating for future use.	Yes / No
12	No Volt Relay for line earth switch interlocking, electromechanical type MVAGM21 of GE(Alstom) make or equivalent.	Yes / No
	Rating 63.5V, 50Hz. Drop off setting at any value between 20 to 50% of 63.5V AC.	Yes / No
	The relay shall have at least 2 NC Self Reset Contacts & a Hand Reset Reverse Operation Indicator (Flag).	Yes / No
	Auxiliary Supply, if required, shall be 220V DC with variation 85% to 110% of 220V DC.	Yes / No
	In case of modular relays, three modules can be mounted in one RHGX4 case.	Yes / No
13	VT Fuse Failure Relay (Voltage Balance Scheme), type MVAPM32 of GE(Alstom) make or equivalent.	Yes / No
	Rating 63.5V (Phase to Neutral), 50HZ.	Yes / No

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	The relay shall have at least 4 N/O Self Reset Contacts on output element & a Hand Reset Operation Indicator (Flag).	Yes / No
	Auxiliary Supply, if required, shall be 220V DC with variation 85% to 110% of 220V DC.	Yes / No
14	VT Fuse Failure Relay, type VAPM31 of GE(Alstom) make or equivalent.	Yes / No
	Rating 63.5V (Phase to Neutral), 50HZ.	Yes / No
	The relay shall have 1 N/O + 1 N/C Self Reset Contacts on output element & a Hand Reset Operation Indicator (Flag).	Yes / No
	Auxiliary Supply, if required, shall be 220V DC with variation 85% to 110% of 220V DC. External resistor, if required, shall be supplied with the relay.	Yes / No
15	AC Monitoring relay, type MVAAM11 of GE(Alstom) make or equivalent.	Yes / No
	The relay shall have at least 2 N/O + 2 C/O Self Reset Contacts and a Self Reset Operation Indicator (Flag).	Yes / No
	Rating: 240 V AC 50Hz from. Operating voltage: 85% to 110% of 240V AC.	Yes / No
	The relay shall have time delay on drop-off of the order of 100 ms.	Yes / No
16	Static Check Synchronising Relay type SKD11 of GE(Alstom) make or equivalent.	Yes / No
	Auxiliary voltage: 220V DC.	Yes / No
	Rating 63.5V or 110V AC, 50HZ selectable.	Yes / No
	Phase Angle Setting 35 Degrees. Time Delay: 2 to 10 sec.	Yes / No
	Relay shall be complete with external series resistor, if required.	Yes / No
	The relay shall have 2 N/O Self Reset Contacts on output element.	Yes / No
	The relay shall be mounted in draw out switchboard flush pattern cases, with rear access terminals. and having a built-in facility to test the relay for secondary injection by inserting a test plug or test handle.	Yes / No
17	Surge Proof interposing relay, type VAWA12 of Alstom make or equivalent. Offered relay shall be immune to ac induced voltages of long length cables running in power plant.	Yes / No
	Rating: 220V DC. Operating voltage: 85% to 110% of 220V DC rated	Yes / No
	Contacts: 4 N/O S/R with H/R operation indicator.	Yes / No
GENERAL	Auxiliary Voltage mentioned in the above relays may change and needs to be confirmed from BHEL before execution of the order.	Yes / No
	GENERAL NOTES:	
	1) The vendors shall furnish two sets of type test reports with the order acceptance for approval / review by customer. In case any discrepancy or inadequacy is found by the customer during approval, the same shall be resolved by supplier with customer with no binding on BHEL and without any price implication.	Yes / No

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	2) The relays are guaranteed for successful operation for a period of 36 months from the date of receipt of all items against respective PO.	Yes / No
	3) Five copies of bound manuals comprising commissioning manuals, descriptive leaflets, wiring diagram and guaranteed technical particulars of each item shall be furnished against each project before dispatch of equipment.	Yes / No
	4) Six copies of routine test certificates shall be furnished project wise for all relays before dispatch of equipment.	Yes / No
	5) Vendor shall furnish descriptive catalog, panel cutout, overall dimension drawings, electrical connection drawing, complete model number and technical particulars for each item along with the offer.	Yes / No
	6) Special lugs required for wire terminations on the relays shall be supplied in adequate quantity with each relay, considering a factor of 1.5 terminations at each terminals. These shall be provided in the relay packing case itself and shall not have any separate price implication.	Yes / No
	7) All contacts and coil connections of all relays shall be independently wired out to relay terminals without any common point.	Yes / No
	8) All relays shall be suitable for taking two wires of at least 1.5 square mm size for DC wiring and 2.5mm square for CT/PT and auxiliary AC supply wiring.	Yes / No
	9) The relays (It-01 to 17) shall be flush mounted in modular/drawout case, with rear access terminals.	Yes / No
	10) It-01 to 04 are to be procured from single source to ensure trip coil supervision compatibility of trip relays.	Yes / No
	11) Mounting cases for combliflex relays in case of Hitachi (ABB) relays shall be separate for each line item unless otherwise specified in respective items. These shall be quoted along with the respective line item. No separate quotation shall be acceptable.	Yes / No