

Annexure-B
Pre-Qualification Requirement (PQR) for Surge Arresters Rate Contract against PI
240962039

1. The Bidder must be OEM or OEM Authorized.

Document required: OEM Certificate or Authorization Certificate from OEM.

2. OEM should have supplied min. 500 Nos of 3.3KV to 12KV Surge Arresters in any one financial year out of last 5 financial years ending 2024-25.

Document required: Bidder to furnish P.O/ Invoice copies

3. OEM should have supplied directly or indirectly min. 100 Nos. of 3.3KV to 12KV Surge Arresters for Motor Switching Application.

Document required: Bidder to furnish

- (i) Certification from end user that any of the above rating Surge Arrester is deployed in their plant/substation for Motor Switching Application
OR
- (ii) Certification from Switchgear OEM for deployment of any of the above rating surge arrester for Motor Switching Application
OR
- (iii) Switchgear Motor Switching Type Test report deployed with OEM Surge Arrester (any of the above rating)

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TECHNICAL SPECIFICATION FOR ZINC OXIDE TYPE SURGE ARRESTOR

Single Pole, Indoor, non-linear (gap-less design) Zinc Oxide type surge arrester suitable for 3 Phase, 50Hz solidly earthed neutral system conforming to technical requirements detailed in table-1 below.

A. APPLICATION:

For **protection of motors** against switching surges generated by vacuum circuit breakers.

Complete technical particulars of the offered surge arrester to be furnished by the supplier as per the enclosed technical particulars format **ANNEXURE-I**.

Offers without duly filled Annexure are liable to get rejected technically without any further communication in this regard.

TABLE-1

S/no.	Technical Parameters	Item-1	Item-2	Item-3	VENDOR COMPLIANCE (YES/NO)
1	Surge Arrester Rating	12 kV	7.2 kV	4.5 kV	
2	Power frequency withstand voltage (1 min. RMS)	28 kV rms	20 kV rms	10 kV rms	
3	Peak withstand voltage	70 kVp	60 kV rms	40 kV rms	
4	Nominal Discharge current	10 kA	10 kA	10 kA	
5	Energy dissipation class	IEC-60099-4	IEC-60099-4	IEC-60099-4	
6	MCOV	≥ 9kVrms	≥ 5kVrms	≥ 3kVrms	
7	TOV	12 kVrms for 10 sec	7.2 kVrms for 10 sec	3.6 kVrms for 10 sec	
8	Dimensional requirement	Max height including connection-250mm	Max height including connection-200mm	Max height including connection-200mm	
9	Applicable Standard	IEC-60099-4	IEC-60099-4	IEC-60099-4	
10	Color Code (Stickers/Painted)	White	Green	Yellow	
11	Offered Model No.				
12	Mounting	For mounting inside H.T. switchgear cubicles			
12	Housing	Polymeric Type			

Above parameters must be supported by valid type test reports only.

Other than above parameters, offered surge arrester shall strictly comply to all the requirements mentioned in IEC-60099-4, Also color code band of specified color shall be provided by the vendor on each Surge Arrester.

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B. TYPE TEST REPORTS -

S.No	BHEL REQUIREMENT	VENDOR COMPLIANCE
1	Following minimum type test reports of offered surge arrester not older than 15 years from date of technical bid opening shall be submitted for evaluation during technical bid & fill Table-2 with details: a. Switching Surge operating duty test b. Switching impulse Residual voltage test c. Power frequency voltage test	
2	Vendor to confirm that offered model is type tested for remaining tests as per IEC & shall be submitted on demand for customer approval after PO placement. In case any discrepancy or inadequacy is found by customer wrt IEC, same shall be resolved by supplier with customer with no binding on BHEL and without any price implication.	

TABLE-2

It.No	TYPE TEST REPORT	OFFERED MODEL NO.	TYPE REPORT NO.	DATE OF TEST
#001	Switching Surge operating duty test			
#002	Switching Surge operating duty test			
#003	Switching Surge operating duty test			
#001	Switching impulse Residual voltage test			
#002	Switching impulse Residual voltage test			
#003	Switching impulse Residual voltage test			
#001	Power frequency voltage test			
#002	Power frequency voltage test			
#003	Power frequency voltage test			

C. DOCUMENTS TO BE FURNISHED BY SUPPLIER AT THE TIME OF OFFER :

1. Guaranteed technical particular details as per ANNEXURE-I for all the items separately
2. Dimensional general arrangement drawing.
3. Technical leaflets.
4. Type Test reports as per table-2

D. DOCUMENTS TO BE FURNISHED BY SUPPLIER AT THE TIME OF SUPPLY :

1. Routine test certificates.
2. Guarantee certificate

ANNEXURE-A TO PURCHASE INDENT- 240962039

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E. PERFORMANCE GUARANTEE: Surge arrestors shall perform satisfactorily for a minimum period of 24 months after receipt at BHEL Bhopal or 18 months from date of commissioning, whichever is earlier.

F. ACCEPTANCE CRITERIA :

1. Dimensions as per approved drawing.
3. Technical parameters as per approved GTP.
4. Visual checks for defect free surface.

G. Dimensional Requirement: Vendor to submit their standard drg for evaluation during technical bid.

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ANNEXURE-I**ZINC-OXIDE TYPE SURGE ARRESTORS****GUARATNTED TECHNICAL PERTICULARS FOR SURGE ARRESTOR**

<u>S.No.</u>	<u>Description</u>		<u>Details</u>
1	Type		
2	Model No.		
3	Rating (Ur)		
4	Maximum continuous operating voltage		
5	Nominal Discharge Current		
6	a.	Discharge capability repetitive	
	b.	Long duration current impulse	
7	Maximum Residual voltage (8/20 Micro sec.) at current impulse		
	a.	5 KA	
	b.	10 KA	
	c.	20 KA	
8	Maximum switching impulse residual Voltage at		
	a.	125 Amps crest	
	b.	500 Amps crest	
9	Temporary over voltage withstand Capacity for		
	a.	0.1 sec	
	b.	1.0 sec	
	c.	10 sec	
	d.	100 sec	
10	Insulation withstand		
	a.	Lighting Impulse (dry)	
	b.	Power Frequency rms (wet)	