

GENERAL SPECIFICATION

SAL-1

NO. CLWES/3/0313

ALT					
SHEETS					

ENCLOSURES:

1. ANNEXURE
2. DRG. NOS.

CLWES/3/SK-1/0313

TOTAL NO. OF SHEETS **5**

ALT	A			
SHEETS	5			

SPECIFICATION FOR

SURGE ARRESTOR

FOR WAP-5(DD-10) ELECTRIC LOCOMOTIVES

DESIGNED BY
 DY. CHIEF ELECTRICAL ENGINEER/CLW
 CHITTARANJAN LOCOMOTIVE WORKS
 P.O. CHITTARANJAN, 715331
 DIST. BURDWAN, WEST BENGAL, (INDIA)

SPECIFICATION FOR SURGE ARRESTOR	PREP. BY <i>SS</i>	CHK. REV. BY <i>[Signature]</i>	CHITTARANJAN LOCOMOTIVE WORKS
	DESIGNED BY <i>[Signature]</i>	DATE <i>6/8/98</i>	CHITTARANJAN, BURDWAN WEST BENGAL, INDIA
	APPROVED BY <i>[Signature]</i>		NO. CLWES/3/0313
	DY. RECON/118		ALT A

ALTERATION RECORD SHEET

Sheet

SL. NO.	DATE OF AMENDMENT	PAGE NO.	ALTERATION No.	REASON	AUTHORITY
1	3-3-03	4	A	All the non metallic Parts of this item should be Fire retardent /Self extinguishing properties as Per IS : 11731 (Part I&II) or any other equivalent DIN, IEC Standards	

PREP BY	CHKD BY	REVIEWED BY	APPROVED BY	WAG-9 (CO-CO)	CENTRE FOR D & D CHITTARANJAN LOCOMOTIVE WORKS CHITTARANJAN-713331
<i>[Signature]</i>	<i>[Signature]</i>		<i>[Signature]</i> DY. CEE/ CON./TU-I	surge Arrestor for WAP-5 LOCO	
				NO.:- CLW/ES/3/0313	ALT. A
				DATE:-	

INDEX

1. SCOPE
2. CLIMATIC AND ENVIRONMENTAL CONDITION
3. STANDARD
4. TECHNICAL DATA
5. TESTS
6. DOCUMENTS TO BE SUPPLIED BY TENDERER
7. DOCUMENTS TO BE SUPPLIED BY SUPPLIER
8. QUALITY ASSURANCE
9. REFERENCE

SPECIFICATION FOR SUPPLIER	PREP BY <i>SS</i>	CHECKED BY <i>Shil</i>	CHITTARANJAN LOCALITIVE WORKS
	D.MAN/B	SEA/D&D	CHITARA, JAL. BULDUAN
APPROVED BY	APPROVED BY		WEST LANG. ALINDI EATZ-6/8/96
	<i>hild</i> 6/8		NO.-CLW/ES.3/0313
APPROVED BY	DATE/CON.TU	ALT	A

1. SCOPE

1.1 This specification applies to Surge Arrestor for MV 25, 33, 35, 44 kV, 50 Hz, 1000 MVA.

1.2 Climatic and Environmental operation

- *Maximum ambient temperature : + 70°C (in sun) & + 50°C (in shade)
- *Relative humidity : 100% saturation during rainy season.
- *Reference site condition
 - (a) Ambient Temperature : max. : 53°C, min. : 0°C
 - (b) Humidity : 100%
 - (c) Altitude : 1000 m above mean sea level.
 - (d) Wind speed : Very heavy in certain areas. The location will be decided in such a way as to permit the design of the arrester to be at water level of 100mm above mt. level.
- *Weather conditions : extreme dry and desert, storm, in certain areas.
- *Seismic zone : locomotive and equipment will be designed to withstand as in the primary sub-station.
- *Pollution : The equipment sub-system and their mounting arrangement will be designed to withstand conditions and should meet the service as provided in corresponding IEC publication unless otherwise prescribed.

STANDARD : As per IEC-46.5 15:11731 (Part I & II)

2. TECHNICAL DATA:

For 25 kV class (1 kVA)

Rated Surge Current : 10 kA

Maximum Surge Current : 30 kA

Time constant : 200 μ s / 250 μ s / 1000 μ s

Response time : 130 ns

Rated Voltage : 25 kV

Permissible operating voltage : 25 kV (Nominal)

: 4.2 kV (peak)

Loss Voltage : 3.9 kV (nominal)

Recovery voltage with square wave wave : 1900 μ s : 7.4 kV (peak)

Recovery voltage for 20 μ s and 2/20 μ s at a surge current of (a) 2.5 kA (peak) : 8.0 kV

(b) 5 kA (peak) : 9.5 kV

(c) 10 kA (peak) : 10.2 kV

SPECIFICATION FOR SURGE	PREPARED BY	CHITTARANJAN	LOCOMOTIVE WORKS
	DESIGNED BY		
ARRESTOR	MANAGED BY	CHITTA, ANJAN, BU. SWAN	
	APPROVED BY	WEST BENGAL, INDIA	Date: 26-6-87/8
		NO.-C.W/ES/3/0313	
	BY: [Signature]	ALT	A

Maximum permissible surge energy (within 1 minutes): 5.0 J/W

5. TEST: As per relevant IEC

6. DOCUMENTS TO BE SUPPLIED BY TENDERER:

The tenderer shall Intend to furnish the following in three copies along with the quotation:

- i) Clausewise comments on the specification and test programme.
- ii) Detailed drawings.
- iii) Particulars of reference with supporting papers (if any).
- iv) Particulars of type of any.
- v) Grade and type of Custom Brush.
- vi) Coefficient.

DOCUMENTS FURNISHED BY THE SUPPLIER:

The following documents shall be supplied by the supplier as part of contract:

- i) Type test report - 10 copies.
- ii) Detailed Test report along with each set - 4 copies.
- iii) Material test report - 25 copies.
- iv) Detailed drawings - 1 copy.

QUALITY ASSURANCE: As per IEC 29001

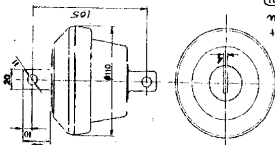
REFERENCE:

The equipment shall conform to the following standards:

- Type: MV
- System: 11KV/230V/415V/660V

NOTE: The tenderer shall confirm the item to be supplied to be suitable for use with the system (for W.B.S. Class) for the purpose of the tender and shall comply with the IEC Requirements.

(ii) The name and year of manufacture of the firm should be embossed on the item.



(iii) All the non metallic parts of this item should be fire retardant/ self extinguishing Properties as per IS: 11731 (Part II) or any other equivalent DIN, IEC, standards.

All dimensions are in mm

SPECIFICATION FOR SUPPLY	PROV. BY <i>SS</i>	CHITRAL NER LOC MOTIVE WORKS
	MANUFACTURED BY <i>SS/D&D</i>	CENTRE R.M. AN BUREWAL.
ARRESTED BY	APPROVED BY <i>hmt</i>	WEST BENGAL INDIAN ELECTRIC CO. LTD.
	BY THE CONTRACTOR <i>6/8</i>	NO. CLW/ES/3/0315
	ALL	A