




दिनांक एवं हस्ताक्षर SIGN & DATE		उत्पाद क्रय विनिर्देश PRODUCT PURCHASE SPECIFICATION	CG 59612 मुख पृष्ठ PREFACE SHEET
सामग्री सूची संख्या को अधिष्ठापित करना SUPERSEDES INVENTORY NO.	<p style="text-align: center;">TECHNICAL SPECIFICATION FOR PROTECTION & METERING CURRENT TRANSFORMERS</p> <p style="text-align: center;">केवल आंतरिक प्रयोग हेतु प्रदायक को देने से पूर्व इस मुखपृष्ठ को निकाल दें । FOR INTERNAL USE ONLY REMOVE THIS PREFACE BEFORE ISSUE TO SUPPLIERS.</p> <p>समतुल्य मानक/सूची आदि COMPARABLE STANDARDS / CATALOGUES ETC. } NIL</p> <p>सुझाए/सम्भावित प्रदायक एवं श्रेणी SUGGESTED / PROBABLE SUPPLIERS AND GRADES.</p>		
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सामग्री सूची संख्या INVENTORY NO.		स्वीकृति : APPROVED : A. K. JAIN	
	REV.NO. Dt.	निर्माण : PREPARED : PED	जारी : ISSUED : STANDARD DIVISION दिनांक : DATE : 10.11.06

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सामग्री सूची संख्या को अधिकृतित करता	SUPERSEDES INVENTORY NO.	BASED ON BHEL EXPERIENCE				
TECHNICAL SPECIFICATION						
FOR						
CURRENT TRANSFORMERS						
(PROTECTION & METERING)						
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हस्ताक्षर एवं दिनांक SIGN & DATE					नाम NAME	दिनांक एवं हस्ताक्षर SIGNATURE & DATE
				अनुवादक TRANSLATED BY		
				निर्माणकर्ता WORKED BY	Manju Azad	
				जांचकर्ता CHECKED BY	Vineet Jain	
	सहमत विभाग AGREED DEPT.	नाम NAME	दिनांक एवं हस्ताक्षर DATE & SIGNATURE	पर्यवेक्षणकर्ता SUPERVISED BY	B.R.Dhingra	
सामग्री सूची संख्या INVENTORY NO.				स्वीकृति APPROVED : A.K.Jain		
	REV.NO.			निर्माण PREPARED :	जारी ISSUED :	दिनांक DATE :
	Dt.					

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SUPERSE DES INVE सामग्री सूची	<p>1.0 SCOPE</p> <p>a The scope covers the design, manufacturing, inspection and supply of Protective/ Metering Current transformers to be used for 800/1000 MW generator during testing.</p> <p>b Deviations, if any, should be brought out very clearly along with the offer, otherwise it will be presumed that the offer is in line with what has been stated/asked for in this specification.</p>				
COPYRIGHT AND CONFIDENTIA	<p>2.0 COMPLIANCE WITH NATIONAL STANDARDS:</p> <p>Current transformers shall generally comply with IS : 2705 Part-I to Part-IV (Latest Revision) with specific requirements as per this specification.</p>				
स्वताधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं	<p>3.0 TECHNICAL REQUIREMENTS</p> <p>3.1 The detailed technical parameters of CT's required are given in Annexure –A.</p> <p>3.2 All CT's shall be Indoor, Air cooled, Epoxy Resin cast, Ring/ Wound Type.</p> <p>3.3 System Voltage 36 KV (Unearthed neutral system) and Frequency 50 Hz \pm 5%.</p> <p>3.4 Continuous operation Duty at specified System Voltage and Frequency.</p> <p>3.5 Mounting in Vertical / Horizontal position.</p> <p>3.6 Class “F” insulation with temperature rise limited to 70°C over an ambient temperature of 50°C as specified in IS: 2705 (Part- I).</p> <p>3.7 Accuracy Class as per Annexure-A.</p>				
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SUPERSEDES INVENTION

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- 3.8 Rated insulation levels (i.e. Highest System Voltage, Power frequency Withstand voltage, Lightning Impulse withstand Voltage) as per Table-1A of IS: 2705 (Part- I) corresponding to specified system voltage.
- 3.9 Short circuit level is 13.1 kA for 1 sec.
- 3.10 Other technical parameters like System Voltage, CT ratio, Minimum Knee Point Voltage, Maximum Excitation Current at knee point voltage shall be as indicated in Annexure-A
- 3.11 Overall limiting Dimensions of CT1 and CT2 shall be as specified in the Annexure - B. How ever these dimensions are indicative only.
- 3.12 Earthing as per IS: 2705 (Part- I).

4.0 TESTS

4.1 Type Tests:

- 4.1.1 All the type tests shall be carried out in accordance with IS: 2705 . However, Type Test Certificates for these tests are also acceptable provided these shall not be more than FIVE years old from the date of order.
- 4.1.2 Lightning Impulse Test shall be carried out corresponding to specified system voltage on a prototype CT. In case the insulation level of the CT's provided by the supplier corresponds to higher voltage level, the Lightning Impulse Test corresponding to this higher system voltage level shall be acceptable.

4.2 Routine Tests:

All Current Transformer's shall be subjected to Routine Tests as per IS: 2705

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WORKED BY

Manju
Azad

जांचकर्ता
CHECKED BY

Vineet
Jain

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SUPERSEDES INVOICE सामग्री सूची	<p>4.3 WITNESS: BHEL reserves the right to witness Type/Routine tests at vendor's work, for which prior information shall be given by the successful vendor.</p>				
COPYRIGHT AND CONFIDENTIAL	<p>5.0 RATING PLATE / DESIGNATION : Rating Plate as per IS: 2705 shall be provided on each Current Transformer. Following indications shall be provided on the rating plate: CT Ratio, Minimum Knee Point voltage (V_k), Maximum Magnetizing Current at knee point voltage, Secondary Resistance at 75°C and Mounting Dimensions.</p>				
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SUPERSEDES DES INVE सामग्री सूची	<p>7.0 TEST CERTIFICATE:</p> <p>The entire test certificate shall be having the following information.</p> <ul style="list-style-type: none"> ➤ BHEL order No. ➤ Specification No, ➤ Supplier's Name ➤ Details of CTs ➤ Test results of all Type Tests & Routine Tests mentioned at Sl.No.4.0 ➤ 4 copies of Test certificates as per requirement of Sl.no.4.0 shall have to furnished along with the supplies. ➤ Dimensional Observation 					
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हस्ताक्षर एवं दिनांक SIGN & DATE	<p>8.0 Documents /Drawing to be furnished along with the offer</p> <p>The offer should be complete with technical data, catalogue, brochures and drawings as applicable.</p> <p>Detailed Dimensional drawing for each type of current transformer along with the disposition and size of terminals.</p> <p>4 Copies of the type test certificates.</p> <p>Mounting arrangement drawings for CT3, CT4 .</p> <p>Calibration Certificate for each type of the CT.</p> <p>9.0 LIST OF REFFERED STANDARDS:</p> <p>IS : 2705</p>					
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ANNEXURE-A

Designation	Rating	C o r e n o	Purpose	System Voltage	Acc. Class	VA Burde n	Insulati on level	I _{Ex} (mA)	V _{kp}	Remarks
CT 1. ZGMF16620038	30000- 20000/20 /20A	1	Protection	36KV Unearthed Neutral system	PS	-----	70/ 170KV	500mA at V _k	200 R _{CT} + 200V	For Generator
		2	Metering	36KV Unearthed Neutral system	0.1	100	70/ 170KV	-----	-----	-----
CT 2. ZGMF16620046	30000- 20000/20 /20A	1	Protection	36KV Unearthed Neutral system	PS	-----	70/ 170KV	500mA at V _k	200 R _{CT} + 200V	For Generator (Neutral side)
		2	Protection	36KV Unearthed Neutral system	5P15	100	70/ 170KV	-----	-----	-----
CT 3. ZGMF16620054	20/5A	1	Protection	660V	PS	-----	-----	≤ 250mA at V _k /2	≥ 80V	Aux CT's for Generator / Neutral
		1	Protection	660V	5P15	40	-----	-----	-----	-----
CT 4. ZGMF16620062	20/5A	1	Protection	660V	0.1	40	-----	-----	-----	-----
		1	Metering	660V	0.1	40	-----	-----	-----	-----

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ANNEXURE B

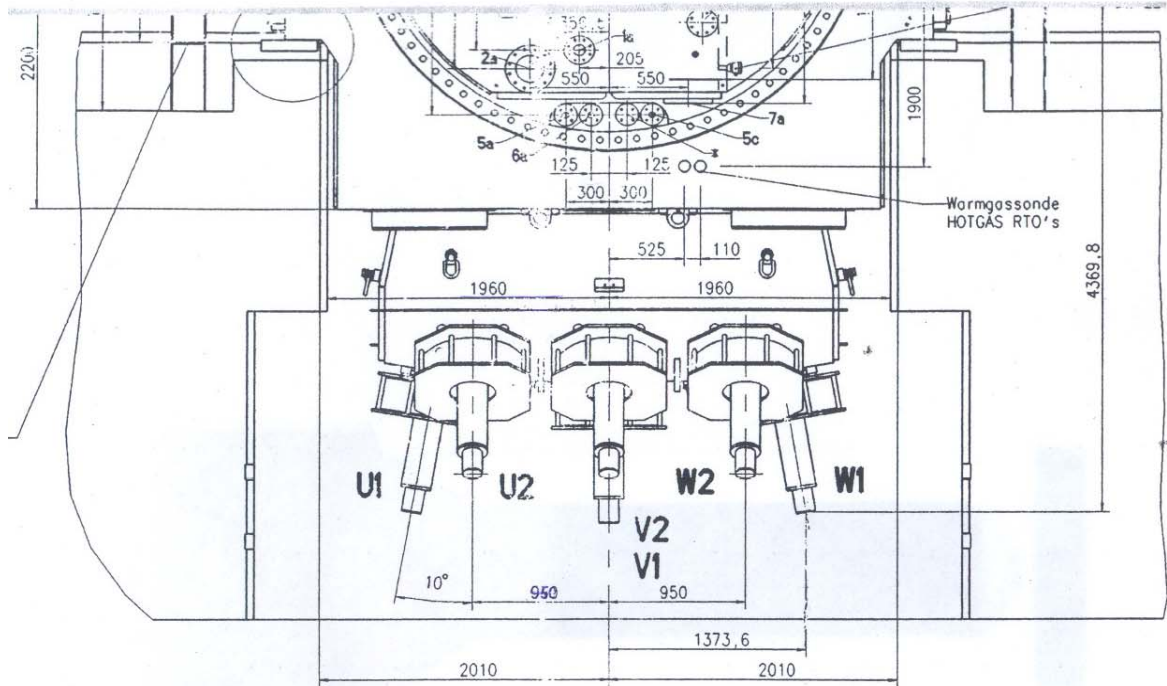
DIMENSIONAL DETAILS: (FOR CT1 and CT2)

Generator Data:

Rating:	800MW	1000MW
Rated Voltage:	27KV	27KV
Rated Stator Current:	20126 Amp	25157 Amp
Rated Power Factor:	0.85(lag)	0.85(lag)

LIMITING DIMENSIONS FOR CT1 AND CT2

- Thickness and weight to be indicated in the offer.
- Inner diameter not less than 300mm
- Centre to Centre distance b/w 2 bushings: 950mm
- Disposition of terminal as per figure shown below:



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सामग्री सूची संख्या
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जांचकर्ता CHECKED BY	Vineet Jain