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दिनांक एवं हस्ताक्षर SIGN & DATE				उत्पाद क्रय विनिर्देश PRODUCT PURCHASE SPECIFICATION		CG 59612 पृष्ठ का Page 1 of 7	
सामग्री सूची संख्या को अधिकृतित काला SUPERSEDES INVENTORY NO.		TECHNICAL SPECIFICATION FOR CURRENT TRANSFORMERS (PROTECTION & METERING)					
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स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं							
हस्ताक्षर एवं दिनांक SIGN & DATE						नाम NAME	
						दिनांक एवं हस्ताक्षर SIGNATURE & DATE	
				अनुवादक TRANSLATED BY			
QAX				निर्माणकर्ता WORKED BY		Manju Azad	
TSX				जांचकर्ता CHECKED BY		Vineet Jain	
सहमत विभाग AGREED DEPTT.		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 :	
Dt.						दिनांक DATE :	


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*+/- finalad, oa gLrk (k) SIGN & DATE			उत्पाद क्रय विनिर्देश PRODUCT PURCHASE SPECIFICATION		CG 59612 पृष्ठ का Page 2 of 7	
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> <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> <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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सामग्री सूची संख्या INVENTORY NO.		REV.NO.		निर्माणकर्ता WORKED BY	Manju Azad	
				जांचकर्ता CHECKED BY	Vineet Jain	

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SUPERSEDES INVENTION सामग्री सूची	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				
COPYRIGHT AND CONFIDENTIAL	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				
स्वत्वधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं	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.				
हस्ताक्षर एवं दिनांक SIGN & DATE	4.2 Routine Tests:				
	All Current Transformer's shall be subjected to Routine Tests as per IS: 2705				
सामग्री सूची संख्या	REV.NO.		निर्माणकर्ता WORKED BY	Manju Azad	
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SUPERSEDES DES INVE सामग्री सूची	<p>4.3 WITNESS:</p> <p>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 :</p> <p>Rating Plate as per IS: 2705 shall be provided on each Current Transformer.</p> <p>Following indications shall be provided on the rating plate:</p> <p>CT Ratio, Minimum Knee Point voltage (V_k), Maximum Magnetizing Current at knee point voltage, Secondary Resistance at 75°C and Mounting Dimensions.</p>				
स्वत्वाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित	<p>6.0 PACKING & DISPATCH</p> <p>(i) CTs shall be despatched with secondary shorted by Copper Link.</p> <p>(ii) CTs shall be packed in wooden boxes ensuring their safe transportation.</p> <p>(iii) Each wooden box shall bear the following information :-</p> <ol style="list-style-type: none"> Purchase Order No. Net and Gross weight Indication of top of box. Caution sign against over turning Sign showing precision instrument on top Code No <p>(iv) Packing list shall be enclosed in the wooden box specifying :</p> <ol style="list-style-type: none"> Manufacturer's Name and Trade mark. Designation of CTs and their Sl.No. against each type. 				
हस्ताक्षर एवं दिनांक SIGN & DATE					
सामग्री सूची संख्या	REV.NO.		निर्माणकर्ता WORKED BY	Manju Azad	
			जांचकर्ता CHECKED BY	Vineet Jain	

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सामग्री सूची SUPERSEDES INVE		<div>7.0 TEST CERTIFICATE:</div> <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 <div>8.0 Documents /Drawing to be furnished along with the offer</div> <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> <div>9.0 LIST OF REFFERED STANDARDS:</div> <p>IS : 2705</p>					
कॉपीराइट एंड कॉन्फिडेंशियल COPYRIGHT AND CONFIDENTIAL							
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REV.NO.				निर्माणकर्ता WORKED BY		Manju Azad	
				जांचकर्ता CHECKED BY		Vineet Jain.	

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सामग्री सूची संख्या INVENTORY NO.	हस्ताक्षर एवं दिनांक SIGN & DATE	स्वलाधिकार एवं गोपनीय इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रत्यक्ष एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न	COPYRIGHT AND CONFIDENTIAL The information on this documents is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company	सामग्री सूची संख्या को अधिकृत करता है SUPERSEDES INVENTORY NO.	दिनांक एवं हस्ताक्षर SIGN & DATE	उत्पाद क्रय विनिर्देश CG 59612																																																																																							
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ANNEXURE-A																																																																																													
REV.NO.	<table border="1"> <thead> <tr> <th>Designation</th> <th>Rating</th> <th>C or e no</th> <th>Purpose</th> <th>System Voltage</th> <th>Acc. Class</th> <th>V A Burden</th> <th>Insulation level</th> <th>I_{EX} (mA)</th> <th>V_{kp}</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>CT 1. ZGMF16620038</td> <td>30000-20000/20/20A</td> <td>1</td> <td>Protection</td> <td>36KV Unearthed Neutral system</td> <td>PS</td> <td>-----</td> <td>70/170KV</td> <td>500mA at V_k</td> <td>200 R_{CT} + 200V</td> <td>For Generator</td> </tr> <tr> <td></td> <td></td> <td>2</td> <td>Metering</td> <td>36KV Unearthed Neutral system</td> <td>0.1</td> <td>100</td> <td>70/170KV</td> <td>-----</td> <td>-----</td> <td></td> </tr> <tr> <td>CT 2. ZGMF16620046</td> <td>30000-20000/20/20A</td> <td>1</td> <td>Protection</td> <td>36KV Unearthed Neutral system</td> <td>PS</td> <td>-----</td> <td>70/170KV</td> <td>500mA at V_k</td> <td>200 R_{CT} + 200V</td> <td>For Generator (Neutral side)</td> </tr> <tr> <td></td> <td></td> <td>2</td> <td>Protection</td> <td>36KV Unearthed Neutral system</td> <td>5P15</td> <td>100</td> <td>70/170KV</td> <td>-----</td> <td>-----</td> <td></td> </tr> <tr> <td>CT 3. ZGMF16620054</td> <td>20/5A</td> <td>1</td> <td>Protection</td> <td>660V</td> <td>PS</td> <td>-----</td> <td>-----</td> <td>≤ 250mA at V_k/2</td> <td>≥ 80V</td> <td>Aux CT's for Generator / Neutral</td> </tr> <tr> <td>CT 4. ZGMF16620062</td> <td>20/5A</td> <td>1</td> <td>Protection</td> <td>660V</td> <td>5P15</td> <td>40</td> <td>-----</td> <td>-----</td> <td>-----</td> <td></td> </tr> <tr> <td>CT 5. ZGMF16620100</td> <td>20/5A</td> <td>1</td> <td>Metering</td> <td>660V</td> <td>0.1</td> <td>40</td> <td>-----</td> <td>-----</td> <td>-----</td> <td></td> </tr> </tbody> </table>					Designation	Rating	C or e no	Purpose	System Voltage	Acc. Class	V A Burden	Insulation 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	CT 4. ZGMF16620062	20/5A	1	Protection	660V	5P15	40	-----	-----	-----		CT 5. ZGMF16620100	20/5A	1	Metering	660V	0.1	40	-----	-----	-----	
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उत्पाद क्रय विनिर्देश

CG 59612

PRODUCT PURCHASE SPECIFICATION

पृष्ठ का
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ANNEXURE B

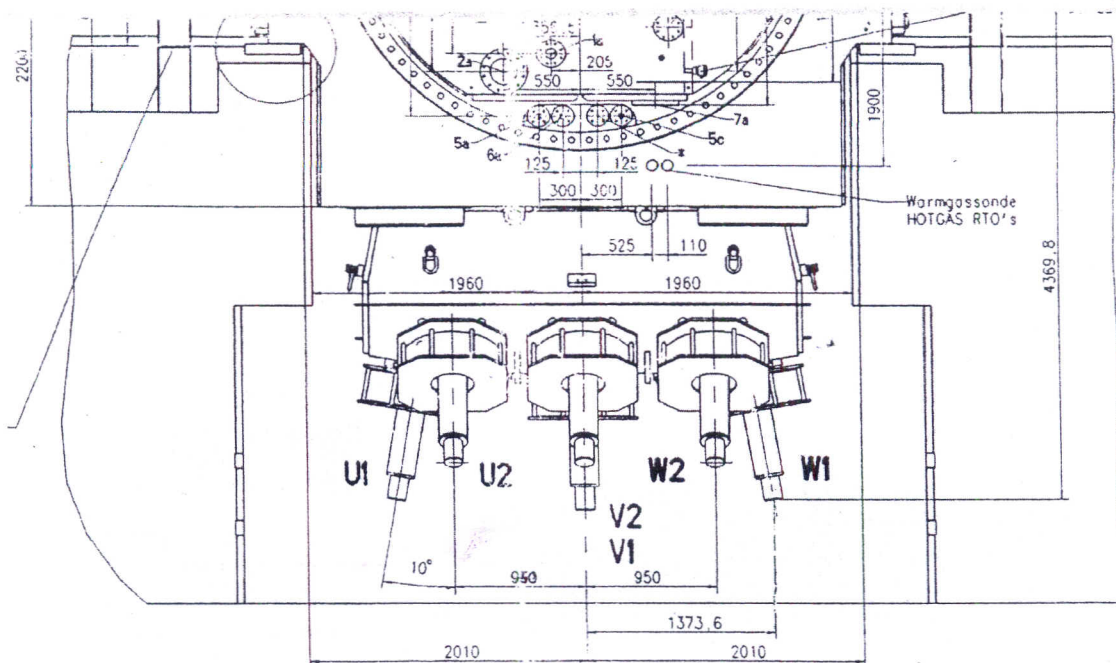
DIMENSIONAL DETAILS: (FOR CT1 and CT2)

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:



REV.NO.

निर्माणकर्ता
WORKED BYManju
Azadजांचकर्ता
CHECKED BYVineet
Jainसामग्री सूची संख्या
INVENTORY NO.हस्ताक्षर एवं दिनांक
SIGN & DATE

स्वाधिकार एवं गोपनीय
इस प्रलेख में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका
प्रत्यक्ष एवं
अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न

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सामग्री सूची संख्या को
अधिकृतित करता हैSUPERSEDES
INVENTORY NOदिनांक एवं हस्ताक्षर
SIGN & DATE