

**CENTRAL POWER RESEARCH INSTITUTE  
(Member of STL)**



**TEST REPORT**

Test Report Number : CPRIBPLSTNC19T0209 Dated : 01.05.2019

Name and Address of the Customer : M/s Rajasthan Powergen Transformer Pvt. Ltd.,  
Khasra No.911-914, Karola-Bhinmal Road Karola,  
Sanchore, Rajasthan-343041

Name and Address of the Manufacturer : M/s Rajasthan Powergen Transformer Pvt. Ltd.,  
Khasra No.911-914, Karola-Bhinmal Road Karola  
Sanchore, Rajasthan-343041

Particulars of Sample(s) Tested : 3.15 MVA, 33/11 kV Power Transformer

Condition of sample(s) on receipt : New

Type : Outdoor  
Designation : Power Transformer  
Description of test sample : Power Transformer  
Serial Number(s) : RPTPL/JD/02  
Number of Sample(s) Tested : One  
Date(s) of Test(s) : 25/03/2019 & 26/03/2019  
CPRI sample code number(s) : STNA19S0108  
Detail(s) of sealing(s) of sample(s) : The transformer was found sealed with polycarbonate seals by JdVVNL on middle of top cover at all the four sides of the tank ,filter valve, drain valve and conservator sampling valve bearing sl no.ME2566561 to ME2566567. Seals checked before test & found intact.

Particulars of test(s) conducted : Test with Lightning Impulse chopped on tail.

Test(s) in accordance with Standard / specification : As per Cl.:14.0 of IS:2026 (Part-3), 2009/IEC : 60076-3, 2000

Sampling Plan : NIL

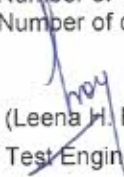
Customer's Requirement : NIL

Deviations, if any : NIL

Name of the witnessing persons :  
Customer's Representatives : Mr. Vijay Pal Verma, Testing Engineer  
Mr. G. C. Misra, G.M. Operation  
Other than Customer's Representatives : Mr. Latish Kumar, A.E. JdVVNL

Test subcontracted with name and address of the laboratory : NONE

Documents constituting this report (in words) :  
Number of Sheets : FIVE  
Number of Oscillograms : FORTY TWO  
Number of Graphs : NIL  
Number of Photos : NIL  
Number of Test Circuit Diagrams : NIL  
Number of drawings : TWO

  
(Leena H. Roy)  
Test Engineer



  
(Sumbul Munshi)  
Joint Director  
Approved by

ULR - TC5181190STCT0209

SWITCHGEAR TESTING & DEVELOPMENT STATION  
GOVINDPURA, BHOPAL 462023 INDIA  
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Sheet 1 of 5

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**TEST REPORT**

**Test Report Number: CPRIBPLSTNC19T0209**

**Date: 01.05.2019**

**SUMMARY OF TEST**

1. Test conducted : Test with Lightning Impulse chopped on tail
2. Rating for which tested : 75kVp / 170kVp
3. DOCUMENTS CONSTITUTING THIS REPORT :
  - 3.1 Supplementary test report : NIL
  - 3.2 Oscillogram No(s) : 20190325-EHV22 to EHV49  
20190326-EHV01 to EHV14
  - 3.3 Drawing of the equipment tested : 1) RPTPL/3150NP Rev.01 Sheet 01 of 01  
2) RPTPL/3150GA Rev 01Sheet 01 of 01
  - 3.4 Test circuit drawing No(s). : NIL
  - 3.5 Photograph No(s). : NIL

  
(Leena H. Roy)  
Test Engineer

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Sheet 2 of 5

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**CPRI**

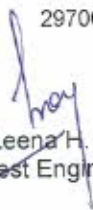
**TEST REPORT**

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**Date: 01.05.2019**

**DESCRIPTION OF THE SAMPLE TESTED**  
**(As assigned by the manufacturer)**

Sample	:	Power Transformer		
Rated Power (kVA)	:	3150		
Rated Voltage HV (Volts)	:	33000		
LV (Volts)	:	11000		
Rated Current HV (Amps)	:	55.11		
LV (Amps)	:	165.33		
No. of Phases	:	Three		
Insulation level LV (kV rms/kV Peak)	:	28/75		
Insulation level HV (kV rms/kV Peak)	:	70/170		
Type of Cooling	:	ONAN		
Connection (HV/LV)	:	Delta/Star		
Frequency (Hz)	:	50		
% Impedance	:	6.25%		
X/R	:	-		
Temperature rise of oil /Winding (deg C)	:	45/50		
Winding Material	:	Copper		
Type of Winding	:	Disc winding		
Quantity of Oil (litres)	:	1920		
Weight of Oil (kgs)	:	1630		
Weight of core and winding (kgs)	:	4800		
Total weight (Kgs)	:	8280		
Vector group	:	Dyn11		
Year of Manufacture	:	2019		
Serial Number	:	RPTPL/JD/02		
Details of taps	:	+5% to -10% (7 taps in 6 steps of 2.5% each)		
Tap No	Primary Voltage V	Secondary Voltage V	%Impedance	X/R Ratio
1	34650	11000	6.087	5.441
3	33000	11000	6.126	5.182
7	29700	11000	6.429	4.662

  
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Test Engineer

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**CENTRAL POWER RESEARCH INSTITUTE  
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**TEST REPORT**

**Test Report Number: CPRIBPLSTNC19T0209**

**Date: 01.05.2019**

**SCHEDULE OF TESTS**

Type of test : Test with Lightning Impulse chopped on tail.  
Condition of the sample : New  
Date of test : 25/03/2019 & 26/03/2019

**Atmospheric conditions:**

Ambient temperature (degC)	Dry bulb temperature (degC)	Wet bulb temperature (degC)	Atm. pressure (Hg-mm)
30/30	30/30	28/28	716.21/716.21

Atmospheric correction factor : Not applicable

Test details : The sample was tested with 1.2/50  $\mu$ sec standard full wave and chopped on tail wave of negative polarity as per standard.

**Test on LV winding: 75kVp**

Application No.	Voltage Application	Oscillogram Nos.		
		2U-Phase	2V-Phase	2W-Phase
1st application	full wave at reduced voltage	20190325-EHV22	20190325-EHV29	20190325-EHV36
2nd application	full wave at full voltage	20190325-EHV23	20190325-EHV30	20190325-EHV37
3rd application	chopped wave at reduced voltage	20190325-EHV24	20190325-EHV31	20190325-EHV38
4th application	chopped wave at full voltage	20190325-EHV25	20190325-EHV32	20190325-EHV39
5th application	chopped wave at full voltage	20190325-EHV26	20190325-EHV33	20190325-EHV40
6th application	full wave at full voltage	20190325-EHV27	20190325-EHV34	20190325-EHV41
7th application	full wave at full voltage	20190325-EHV28	20190325-EHV35	20190325-EHV42

**Test on HV winding: 170kVp**

Application No.	Voltage Application	Oscillogram Nos.		
		1Uph, L tap	1Vph, N tap	1Wph, H tap
1st application	full wave at reduced voltage	20190325-EHV43	20190326-EHV01	20190326-EHV08
2nd application	full wave at full voltage	20190325-EHV44	20190326-EHV02	20190326-EHV09
3rd application	chopped wave at reduced voltage	20190325-EHV45	20190326-EHV03	20190326-EHV10
4th application	chopped wave at full voltage	20190325-EHV46	20190326-EHV04	20190326-EHV11
5th application	chopped wave at full voltage	20190325-EHV47	20190326-EHV05	20190326-EHV12
6th application	full wave at full voltage	20190325-EHV48	20190326-EHV06	20190326-EHV13
7th application	full wave at full voltage	20190325-EHV49	20190326-EHV07	20190326-EHV14

Observations : No abnormality noticed . No significant differences were noticed between voltage and current transients recorded at reduced voltage and those recorded at full test voltage.

**CONCLUSION** : The test results indicate that the sample tested complies with the requirement of the CI.:14 of IS: 2026 (Part-3), 2009 / IEC : 60076-3, 2000.

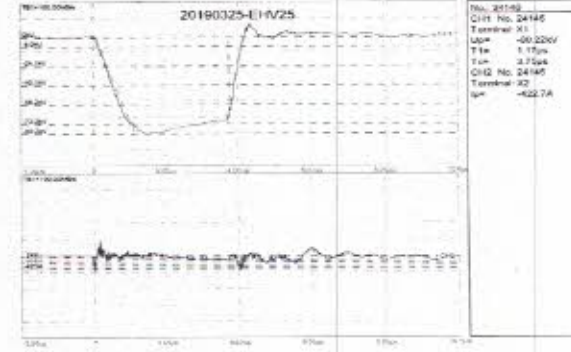
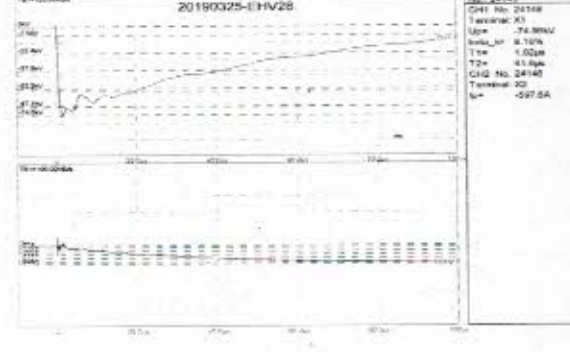
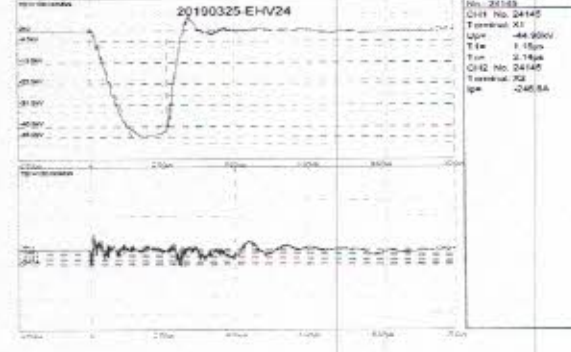
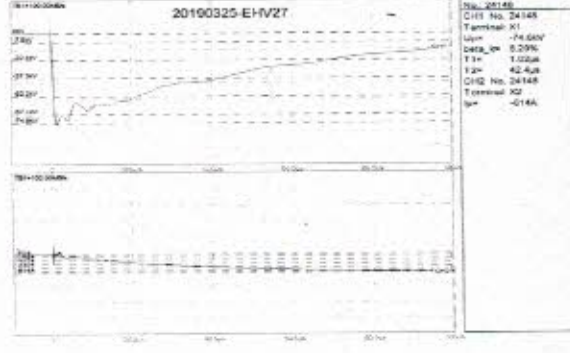
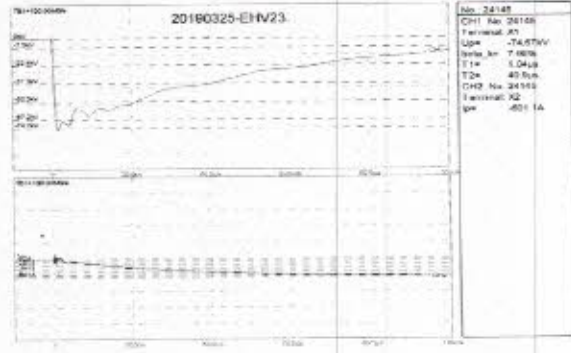
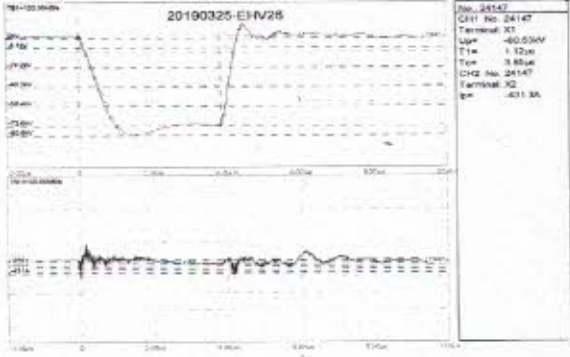
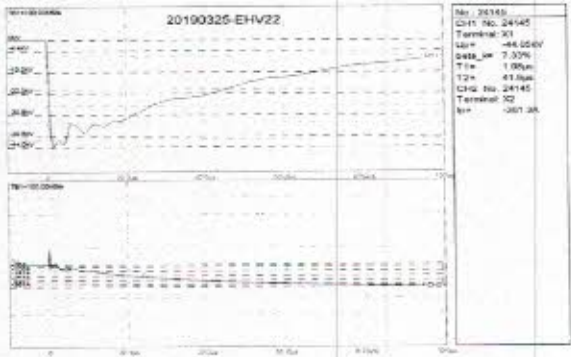
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Test Engineer

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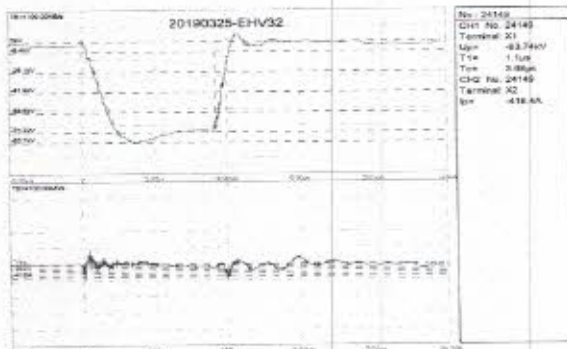
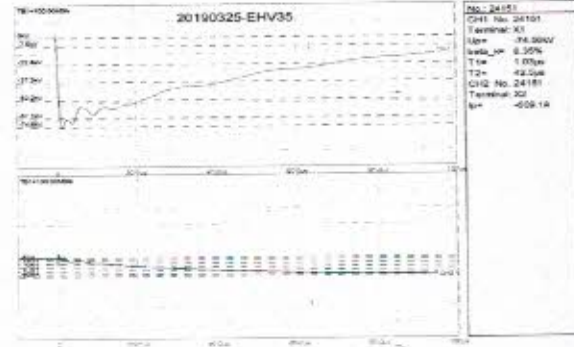
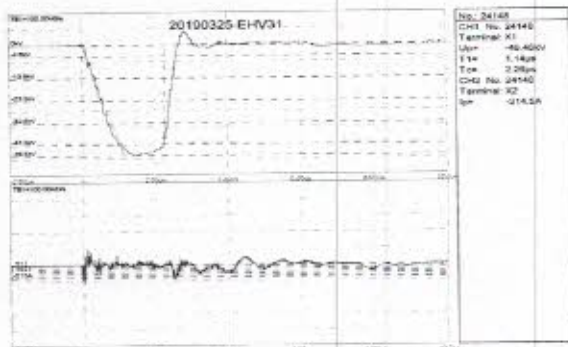
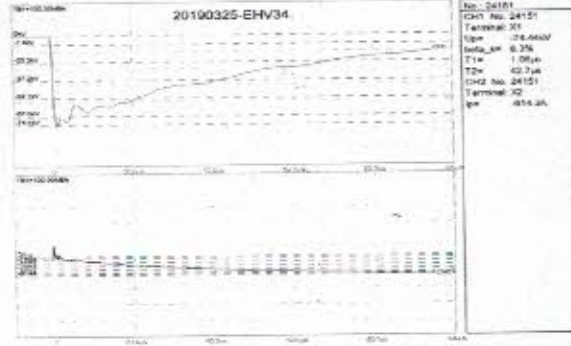
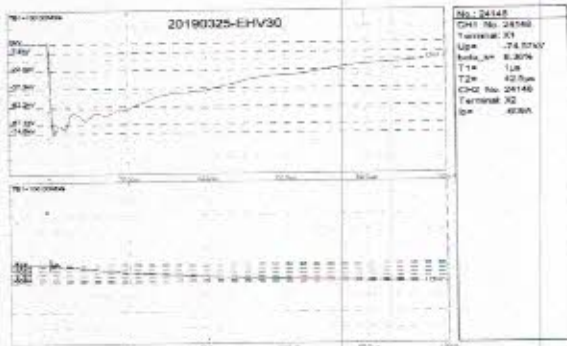
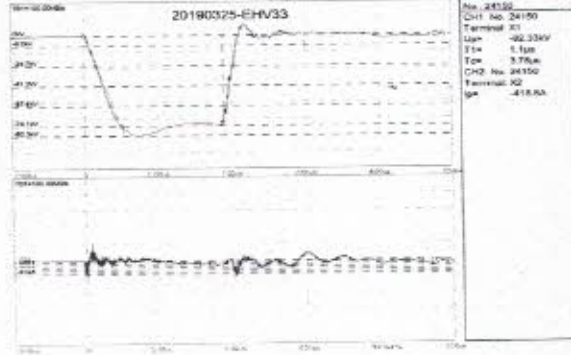
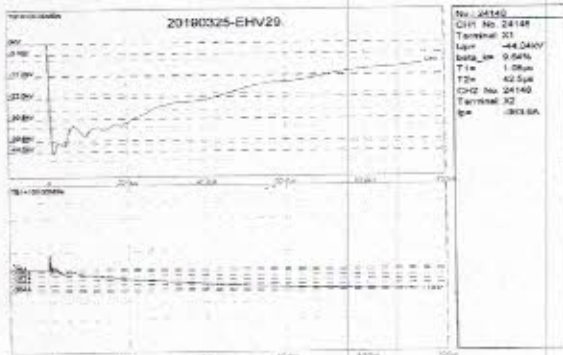
Sheet 4 of 5

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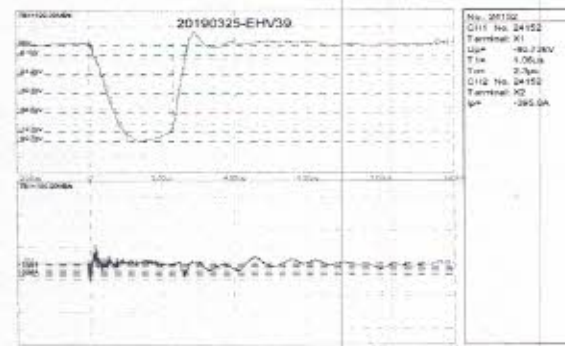
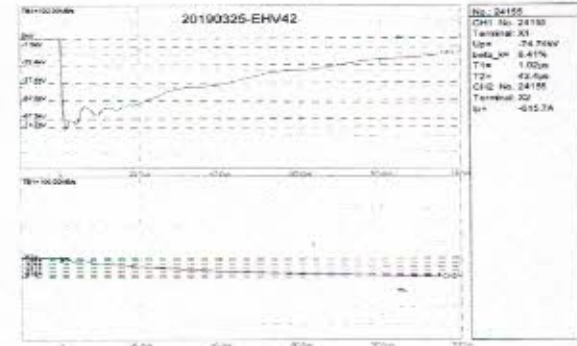
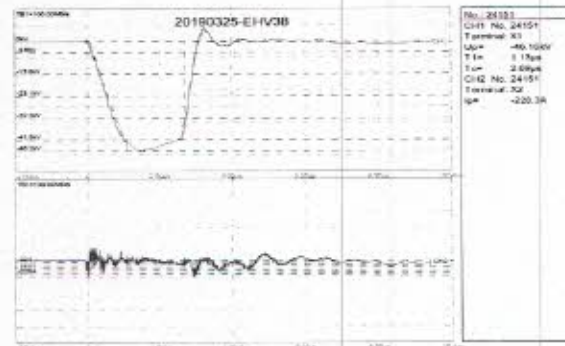
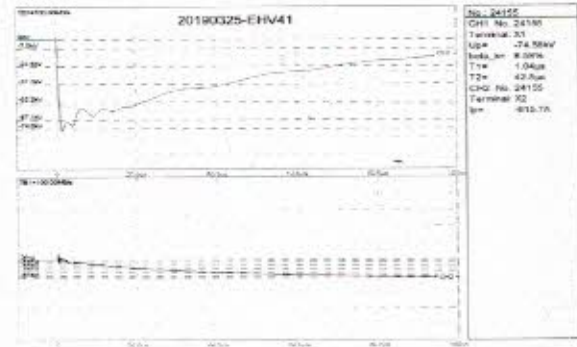
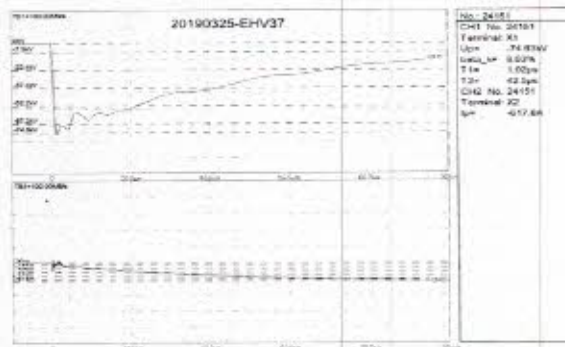
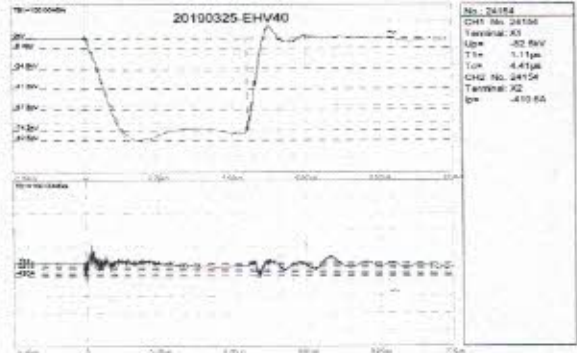
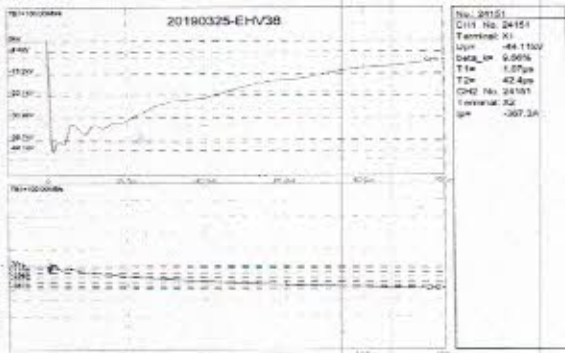
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 श्री. पी. ए. आर्. आर्. / C.P.R.I.  
 गोविन्दपुरा / Govindpura  
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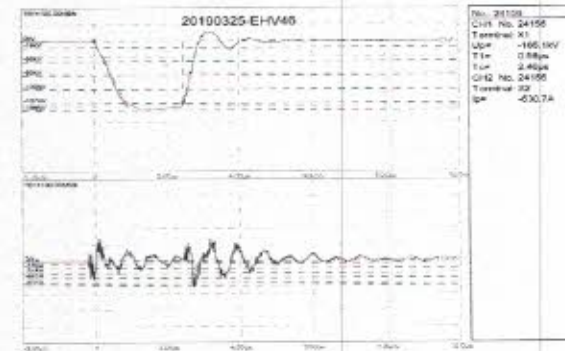
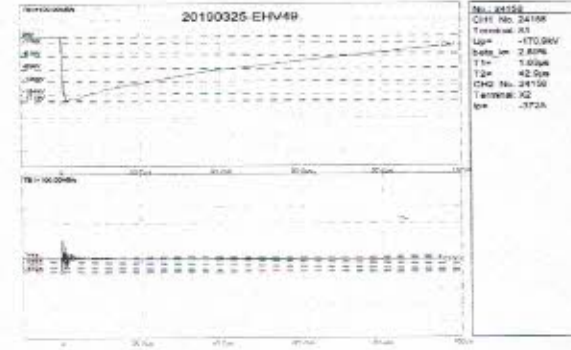
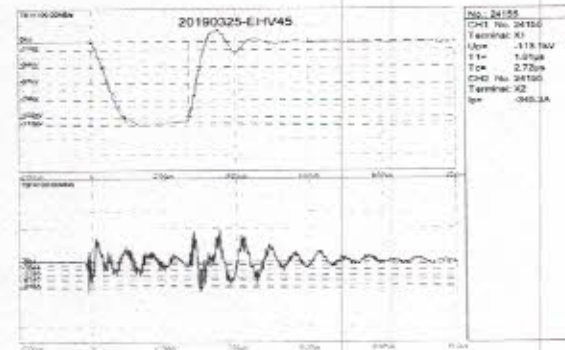
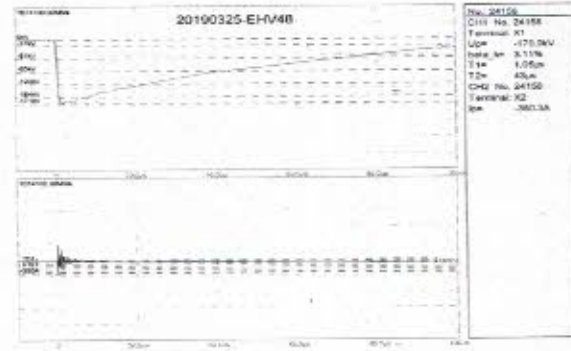
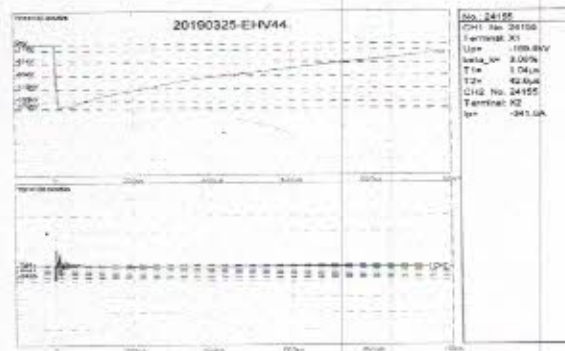
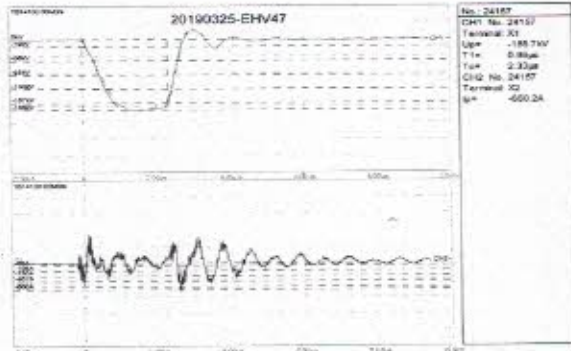
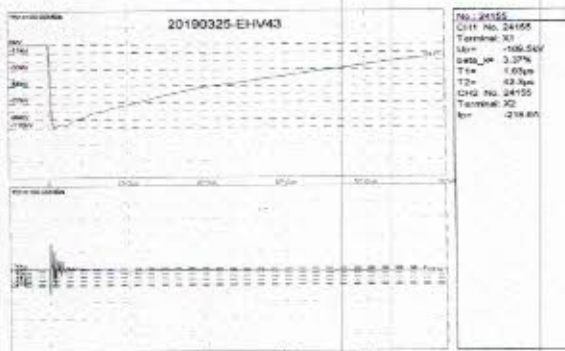
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Department Pertaining  
Testing Report No. **CDP&BPL-ITMC19T0209**  
अभिजात सिंह अशोक  
Engineering Officer  
गोविंदपुरा / Govindpura  
भोपाल / Bhopal

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प्रमाण लिखित दस्तावेज  
 को संदर्भ में दस्तावेज  
 का विषय Pertaining  
 Report No. CPRI/BDPL/STN/0970209  
 को सही अंगिकारी  
 Engineering Officer  
 गोविंदपुरा / Govindpura  
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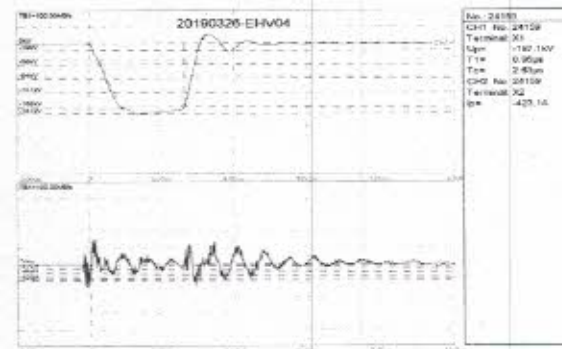
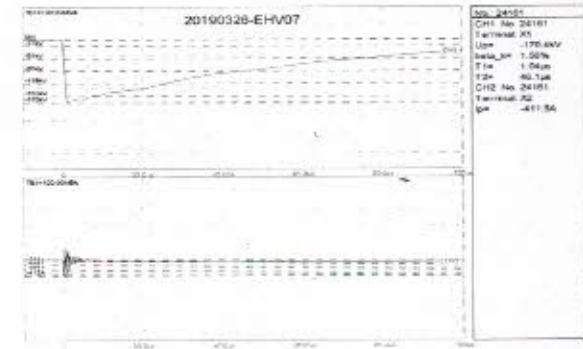
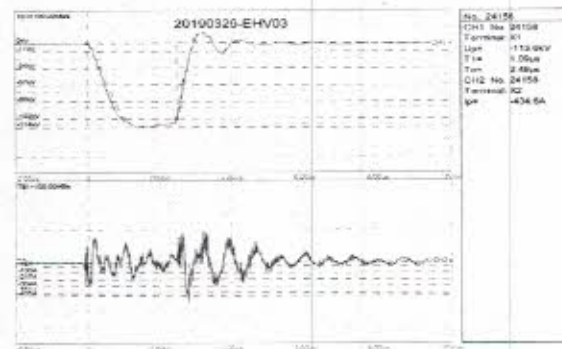
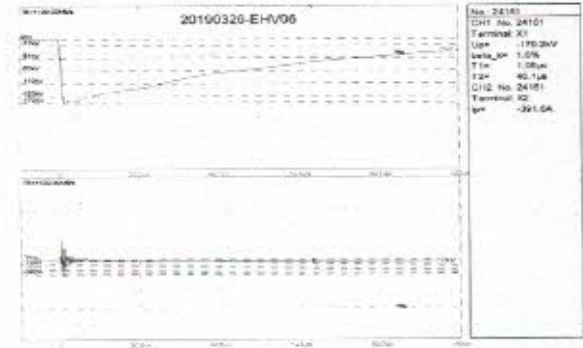
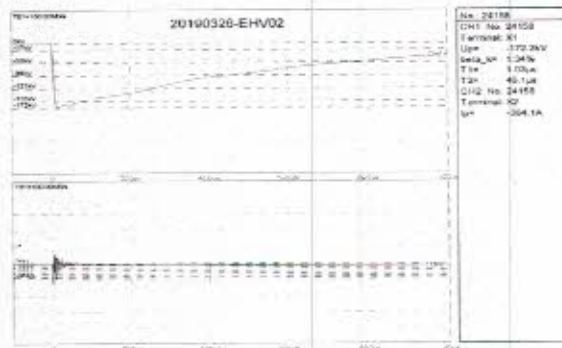
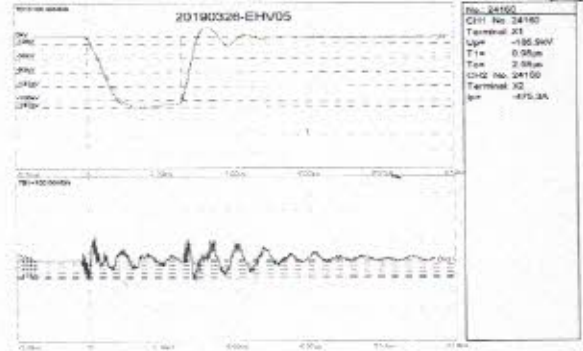
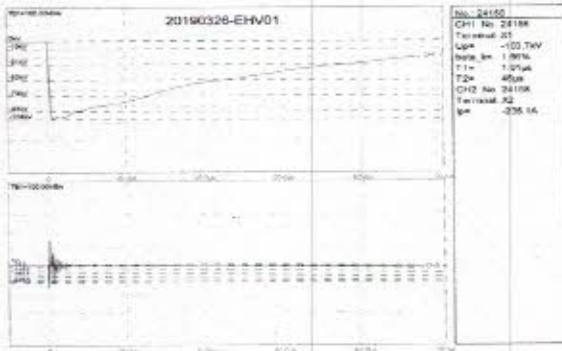
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मखिण रिक्ट लैबक  
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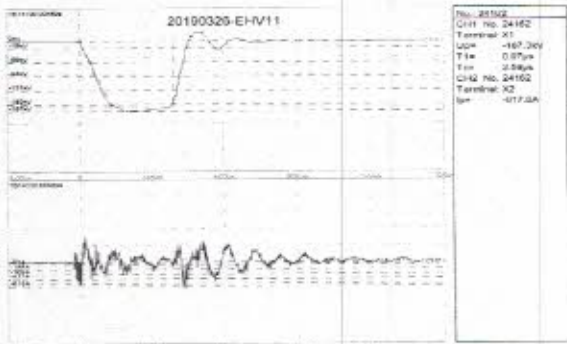
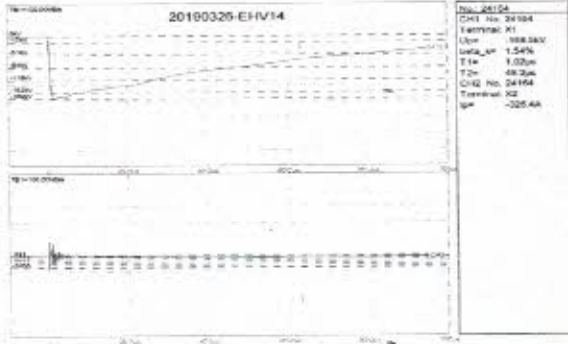
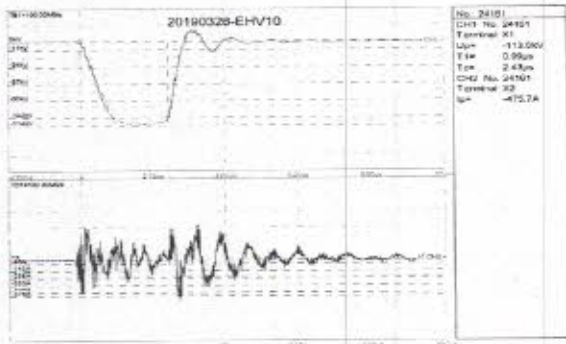
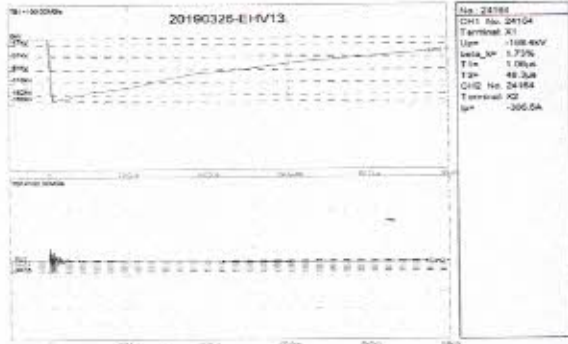
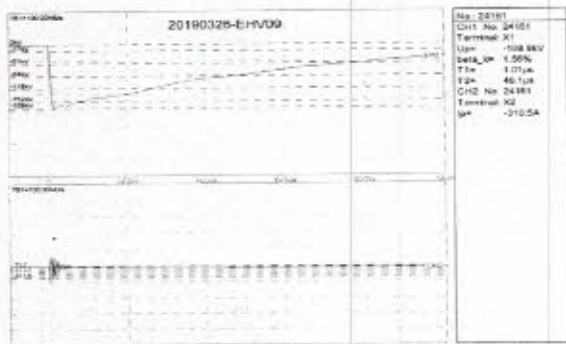
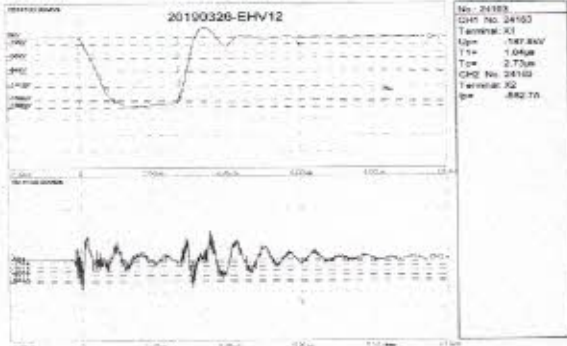
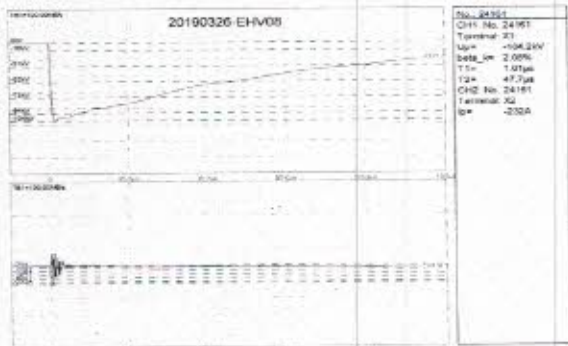


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विद्युत लिफ्ट क्रमिक  
के अन्तर्गत में दस्तावेज  
Institutional Permisning  
ing Report No. CPRI/CPRI/NCU/970209  
मेरी  
आविष्कारिकी अधिकारी  
Engineering Officer  
श्री. पी. आर. शर्मा / C.P.R.I.  
गोविन्दपुरा / Govindpura  
भोपाल / Bhopal

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दिवाण रिपोर्ट प्रकृत  
 के अंतर्गत में दस्तावेज  
 Document Pertaining  
 Testing Report No. **CPRI/BPL/STN/CIAT/0209**  
 नय  
 अभियंता की अतिरिक्त  
 Engineering Officer  
 सी.पी.आर.आई / C.P.R.I.  
 गोविंदपुरा / Govindpura  
 भोपाल / Bhopal

**RAJASTHAN POWERGEN TRANSFORMER PVT.LTD**

BHINMAL-KAROLA ROAD, KAROLA, SANCHORE  
RAJASTHAN (INDIA)

3 PHASE TRANSFORMER SL. No. RPTPL/JD/02

TYPE OF TRANSFORMER OUT DOOR POWER

STANDARD IS 2026 FREQUENCY Hz 50

KVA 3150 TYPE OF COOLING ONAN

VOLTS AT HV 33000 VECTOR GROUP Dyn-11

NO LOAD LV 11000 TOTAL MASS KG 8280

AMPERES HV 55.11 MASS OF OIL KG 1630

LV 165.33 VOLUME OF OIL Lts. 1920

IMPEDANCE 6.25% CORE & WINDING 4800

MONTH & YEAR OF MFG. /19 IMPULSE LEVEL HV/LV kVp 170/75

PERFORMANCE GUARANTEED PERIOD 36 MONTHS

CUSTOMER JDVNL

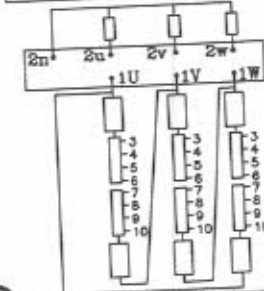
P.O. No. JDVNL/SE(MM&C)/JU/EAI/TN-1487/  
PO 10905/D 6551 Dt. 14-01-2019

NO LOAD LOSS 3 kW LOAD LOSS 16 kW

MAX. TEMPERATURE RISE IN OIL 45°C

MAXIMUM WINDING TEMPERATURE 50°C

OFF CIRCUIT TAP		HV		LV	
SWITCH POSITION	CONNECTION	VOLTS	AMPS.	VOLTS	AMPS.
1	7 - 6	34650	52.48	11000	165.33
2	6 - 8	33825	53.76	11000	165.33
3	8 - 5	33000	55.11	11000	165.33
4	5 - 9	32175	56.32	11000	165.33
5	9 - 4	31350	58.04	11000	165.33
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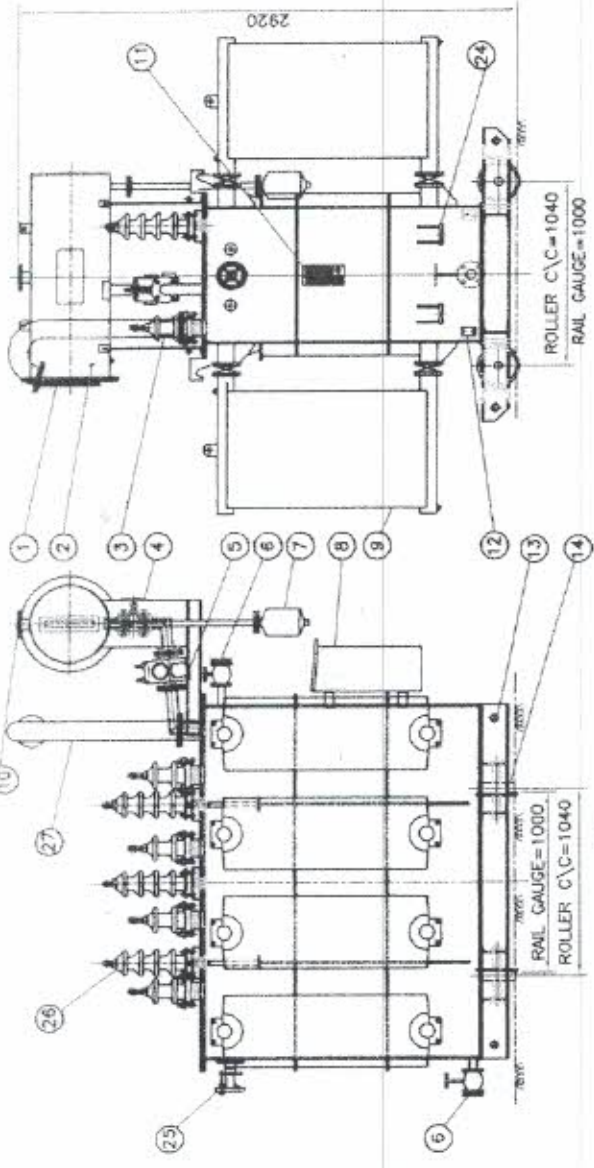


MADE IN INDIA

NOTES :-  
1. ALL DIMENSIONS ARE IN mm.  
2. MATERIAL : S.S.  
3. THICKNESS : 1mm

BY: [Signature]  
CHECKED: [Signature]  
PERMITTED: [Signature]  
DATE: [Signature]  
CPO/BB/ST/14/970209  
RAJASTHAN POWERGEN TRANSFORMER PVT. LTD.  
Bhopal

Rev	Date	Draw	Checked	Approved	Description	Work Order :
<p><b>RAJASTHAN POWERGEN TRANSFORMER P. LTD.</b> Karola - Bhinmal Road, Karola, Sanchore - 343041 Dist - Jaipur, Rajasthan ( India )</p>						
<p><b>RATING &amp; DIAGRAM PLATE</b></p>						
<p>Rating : 3150 KVA, 33/11 KV, 3 PHASE T/F.</p>			<p>Drawing No. : RPTPL/3150 NP</p>		<p>Rev. : 01</p>	<p>Sheet No. : 01</p>
<p>All dimensions are in millimeters unless otherwise stated. If in doubt - Please Ask !</p>						<p>Scale : NTS</p>



WEIGHT DETAILS		
S.N.	WEIGHT CHART	WEIGHT
1.	CORE & WINDINGS	4800 Kgs.
2.	TANK & FITTINGS	1850 Kgs.
3.	WEIGHT OF OIL	1630 Kgs.
4.	TOTAL WEIGHT	8280 Kgs.
5.	QUANTITY OF OIL	1920 Ltrs.

TANK INTERNAL -  
 1. LENGTH 1922 mm.  
 2. WIDTH 752 mm.  
 3. HEIGHT 1515 mm.

Min. ELECTRICAL CLEARANCE IN AIR		
SL.No.	DESCRIPTION	HV LV
1	PHASE TO PHASE	350 255
2	PHASE TO EARTH	320 140

- NOTES -  
 1. ALL DIMENSIONS ARE IN METERS.  
 2. ±10% TOLERANCE ON WEIGHT & DIMENSIONS.  
 3. ARRANGEMENT OF WORKING IS TENTATIVE.  
 4. STAR MARKED ITEM NOT FITTED DURING TEST.  
 5. RADIATOR SIZE 1100 X 300 X 14 FIN PER RADIATOR

S.No	DESCRIPTION	QTY.
1	EXPLOSION VENT WITH DIAPHRAGM	1
2	HV OUTDOOR BUSHINGS	3
3	25 OFF CIRCUIT TAP CHANGING SWITCH	1
4	JACKING PAD	4
5	SHUT OFF VALVE FOR RADIATOR	16
6	INSPECTION POCKET WITH LIFTING HANDLES	2
7	AIR RELEASE PLUG	2
8	LIFTING LUGS FOR COMPLETE TRANSFORMER	4
9	COVER LIFTING LUGS	2
10	WINDING TEMPERATURE INDICATOR WITH ALARM AND TRIP CONTACTS & MAX. READING POINTER.	2
11	OIL TEM. INDICATOR WITH ALARM & TRIP CONTACTS AND MAXIMUM READING POINTER.	1
12	THERMOMETER POCKET	1
13	C.T. TERMINALS FOR W.T.I.	2
14	B-DIRECTIONAL UNDERBASE CHANNEL WITH FLANGED ROLLERS	4
15	PULLING HOLE	4
16	EARTHING PADS	2
17	NAME RATING & DIAGRAM PLATE	1
18	OIL FILLING HOLE WITH COVER PLATE	1
19	RADIATORS WITH LIFTING LUG, AIR RELEASE & DRAIN PLUG	8
20	MARSHALLING BOX (TANK MOUNTED WEATHER PROOF)	1
21	SILICAGEL BREATHER WITH STEEL GLASS WINDOW	1
22	FILTER VALVES (TOP & BOTTOM)	2
23	BUCHHOLZ RELAY WITH ALARM & TRIP CONTACTS.	1
24	SHUT OFF VALVE BETWEEN CONSERVATOR & TANK	1
25	LV OUTDOOR BUSHINGS	4
26	CONSERVATOR WITH LIFTING & DRAIN PLUG	1
27	PLAIN OIL LEVEL INDICATORS	1

**OUTLINE GENERAL ARRANGEMENT**

Drawing No.: RPTPL/3150 GA Rev.: 01 Scale: N.T.S.	Sheet No.: 01 Total Sheets: 01
Rating: 3150 KVA, 3311 KV, 3 PHASE 3P. <b>RAJASTHAN POWERGEN TRANSFORMER P. LTD.</b> Karbh - Bhandal Road, Karbh, Sirohi - 343001 (India)	Work Order:

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