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TEST REPORT SHEET No. 1 of 27

NAME & ADDRESS OF CUSTOMER Rajasthan Powergen Transformer Pvt. Ltd. Bhinmal Karola Road, Sanchore - 343041 RJ	**REPORT NO.:** RP-1718-056976 **DATE** : 14 Feb 2018

CUSTOMER REF NO.	**DATE**
NIL	18 Jan 2018
DATE OF SAMPLE RECEIPT	**DATE OF TESTING**
18 Jan 2018	23 Jan 2018 to 09 Feb 2018

SAMPLE DESCRIPTION **DISTRIBUTION TRANSFORMER (NON-SEALED TYPE)** Make: RAJASTHAN POWERGEN TRANSFORMER P. LTD. Rating: 1000 kVA 11000 / 433 Volts 52.49 / 1333.41 Amp. Vector Group: Dyn11 Energy efficiency level: 2 Further details as per sheet No. 2.	**SAMPLE IDENTIFICATION** ERDA sample code number: ERDA-00237744 Manufacturer serial number: RPTPL-001 Year of manufacture: 2018 Enclosed drawing numbers: (1) RPTPL/CUS/05 NP Rev.: 00 (2) RPTPL/CUS/05 OGA Rev.: 00
TEST DETAILS As per sheet 3.	**TEST SPECIFICATION** As per sheet 3.

TEST RESULTS: As per sheets from 4 to 25

ENCLOSURE: Photographs of test sample - As per sheets from 26 to 27

REMARKS: 1) The transformer **conforms** to the guaranteed requirement as per above mentioned test specification for above mentioned test nos. 2, 5, 6, 8, 9, 11, 12, 13, 14, 15, 16, 17.
2) Criteria limit has not been specified for test nos. 1, 3, 4, 7, 10.

PREPARED BY **CHECKED BY** **APPROVED BY**
(Kapil J. Sharma)

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High Voltage Products Division Vadodara

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REPORT NO.: RP-1718-056976 Date: 14 Feb 2018

TECHNICAL SPECIFICATIONS OF TEST OBJECT ASSIGNED BY CUSTOMER

1	Name of manufacturer	RAJASTHAN POWERGEN TRANSFORMER P. LTD.
2	Serial No.	RPTPL-001
3	kVA rating	1000
4	Rated voltage H.V. (Volts)	11000
5	Rated voltage L.V. (Volts)	433
6	Rated current H.V. (Amp.)	52.49
7	Rated current L.V. (Amp.)	1333.41
8	Number of phases	3
9	Energy efficiency level	2
10	Vector group	Dyn11
11	Winding material	Copper
12	Type of cooling	ONAN
13	Frequency (Hz.)	50
14	Guaranteed percentage impedance(%)	5.0
15	Total losses at 50% load (Watts)	2790
16	Total losses at 100% load (Watts)	7700
17	Guaranteed temperature rise of oil/winding	40°C /45°C
18	Year of manufacture	2018
19	Standard No.	IS: 1180 PART 1-2014 WITH AMENDMENT NO. 1 & 2, CBIP manual

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REPORT NO.: RP-1718-056976 Date: 14 Feb 2018

Sr. No.	TEST DETAILS	TEST SPECIFICATION
1	Measurement of winding resistance	As per cl.no.21.2.a of IS: 1180 PART 1-2014
2	Measurement of voltage ratio and check of phase displacement	As per cl.no.21.2.b of IS: 1180 PART 1-2014
3	Measurement of short-circuit impedance and load loss at 50 percent and 100 percent load (Tap Number: 3)	As per cl.no.21.2.c of IS: 1180 PART 1-2014
4	Measurement of no-load loss and current	As per cl.no.21.2.d of IS: 1180 PART 1-2014
5	Total losses at 50% load	As per cl.no. 7.8 of IS: 1180 PART 1-2014
6	Total losses at 100% load	As per cl.no. 7.8 of IS: 1180 PART 1-2014
7	Measurement of short-circuit impedance and load loss at 50 percent and 100 percent load (Tap Number: 7)	As per customer`s requirement testing procedure followed as per cl.no.21.2.c of IS: 1180 PART 1-2014
8	No load current at 112.5 percent voltage:	As per cl.no.21.4.c of IS: 1180 PART 1-2014
9	Magnetic balance test	As per CBIP manual; Publication no.317 - 2013
10	Measurement of insulation resistance	As per cl.no.21.2.e of IS: 1180 PART 1-2014
11	Induced over-voltage withstand test	As per cl.no.21.2.f of IS: 1180 PART 1-2014
12	Separate-source voltage withstand test	As per cl.no.21.2.g of IS: 1180 PART 1-2014
13	Temperature-rise test (Tap Number: 7)	As per cl.no.21.3.b of IS: 1180 PART 1-2014
14	Oil leakage test	As per cl.no.21.2.j of IS: 1180 PART 1-2014
15	Pressure test (routine test)	As per cl.no.21.2.h of IS: 1180 PART 1-2014
16	Pressure test (type test)	As per cl.no.21.3.d of IS: 1180 PART 1-2014
17	Lightning Impulse test	As per cl.no.21.3.a of IS: 1180 PART 1-2014

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REPORT NO.: RP-1718-056976 Date: 14 Feb 2018

Sr. No.	Particular of Tests & Cl.No.	Requirement as per Specification	Obtained Value	Remarks
1	**Measurement of winding resistance** (As per cl.no.21.2.a of IS: 1180 PART 1-2014)			---
	Average oil temperature: 26.8 °C			
	HV winding			
	Tap number: 1			
	1U – 1V:	--	498.56 mΩ	
	1V – 1W:	--	497.02 mΩ	
	1U – 1W:	--	495.96 mΩ	
	Average:	--	497.18 mΩ	
	Tap number: 2			
	1U – 1V:	--	484.12 mΩ	
	1V – 1W:	--	482.44 mΩ	
	1U – 1W:	--	481.52 mΩ	
	Average:	--	482.69 mΩ	
	Tap number: 3			
	1U – 1V:	--	470.90 mΩ	
	1V – 1W:	--	468.54 mΩ	
	1U – 1W:	--	467.36 mΩ	
	Average:	--	468.93 mΩ	
	Tap number: 4			
	1U – 1V:	--	455.78 mΩ	
	1V – 1W:	--	454.50 mΩ	
	1U – 1W:	--	457.74 mΩ	
	Average:	--	456.01 mΩ	
	Tap number: 5			
	1U – 1V:	--	440.84 mΩ	
	1V – 1W:	--	440.36 mΩ	
	1U – 1W:	--	439.36 mΩ	
	Average:	--	440.19 mΩ	
	Tap number: 6			
	1U – 1V:	--	431.00 mΩ	
	1V – 1W:	--	426.28 mΩ	
	1U – 1W:	--	425.10 mΩ	
	Average:	--	427.46 mΩ	

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Sr. No.	Particular of Tests & Cl.No.	Requirement as per Specification	Obtained Value	Remarks
	Tap number: 7			
	1U – 1V:	--	413.02 mΩ	
	1V – 1W:	--	412.24 mΩ	
	1U – 1W:	--	411.10 mΩ	
	Average:	--	412.12 mΩ	
	LV winding			
	2u – 2v:	--	0.9562 mΩ	
	2v – 2w:	--	0.9376 mΩ	
	2u – 2w:	--	0.9702 mΩ	
	Average:	--	0.9547 mΩ	
2	**Measurement of voltage ratio and check of phase displacement** (As per cl.no.21.2.b of IS: 1180 PART 1-2014)			**Conforms**
	Measurement of voltage ratio			
	Tap number: 1			
	1U-1V and 2u-2n:	46.200(± 0.5%)	46.191	
	1V-1W and 2v-2n:	46.200(± 0.5%)	46.192	
	1W-1U and 2w-2n:	46.200(± 0.5%)	46.188	
	Tap number: 2			
	1U-1V and 2u-2n:	45.100(± 0.5%)	45.074	
	1V-1W and 2v-2n:	45.100(± 0.5%)	45.074	
	1W-1U and 2w-2n:	45.100(± 0.5%)	45.070	
	Tap number: 3			
	1U-1V and 2u-2n:	44.000(± 0.5%)	43.956	
	1V-1W and 2v-2n:	44.000(± 0.5%)	43.956	
	1W-1U and 2w-2n:	44.000(± 0.5%)	43.952	
	Tap number: 4			
	1U-1V and 2u-2n:	42.900(± 0.5%)	42.837	
	1V-1W and 2v-2n:	42.900(± 0.5%)	42.838	
	1W-1U and 2w-2n:	42.900(± 0.5%)	42.833	
	Tap number: 5			
	1U-1V and 2u-2n:	41.800(± 0.5%)	41.719	
	1V-1W and 2v-2n:	41.800(± 0.5%)	41.719	

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Sr. No.	Particular of Tests & Cl.No.	Requirement as per Specification	Obtained Value	Remarks
	1W-1U and 2w-2n:	41.800(± 0.5%)	41.716	
	Tap number: 6			
	1U-1V and 2u-2n:	40.700(± 0.5%)	40.601	
	1V-1W and 2v-2n:	40.700(± 0.5%)	40.602	
	1W-1U and 2w-2n:	40.700(± 0.5%)	40.597	
	Tap number: 7			
	1U-1V and 2u-2n:	39.600(± 0.5%)	39.482	
	1V-1W and 2v-2n:	39.600(± 0.5%)	39.483	
	1W-1U and 2w-2n:	39.600(± 0.5%)	39.480	
	Vector group :	Dyn11	Dyn11	
3	**Measurement of short-circuit impedance and load loss at 50 percent and 100 percent load (Tap Number: 3)** (As per cl.no.21.2.c of IS: 1180 PART 1-2014)			---
	At 50% load:			
	Tested with **26.29** Amps (on HV side)			
	Frequency: **49.908** Hz			
	Average oil temperature: **26.6**°C			
	Test current (Amps)		26.29	
	Impedance voltage (Volts)		267.109	
	Measured load loss (Watts)		1406	
	Impedance voltage (%)			
	(Computed to 50% load)			
	At 26.6°C		2.424	
	At 75°C	--	2.429	
	Load loss (Watts)			
	(Computed to 50% load)			
	At 26.6°C		1401.084	
	At 75°C	--	1564.466	
	At 100% load:			
	Tested with **52.469** Amps (on HV side)			
	Frequency: **49.947** Hz			

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Sr. No.	Particular of Tests & Cl.No.	Requirement as per Specification	Obtained Value	Remarks
	Average oil temperature: **26.6**°C			
	Test current (Amps)		52.469	
	Impedance voltage (Volts)		534.080	
	Measured load loss (Watts)		5569	
	Impedance voltage (%)			
	(Computed to 100% load)			
	At 26.6°C		4.857	
	At 75°C	5.0 (IS Tol.)	4.870	**Conforms**
	Load loss (Watts)			
	(Computed to 100% load)			
	At 26.6°C		5573.459	
	At 75°C	--	6231.855	---
4	**Measurement of no-load loss and current** (As per cl.no.21.2.d of IS: 1180 PART 1-2014)			---
	Tested with mean value of voltage **432.584** volts (On LV side)			
	Frequency : **49.948** Hz			
	RMS Voltage (Volts)		433.953	
	No-load current (Amps)		3.504	
	Measured no-load loss (Watts)		1120.4	
	Corrected no-load loss (Watts)	--	1116.856	
5	**Total losses at 50% load** (As per cl.no. 7.8 of IS: 1180 PART 1-2014)	Max. 2790	2681.322	**Conforms**
6	**Total losses at 100% load** (As per cl.no. 7.8 of IS: 1180 PART 1-2014)	Max. 7700	7348.711	**Conforms**

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Sr. No.	Particular of Tests & Cl.No.	Requirement as per Specification	Obtained Value	Remarks
7	**Measurement of short-circuit impedance and load loss at 50 percent and 100 percent load (Tap Number: 7)** (As per customer`s requirement testing procedure followed as per cl.no.21.2.c of IS: 1180 PART 1-2014)			---
	At 50% load:			
	Tested with **29.146** Amps (on HV side)			
	Frequency: **49.957** Hz			
	Average oil temperature: **26.6**°C			
	Test current (Amps)		29.146	
	Impedance voltage (Volts)		226.788	
	Measured load loss (Watts)		1416	
	Impedance voltage (%)			
	(Computed to 50% load)			
	At 26.6°C		2.292	
	At 75°C	--	2.296	
	Load loss (Watts)			
	(Computed to 50% load)			
	At 26.6°C		1417.361	
	At 75°C	--	1592.240	
	At 100% load:			
	Tested with **58.202** Amps (on HV side)			
	Frequency: **49.928** Hz			
	Average oil temperature: **26.6**°C			
	Test current (Amps)		58.202	
	Impedance voltage (Volts)		453.178	
	Measured load loss (Watts)		5636	
	Impedance voltage (%)			
	(Computed to 100% load)			
	At 26.6°C		4.587	
	At 75°C	--	4.603	---
	Load loss (Watts)			
	(Computed to 100% load)			

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	At 26.6°C		5658.876	
	At 75°C	--	6360.036	---
8	**No load current at 112.5 percent voltage:** (As per cl.no.21.4.c of IS: 1180 PART 1-2014) Test voltage of 112.5 percent of rated voltage at rated frequency was applied to the L.V. winding terminals and H.V. winding terminals were kept open circuited. No load current was recorded.			**Conforms**
	Test voltage (Volts)		487.142	
	No load current (Amps)		6.554	
	No Load Current (%)	Max. 5.0	0.492	
9	**Magnetic balance test** (As per CBIP manual; Publication no.317 - 2013)			**Conforms**

Voltage Applied Between	Applied Voltage (Volts)	Measured Voltage Between		
2u & 2n	100.05	2v & 2n	50 to 90 %	77.82 V
		2w & 2n		22.96 V
2v & 2n	100.08	2u & 2n	30 to 70 %	50.21 V
		2w & 2n	30 to 70 %	49.70 V
2w & 2n	100.06	2u & 2n		23.23 V
		2v & 2n	50 to 90 %	77.32 V

10	**Measurement of insulation resistance** (As per cl.no.21.2.e of IS: 1180 PART 1-2014) Average oil temperature: 24.9 °C			---
	IR value measured between			
	HV winding to Earth at 2500 V DC	--	2.06 GΩ	
	LV winding to Earth at 500 V DC	--	1.16 GΩ	
	HV winding to LV winding at 2500 V DC	--	2.25 GΩ	

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Sr. No.	Particular of Tests & Cl.No.	Requirement as per Specification	Obtained Value	Remarks
11	**Induced over-voltage withstand test** (As per cl.no.21.2.f of IS: 1180 PART 1-2014) The test voltage of 866 Volts, 3- phase was applied to the LV winding of the transformer. The supply frequency was maintained at 150 Hz. The test voltage was applied for 40 seconds.	Transformer shall withstand 866 volts at 150 Hz frequency for 40 seconds.	Withstood	**Conforms**
12	**Separate-source voltage withstand test** (As per cl.no.21.2.g of IS: 1180 PART 1-2014) **on HV winding:** The power frequency test voltage of 28 kV ac, rms was applied between the HV winding and earth. The tank and LV winding were shorted together and earthed. The test voltage was applied for 60 seconds. **on LV winding:** The power frequency test voltage of 3 kV ac, rms was applied between the LV winding and earth. The tank and HV winding were shorted together and earthed. The test voltage was applied for 60 seconds.	Transformer shall withstand power frequency voltage of 28kV for 60 seconds. Transformer shall withstand power frequency voltage of 3kV for 60 seconds.	Withstood Withstood	**Conforms**
13	**Temperature-rise test (Tap Number: 7)** (As per cl.no.21.3.b of IS: 1180 PART 1-2014) Before starting test, the dimensions of tank with radiators were measured & recorded. Size of tank: L-1450 mm, W-580 mm, H-1380 mm			**Conforms**

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REPORT NO.: RP-1718-056976 Date: 14 Feb 2018

Sr. No.	Particular of Tests & Cl.No.	Requirement as per Specification	Obtained Value	Remarks
	Size of fins: L-1000 mm, W-300 mm, No. of radiators-04, No. of fins per radiator-14 **Losses fed for temperature-rise test were 7476.892 Watts** (Measured no-load loss: 1116.856 W and load loss at 75°C: 6360.036 W) Total measured losses were fed to the transformer (i.e. supply was connected to HV winding and LV winding kept short circuited) till steady state temperature rise was attained. Top oil temperature was recorded hourly. After steady state condition, the losses were brought down in reference to the rated current one hour prior to shut down. At the shut down, the hot winding resistances were measured and temperature rise calculated.			
	A) Top oil temperature-rise	Max. 40°C	29.9°C	
	B) Winding temperature-rise (Resistance method)			
	1) HV winding	Max. 45°C	34.5°C	
	2) LV winding	Max. 45°C	39.8°C	
	C) Ambient temperature at shutdown		19.7°C	
	D) Time of shutdown (Hrs)		05:30	
14	**Oil leakage test** (As per cl.no.21.2.j of IS: 1180 PART 1-2014) The assembled transformer with all fittings including bushings in position was tested at a pressure at the top equivalent to the head that was available at the base of the tank for 8 hours.	There should be no leakage at any point	No leakage observed	**Conforms**

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Sr. No.	Particular of Tests & Cl.No.	Requirement as per Specification	Obtained Value	Remarks
15	**Pressure test (routine test)** (As per cl.no.21.2.h of IS: 1180 PART 1-2014) The transformer tank was tested at an air pressure of 35 kPa above atmosphere pressure maintained inside the tank for 10 min.	There should be no leakage at any point	No leakage observed	**Conforms**
16	**Pressure test (type test)** (As per cl.no.21.3.d of IS: 1180 PART 1-2014) The transformer tank was subjected to air pressure of 80 kPa for 30 minutes. The permanent deflection of flat plates was recorded, after pressure had been released.			**Conforms**
	Deflection measured at / **Length of plate (mm)**			
	HV side / 1380	Max. 8.0 mm	1.5 mm	
	LV side / 1380	Max. 8.0 mm	1.2 mm	
	Side A / 580	Max. 5.0 mm	0.0 mm	
	Side B / 580	Max. 5.0 mm	0.0 mm	
	The transformer tank was subjected to vacuum of 500 mm of Mercury for 30 minutes. The permanent deflections of flat plates was recorded, after vacuum had been released.			
	Deflection measured at / **Length of plate (mm)**			
	HV side / 1380	Max. 8.0 mm	1.3 mm	
	LV side / 1380	Max. 8.0 mm	1.0 mm	
	Side A / 580	Max. 5.0 mm	0.0 mm	
	Side B / 580	Max. 5.0 mm	0.0 mm	

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REPORT NO.: RP-1718-056976 Date: 14 Feb 2018

Sr. No.	Particular of Tests & Cl.No.	Requirement as per Specification	Obtained Value	Remarks
	HV Side Side A Side B LV Side	There should be no leakage at any point	No leakage observed	

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17.Lightning Impulse Test (As per Cl. No.21.3.a of IS 1180 (part 1) : 2014 Amendment 1 & 2 & test procedure was followed as per IS : 2026-(part- III), 2009 cl. No. 14

Waveform	Comment	Ut / kVp	T1 / µs	T2 / µs	Tc / µs
1U-PHASE(TAP NO.3)					
1	LI RW	-51.838	1.337	47.716	
2	100% LI FW	-75.263	1.342	47.763	
3	LI CRW	-54.682	1.410		2.659
4	110% LI CFW	-81.515	1.361		3.798
5	110% LI CFW	-83.030	1.360		4.126
6	100% LI FW	-73.737	1.340	47.672	
7	100% LI FW	-75.496	1.325	47.646	
1V-PHASE(TAP NO.1)					
8	LI RW	-52.559	1.302	49.976	
9	100% LI FW	-75.529	1.336	50.054	
10	LI CRW	-54.294	1.411		2.299
11	110% LI CFW	-83.081	1.365		4.031
12	110% LI CFW	-83.215	1.360		3.191
13	100% LI FW	-75.119	1.335	49.934	
14	100% LI FW	-75.544	1.316	49.999	
1W-PHASE(TAP NO.7)					
15	LI RW	-49.106	1.310	43.178	
16	100% LI FW	-73.424	1.286	43.146	
17	LI CRW	-53.129	1.324		2.407
18	110% LI CFW	-82.414	1.341		3.908
19	110% LI CFW	-82.253	1.308		3.553
20	100% LI FW	-73.223	1.286	43.247	
21	100% LI FW	-74.508	1.315	43.319	

REMARKS: From the observation of enclosed oscillographic records , it is concluded that the transformer **conforms** to the requirements of the above mentioned standard with respect to the test carried out.

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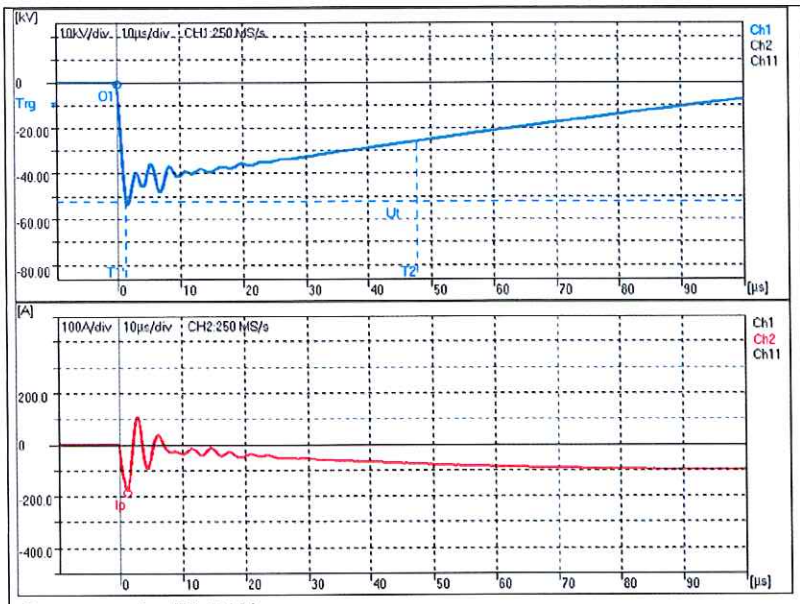
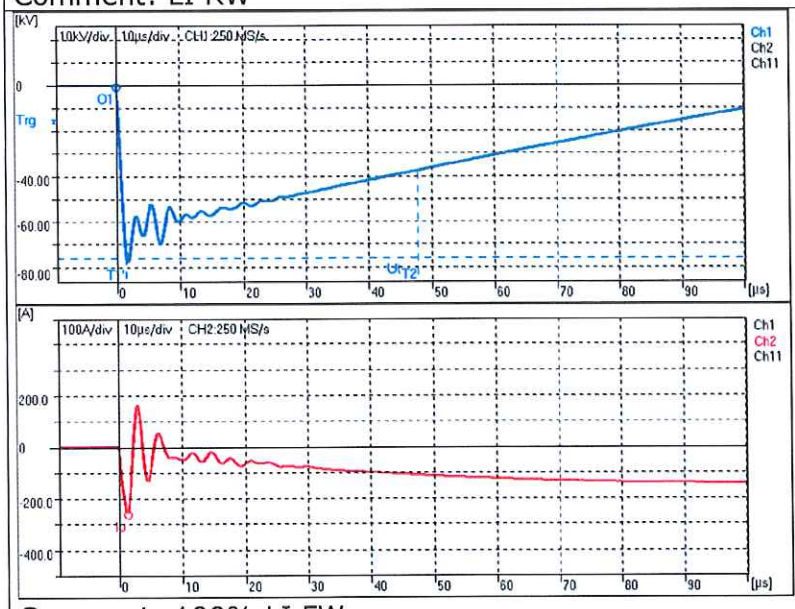
TEST REPORT NO.: RP-1718-056976 **SHEET NO.:** 15 of 27
DATE : 14/02/2018



Comment: LI RW

Fig.: 1
U_p = -51.84 kV
T_1 = 1.34 µs
T_2 = 47.72 µs
T_c = µs



Comment: 100% LI FW

Fig.: 2
U_p = -75.26 kV
T_1 = 1.34 µs
T_2 = 47.76 µs
T_c = µs

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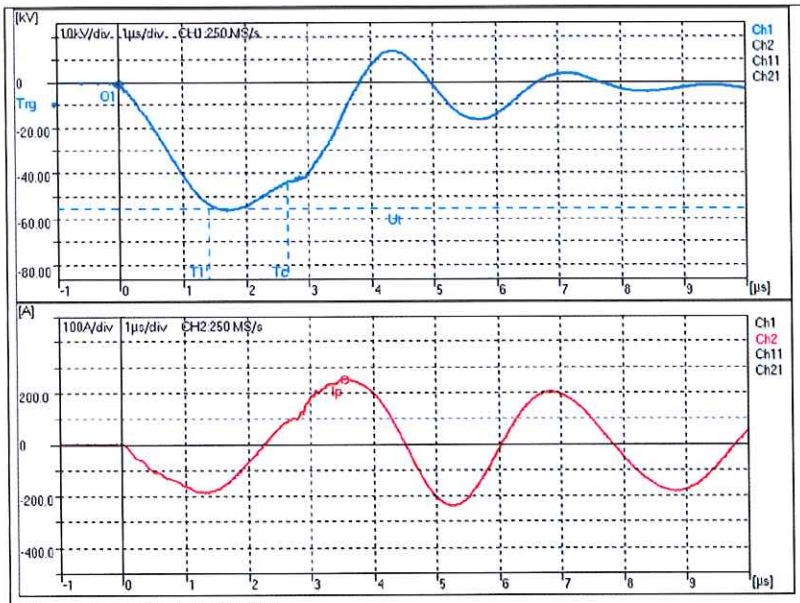
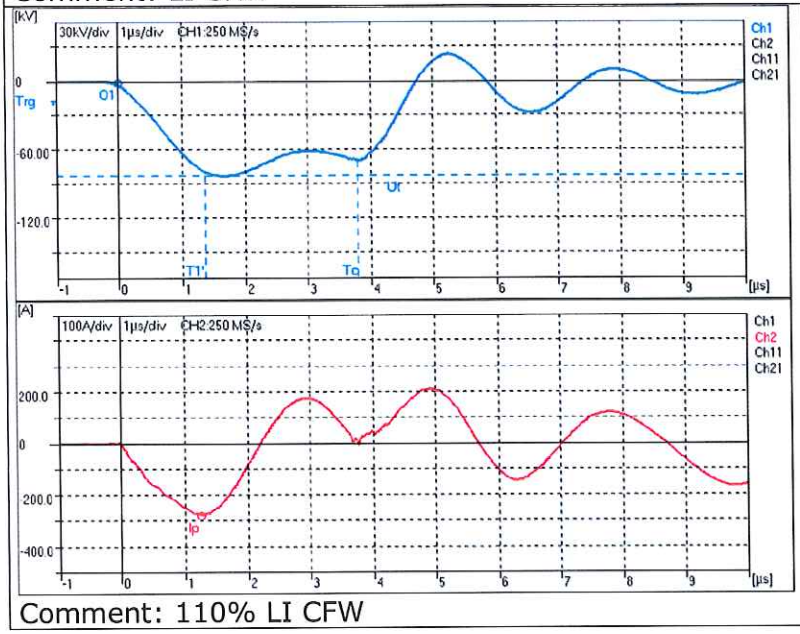
TEST REPORT NO.: RP-1718-056976 **SHEET NO.:** 16 of 27
DATE : 14/02/2018



Comment: LI CRW

Fig.: 3
U_p = -54.68 kV
T_1 = 1.41 µs
T_2 = µs
T_c = 2.66 µs



Comment: 110% LI CFW

Fig.: 4
U_p = -81.52 kV
T_1 = 1.36 µs
T_2 = µs
T_c = 3.80 µs

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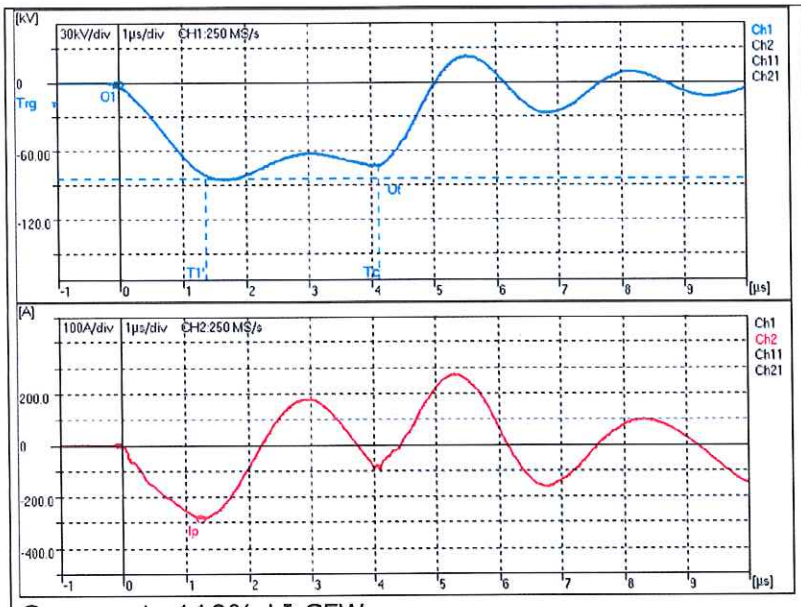
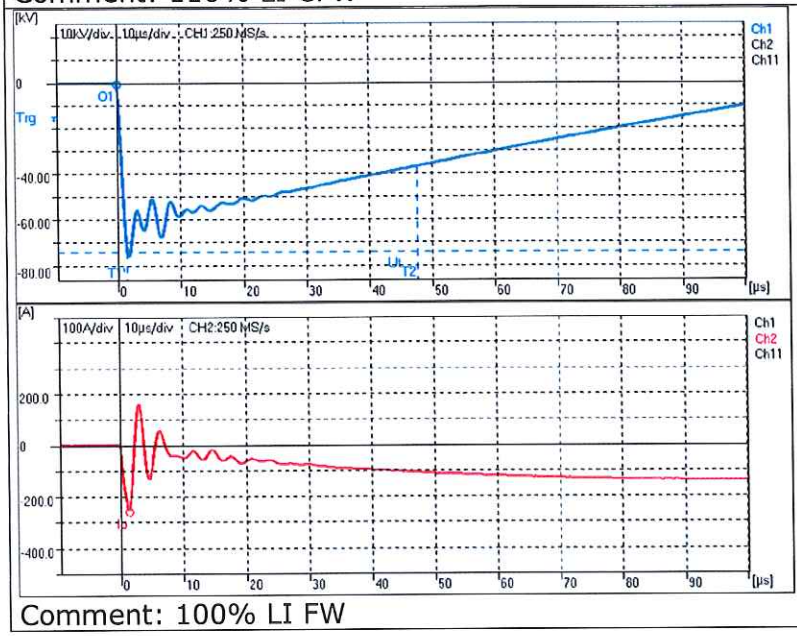
DATE : 14/02/2018



Comment: 110% LI CFW

Fig.: 5
U_p = -83.03 kV
T_1 = 1.36 µs
T_2 = µs
T_c = 4.13 µs



Comment: 100% LI FW

Fig.: 6
U_p = -73.74 kV
T_1 = 1.34 µs
T_2 = 47.67 µs
T_c = µs

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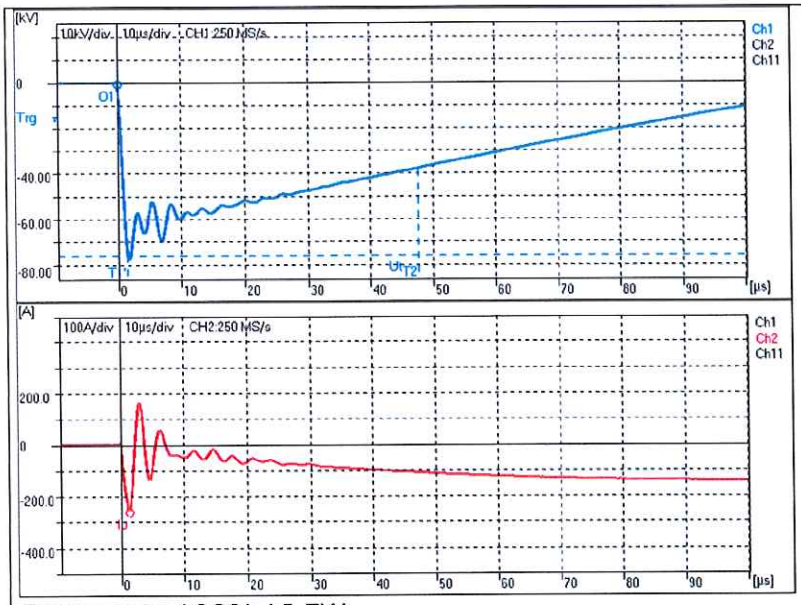
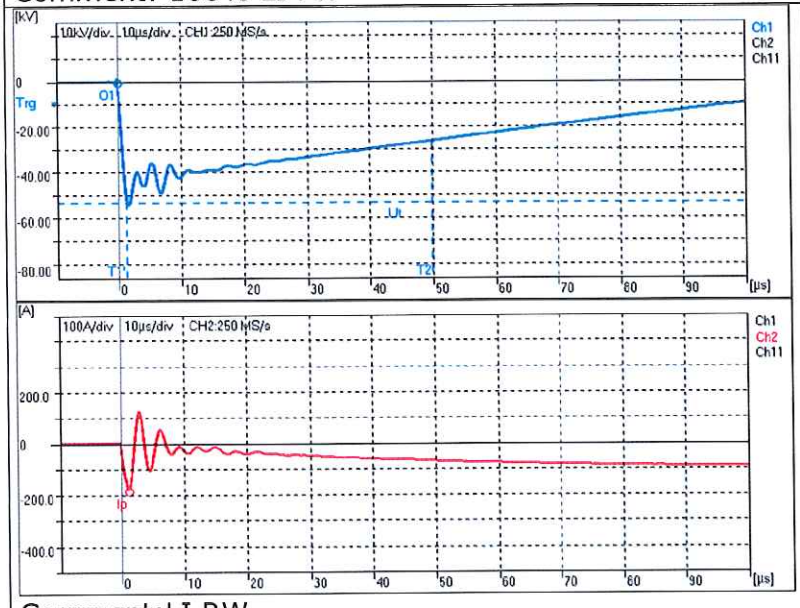
DATE : 14/02/2018



Comment: 100% LI FW

Fig.: 7
U_p = -75.50 kV
T_1 = 1.33 µs
T_2 = 47.65 µs
T_c = µs



Comment:LI RW

Fig.: 8
U_p = -52.56 kV
T_1 = 1.30 µs
T_2 = 49.98 µs
T_c = µs

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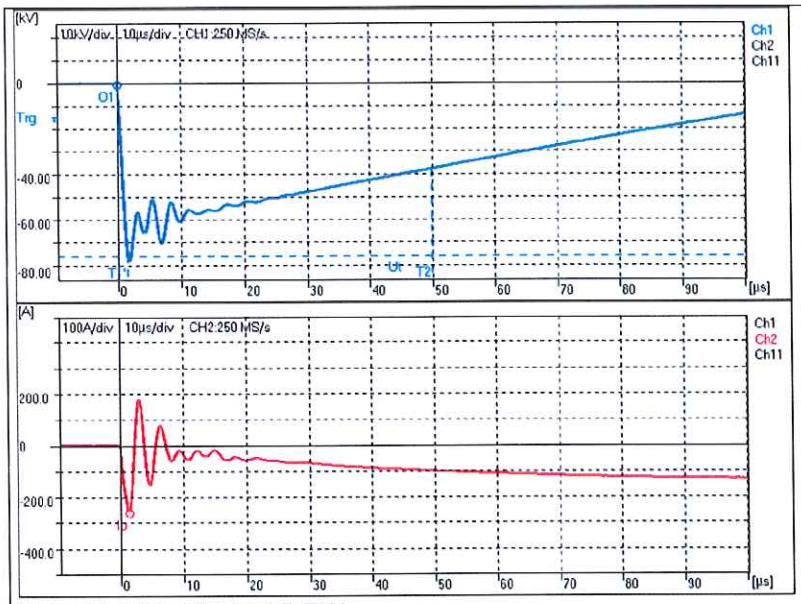
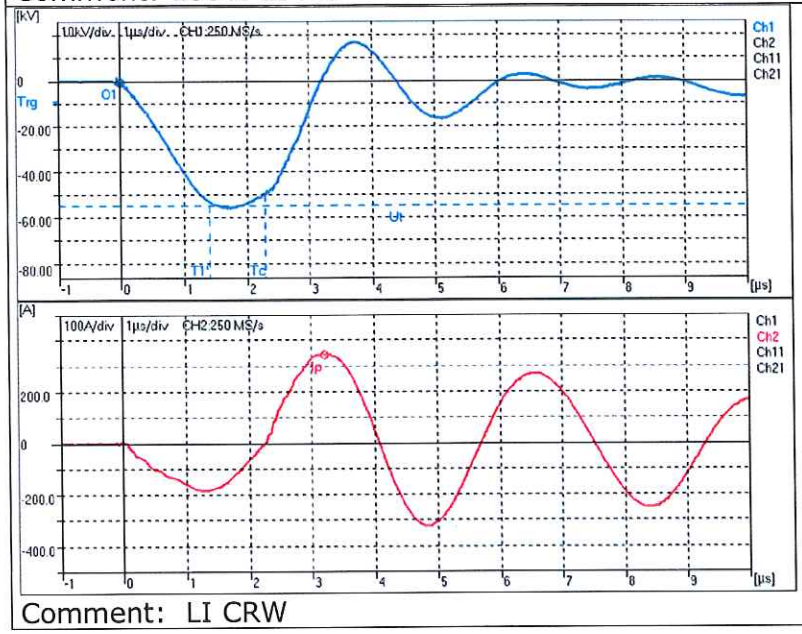
DATE : 14/02/2018



Comment: 100% LI FW

Fig.: 9
U_p = -75.53 kV
T_1 = 1.34 µs
T_2 = 50.05 µs
T_c = µs



Comment: LI CRW

Fig.: 10
U_p = -54.29 kV
T_1 = 1.41 µs
T_2 = µs
T_c = 2.30 µs

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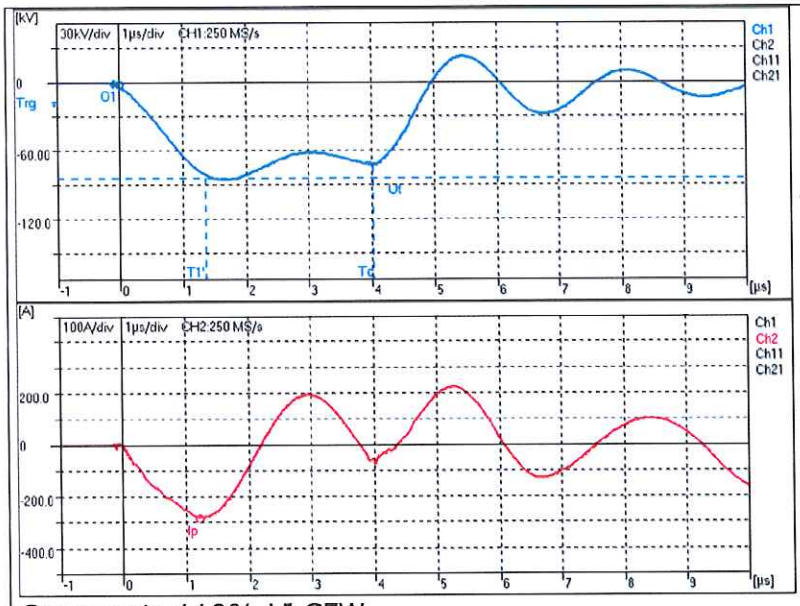
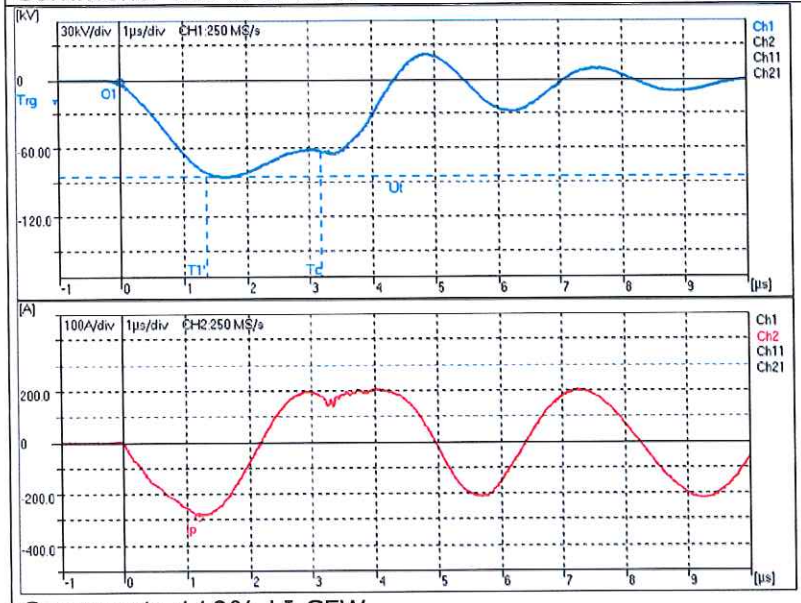
DATE : 14/02/2018



Comment: 110% LI CFW

Fig.: 11
U_p = -83.08 kV
T_1 = 1.36 µs
T_2 = µs
T_c = 4.03 µs



Comment: 110% LI CFW

Fig.: 12
U_p = -83.22 kV
T_1 = 1.36 µs
T_2 = µs
T_c = 3.19 µs

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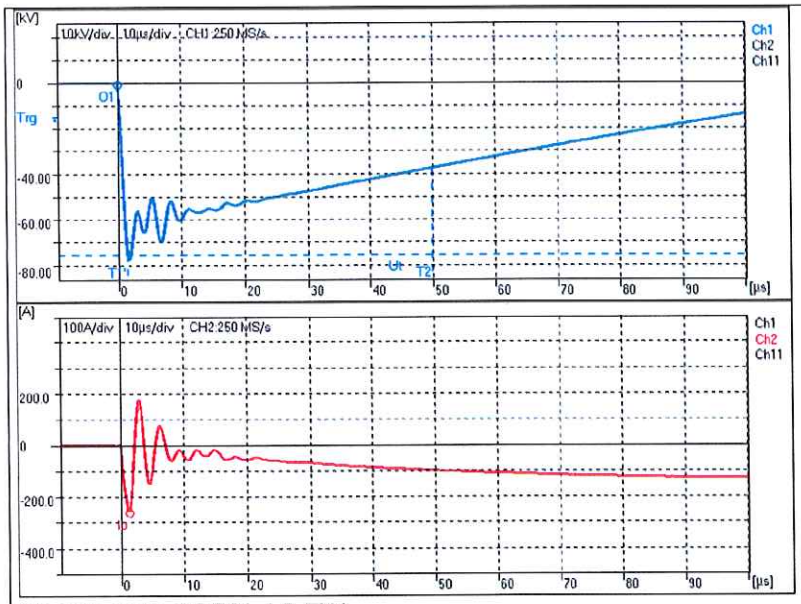
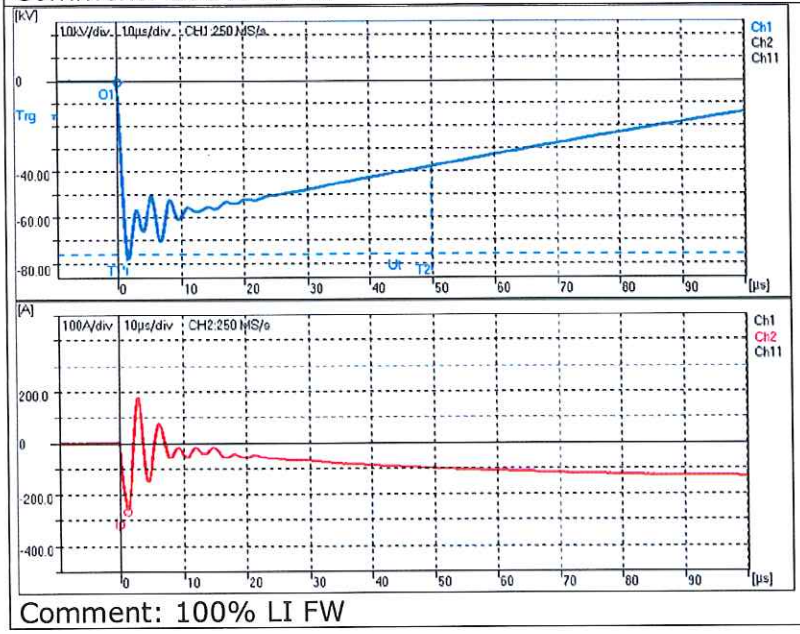


Comment: 100% LI FW

Fig.: 13
U_p = -75.12 kV
T_1 = 1.34 µs
T_2 = 49.93 µs
T_c = µs



Comment: 100% LI FW

Fig.: 14
U_p = -75.54 kV
T_1 = 1.32 µs
T_2 = 50.00 µs
T_c = µs

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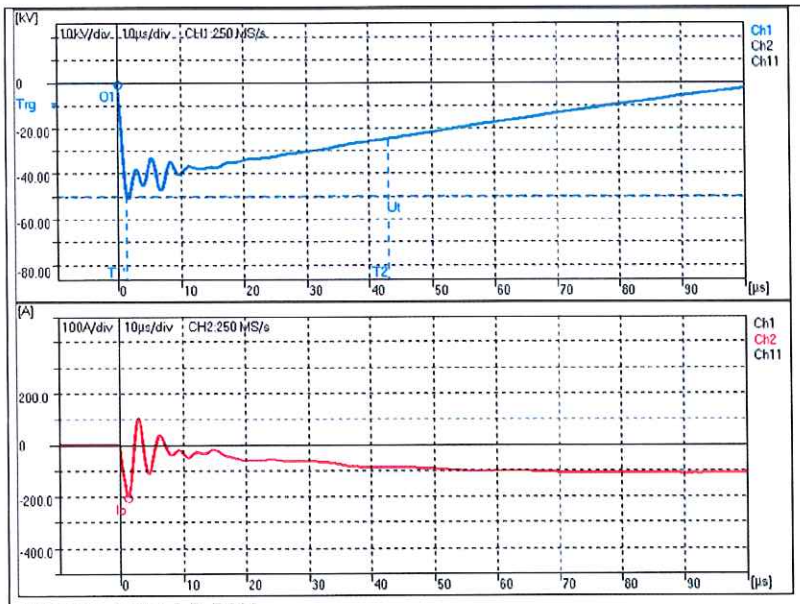
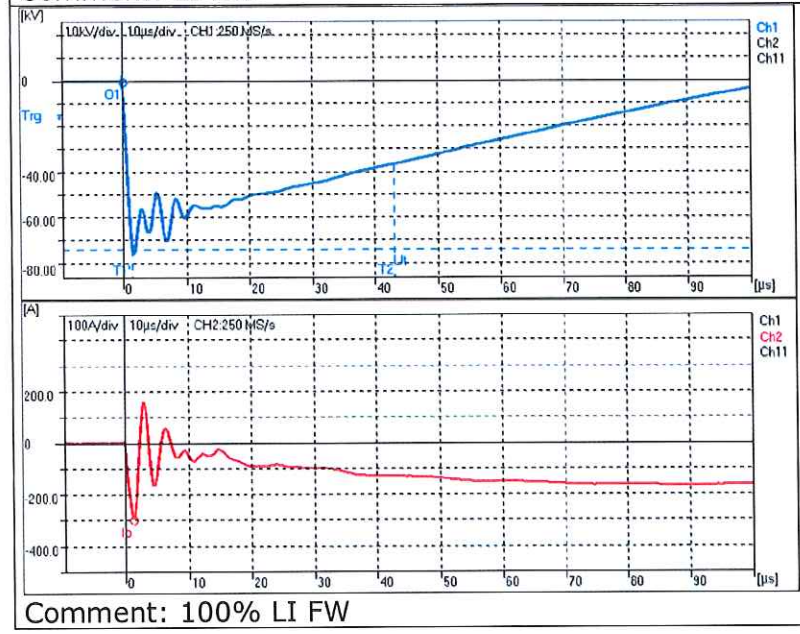
DATE : 14/02/2018



Comment: LI RW

Fig.: 15
U_p = -49.11 kV
T_1 = 1.31 µs
T_2 = 43.18 µs
T_c = µs



Comment: 100% LI FW

Fig.: 16
U_p = -73.42 kV
T_1 = 1.29 µs
T_2 = 43.15 µs
T_c = µs

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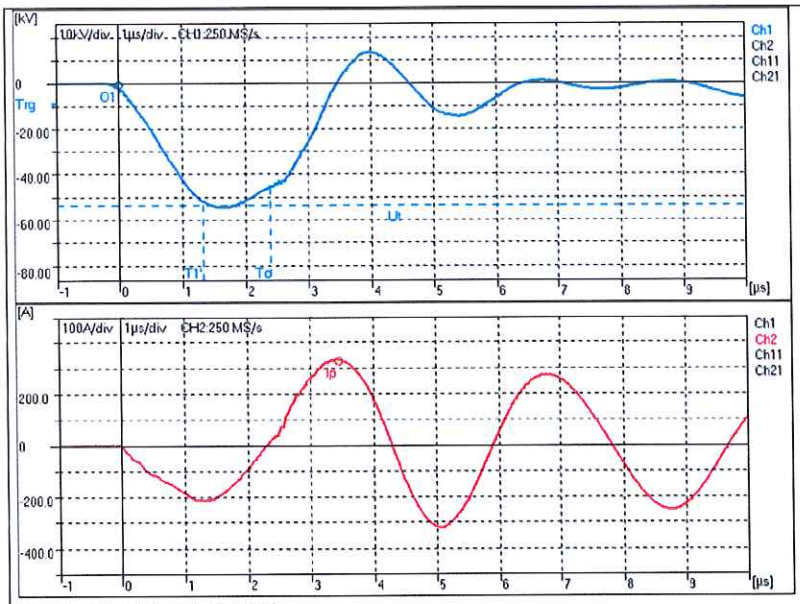
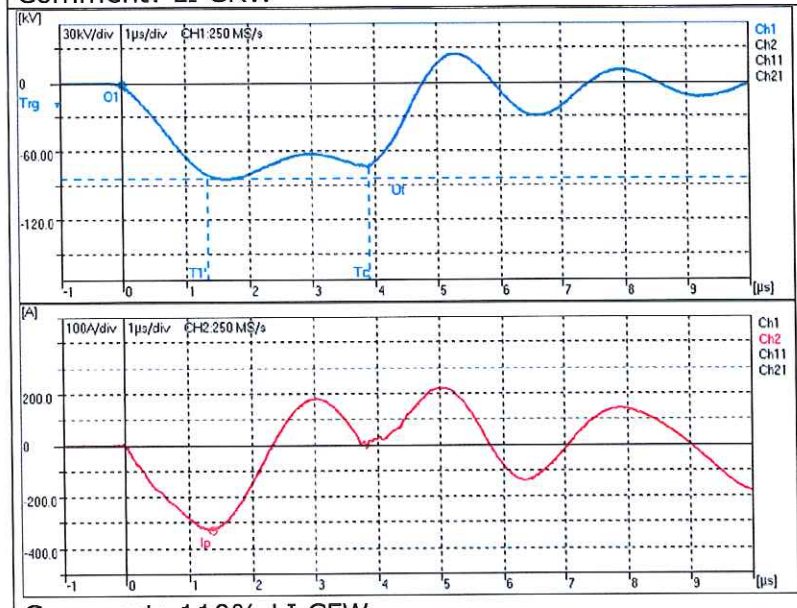


Comment: LI CRW

Fig.: 17
U_p = -53.13 kV
T_1 = 1.32 µs
T_2 = µs
T_c = 2.41 µs



Comment: 110% LI CFW

Fig.: 18
U_p = -82.41 kV
T_1 = 1.34 µs
T_2 = µs
T_c = 2.41 µs

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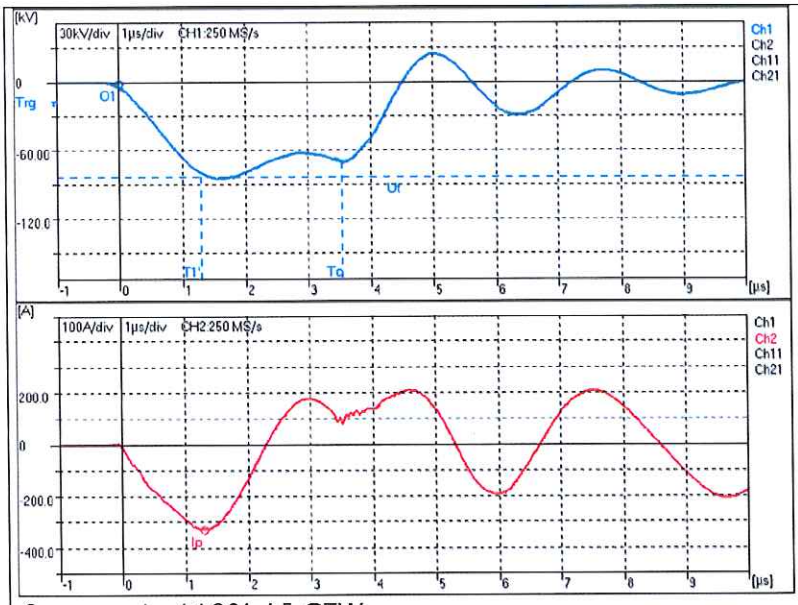
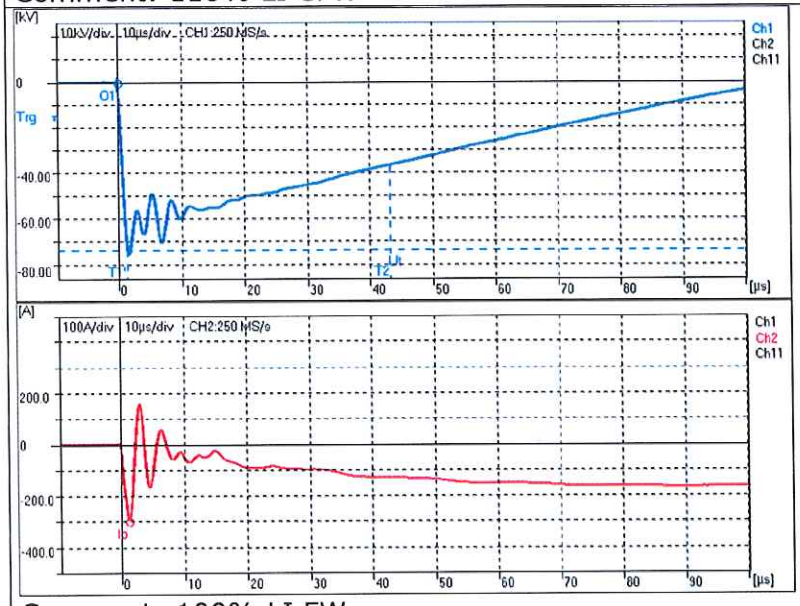


Comment: 110% LI CFW

Fig.: 19
U_p = -82.25 kV
T_1 = 1.31 µs
T_2 = µs
T_c = 3.55 µs



Comment: 100% LI FW

Fig.: 20
U_p = -73.22 kV
T_1 = 1.29 µs
T_2 = 43.25 µs
T_c = µs

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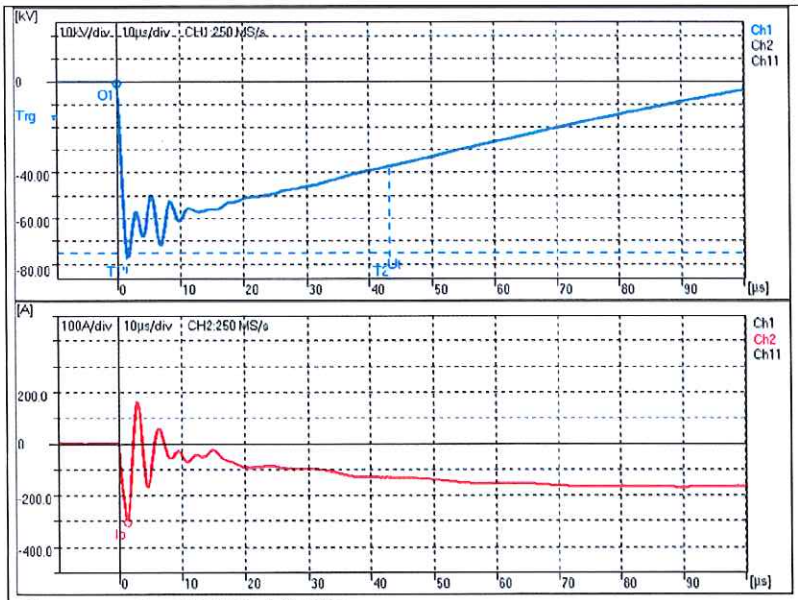

Comment: 100% LI FW

Fig.: 21
U_p = -74.51 kV
T_1 = 1.32 µs
T_2 = 43.32 µs
T_c = µs

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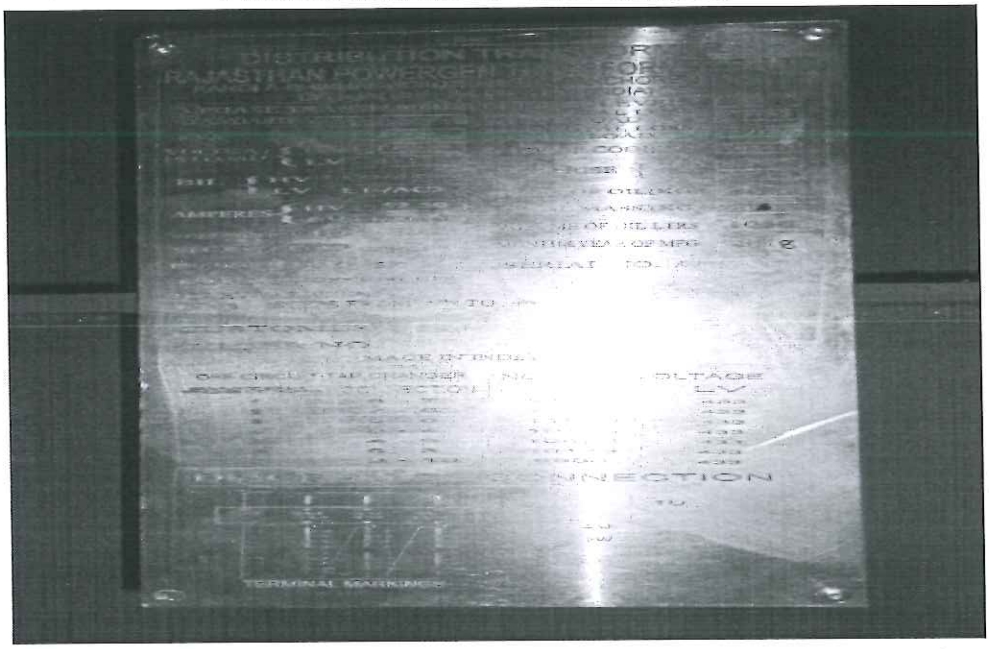
PHOTOGRAPHS OF TEST SAMPLE



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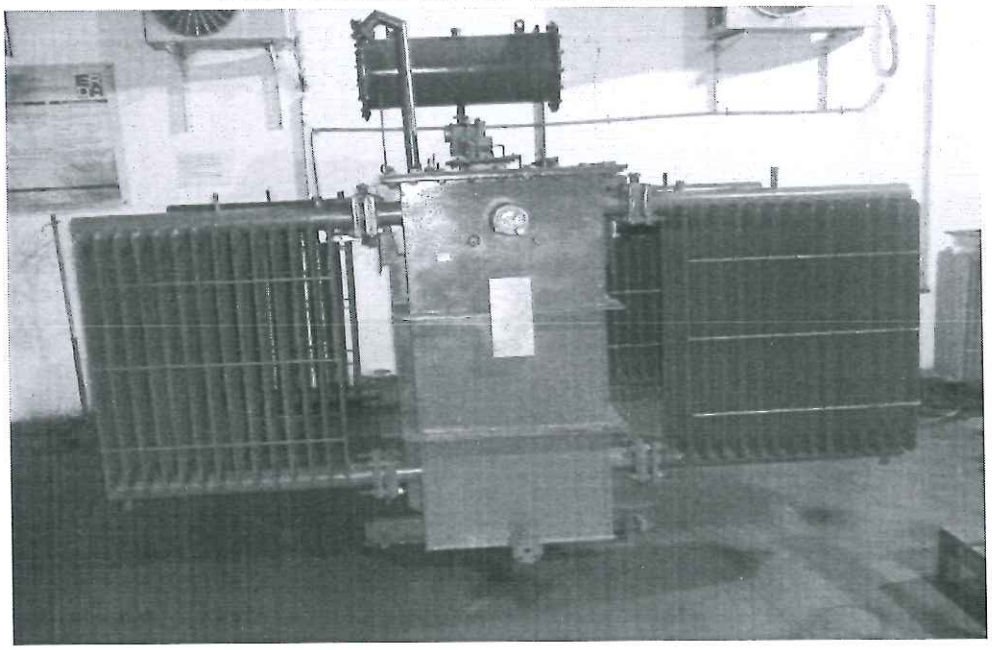
REPORT NO.: RP-1718-056976 Date: 14 Feb 2018

PHOTOGRAPHS OF TEST SAMPLE



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3 PHASE TRANSFORMER		ENERGY EFFICIENCY LEVEL	2
STANDARD	IS:1180(PART–I)	MAX. TOTAL LOSS AT 50% LOAD W	2790
KVA	1000	MAX. TOTAL LOSS AT 100% LOAD W	7700
VOLTS AT NO LOAD	HV 11000 / LV 433	TYPE OF COOLING	ONAN
		TEMP.RISE OIL	40° C
BIL	HV LI75/AC28 / LV LI–/AC3	TEMP.RISE WDG.	45° C
		MASS OF OIL(KG)	860
AMPERES	HV 52.50 / LV 1333.4	TOTAL MASS (KG)	4300
FREQUENCY HZ	50	VOLUME OF OIL LTRS	1050
VECTOR GROUP	Dyn11	MONTH&YEAR OF MFG	2018
IMPEDANCE VOLT %	5.0		
TAPPING	OFF CIRCUIT	SERIAL NO.	RPTPL–001

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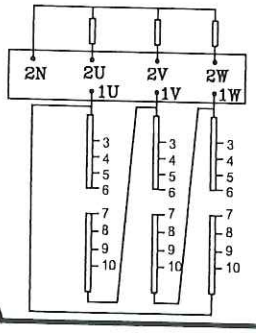
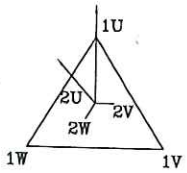
CUSTOMER ---
ORDER NO. ----

MADE IN INDIA

OFF CIRCUIT TAP CHANGER		NO LOAD VOLTAGE	
SWITCH POSITION	CONNECTION	HV	LV
1	6 – 7	11550	433
2	7 – 5	11275	433
3	5 – 8	11000	433
4	8 – 4	10725	433
5	4 – 9	10450	433
6	9 – 3	10175	433
7	3 – 10	9900	433





RP-1718-052976
14-2-18
1000 KVA 3' met

Rev	Date	Draw	Checked	Approved	Description
00	28.10.17	SKS	GCM		ORIGINAL ISSUE.

Title : RATING & DIAGRAM PLATE

Work Order : ----

Rating : 1000KVA,11/0.433KV

Drawing No. : RPTPL/CUS/05 NP Rev. : 00

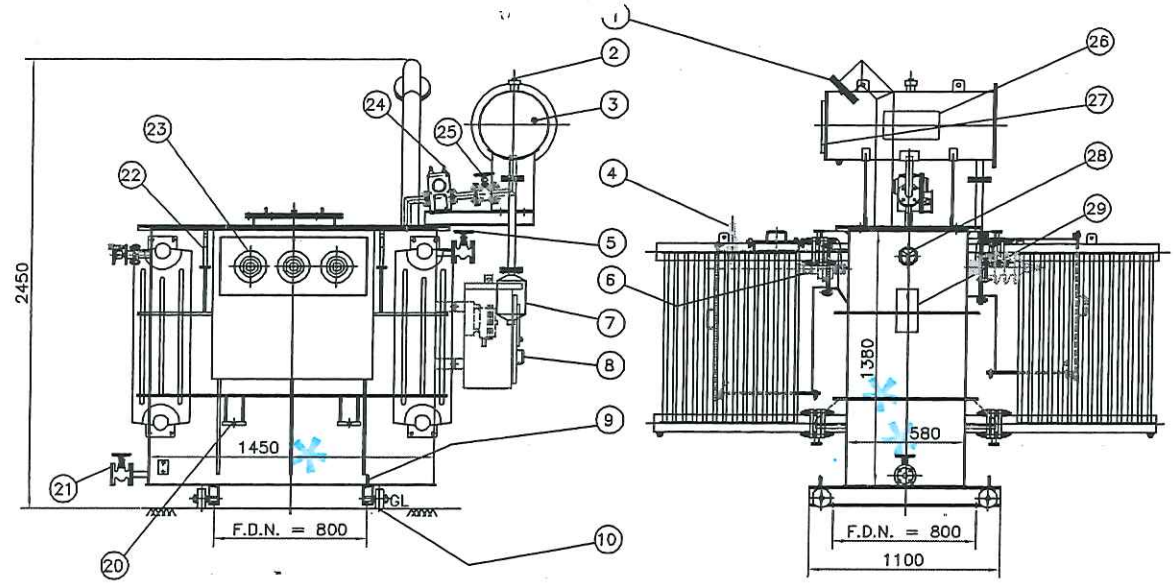
Sheet No. : 00

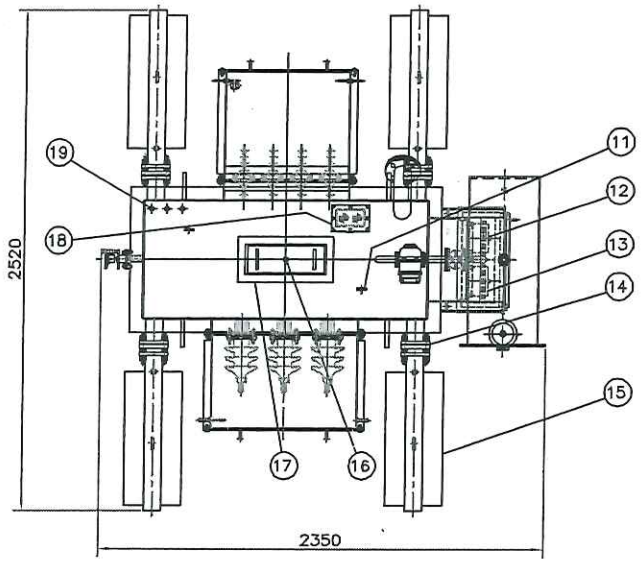
Total Sheets: 00

RAJASTHAN POWERGEN TRANSFORMER P. LTD.
Karola – Bhinmal Road, Karola, Sanchore – 343041 Dist – Jalore, Rajasthan (India)

All dimensions are in millimeters unless otherwise stated. If in doubt - Please Ask !

Scale : NTS





NOTES :-

1. All DIMENSIONS ARE IN mm.
2. ±10% TOLERANCE ON WEIGHT & DIMENSIONS.

✳ ITEM MARKED NOT PROVIDED DURING TEST

WEIGHT DETAILS INCLUDING OCTC		
S.N.	WEIGHT CHART	WEIGHT
1.	CORE & WINDINGS	2350 Kgs.
2.	TANK & FITTINGS	1090 Kgs.
3.	WEIGHT OF OIL	860 Kgs.
4.	TOTAL WEIGHT	4300 Kgs.
5.	QUANTITY OF OIL	1050 Ltrs.

Min. ELECTRICAL CLEARANCE IN C.B.			
SL.No.	DESCRIPTION	HV	LV
1	PHASE TO PHASE	130	25
2	PHASE TO EARTH	80	25

S.No.	NOMENCLATURE	QTY.
29	RATING & DIAGRAM PLATE	1
28	OFF CIRCUIT TAP SWITCH WITH HANDLE	1
27	PLAIN OIL LEVEL INDICATORS FOR CONS	1
✳26	MONOGRAM PLATE	1
25	SHUT OFF VALVE BETWEEN CONSERVATOR & TANK	1
24	BUCHHOLZ RELAY WITH ALARM & TRIP CONTACTS	1
23	HV BUSHINGS WITH CABLE BOX	3
22	LIFTING LUGS FOR COMPLETE TRANSFORMER	4
21	DRAIN VALVE	1
20	JACKING PADS	4
19	THERMOMETER POCKET (W.T.I. & O.T.I.)	3
18	C.T. TERMINALS BOX FOR W.T.I.	1
17	INSPECTION COVER	1
16	AIR RELEASE PLUG	1
15	DETACHABLE TYPE RADIATORS WITH LIFTING LUG & DRAIN PLUG 1000 C/C 300 WIDTH X 14 FINS	4
14	SHUT OF VALVE FOR RADIATORS TOP & BOTTOM	8
✳13	WINDING TEMPERATURE INDICATOR WITH ALARM & TRIP CONTACTS & MAXIMUM READING POINTER	1
✳12	OIL TEMPERATURE INDICATOR WITH ALARM & TRIP CONTACTS & MAXIMUM READING POINTER	1
11	COVER LIFTING LUGS	2
10	UNDERBASE CHANNEL WITH UNI-DIRECTIONAL FLAT ROLLER	4
9	EARTHING BOLT	2
✳ 8	MARSHALLING BOX (TANK MOUNTING WEATHER PROOF)	1
✳ 7	DE-HYDRATING SILICAGEL BREATHER WITH STEEL GLASS WINDOW	1
6	LV BUSHINGS WITH CABLE BOX	4
5	TOP FILTER VALVE (25 NB)	1
✳4	EXTRA NEUTRAL BUSHING FOR EARTHING	1
3	OIL CONSERVATOR WITH LIFTING & DRAIN PLUG	1
2	OIL FILLING HOLE WITH CAP	1
1	EXPLOSION VENT	1

Test Report No. : RP-1718-056976
Date : 14-2-18
Product : 1000 KVA Transformer
Verified by :

For fixation of this drawing on ... this is to ... only. ... dimensions are ... as ...

Rev	Date	Draw	Checked	Approved	Description
00	17.04.2017				ORIGINAL ISSUE.

Title : OUTLINE GENERAL ARRANGEMENT

Work Order : ---

Rating : 1000KVA,11/0.433KV

Drawing No. : RPTPL/CUS/05 OGA

Rev. : 00

Sheet No. : 01

Total Sheets: 01

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Scale : N.T.S