

CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)



CPRI

Test Report

Sheet 1 of 5

Date : 14 SEP 2016

Test Report No. : 2016/STL/1242
Name and Address of the customer : M/s Jodhpur Vidyut Vitran Nigam Limited
Office Of The Superintending Engineer (MM&C)
New Power House Premises, Industrial Area, Jodhpur

Name and address of the Manufacturer : M/s Rajasthan Powergen Transformer Pvt. Ltd.
Karola- Bhinmal Road, Village- Karola, Sanchore
Dist. Jalore, Rajasthan.

Particulars of Sample(s) Tested : 5 MVA, 33/11kV, Power Transformer

Condition of sample(s) on receipt : New
Type : Outdoor
Designation : Conventional
Serial Number(s) : RPTPL-01
Number of sample(s) Tested : One
CPRI sample code number(s) : STD5ST116S0243
Sealing of the sample of any : Transformer was sealed by polycarbonate seal bearing
Seal no. ME715335 to ME715342 on all four corners of Top cover
With tank.

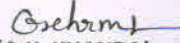
Particulars of test(s) conducted : Temperature Rise Test

Date(s) of Test(s) : 11.08.2016
Test(s) in accordance with : As Per IS:2026(Part-2),2011
Standard/specification :
Sampling Plan : NIL
Customer's Requirement : Temperature rise limits for Oil 45°C & for Winding 50°C
Deviations, if any : NIL


Name of the witnessing persons
Customer's Representatives : Mr. Anil Shinde
Other than Customer's Representatives : Mr. Prakas Jain (XenScada)
Test subcontracted with name and address of the laboratory : NONE

Documents constituting this report (in words)

No. of Sheet(s) : FIVE
No. of Oscillogram(s) : NIL
No. of Graph(s) : NIL
No. of Photograph(s) : NIL
No. of Test Circuit Diagram(s) : NIL
No. of Drawing(s) : TWO


(A.K. KHANRA)
TEST ENGINEER




(SARITA DONGRE)
JOINT DIRECTOR

**CENTRAL POWER RESEARCH INSTITUTE
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Test Report

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Test Report No: 2016/STL/1242

Date: 14 SEP 2016

SUMMARY OF TEST

- | | | |
|---------------------------------------|---|--|
| 1. Test conducted | : | Temperature Rise Test |
| 2. Rating for which tested | : | The test was conducted by feeding total loss of 28900 Watts tap no. 7 till the rate of change of tap Oil Temperature rise has fallen below 1.0 °C and then current Reduced to rated current 97.2 A for 1 hour as per standard |
| 3. DOCUMENTS CONSTITUTING THIS REPORT | | |
| 3.1 Supplementary test report | : | NIL |
| 3.2 Oscillogram No(s) | : | NIL |
| 3.3 Drawing of the equipment tested | : | RPTPL-GA- 001- 5MVA, RPTPL- RD- 001- 16 |
| 3.4 Test circuit drawing No(s) | : | NIL |
| 3.5 Photograph No(s) | : | NIL |

Gokhale
(A.K. KHANRA)
TEST ENGINEER

CENTRAL POWER RESEARCH INSTITUTE
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TEST REPORT

Test Report No: 2016/STL/1242

Sheet 3 of 5
Date: **14 SEP 2016**

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

| | | | | | | | |
|---|---|-------------------|--|--|--|--|--|
| Sample | : | Power Transformer | | | | | |
| Rated Power (kVA) | : | 5000 | | | | | |
| Rated Voltage HV (Volts) | : | 33000 | | | | | |
| LV (Volts) | : | 11000 | | | | | |
| Rated Current HV (Amps) | : | 87.47 | | | | | |
| LV (Amps) | : | 262.43 | | | | | |
| No. of Phases | : | Three | | | | | |
| Insulation level LV (kV rms/kV Peak) | : | 3 | | | | | |
| Insulation level HV (kV rms/kV Peak) | : | 28/70 | | | | | |
| Type of Cooling | : | ONAN | | | | | |
| Connection (HV/LV) | : | Delta/ Star | | | | | |
| Frequency (Hz) | : | 50 | | | | | |
| % Impedance | : | 7.15 | | | | | |
| X/R | : | - | | | | | |
| Temperature rise of oil/ Winding (degC) | : | 45/50 °C | | | | | |
| Winding Material | : | Copper | | | | | |
| Type Of Winding | : | Disc | | | | | |
| Quantity of Oil (litres) | : | 2550 | | | | | |
| Weight of Oil (kgs) | : | 2142 | | | | | |
| Total weight (kgs) | : | 11392 | | | | | |
| Vector group | : | Dyn11 | | | | | |
| Year of Manufacture | : | 2016 | | | | | |
| Serial Number | : | RPTPL-01 | | | | | |

| Tap No. | Primary Voltage V | Secondary Voltage V | %Impedance | X/R Ratio | Guaranteed No Load Loss | Guaranteed Load Loss at 75 °C | Guaranteed % Impedance at 75 °C |
|---------|-------------------|---------------------|------------|-----------|-------------------------|-------------------------------|---------------------------------|
| 1 | 34650 | 11000 | 7.10 | -- | -- | -- | -- |
| 2 | 33000 | 11000 | 7.15 | -- | -- | -- | -- |
| 3 | 29700 | 11000 | 7.95 | -- | -- | -- | -- |

A.K. Khanra
(A.K. KHANRA)
TEST ENGINEER

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CPRI

TEST REPORT

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Test Report No: 2016/STL/1242

Date: 14 SEP 2016

SCHEDULE OF TESTS

Test conducted : Temperature rise test

Condition of the Sample : New

Date of test : 11.08.2016

Starting time (Hrs.) : 9.00

Shut down(Hrs) : 17.00

Test Detail : Test was conducted by feeding total loss equal to 28900 Watts tap no. 7 as per standard After stabilization at 16.00 Hrs Current reduced to rated current 97.2 A as per standard.

1. Measurement of winding resistance : H.V. Winding: 1V-1W=676.4m Ω
before test at amb.Temp. 27°C : L.V. Winding: 2V-2W=67.56m Ω
2. Maximum temperature recorded

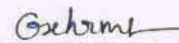
| Thermocouple location | Temperature during total loss (°C) at 16.00 hours | Temperature at shut down (°C) at 17.00 hours |
|-----------------------------|--|---|
| Top oil | 61.4 | 61.5 |
| Radiator Top | 59.1 | 58.9 |
| Radiator Bottom | 41.6 | 41.9 |
| Average ambient temperature | 28.9 | 29.3 |

Resistance at shut down : HV Winding: 1V-1W=800.9 m Ω
(Extrapolated from graph) : L.V. Winding : 2V-2W=80.589 m Ω

The temperature rises of H.V : HV Winding : 1V-1W=44.44°C
Winding LV winding and oil : LV Winding : 2V-2W=46.73°C
Oil : 32.5°C

Observation: The temperature rise of Winding/oil were within the limits as specified by IS: 2026 (Part-2), 2011 the customer

CONCLUSION : The test results indicate that the sample tested complies with the requirements of the as per IS : 2026 (Part-2), 2011


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TEST ENGINEER

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Date:

14 SEP 2016

NOTE

- a) The test results relate only to the sample (s) tested.
- b) Publication or reproduction of this report / certificate in any form other than by complete set of the whole report and in the language written, is not permitted without the written consent of CPRI.
- c) Any correction/erasure invalidates this test report/test certificate.
- d) NABL has Accredited this laboratory as per ISO 17025-2005 Standard for tests carried out.
- e) Any anomaly/discrepancy in this test report/test certificate should be brought to our notice within 45 days from the date of issue.
- f) The verification of the sample drawing by CPRI is limited to dimensional checks only wherever possible.
- g) CPRI issues two kinds of documents:

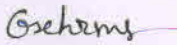
Test Report

The test report is issued when the sample is Tested for specific test required by the customer either in accordance with National/international standards or as per customer's requirement but on certification on the performance of the sample tested. The test report will contain the record of the values of test parameters as physical condition of the apparatus during/after the test (s), copy(ies) of Oscillogram(S) , record of supplementary test (s) if any conducted but no certification on the performance of the apparatus tested.

Test Certificate :

The test certificate is issued on request and payment of the prescribed charges only when the apparatus of particular type and rating has satisfactorily passed all the specified tests in compliance with condition stipulated in a published National/international standards.

- h) All Documents constituting this test report/certificate are stitched together with a Continuous silk thread /silk ribbon, the two ends of which have been brought over the front sheet of this test report/certificate and sealed with a CPRI printed paper sticker/embossed


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TEST ENGINEER

