National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : TRANSFORMER TESTING LABORATORY, NUCON SWITCHGEARS PRIVATE LIMITED, PLOT NO. A54-55, KAHRANI INDUSTRIAL AREA, BHIWADI, ALWAR, RAJASTHAN, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-7789 **Page No** 1 of 5

Validity 02/12/2022 to 01/12/2024 **Last Amended on** -

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
Permanent Facility				
1	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Up to 2.5 MVA, 33/11 kV Class	Voltage Ratio on each tapping and check of voltage vector relationship	IS 1180 (Part-1)
2	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33-11/0.433 kV Class	Sweep Frequency Response (SFRA)	As per CBIP 317
3	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Determination of Break Down Voltage	IS 6792
4	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Impedance Voltage at all tapping	IS 1180 (Part-1)
5	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Induced Over Voltage Withstand Test	IS 1180 (Part-1)
6	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Insulation Resistance Test & Polarization Index	IS 1180 (Part-1)
7	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Lightning Impulse Voltage Test (Full Wave/Chopped Wave)	IS 2026 (Part-3)
8	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Magnetic Circuit (Isolation Test)	CBIP GP-317 (Section BB, Cl. B5):2013
9	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Measurement of Load Losses	IS 1180 (Part-1)
10	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Measurement of Magnetic Balance	CBIP GP-317 (Section BB, Cl. B6):2013
11	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Measurement of Magnetizing Current	CBIP GP-317 (Section BB, Cl. B5):2013
12	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Measurement of No Load Current	IS 1180 (Part-1)
13	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Measurement of No Load Losses	IS 1180 (Part-1)
14	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Measurement of Sound Level	NEEMA TR-1:2013
15	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Measurement of Winding DC Resistance	IS 1180 (Part-1)
16	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Measurement of Zero Sequence Impedance	IS 2026 (Part 1)
17	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Pressure Test	CBIP GP-317:2013

SCOPE OF ACCREDITATION

Laboratory Name : TRANSFORMER TESTING LABORATORY, NUCON SWITCHGEARS PRIVATE LIMITED, PLOT NO. A54-55, KAHRANI INDUSTRIAL AREA, BHIWADI, ALWAR, RAJASTHAN, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-7789 **Page No** 2 of 5

Validity 02/12/2022 to 01/12/2024 **Last Amended on** -

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
18	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Separate Source AC Voltage withstand Test (Applied Potential Test)	IS 1180 (Part-1)
19	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Temperature Rise	IS 2026 (Part-2)
20	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Test on On-Load Tap Changer	IS 2026 (Part 1)
21	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Vacuum Test (at Fabrication Stage)	CBIP GP-317:2013
22	ELECTRICAL- INDUCTORS & TRANSFORMERS	Distribution Transformers Upto 2.5 MVA, 33/11 kV Class	Verification of Vector Group & Polarity Test	IS 2026 (Part 1)
23	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Up to 50 MVA, 132/33 kV Class	Harmonic Content Measurement	IS 2026 (Part 1)
24	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Up to 50 MVA, 132/33 kV Class	Measurement of No Load Current	IS 2026 (Part 1)
25	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Up to 50 MVA, 132/33 kV Class	Vacuum Test (at Fabrication Stage)	CBIP GP-317:2013
26	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers UPTO 50 MVA 132/33 Kv Class	Sweep Frequency Response	As per CBIP 317
27	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Capacitance Measurement	IEC 60076-1
28	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Capacitance Measurement	IS 2026 (Part 1)
29	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Determination of Break Down Voltage	IEC 60156
30	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Determination of Break Down Voltage	IS 6792
31	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Harmonic Content Measurement	IEC 60076-1
32	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Impedance Voltage at all tapping	IEC 60076-3:2013+AMD1:2018
33	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Impedance Voltage at all tapping	IS 2026 (Part 1)
34	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Induced Over Voltage Withstand Test	IEC 60076-3:2013+AMD1:2018
35	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Induced Over Voltage Withstand Test	IS 2026 (Part-3)

SCOPE OF ACCREDITATION

Laboratory Name : TRANSFORMER TESTING LABORATORY, NUCON SWITCHGEARS PRIVATE LIMITED, PLOT NO. A54-55, KAHRANI INDUSTRIAL AREA, BHIWADI, ALWAR, RAJASTHAN, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-7789 **Page No** 3 of 5

Validity 02/12/2022 to 01/12/2024 **Last Amended on** -

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
36	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Insulation Resistance and Polarization Index test	IS 2026 (Part 1)
37	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Insulation Resistance Test	IEC 60076-1
38	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Lightning Impulse Voltage Test (Full Wave/Chopped Wave)	IEC 60076-3:2013+AMD1:2018
39	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Lightning Impulse Voltage Test (Full Wave/Chopped Wave)	IS 2026 (Part-3)
40	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Magnetic Circuit (Isolation Test)	IEC 60076-1
41	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Magnetic Circuit Withstand test (Isolation Test)	CBIP GP-317:2013
42	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of Load Losses	IEC 60076-1
43	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of Load Losses	IS 2026 (Part 1)
44	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of Magnetic Balance	CBIP GP-317:2013
45	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of Magnetizing Current	CBIP GP-317:2013
46	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of No Load Current	IEC 60076-1
47	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of No Load Losses	IEC 60076-1
48	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of No Load Losses	IS 2026 (Part 1)
49	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of Sound Level	IEC 60076-10
50	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of Sound Level	IS 2026 (Part-10)
51	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of Sound Level	NEMA TR-1:2013
52	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of Winding DC Resistance	IEC 60076-1
53	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of Winding DC Resistance	IS 2026 (Part 1)
54	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of Zero Sequence Impedance	IEC 60076-1

SCOPE OF ACCREDITATION

Laboratory Name : TRANSFORMER TESTING LABORATORY, NUCON SWITCHGEARS PRIVATE LIMITED, PLOT NO. A54-55, KAHRANI INDUSTRIAL AREA, BHIWADI, ALWAR, RAJASTHAN, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-7789 **Page No** 4 of 5

Validity 02/12/2022 to 01/12/2024 **Last Amended on** -

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
55	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Measurement of Zero Sequence Impedance	IS 2026 (Part 1)
56	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Power taken by fans and oil pump motors	IEC 60076-1
57	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Power taken by fans and oil pump motors	IS 2026 (Part 1)
58	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Pressure Test	CBIP GP-317:2013
59	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Separate Source AC Voltage withstand Test	IS 2026 (Part-3)
60	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Separate Source AC Voltage withstand Test (Applied Potential Test	IEC 60076-3:2013+AMD1:2018
61	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Separate Source AC Voltage withstand Test (Applied Potential Test)	IS 2026 (Part-3)
62	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Tan Delta Measurement	IEC 60076-1
63	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Tan Delta Measurement	IS 2026 (Part 1)
64	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Temperature Rise Test	IS 2026 (Part-2)
65	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Temperature Rise Test (Oil Rise & Winding Rise)	IEC 60076-2
66	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Temperature Rise Test (Oil Rise & Winding Rise)	IS 2026 (Part-2)
67	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Test on ON-Load Tap Changer	IEC 60076-1
68	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Test on ON-Load Tap Changer	IS 2026 (Part 1)
69	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Verification of Vector Group & Polarity Test	IEC 60076-1
70	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Verification of Vector Group & Polarity Test	IS 2026 (Part 1)
71	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Voltage Ratio on each tapping and check of voltage vector relationship	IEC 60076-1

National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name :	TRANSFORMER TESTING LABORATORY, NUCON SWITCHGEARS PRIVATE LIMITED, PLOT NO. A54-55, KAHRANI INDUSTRIAL AREA, BHIWADI, ALWAR, RAJASTHAN, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-7789	**Page No**	5 of 5
Validity	02/12/2022 to 01/12/2024	**Last Amended on**	-

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
72	ELECTRICAL- INDUCTORS & TRANSFORMERS	Power Transformers Upto 50 MVA, 132/33 kV Class	Voltage Ratio on each tapping and check of voltage vector relationship	IS 2026 (Part 1)