ForumElectrical.Com

Auxiliary Transformer Test

Bay No:	Substation No:	Sheet: 1 of 7

NAME PLATE DETAILS

Sl. No.	
Make	
Power Capacity	
Voltage Rating	
Vector Group (Ex: Dyn11)	
% Impedance at Nominal Tap	
Normal Tap	
Frequency	50 Hz
Primary Current	
Secondary Current	
Tap Numbers	

MECHANICAL CHECK & VISUAL INSPECTION

S.No	Description	Remarks
1	Inspect For Physical Damage/Defects	
2	Check Nameplates data against contract specifications	
3	Check colour, earthing, painting, external damage, oil leakage, wheel stopper, cable connection and bolt tightness. etc	
4	Check all Position of the off load tap - changer with its indications and alarms	
5	Make sure all devices are labeled per drawing.	

Tested By:	Verified By:
Signature with Date:	Signature with Date:

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Bay No:	Substation No:	Sheet: 2 of 7

INSULATION RESISTANCE & POLARIZATION INDEX TEST

Insulation Checked with MEGGER (5 KV)

Time	HV-LV	HV- Earth	LV- Earth	Remarks
30 Sec.				
1 min				
2min				
3 min				
4 min				
5 min				
6 min				
7 min				
8 min				
9 min				
10 min				
P.I.				

NOTE: Polarization Index = IR Value (@ 10 min) / IR Value (@ 1 min)

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WINDING RESISTANCE TEST

Ambient Temperature: ºC

HV Winding

Tap Position	Measured Value (Ohm) HV side			Mean (ohm)	Mean Value @ 75°C(ohm)	Factory Value @ 75°C (ohm)	Remarks
	R - Y	Y - B	B - R				
1							
2							
3							
4							
5							

LV Winding

r - n	y - n	b - n	Mean	Mean Value @ 75°C	Factory Test Value @ 75°C	Remark

Temperature correction formula:

R at 75°C = $(235 + 75 / 235 + T_m) \times R_m$

Where, R_m = Measured value of resistance

T_m = Temp. During measurement

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MAGNETIZING CURRENT

Condition:

1). 3 phase voltages applied on HV(High Voltage) side, by keeping LV (Low Voltage) side open.

2). Current measurement carried at HV terminals.

TAP No.	Applied Voltage @ Primary Winding (V)			Magnetizing Current in m A at Primary Winding		
	R - Y	Y - B	B - R	IR	IY	IB
1						
2						
3						
4						
5						

VECTOR GROUP

Tap Number:

Connect (RØ)-to-(rØ)

Apply 3 Phase balance supply to High Voltage (HV) side.

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Drawing:

Measured Voltages Following

	R	Y	B	N	r	y	b
R	X	X	X	X	X	X	X
Y		X	X	X	X	X	X
B			X	X	X	X	X
N				X	X	X	X
r					X	X	X
y						X	X
b							X
n				X			

Result:

Vector Group -

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CALIBRATION OF OIL TEMPERATURE SENSORS

Start Temp. Reading: OTI = °C

S.No	Standard Thermometer Reading (°C)	Main TR. OTI Reading (°C)
1		
2		
3		
4		
5		

RATIO TEST

Primary		Sec Volts	Calc. Ratio	R - Phase		Y - Phase		B - Phase	
Tap	Volts			Measured	% E	Measured	% E	Measured	% E
1									
2									
3									
4									
5									

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INSULATING OIL DIELECTRIC STRENGTH TEST

According to IEC 156, the electrode gap is fixed at 2.5 mm, and for transformers in operation with a maximum operating voltage of 36kV, the minimum breakdown voltage is 40kV.

Number of Trials	**Breakdown Voltage (KV)**		**Remarks**
	Sample 1	Sample 2	
Average Reading			
Remarks			

Tested By:	**Verified By:**
Signature with Date:	**Signature with Date:**