

CURRENT TRANSFORMERS MAGNETISATION TESTS

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TABLE OF CONTENTS

PURPOSE AND SCOPE	1
1 CALIBRATED TEST EQUIPMENT	2
2 CURRENT TRANSFORMERS PARTICULARS.....	2
3 CURRENT TRANSFORMERS MAGNETISATION TEST RESULT SUMMARY CALIBRATED TEST EQUIPMENT	3
4 CURRENT TRANSFORMERS MAGNETISATION TESTS – CONVENTIONAL METHOD	7
PART 2 – DEFINITIONS AND DOCUMENT HISTORY	9
5 DEFINITIONS	9
6 AMENDMENTS RECORD	9
7 IMPLEMENTATION.....	9
PART 3 - GUIDANCE NOTES AND APPENDICES	10
8 REFERENCES	10
APPENDIX A TS 3.2.4 CURRENT TRANSFORMERS PARAMETERS	11

Station		Circuit:	
Manufacturer's Contract No		Contractor's Signature:	
National Contract No:		Accepted by Engineer:	
Contractor:		Date:	

PURPOSE AND SCOPE

This document contains the site commissioning tests to be performed on Current Transformers in National Grid (NG) substations.

PART 1 – COMMISSIONING STAGE 1

1 CALIBRATED TEST EQUIPMENT

Record of Calibrated Test Equipment used during Commissioning

	Manufacturer and Type	Serial No.	Software Version	Calibration Date	Date next calibration due
CT Analyser					
Ammeter or Multimeter					
Voltmeter or Multimeter					
Others (state function)					

2 CURRENT TRANSFORMERS PARTICULARS

Nominal Voltage:						
Manufacturer:						
CT Core		1	2	3	4	5
Ratio:						
CT Class:						
CT terminals:						
Serial No.	R					
	Y					
	B					
Polarity Test Result Pass/Fail	R					
	Y					
	B					
Ambient Temperature t°C:	R					
	Y					
	B					
Test Results:		☐ CT Analyser test report attached ☐ Conventional test results recorded in Section 4				

3 CURRENT TRANSFORMERS MAGNETISATION TEST RESULT SUMMARY CALIBRATED TEST EQUIPMENT

Record the Current Transformer parameters determined from the Magnetisation Curve test results and confirm that the CT meets National Grid requirements.

The Policy Requirements fields should be completed with reference to Appendix A which summarises TS 3.2.4 Current Transformers for Protection and General Use requirements for CT Knee Point Voltage and secondary winding resistance. If further guidance and clarification is required, advice should be sought from the Commission Officer.

The shaded row provides an example of results completed for a 275kV SGT HV Bushing turret CT Core 5 PX-B.

3 CURRENT TRANSFORMERS MAGNETISATION TEST RESULT SUMMARY

Phase	CT Nameplate details					Measured Results				Policy Requirements		Pass/Fail		
	Core No.	Class	Knee Point Voltage V_K (volts)	CT Resistance R_{CT} (ohms) at 75°C	Magnetising current I_e (milliamps) at V_K	Knee Point Voltage V_K (volts)	CT Resistance R_{CT} (ohms) at 75°C	Magnetising current I_e (milliamps) at V_K	Magnetising current I_e (milliamps) at $\frac{1}{2} V_K$ (from Mag Curve)	TS 3.2.4 Knee Point voltage formula Refer Table 1 - Column A	TS 3.2.4 Knee Point voltage requirement V_K (volts) (using measured R_{CT})	Measured knee point is equal to or greater than TS 3.2.4 requirement and CT name plate specification	Measured magnetising current I_e is less than 75mA at $\frac{1}{2} V_K$	Measured CT resistance is equal or less than the CT name plate specification and TS 3.2.4 requirement Refer Table 1 - Column B
R	5	PX-B	390	1.7	Not specified	552	1.7	88.9	23.7	$V_K = 82$ (1.7 + 3.0)	385	Pass	Pass	Pass
R														
Y														
B														
R														
Y														