

# COMMISSIONING GROUND MOUNTED DISTRIBUTION SUBSTATION AND SWITCHGEAR TEST REPORT



SUBSTATION No: \_\_\_\_\_ FEEDER: \_\_\_\_\_ FILE REFERENCE: \_\_\_\_\_

LOCATION: \_\_\_\_\_

**Manufacturer's Test Report for Transformer\***

<b>Manufacturer:</b>		Has manufacturer's and final assembler's test report been sighted and approved, including test results for: Insulation Resistance, AC High Voltage Withstand, Oil Dielectric Strength, Ratio, Winding Resistance, Induced Voltage, Impedance.	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Voltage Ratio:</b>			
<b>Rating (kVA):</b>			
<b>Vector Group:</b>			
<b>Serial No:</b>			

**Manufacturer's Test Report for HV Switchgear\***

<b>Manufacturer:</b>		Has manufacturer's and final assembler's test report been sighted and approved, including test results for: Insulation Resistance, AC High Voltage Withstand, Main Contact Ductor, Earth Switch Ductor, Oil Dielectric Strength, Functional Tests, Type Tests	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Voltage Rating:</b>			
<b>Switchgear Type:</b>			
<b>Serial No:</b>			

**Manufacturer's Test Report for LV Switchgear\***

<b>Manufacturer:</b>		Has manufacturer's and final assembler's test report been sighted and approved, including test results for: Insulation Resistance, Ductor, Functional Tests, Type Tests	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>Voltage Rating:</b>			
<b>Switchgear Type:</b>			
<b>Serial No:</b>			

**Earth Resistance** Attach a layout sketch of the Transformer earth mat if not standard and location of additional earthing

Instrument Number:

Location	Ohms	Location	Ohms
HV Earth		LV Earth	

**Insulation Resistance** Results in Megohms Instrument Number

	All switches / circuit breakers closed	A to B+C+E	B to A+C+E	C to A+B+E
<b>HV Switchgear (at 5 kV)</b>	Switch 1 open (or fuse removed)	A+B+C (side 1) to A+B+C (other side)		
	Switch 2 open (or fuse removed)	A+B+C (side 1) to A+B+C (other side)		
	Switch 3 open (or fuse removed)	A+B+C (side 1) to A+B+C (other side)		
<b>Transformer</b>	<b>Winding</b>	<b>Voltage</b>	<b>@ 1 min</b>	<b>@ 5 min</b>
	HV to LV+E	5 kV		
	HV to E	5 kV		
	LV to E	2.5 kV		
<b>LV Switchgear (at 2.5 kV)</b>	Switch 1 open (or fuse removed)	A+B+C (side 1) to A+B+C (other side)		
	Switch 2 open (or fuse removed)	A+B+C (side 1) to A+B+C (other side)		
	Switch 3 open (or fuse removed)	A+B+C (side 1) to A+B+C (other side)		
	Switch 4 open (or fuse removed)	A+B+C (side 1) to A+B+C (other side)		
	Switch 5 open (or fuse removed)	A+B+C (side 1) to A+B+C (other side)		
	Switch 6 open (or fuse removed)	A+B+C (side 1) to A+B+C (other side)		

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## Voltage Measurements

Instrument Number:

Location	Voltage on Tap Position _____			Tap Ratio Voltage _____ - _____		
	A-N	B-N	C-N	A-B	B-C	C-A
LV Bus (unloaded)						
LV Bus (loaded)						

## Phase Rotation

Phase Rotation: A-B-C  C-B-A

Instrument Number:

## Polarity

Location Tested: \_\_\_\_\_

Test Method Used: \_\_\_\_\_

Instrument Number:

Polarity Correct: Yes  No

## Load Measurements

Instrument Number:

Location	A phase amps	B phase Amps	C phase Amps	N amps
Transformer Load				
LV feeder 1				
LV feeder 2				
LV feeder 3				
LV feeder 4				
LV feeder 5				
LV feeder 6				

## Check Items

Operational Nameplates in place	Yes <input type="checkbox"/> No <input type="checkbox"/>	Interlocks to stop paralleling feeders functional	Yes <input type="checkbox"/> No <input type="checkbox"/>
Safety signs in place	Yes <input type="checkbox"/> No <input type="checkbox"/>	Physical inspection of equipment complete – transport bracing removed, connections tight, buswork and cabling installed correctly	Yes <input type="checkbox"/> No <input type="checkbox"/>
Access to switchgear clear of obstructions	Yes <input type="checkbox"/> No <input type="checkbox"/>	Functional test of operation including interlocks okay	Yes <input type="checkbox"/> No <input type="checkbox"/>
Emergency exit marked and unobstructed	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	HV and LV fuses correct size and installed correctly	Yes <input type="checkbox"/> No <input type="checkbox"/>
Surge diverters correct voltage rating	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	Fuse size marked on switchgear	Yes <input type="checkbox"/> No <input type="checkbox"/>
HV earth connections checked	Yes <input type="checkbox"/> No <input type="checkbox"/>	Spare fuses on site	Yes <input type="checkbox"/> No <input type="checkbox"/>
LV earth connections checked	Yes <input type="checkbox"/> No <input type="checkbox"/>	Locks in place and operational	Yes <input type="checkbox"/> No <input type="checkbox"/>
CMEN bonding in place	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	Phasing Out facility on Switchgear	Yes <input type="checkbox"/> No <input type="checkbox"/>
Neutral to Main Earth link in place	Yes <input type="checkbox"/> No <input type="checkbox"/>	Fault Indicator Installed on Switchgear	Yes <input type="checkbox"/> No <input type="checkbox"/>
HV cable test SP0407C01 completed	Yes <input type="checkbox"/> No <input type="checkbox"/>	If Yes to the above Fault Indicator is connected to circuit–	
LV cable test SP0405C01 completed	Yes <input type="checkbox"/> No <input type="checkbox"/>		

## Remarks and Non-Conformances

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\* Manufacturer's test certificates not required to be sighted for individual units where equipment has been purchased and accepted as part of an approved Ergon Energy period contract.

COMMISSIONING OFFICER: \_\_\_\_\_

DATE: \_\_\_\_\_

SUPERVISOR: \_\_\_\_\_