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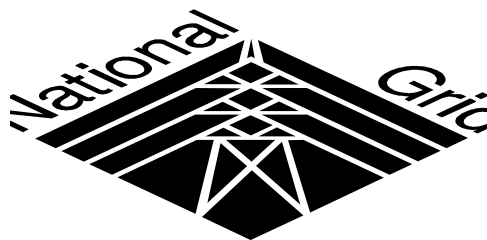
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Schedule of Site **ABB RELZ100**
Commissioning Tests **Distance Protection**
SCT 20.12.11
Issue 2
June 1998

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SCHEDULE OF SITE COMMISSIONING TESTS

SCT 20.12.11 ABB RELZ100 DISTANCE PROTECTION

Station:

Circuit:

Manufacturer's Contract No:

Contractor's Signature:.....

NGC Contract No:

Accepted by:.....
(Engineer's Signature)

Contractor:

Date:

ABB RELZ100 DISTANCE PROTECTION

1 CALIBRATED TEST EQUIPMENT

(i) Record of Calibrated Test Equipment used during Commissioning

	<u>Manufacturer and Type</u>	<u>Serial No.</u>	<u>Calibration Date</u>	<u>Date next calibration due</u>
<u>Insulation Resistance Tester</u>				
<u>Ammeter or Multimeter</u>				
<u>Voltmeter or Multimeter</u>				
<u>Timer</u>				
<u>Others (state function)</u>				

2 GENERAL DATA

Relay Serial Number:

Manufacturer's Drawing Number:

Rated Voltage U_n : V a.c.

Rated Current I_n : A a.c.

Auxiliary Supply: V d.c.

Tripping Supply: V d.c.

CT Ratio:

VT Ratio:

Type of VT Capacitor/Wound

2.1 Local Primary System Diagram

2.2 Circuit Parameters

	Feeder
Line Angle	
Length	km
Primary Impedance	
Positive Sequence Z_1	Ω
Zero Sequence	Ω
Phase Fault Loop $Z_p = 2Z_1$	Ω
Earth Fault Loop $Z_e = \frac{(2Z_1 + Z_0)}{3}$	Ω

2.3 Mode of Operation

	Plain	Accelerated	Blocked
Scheme Number	2	2	8

2.4 Required Relay Reach and Zero Sequence Compensation Factor

Primary Impedance	Reactive Reach (ohms per phase)	Resistive Reach (ohms per loop)
Zone 1	$X_1 =$	$R_1 =$
Zone 2	$X_2 =$	$R_2 =$
Zone 3	$X_3 =$	$R_3 =$
Zone 4	$X_4 =$	$R_4 =$
Zone 5	$X_5 =$	$R_5 =$

Required Secondary Impedance = Primary ohms x $\frac{CT \text{ Ratio}}{VT \text{ Ratio}}$

Secondary Impedance	Reactive Reach (ohms per phase)	Resistive Reach (ohms per loop)
Zone 1	$X_1 =$	$R_1 =$
Zone 2	$X_2 =$	$R_2 =$
Zone 3	$X_3 =$	$R_3 =$
Zone 4	$X_4 =$	$R_4 =$
Zone 5	$X_5 =$	$R_5 =$

Zero Sequence Compensation Factor K_N

--

3 MECHANICAL INSPECTION

CAUTION: Use electrostatic precautions. The equipment contains components sensitive to electrostatic voltage discharge. To avoid damage, handle modules by the front plate and avoid contact with electrical components and connections.

3.1 Ensure that all transit packaging etc is removed.

3.2 Check proper mounting and access in addition to the requirements contained in Document 099/500, Guidance Notes for Site Commissioning Tests on Protection, Measuring, Control, Alarm and Indication Equipment.

3.3 Check fuses and links for compliance to standard and rating.

3.4 Inspect each module for signs of damage and ensure that all units and auxiliary relays are present, fully inserted and correctly located, in accordance with the apparatus list and product specification.

4 WIRING

Where RELZ100 is part of a modular, factory wired system (such as a TPS 5/33 system), it is not necessary to perform insulation tests or to check the cubicle wiring. The tests below should be performed on all wiring where the cubicle has been wired on site and on any connections made at the site.

4.1 Insulation Tests

Note: Use an electronic or brushless 500 V d.c. tester.

4.1.1 Measure insulation resistance of CT circuits to earth

 MΩ

4.1.2 Measure insulation resistance of VT circuits to earth

 MΩ

4.1.3 Measure insulation resistance between external d.c. terminals and between each of these terminals and earth

 MΩ

4.2 Insulation Tests on General and Cubicle Wiring

(See SCT 20.4.1)

4.3 Inter Relay and Cubicle Wiring Checked To:

Circuit Diagram No

Wiring Diagram No