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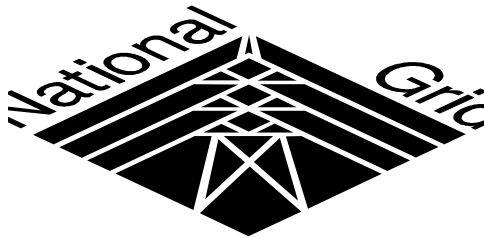
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Schedule of Site
Commissioning Tests
SCT 20.17.3
Issue 2
August 1998

**REL 350 (MSPC)
Phase Comparison
Protection Relay**

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SCHEDULE OF SITE COMMISSIONING TESTS

**SCT 20.17.3 REL 350 (MSPC) PHASE COMPARISON PROTECTION
RELAY**

Station:..... Circuit:

Manufacturer's Contract No:..... Contractors Signature:

NGC Contract No:..... Accepted By:
(Engineer's Signature):

Contractor:..... Date:.....

.....

REL 350 (MSPC) PHASE COMPARISON PROTECTION RELAY

1 REFERENCES

Reference should be made to the following documents:-

- (i) ABB REL 350 Ver 2.0 Instruction Manual 40-201.8A. (A disk should be supplied with the relay containing the Remote Communications Program).
- (ii) ABB Remote Communication Program User Guide 40-603.
- (iii) ABB Oscillographic and Recording Program User Guide 40-606.
- (iv) NGTS 3.6.11 Communications for Teleprotection.
- (v) SCT 20.4.1 Insulation Resistance.
- (vi) SCT 099/500 - Guidance Notes for Site Commissioning Tests on Protection, Measuring, Control, Alarm and Indication Equipment.

1.1 Computer Requirements

Some of the data required for this Site Commissioning Test (SCT) is not available on the front panel of the relay and can only be obtained through the RS 232 communications port located on the back of the relay.

1.1.1 The following are minimum system requirements, please refer to the software manuals listed above for further details:-

- (i) IBM PC/XT/AT PS/2 or true compatible with 640 k bytes of RAM.
- (ii) Version 3.3 or higher of MC/PC DOS.
- (iii) Colour graphics adaptor.
- (iv) RS 232 serial port. See Appendix M of the REL 350 manual for RS 232 lead requirements.

2 GENERAL DATA

It is recommended that the user reads this SCT through before starting the commissioning tests.

Manufacturer: ABB

Serial No:

2.1 The following manufacturers procedure shall be followed to remove the inner chassis:-

Ensure that the equipment is initially de-energised.

NB All integrated circuits used on the modules are sensitive to and can be damaged by the discharge of static electricity. Electrostatic discharge precautions should be observed when operating or testing the REL 350. The relay shall be removed from its outer casing before any insulation testing is carried out.

- (i) Unscrew the front panel screws.
- (ii) Remove the FT-14 Flexitest switch covers one on each side.

- (iii) Open all FT-14 switches.
- (iv) Slide out the inner chassis.
- (v) Close all FT-14 switches.
- (vi) Replace the FT-14 covers.
- (vii) Reverse procedures above when replacing the inner chassis into the outer chassis.

Record the Module Identification Codes in Table 1 (Refer to Page B2 of the REL 350 manual for individual module location)

Table 1

Module	Identification Code
Backplane (J11, J12, J13)	
Power Supply (J7)	
Analogue Input (J9)	
Microprocessor (J5)	
Modem (J10)	
Relay Output (Base 1), (JB2)	
Relay Output (Base 2), (JB3)	
Contact Input (JB4)	
Inter-Connect Module	

D.C. Supply Voltage:

D.C. Status Inputs Operating Voltage:

(If the Auxiliary supply for these inputs exceeds 50 V, external series resistors must be fitted).

Relay Rated Current:

(1 A or 5 A depending on current input connection)

CT Ratio:

Record Test equipment used for commissioning tests in Table 2

Table 2 Calibrated Test Equipment

	<u>Manufacturer and Type</u>	<u>Serial No</u>	<u>Date Last Calibrated</u>	<u>Date Next Calibration Due</u>
<u>Insulation Resistance Tester</u>				
<u>Voltmeter or Multimeter</u>				
<u>Ammeter or Multimeter</u>				
<u>Timer</u>				
<u>Others (state function)</u>				

2.2.1 Complete Sections 3, 4 and 5 while the inner chassis is removed.

3 INSPECTION OF EQUIPMENT

CAUTION. The equipment contains components that are sensitive to electrostatic voltage discharge. Ensure electrostatic precautions are observed at all times.

3.1 Examine the relay carefully for any signs of damage.

3.2 Check from the front name plate that the relay model number and rating details are correct to the installation diagrams and the same as the inner chassis.

4 AUXILIARY SUPPLY VOLTAGE

4.1 Check that the auxiliary supply voltage is the same as the relay rating as marked on the fascia.

4.2 Check that the polarity of the auxiliary supply voltage is correct before energising the relay.

4.3 Before turning on d.c. power supply check jumper positions on the Contact Input and Microprocessor modules as shown below:-

Contact Input Module - check jumpers set for 48/125 V

(Refer to Figure D-1 in the REL 350 manual)

Microprocessor module - check JM1 set to 2-3
(Refer to Figure E-4 in the REL 350 manual)

check JM2 set to 2-3

--

check JM5 set to 2-3

--

check JM6 set to 1-2

--

4.4 Replace the inner chassis as described in Section 2.1.1.

5 WIRING CONNECTIONS

If the relay forms part of a TPS 5/33 cubicle, it is not necessary to complete Sections 5.1 and 5.2 below. The tests detailed in these sections should only be carried out where the cubicle has been wired on site.

Relay is part of a TPS 5/33 cubicle. (Yes/No)

--

5.1 Inspection

Inter relay and cubicle wiring checked to

	NGC No	Manufacturers No
Circuit Diagram No		
Wiring Diagram No		

5.2 Insulation Resistance

Insulation resistance testing shall be carried out in accordance with SCT 20.4.1 - Insulation Resistance, and the guidance given in SCT 099/500 - Guidance Notes for Site Commissioning Tests on Protection, Measuring, Control, Alarm and Indication Equipment. **The relay shall be removed from its outer casing before the tests are carried out.**