

This document is for internal and contract specific use only.

Disclaimer

NGG and NGET or their agents, servants or contractors do not accept any liability for any losses arising under or in connection with this information. This limit on liability applies to all and any claims in contract, tort (including negligence), misrepresentation (excluding fraudulent misrepresentation), breach of statutory duty or otherwise. This limit on liability does not exclude or restrict liability where prohibited by the law nor does it supersede the express terms of any related agreements."

Copyright © National Grid plc 2011, all rights reserved

All copyright and other intellectual property rights arising in any information contained within this document are, unless otherwise stated, owned by National Grid plc or other companies in the National Grid group of companies. No part of this publication may be reproduced in any material form (including photocopying and restoring in any medium or electronic means and whether or not transiently or incidentally) without the written permission of National Grid plc

This information should not be forwarded to third parties.



Schedule of Site Commissioning Tests

SCT 20.17.2
Issue 4
February 2000

Microphase-FM Current Differential Phase Comparison Protection

CONTENTS	Page
1 GENERAL DATA.....	3
2 REFERENCES.....	3
3 OFF-LOAD TESTS.....	3
3.1 Inspection Of Equipment	3
3.2 Calibrated Test Equipment	4
3.3 Wiring Connections	4
3.4 Auxiliary Supply Voltage	5
3.5 Input/Output.....	6
3.6 Secondary Injection Tests At Nominal Settings	7
3.7 Relay Settings	8
3.8 Secondary Injection Tests At Final Settings	9
3.9 End To End Tests.....	10
3.10 Functional Tests.....	12
3.11 Primary Injection Tests.....	13
3.12 Off-Load Tests Signatory Sheet.....	14
4 ON-LOAD TESTS	15
4.1 On-Load Tests Signatory Sheet	17
5 PUTTING PROTECTION INTO SERVICE.....	18
APPENDIX A.....	19
APPENDIX B.....	21

Authorised for Issue by:

Dave Humphreys
Head of Protection & Measurements
Network Control & Telecommunications
Engineering & Technology

© The National Grid Company plc 2000

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise, without the written permission of the NGC obtained from the issuing location.

The contents of The National Grid Company plc engineering documents are based on the needs of NGC and the conditions under which it operates. It should not therefore be assumed that the specifications and requirements stated therein necessarily meet the particular circumstances and requirements of other organisations. No responsibility can therefore be accepted for any loss or damage sustained as a result of using or relying on the documents

Registered Office
National Grid House
Kirby Corner Road
Coventry
CV4 8JY

Registered in
England and Wales
No. 2366977

Published by:

The National Grid Company plc
Kelvin Avenue
Leatherhead
Surrey KT22 7ST

Contact name: Pelqim Spahiu
Network Control and Telecommunications
Telephone: 01372 383753

THE NATIONAL GRID COMPANY plc

SCHEDULE OF SITE COMMISSIONING TESTS

SCT 20.17.2 MICROPHASE-FM CURRENT DIFFERENTIAL PHASE COMPARISON PROTECTION

Station:

Circuit:

Contractor:

Contractor's Number:

NGC Contract No:

This Page Is Intentionally Left Blank

.....

MICROPHASE-FM CURRENT DIFFERENTIAL PHASE COMPARISON PROTECTION

1 GENERAL DATA

Manufacturer: Reyrolle Protection

Serial No:

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, see Note 1).~~

(1 A or 5 A depending on current input connection, see Note 1).

CT Ratio:

Line Length (km):

Line Charging Current (A):

2 REFERENCES

Reference should be made to the following Reyrolle document if further information is required:

~~Microphase-FM Technical Manual, 1997~~

Microphase-FM Technical Manual, 1997

~~3 OFF-LOAD TESTS~~

3 OFF-LOAD TESTS

3.1 Inspection Of Equipment

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

- (i) Examine the relay carefully for any signs of damage.

- (ii) Check from the front nameplate that the relay model number and rating details are correct to the installation diagrams.

~~Note 1: Relay Rated Current required is specified on the protection setting sheet provided by Project Management.~~

Note 1: Relay Rated Current required is specified on the protection setting sheet provided by Project Management.

3.2 Calibrated Test Equipment

Record of Calibrated Test Equipment used during Commissioning

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

3.3 Wiring Connections

If the relay forms part of a TPS 5/33 cubicle, it is not necessary to complete Sections (i) and (ii) 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)

(i) Inspection

Inter relay and cubicle wiring checked to:

	NGC No	Manufacturers No
Circuit Diagram No		
Wiring Diagram No		

(ii) Insulation Resistance

Connect all accessible terminals of the same circuit together and measure, using an electronic or brushless tester of 500 V d.c., their resistance to earth.

Module 1			
1,3			
Module 2			
1,2,3		25,26,27	
4,5,6		28,29,30	
7,8,9		31,32,33	
10,11,12		34,35,36	
13,14,15		37,38,39	
16,17,18		40,41,42	
19,20,21		43,44,45	
22,23,24		46,47,48	
Module 3			
1,2,3		11,12,13	
4,5,6		14,16	
Module 4			
1,2		9,10	
3,4		11,12	
5,6		13,14	
7,8		15,16	

3.4 Auxiliary Supply Voltage

- (i) Check that the auxiliary supply voltage is the same as the relay rating as marked on the facia.

- (ii) Check that the polarity of the auxiliary supply voltage is correct before energising the relay.

Turn on the data backup battery located on the rear of Module 11 and check that it is working correctly.