LINE DISTANCE RELAY

TEST DATA

Test Data No. : _____
Station : _____
Protected Eqpt. ID _____
Date of Test : _____
CT Ratio : _____
PT Ratio : _____

Relay Specifications:
Brand: _____
Model: _____
Serial No. _____
Current Rating: _____
Voltage Rating: _____
Manufacturing Date: _____

A. RELAY SETTINGS

SETTING	L-G Impedance			L-L Impedance			3-PHASE Impedance			TIME (msecond)	AMPERE
	R	X	Z	R	X	Z	R	X	Z		
Z1											
Z2											
Z3											
Z4											
67N AIDED											
* P-N Angle at maximum reach											
* P-P Angle at maximum reach											

REMARKS : _____

A.1 ADDITIONAL FUNCTION

	STATUS		REMARKS
	Abled	Disabled	
POWER SWING			
SCHEME (POTT)			
SCHEME (PUTT)			
SOTF			
STUB PROTECTION			
EMERGENCY OVERCURRENT			
VOLTAGE SUPERVISION			
DIRECTIONAL EARTH FAULT			

B. TEST RESULTS

B.1 IMPEDANCE REACH AND TIME (LINE ANGLE)

ZONE : 1

	θ : _____			θ : _____			θ : _____
	LINE TO GROUND			**LINE TO LINE**			**3 PHASE**
	AN	**BN**	**CN**	**AB**	**BC**	**CA**	**ABC**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

ZONE : 2

	θ : _____			θ : _____			θ : _____
	LINE TO GROUND			**LINE TO LINE**			**3 PHASE**
	AN	**BN**	**CN**	**AB**	**BC**	**CA**	**ABC**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

ZONE : 3

	θ : _____			θ : _____			θ : _____
	LINE TO GROUND			**LINE TO LINE**			**3 PHASE**
	AN	**BN**	**CN**	**AB**	**BC**	**CA**	**ABC**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

ZONE : ___

	θ : _____			θ : _____			θ : _____
	LINE TO GROUND			**LINE TO LINE**			**3 PHASE**
	AN	**BN**	**CN**	**AB**	**BC**	**CA**	**ABC**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

REMARKS : _____

B.2 RELAY CHARACTERISTIC TEST

Criteria : Reach/characteristic of Z1, Z2, Z3, ZE = ± 5% of setting; Z1Time ≤ 50 ms; Z2Time < setting + 100 ms; Z3 or ZETime = setting + 100 ms

ZONE : 1 **ANGLE :** 30

	LINE TO GROUND			LINE TO LINE			3 PHASE
	RN	**SN**	**TN**	**RS**	**ST**	**TR**	**RST**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

ZONE : 2 **ANGLE :** 30

	LINE TO GROUND			LINE TO LINE			3 PHASE
	RN	**SN**	**TN**	**RS**	**ST**	**TR**	**RST**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

ZONE : 3 **ANGLE :** 30

	LINE TO GROUND			LINE TO LINE			3 PHASE
	RN	**SN**	**TN**	**RS**	**ST**	**TR**	**RST**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

REMARKS : _____

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ZONE : 1 **ANGLE :** 60

	LINE TO GROUND			LINE TO LINE			3 PHASE
	RN	**SN**	**TN**	**RS**	**ST**	**TR**	**RST**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

ZONE : 2 **ANGLE :** 60

	LINE TO GROUND			LINE TO LINE			3 PHASE
	RN	**SN**	**TN**	**RS**	**ST**	**TR**	**RST**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

ZONE : 3 **ANGLE :** 60

	LINE TO GROUND			LINE TO LINE			3 PHASE
	RN	**SN**	**TN**	**RS**	**ST**	**TR**	**RST**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

REMARKS : _____

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ZONE : 1 **ANGLE :** _____

	LINE TO GROUND			LINE TO LINE			3 PHASE
	RN	**SN**	**TN**	**RS**	**ST**	**TR**	**RST**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

ZONE : 2 **ANGLE :** _____

	LINE TO GROUND			LINE TO LINE			3 PHASE
	RN	**SN**	**TN**	**RS**	**ST**	**TR**	**RST**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

ZONE : 3 **ANGLE :** _____

	LINE TO GROUND			LINE TO LINE			3 PHASE
	RN	**SN**	**TN**	**RS**	**ST**	**TR**	**RST**
VALUE *(ohm)*							
TIME *(msec)*							
INDICATIONS							

REMARKS : _____

B.3 TRANSFER TRIP TEST

DEVICE	SEND	With Response?		RECEIVE/AIDED	With Response?	
21		☐ Y	☐ N		☐ Y	☐ N
TIME						
INDICATION						
67G		☐ Y	☐ N		☐ Y	☐ N
TIME						
INDICATION						

REMARKS : _____

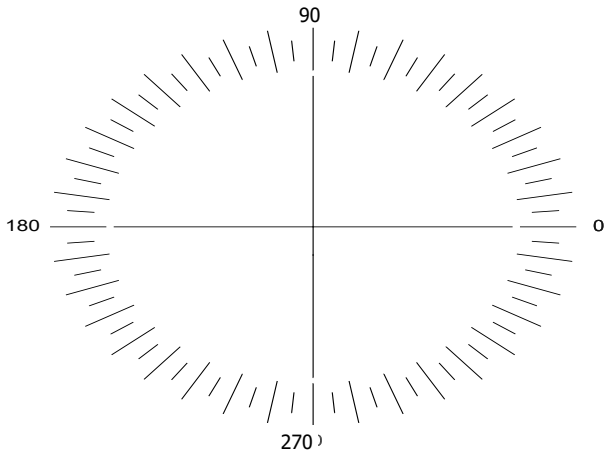
B.4 DIRECTIONAL OVERCURRENT RELAY TEST (67G)

* 67G Pick-up Value : _____ Amp. **(± 5% of setting)** _____ Volts

_____ Degrees _____ Trip Time

C. PARAMETER CHECK

SECONDARY VALUES				PHASE ANGLE (Out of phase for incoming; In phase for outgoing)	PRIMARY VALUES (RELAY)	PRIMARY VALUES (STATISTICAL METER)
CIRCUIT 1		CIRCUIT 2				
Parameter	Magnitude (±10% of expected input value)	Parameter	Magnitude (±10% of expected input value)	Degrees		
I_A		V_{AN}			Power Flow :	Power Flow :
		V_{BN}			MW :	MW :
		V_{CN}			MVAR :	MVAR :
I_B		V_{AN}				
		V_{BN}			I_A :	I_A :
		V_{CN}			I_B :	I_B :
I_C		V_{AN}			I_C :	I_C :
		V_{BN}			I_N	
		V_{CN}			V_{AB} :	V_{AB} :
I_N		V_{AB}			V_{BC} :	V_{BC} :
		V_{BC}			V_{CA} :	V_{CA} :
		V_{CA}				



REMARKS: _____

D. FUNCTIONAL TESTING / SIMULATION

FUNCTION	CONTROLLING BREAKERS	SIMULATION USED		BREAKERS TRIPPED	REMARKS
		INJECTION	SIGNALLING		

Tested by :

Contractor - Test Engineer

Concurred by :

Owner's Representative

Witnessed by :

NGCP Representative

(Eqpt.ID/Make/Model/SN/ Date of last calibration)