



CEY51A RELAY



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GE

RELAY SETTINGS

MANUFACTURER General Electric TYPE CEY MODEL _____
 CT RATIO _____ PT RATIO _____ VOLTAGE CLASS _____
 SEC. OHMIC REACH _____ ohms BMR _____ ohms PERCENT TAP _____ %
 MAX TORQUE ANG. _____ degrees SEAL IN _____ amps ALLOWED ERROR 3.00 %
 MTA ALLOWED ERROR 2.00 degrees

REACH TESTS

Angle (degrees)	Impedance In Ohms			A - B				B - C				C - A			
	Calc.	Min.	Max	Volts	Amps	Ohms	Pass / Fail	Volts	Amps	Ohms	Pass / Fail	Volts	Amps	Ohms	Pass / Fail
		0.00	0.00	10.00				10.00				10.00			

MAX TORQUE ANGLE TEST

Min. Angle (degrees)	Max. Angle (degrees)	Test Ohms	Test Amps	A - B				B - C				C - A					
				CW Ang. (degrees)	CCW Ang. (degrees)	MTA (degrees)	Pass / Fail	CW Ang. (degrees)	CCW Ang. (degrees)	MTA (degrees)	Pass / Fail	CW Angle (degrees)	CCW Ang. (degrees)	MTA (degrees)	Pass / Fail		

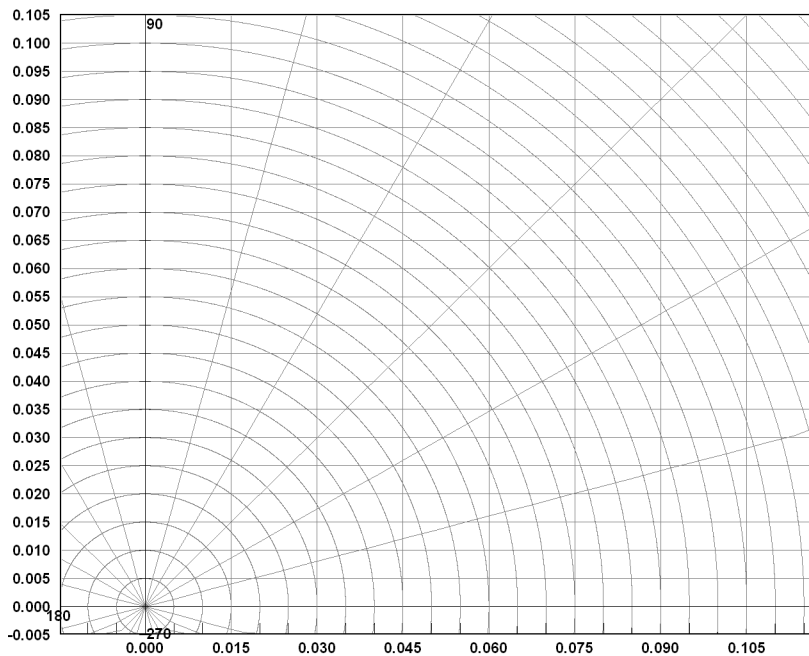
CHARACTERISTIC TESTS

Angle (degrees)	Impedance In Ohms			A - B				B - C				C - A			
	Calc.	Min.	Max	Volts	Amps	Ohms	Pass / Fail	Volts	Amps	Ohms	Pass / Fail	Volts	Amps	Ohms	Pass / Fail
				10.00				10.00				10.00			
				10.00				10.00				10.00			
				10.00				10.00				10.00			

Phase A-B: Red Squares

Phase B-C: Green Circles

Phase C-A: Blue Triangles



COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



BALANCED CURRENT RELAY



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 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL/STYLE NO. _____
 RATED CURRENT _____ % SLOPE _____ MINIMUM PICKUP _____
 SEAL-IN RANGE _____ TCC NO. _____ INSTRUCTION BOOKLET _____
 DEVICES OPERATED _____ CT RATIO _____ :5

VISUAL INSPECTION

	phA	phB	phC
COVER GASKET OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ROUTINE MAINTENANCE

	phA	phB	phC
GLASS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CT SHORTING BAR REM.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RELAY SETTINGS

TAP / TIME DIAL			% SLOPE			SEAL-IN UNIT		
AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT
A/	A/	A/	%	%	%	ADC	ADC	ADC

PICKUP TESTS

PHASE	TIMING UNIT		MINIMUM PICKUP			SEAL-IN UNIT	
	AS FOUND	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	AS LEFT
phA	A	A	A	A	A	ADC	ADC
phB	A	A	A	A	A	ADC	ADC
phC	A	A	A	A	A	ADC	ADC

TIMING POINTS @ ZERO RESTRAINT

PHASE	AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT	
	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.
phA																		
phB																		
phC																		

SLOPE TESTS

* REFER TO THE SLOPE CURVE TO VERIFY OPERATING CURRENT LIMITS

RESTRAINT CURRENT	OPERATING CURRENT			OPERATING CURRENT LIMITS *	
	PHASE A - TOP	PHASE B - MIDDLE	PHASE C - BOTTOM	MINIMUM	MAXIMUM
A				A	A
A				A	A
A				A	A

COMMENTS:

DEFICIENCIES:

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DIFFERENTIAL VOLTAGE RELAY TYPE KAB



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NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 VOLTAGE _____ PICKUP RANGE _____ DROPOUT RANGE _____ SEAL-IN RANGE _____ A
 INSTRUCTION BOOKLET _____ CURVE _____ VT RATIO _____ :120
 DEVICE NO. _____

VISUAL INSPECTION

	phA	phB	phC
COVER GASKET OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ROUTINE MAINTENANCE

	phA	phB	phC
GLASS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CT SHORTING BAR REMOVED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RELAY SETTINGS

INSTANTANEOUS OVERCURRENT			SEAL-IN		
AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT

PICKUP TESTS

PHASE	INSTANTANEOUS OVERCURRENT		VOLTAGE UNIT			SEAL-IN UNIT	
	AS FOUND	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	AS LEFT
phA	A	A	A	A	A	ADC	ADC
phB	A	A	A	A	A	ADC	ADC
phC	A	A	A	A	A	ADC	ADC

TIMING TESTS

		AS FOUND	SPECIFIED	AS LEFT
PHASE A PICKUP TIME @	V	SEC	SEC	SEC
PHASE B PICKUP TIME @	V	SEC	SEC	SEC
PHASE C PICKUP TIME @	V	SEC	SEC	SEC

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



DIFFERENTIAL VOLTAGE RELAY TYPE PVD



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 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 VOLTAGE CONTINUOUS _____ VAC FREQUENCY _____ HZ
 87L CALIBRATION CLOCKWISE HIGH _____ V 87L CALIBRATION CLOCKWISE LOW _____ V
 87L VOLTAGE RANGE HIGH _____ V 87L VOLTAGE RANGE LOW _____ V
 87L CURRENT RANGE HIGH _____ AMPS 87L CURRENT RANGE LOW _____ AMPS
 SEAL-IN RANGE _____ DEVICE NO. _____
 INSTRUCTION BOOKLET _____ CURVE _____
 DEVICES OPERATED _____ CT RATIO _____ :5 VT RATIO _____ :120

VISUAL INSPECTION

	phA	phB	phC
COVER GASKET OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ROUTINE MAINTENANCE

	phA	phB	phC
GLASS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CT SHORTING BAR REMOVED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RELAY SETTINGS

87L			87H			SEAL-IN		
AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT
V	V	V	A	A	A	ADC	ADC	ADC

PICKUP TESTS

PHASE	87L		87H	
	AS FOUND	AS LEFT	AS FOUND	AS LEFT
phA	V	V	A	A
phB	V	V	A	A
phC	V	V	A	A

PHASE	THYRITE STACK - 120VDC APPLIED			SEAL-IN	
	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	AS LEFT
phA	mA	mA	mA	ADC	ADC
phB	mA	mA	mA	ADC	ADC
phC	mA	mA	mA	ADC	ADC

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____

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DIGITRIP OVERCURRENT RELAY



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
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 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 SERIAL NO. _____ PHASE CT RATIO _____ :5 GROUND CT RATIO _____ :5
 DEVICES OPERATED _____ INSTRUCTION BOOKLET _____ DRAWOUT: BOLT-IN:

VISUAL INSPECTION

CT SHORTING BAR REMOVED	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>

ROUTINE MAINTENANCE

GLASS CLEANED	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>

PHASE SETTINGS AS FOUND

LONG TIME PU _____ x _____ A = _____ A DELAY _____
 SHORT TIME PU _____ = _____ A ON OFF DELAY _____
 DISCRIMINATOR ON OFF INST. PU _____ = _____ A ON OFF

PHASE SETTINGS AS LEFT

LONG TIME PU _____ x _____ A = _____ A DELAY _____
 SHORT TIME PU _____ = _____ A ON OFF DELAY _____
 DISCRIMINATOR ON OFF INST. PU _____ = _____ A ON OFF

GROUND SETTINGS AS FOUND

LONG TIME PU _____ x _____ A = _____ A DELAY _____
 SHORT TIME PU _____ = _____ A ON OFF DELAY _____
 DISCRIMINATOR ON OFF INST. PU _____ = _____ A ON OFF

GROUND SETTINGS AS LEFT

LONG TIME PU _____ x _____ A = _____ A DELAY _____
 SHORT TIME PU _____ = _____ A ON OFF DELAY _____
 DISCRIMINATOR ON OFF INST. PU _____ = _____ A ON OFF

DIP SWITCH SETTINGS

	AF	AL
1	_____	_____
2	_____	_____
3	_____	_____
4	_____	_____
5	_____	_____
6	_____	_____
7	_____	_____
8	_____	_____
9	_____	_____
10	_____	_____

PHASE TEST RESULTS

FUNCTION	TEST AMPERES	CURRENT MULTIPLE	TIME BAND (sec)		POLE 1 (sec)		POLE 2 (sec)		POLE 3 (sec)	
			MINIMUM	MAXIMUM	AS FOUND	AS LEFT	AS FOUND	AS LEFT	AS FOUND	AS LEFT
INSTANTANEOUS										
	IPU									
SHORT TIME										
	STPU									
LONG TIME										
	LTPU									
LONG TIME										
	LTPU									

GROUND TEST RESULTS

FUNCTION	TEST AMPERES	CURRENT MULTIPLE	TIME BAND (sec)	AS FOUND	AS LEFT
				(sec)	(sec)
INSTANTANEOUS					
	IPU				
SHORT TIME					
	STPU				
LONG TIME					
	LTPU				
LONG TIME					
	LTPU				

PHASE TCC TYPE _____

GROUND TCC TYPE _____

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



FREQUENCY RELAY TEST



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
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NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 NOMINAL FREQUENCY _____ VOLTAGE _____ CONTROL VOLTAGE _____
 OVERFREQUENCY RANGE _____ UNDERFREQUENCY RANGE _____ SEAL-IN RANGE _____
 INSTRUCTION BOOKLET _____ CURVE _____ VT RATIO _____ :120 DEVICE NUMBER _____

VISUAL INSPECTION

	YES	NO	N/A
COVER GASKET OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
GLASS CONDITION OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FOREIGN MATERIAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MOISTURE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SPIRAL SPRING OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BEARING ENDPLAY OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BEARING CONDITION OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DISC CLEARANCE OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
RUST PRESENT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ROUTINE MAINTENANCE

	YES	NO	N/A
GLASS CLEANED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CASE CLEANED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
RELAY CLEANED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CONNECTIONS TIGHTENED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TAPS TIGHTENED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CONTACTS CLEANED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TRIP CIRCUIT TESTED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
INSULATION RES. MEGOHMS			

RELAY SETTINGS

	OVERFREQUENCY (Hz)			UNDERFREQUENCY (Hz)		
	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT
PICKUP						
TIME DELAY						
TARGET SEAL-IN						

PICKUP TESTS

	FREQUENCY UNIT (Hz)		SEAL-IN UNIT (Hz)	
	AS FOUND	AS LEFT	AS FOUND	AS LEFT
OVERFREQUENCY			ADC	ADC
UNDERFREQUENCY			ADC	ADC

TIMING TESTS

		AS FOUND	SPECIFIED	AS LEFT
OVERFREQUENCY 60 HERTZ TO	HERTZ	CY	CY	CY
OVERFREQUENCY 60 HERTZ TO	HERTZ	CY	CY	CY
UNDERFREQUENCY 60 HERTZ TO	HERTZ	CY	CY	CY
UNDERFREQUENCY 60 HERTZ TO	HERTZ	CY	CY	CY

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____

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GROUND DIRECTIONAL OVERCURRENT RELAY



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NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 AC VOLTS _____ AMPS _____ INSTRUCTION BOOKLET _____
 TIME OVERCURRENT CURVE TYPE _____ INSTANTANEOUS OVERCURRENT RANGE _____
 DIRECTIONAL UNIT PICKUP: POTENTIAL POLARIZED _____ CURRENT POLARIZED _____
 DEVICES OPERATED _____ CT RATIO _____ :5 VT RATIO _____ :120

VISUAL INSPECTION

COVER GASKET OK	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>

ROUTINE MAINTENANCE

GLASS CLEANED	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>
CT SHORTING BAR REMOVED	<input type="checkbox"/>

RELAY SETTINGS

OVERCURRENT TAP _____ TIME DIAL _____ INSTANTANEOUS TAP _____
 MINIMUM TORQUE ANGLE _____ ° MAXIMUM TORQUE ANGLE _____ °
 TORQUE LINK IN 20° LAG OUT 45° LAG

PICKUP & TIMING TESTS

	AS FOUND	SPECIFIED	AS LEFT
NEUTRAL PICKUP	A	A	A
NEUTRAL TIMING TESTS			
2X = 0 A	SEC	SEC	SEC
5X = 0 A	SEC	SEC	SEC
A	SEC	SEC	SEC
EFFECTIVE TORQUE ANGLE	°	°	°

DIRECTIONAL UNIT CHECK

CURRENT POLARIZATION	A	A	A
POTENTIAL POLARIZATION @ 5 Vac	A	A	A
INSTANTANEOUS UNIT	A	A	A

SEAL IN: TIME ELEMENT _____ Adc INSTANTANEOUS _____ Adc

COMMENTS:

DEFICIENCIES:

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MAGNETIC OVERLOAD RELAY



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NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 CATALOG NO. _____ SYSTEM VOLTAGE _____ AMPACITY _____
 CURRENT PICKUP RANGE _____ TIME DELAY ADJUSTMENT _____ DEVICE NUMBER _____
 DASHPOT SERIES _____ DASHPOT FLUID SERIES _____ DASHPOT FLUID COLOR _____
 INSTRUCTION BOOKLET _____ TCC NO. _____ DASHPOT FLUID REPLACED YES NO
 OTHER _____

POLE	TRIP CURRENT PICKUP IN AMPERES			TIME DELAY AT _____ TIMES RATED LOAD					
	WITHOUT DASHPOT FLUID			DASHPOT FLUID INSTALLED					
	AS FOUND	SPECIFIED	AS LEFT	AS FOUND		SPECIFIED		AS LEFT	
				AMPS	SECS	AMPS	SECS	AMPS	SECS
1	A	A	A						
2	A	A	A						
3	A	A	A						

COMMENTS:
 DEFICIENCIES:

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METERING MODULE TEST



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NAMEPLATE DATA

MANUFACTURER _____ SERIAL NO. _____ STYLE/SERIES NO. _____
 MODEL NO. _____ CONTROL VOLTAGE _____ TYPE _____
 INSTRUCTION MANUAL _____ CLASS _____
 OTHER _____

PHASE	INPUT VOLTAGE (volts)	VOLTAGE TURNS RATIO	MEASURED SYSTEM VOLTAGE (volts)	MULTI-FUNCTION METER READING	PERCENT ERROR
A-N		/ =			
B-N		/ =			
C-N		/ =			
A-B		/ =			
A-C		/ =			
B-C		/ =			

PHASE	INPUT CURRENT (amps)	CURRENT TURNS RATIO	MEASURED SYSTEM CURRENT (amps)	MULTI-FUNCTION METER READING	PERCENT ERROR
phA		/ =			
phB		/ =			
phC		/ =			

KWHRS: AS LEFT _____
 3 PH. KW DEMAND _____
 3 PH. KVA DEMAND _____

COMMENTS: _____
 DEFICIENCIES: _____

EQPT. INVENTORY NO. _____ TESTED BY: _____



MOTOR PROTECTION CONTROLLER (IQ-2000)



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	SETPOINT FUNCTION	SETPOINT VALUE RANGE	TRIP	ALARM	TIME	COMMENTS
1	WINDING TEMP.	TRIP & ALARM: 0 TO 199 DEG. C (1C STEP)				
2	MOTOR BRG. TEMP.	TRIP & ALARM: 0 TO 199 DEG. C (1C STEP)				
3	LOAD BRG. TEMP.	TRIP & ALARM: 0 TO 199 DEG. C (1C STEP)				
4	GROUND FAULT	TRIP: 4-12 PRIMARY CIRCUIT (1 AMP STEP) ALARM: 0-12A PRIMARY CIRCUIT (1 AMP STEP) TIME: 0-5 SEC. (1 SEC. STEP)				
5	INSTANTANEOUS OVERCURRENT	TRIP: 300-1500% OF FULL LOAD AMPERES (IN 100% STEP) USE NUMBERS 3-15 ONLY				
6	LOCKED ROTOR CURRENT	TRIP: 300-1200% (IN 10% STEP) USE NUMBERS 30-120 ONLY. THE DECIMAL POINT HERE SHOWN AS: 3.0, 12.0 TIME: 0-60 SEC. (IN 1 SEC. STEP)				
7	LOAD ACCELERAT.	TIME: 0-99 SEC. (IN 1 SEC. STEP)				
8	JAM	TRIP: 70-1200% OF FULL-LOAD AMPS (IN 1% STEP) USE NUMBERS 70-1200				
9	UNDERLOAD START	TIME: 0-100 SEC. (IN 1 SEC. STEP)				
10	UNDERLOAD RUN	TRIP: 0-90% OF FULL-LOAD AMPS (IN 1% STEP) TIME: 0-10 SEC. (IN 1 SEC. STEP)				
11	ULTIMATE TRIP	AMP: 85-125% OF FULL-LOAD AMPS (IN 1% STEP) USE NUMBERS 85-125				
12	OVERVOLTAGE	TRIP: 0-9999 VAC (IN 1 VOLT STEP) TIME: 0-99 SEC. (IN 1 SEC. STEP)				
13	UNDERVOLTAGE	TRIP: 0-9999 VAC (IN 1 VOLT STEP) TIME: 0-99 SEC. (IN 1 SEC. STEP)				
14	PRE-START TIMER	TIME: 0-255 SEC. (IN 1 SEC. STEP)				
15	PRE-RUN TIMER	TIME: 0-60 SEC. (IN 1 SEC. STEP)				
16	PRE-STOP TIMER	TIME: 0-60 SEC. (IN 1 SEC. STEP)				
17	INCOMPLETE SEQ.	TIME: 0-240 SEC. (IN 1 SEC. STEP)				
18	ANTI-BACKSPIN	TIME: 0-255 SEC. (IN 1 SEC. STEP)				
19	ANTI-RECYCLE, MIN.	TIME: 0-60 MIN. (IN 1 MIN. STEP)				
20	TIME UNDERVOLT.	TIME: 0-20 SEC. (IN 1 SEC. STEP)				
21	POST-START TIMER	TIME: 0-255 SEC. (IN 1 SEC. STEP)				
22	POST-STOP TIMER	TIME: 0-60 SEC. (IN 1 SEC. STEP)				
23	START COUNTS/HRS.	COUNTS: 1-10 COUNTS (IN 1 COUNT STEP) TIME: 0-24 HR. (IN 1 HR. STEP)				
24	OPEN/UNBALANCE PHASE	ALARM: 5-30% OF FULL-LOAD AMPERES (IN 1% STEP) TIME: 0-25 SEC. (IN 1 SEC. STEP)				
25	FULL LOAD CURRENT	AMP: 1-1000 (IN 1 AMP STEP)				
26	C.T. RATIO	RATIO: 2,4,5,8,10,15,20,30,40,50,60,80,100,120,160,200 (WHERE: 2 = 2:1, ETC.)				
27	V.T. RATIO	RATIO: 0,2,4,5,20,30,35,40,55,60,70 (WHERE: 4 = 4:1, ETC.)				
28	STARTER CLASS	PREFIX IN ALARM WINDOW: 11, 13, 14 SUFFIX IN TIME WINDOW: 202, 212, 502, 512, ETC.				

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



NEGATIVE SEQUENCE OVERCURRENT RELAY TEST



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 INSTRUCTION BOOKLET _____ TCC NO. _____ DEVICE NO. _____
 DEVICES OPERATED _____ CT RATIO _____ :5 VT RATIO _____ :120

VISUAL INSPECTION

COVER GASKET OK	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>

ROUTINE MAINTENANCE

GLASS CLEANED	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>
CT SHORTING BAR REMOVED	<input type="checkbox"/>

RELAY SETTINGS

UNIT	AS FOUND		SPECIFIED		AS LEFT		SEAL-IN		
	TAP	TIME DIAL	TAP	TIME DIAL	TAP	TIME DIAL	AS FOUND	SPECIFIED	AS LEFT
INDUCTION									
ALARM									

PICKUP TESTS

INDUCTION COIL P.U. CURRENT		ALARM COIL P.U. CURRENT		ALARM COIL VOLTAGE		
AS FOUND	AS LEFT	AS FOUND	AS LEFT	AS FOUND	SPECIFIED	AS LEFT
ADC	ADC	A	A	V	V	V

ALARM UNIT SEAL-IN			INDUCTION UNIT SEAL-IN		
AS FOUND	AS LEFT		AS FOUND	AS LEFT	
ADC	ADC	ADC	ADC	ADC	ADC

TIMING TEST

	AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT		
	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	
INDUCTION																			
ALARM																			

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



OVERCURRENT RELAY



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ / _____ MODEL / STYLE NO. _____ / _____
 LONG TIME RANGE _____ / _____ SEAL-IN RANGE _____ INSTANTANEOUS RANGE _____ / _____
 INSTRUCTION BOOKLET _____ / _____ TCC. NO. _____ / _____ (PHASE RELAYS / NEUTRAL RELAY)
 DEVICES OPERATED _____ CT RATIO _____ :5

VISUAL INSPECTION

	phA	phB	phC	phN
COVER GASKET OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ROUTINE MAINTENANCE

	phA	phB	phC	phN
GLASS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONNECTION TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CT SHORTING BAR REMOVED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RELAY SETTINGS

	TAP / TIME DIAL			SEAL - IN			INSTANTANEOUS		
	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT
PHASE RELAYS	A/	A/	A/	ADC	ADC	ADC	A	A	A
NEUTRAL RELAYS	A/	A/	A/	ADC	ADC	ADC	A	A	A

PICKUP TESTS

PHASE	TIMING UNIT		SEAL - IN UNIT		INSTANTANEOUS UNIT	
	AS FOUND	AS LEFT	AS FOUND	AS LEFT	AS FOUND	AS LEFT
phA	A	A	ADC	ADC	A	A
phB	A	A	ADC	ADC	A	A
phC	A	A	ADC	ADC	A	A
phN	A	A	ADC	ADC	A	A

TIMING TESTS

PHASE	AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT	
	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.
phA																		
phB																		
phC																		
phN																		

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



PERCENTAGE DIFFERENTIAL RELAY PICKUP TESTS



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 RATED CURRENT _____ % SLOPE _____ MINIMUM PICKUP _____
 LONG TIME RANGE _____ SEAL-IN RANGE _____ INSTANTANEOUS RANGE _____
 INSTRUCTION BOOKLET _____ TCC NO. _____
 DEVICES OPERATED _____ CT RATIO _____ :5

VISUAL INSPECTION

	phA	phB	phC
COVER GASKET OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ROUTINE MAINTENANCE

	phA	phB	phC
GLASS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CT SHORTING BAR REMOVED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RELAY SETTINGS

	TAP/TIME DIAL			SEAL-IN		
	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT
PHASE RELAYS	A/	A/	A/	ADC	ADC	ADC

PICKUP TESTS

PHASE	TIMING UNIT			MINIMUM DIFFERENTIAL PICKUP			% DIFFERENTIAL (FORWARD / REV)				SEAL-IN	
	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	AS LEFT	
phA	A	A	A	A	A	A	A/ A	A/ A	A/ A	ADC	ADC	
phB	A	A	A	A	A	A	A/ A	A/ A	A/ A	ADC	ADC	
phC	A	A	A	A	A	A	A/ A	A/ A	A/ A	ADC	ADC	

TIMING TESTS

LEFT	PHASE	AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT	
		AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.
phA																			
phB																			
phC																			

_____ A THROUGH RIGHT & OPERATE _____ A THROUGH LEFT COIL

RIGHT	PHASE	AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT	
		AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.
phA																			
phB																			
phC																			

_____ A THROUGH LEFT & RIGHT, _____ A THROUGH OPERATE COIL

COMMENTS: _____
 DEFICIENCIES: _____

EQPT. INVENTORY NO. _____ TESTED BY: _____



PHASE DIRECTIONAL OVERCURRENT RELAY



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 AC VOLTS _____ AMPS _____ INSTRUCTION BOOKLET _____
 TIME OVERCURRENT CURVE TYPE _____ INSTANTANEOUS OVERCURRENT RANGE _____
 DIRECTIONAL UNIT PICKUP: POTENTIAL POLARIZED _____ CURRENT POLARIZED _____
 DEVICES OPERATED _____ CT RATIO _____ :5 VT RATIO _____ :120

VISUAL INSPECTION

COVER GASKET OK	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>

ROUTINE MAINTENANCE

GLASS CLEANED	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>
CT SHORTING BAR REMOVED	<input type="checkbox"/>

RELAY SETTINGS

OVERCURRENT TAP _____ TIME DIAL _____ INSTANTANEOUS TAP _____

PICKUP & TIMING TESTS

		AS FOUND	SPECIFIED	AS LEFT
PHASE A PICKUP		A	A	A
PHASE B PICKUP		A	A	A
PHASE C PICKUP		A	A	A
PHASE A TIMING	X = A	SEC	SEC	SEC
	X = A	SEC	SEC	SEC
PHASE B TIMING	X = A	SEC	SEC	SEC
	X = A	SEC	SEC	SEC
PHASE C TIMING	X = A	SEC	SEC	SEC
	X = A	SEC	SEC	SEC

DIRECTIONAL UNIT CHECK

	REVERSE CURRENT POLARITY CLOSED BOTTOM CONTACTS		CONTACTS OPEN		INSTANTANEOUS UNIT		SEAL-INS	
	YES	NO	YES	NO	AS FOUND	AS LEFT	TIME	INSTANTANEOUS
PHASE A UNIT	<input type="radio"/> YES	<input type="radio"/> NO	<input type="radio"/> YES	<input type="radio"/> NO	A	A	Adc	Adc
PHASE B UNIT	<input type="radio"/> YES	<input type="radio"/> NO	<input type="radio"/> YES	<input type="radio"/> NO	A	A	Adc	Adc
PHASE C UNIT	<input type="radio"/> YES	<input type="radio"/> NO	<input type="radio"/> YES	<input type="radio"/> NO	A	A	Adc	Adc

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



POLYPHASE POWER DIRECTIONAL RELAY TYPE GGP



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION _____ RELAYS _____ POSITION _____ GENERAL _____

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 RATED VOLTS _____ AMPS _____ DIRECTIONAL UNIT PICKUP _____
 SEAL-IN RANGE _____
 INSTRUCTION BOOKLET _____ CURVE _____
 DEVICES OPERATED _____ CT RATIO _____ :5 VT RATIO _____ :120

VISUAL INSPECTION

COVER GASKET OK	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>

ROUTINE MAINTENANCE

GLASS CLEANED	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>
CT SHORTING BAR REM.	<input type="checkbox"/>

RELAY SETTINGS

TIME DIAL			VOLTAGE UNIT			SEAL-IN		
AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT

PICKUP TESTS

CLOSING ZONE @ RATED E & 1A			MINIMUM PICKUP @ MAX Q			SEAL-IN	
AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	AS LEFT
°	°	°	mA	mA	mA	ADC	ADC

TIMING TESTS

	AS FOUND	SPECIFIED	AS LEFT
TIME @ TD	SEC	SEC	SEC
TIME @ TD	SEC	SEC	SEC
TIME @ TD	SEC	SEC	SEC

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



POWER DIRECTIONAL CAP RELAY TEST



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL/STYLE NO. _____
 RATED VOLTS _____ AMPS _____ DIRECTIONAL UNIT PICKUP _____
 INSTRUCTION BOOKLET _____ CURVE _____ DEVICE NUMBER _____
 DEVICES OPERATED _____ CT RATIO _____ :5 VT RATIO _____ :120

VISUAL INSPECTION

COVER GASKET OK	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>

ROUTINE MAINTENANCE

GLASS CLEANED	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>
CT SHORTING BAR REM.	<input type="checkbox"/>

RELAY SETTINGS

SEAL-IN UNIT	
AS FOUND	AS LEFT
ADC	ADC

SINGLE PHASE TEST
CALCULATED MINIMUM PICKUP @ RATED VOLTAGE & MAX. Q

$$I_{MIN.} = \frac{\text{WATT TAP SETTING}}{(1.732) (\text{RATED VOLTS})} = \frac{\quad}{(1.732) (\quad)} = \quad A$$

PICKUP TESTS

	PHASE ANGLE TESTS		
	AS FOUND	AS SPECIFIED	AS LEFT
ANGLE 1 (ANGLE @ PICKUP)			
ANGLE 2 (ANGLE @ PICKUP)			
MAXIMUM ANGLE OF TORQUE (MAX. Q)	°	°	°
PICKUP @ MAXIMUM Q	A	A	A

TIMING POINTS AT RATED VOLTAGE & MAXIMUM TORQUE ANGLE											
AS FOUND		AS SPECIFIED		AS LEFT		AS FOUND		AS SPECIFIED		AS LEFT	
AMPS	SECONDS	AMPS	SECONDS	AMPS	SECONDS	AMPS	SECONDS	AMPS	SECONDS	AMPS	SECONDS

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



REVERSE CURRENT RELAY



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ / _____ MODEL / STYLE NO. _____ / _____
 RATED VOLTAGE _____ MAXIMUM TORQUE SETTING _____
 LONG TIME RANGE _____ / _____ SEAL-IN RANGE _____ INSTANTANEOUS RANGE _____ / _____
 INSTRUCTION BOOKLET _____ / _____ TCC. NO. _____ / _____ DEVICE NUMBER _____
 DEVICES OPERATED _____ CT RATIO _____ :5 (PHASE RELAYS : NEUTRAL RELAY / GROUND RELAY)

VISUAL INSPECTION

	phA	phB	phC	phN
COVER GASKET / GLASS OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO FOREIGN MATERIAL / MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPIRAL SPRING / BEARING ENDPLAY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING / DISC CLEARANCE OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ROUTINE MAINTENANCE

	phA	phB	phC	phN
GLASS / CASE CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RELAY / CONNECTIONS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TAPS TIGHTENED / CONTACTS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRIP CIRCUIT / INSULATION RESISTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CT SHORTING BAR REM.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RELAY SETTINGS

	TAP / TIME DIAL			TOC SEAL-IN			INSTANTANEOUS		
	AS FOUND	AS SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT
PHASE RELAYS	A/	A/	A/	ADC	ADC	ADC	A	A	A
NEUTRAL RELAY	A/	A/	A/	ADC	ADC	ADC	A	A	A
				INSTANTANEOUS SEAL-IN			DIRECTIONAL UNIT LINK		
PHASE RELAYS				ADC	ADC	ADC	A	A	A
NEUTRAL RELAY				ADC	ADC	ADC	A	A	A

PICKUP TESTS

PHASE	TIMING UNIT		TOC SEAL-IN UNIT		NO OPERATION VERIFIED 0 VAC; RATED AMPS APPLIED (TERMINALS 7-8 SHORTED)	VOLTAGE @ P. U. MAXIMUM Q	
	AS FOUND	AS LEFT	AS FOUND	AS LEFT			
phA	A	A	ADC	ADC	<input type="checkbox"/>	V	
phB	A	A	ADC	ADC	<input type="checkbox"/>	V	
phC	A	A	ADC	ADC	<input type="checkbox"/>	V	
phN	A	A	ADC	ADC	<input type="checkbox"/>	V	
	INSTANTANEOUS UNIT		INSTANTANEOUS SEAL-IN UNIT		CLOSING ZONE		MAXIMUM Q
phA	A	A					
phB	A	A					
phC	A	A					
phN	A	A					

TIMING TESTS

PHASE	AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT	
	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.
phA																		
phB																		
phC																		
phN																		

COMMENTS: _____
 DEFICIENCIES: _____

EQPT. INVENTORY NO. _____ TESTED BY: _____



REVERSE POWER RELAY



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 RATED VOLTS _____ AMPS _____ PICKUP RANGE _____
 PHASE WATTS _____ SEAL-IN RANGE _____ DEVICE NO. _____
 INSTRUCTION BOOKLET _____ CURVE _____
 DEVICES OPERATED _____ CT RATIO _____ :5 VT RATIO _____ :120

VISUAL INSPECTION

COVER GASKET OK	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>

ROUTINE MAINTENANCE

GLASS CLEANED	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>
CT SHORTING BAR REM.	<input type="checkbox"/>

RELAY SETTINGS

SEAL-IN UNIT		
AS FOUND	AS SPECIFIED	AS LEFT

CALCULATED MINIMUM PICKUP CURRENT
@ RATED VOLTAGE & MAXIMUM TORQUE ANGLE

$$I_{MIN.} = \frac{\text{WATT TAP SETTING}}{(1.732) (\text{RATED VOLTS}) (1)} = \frac{\text{ }}{(1.732) (\quad) (1)} = \text{ } \text{ A}$$

PICKUP TESTS

ICW52	AS FOUND	AS SPECIFIED	AS LEFT
ACTUAL MINIMUM PICKUP - AMPS			
CLOSING ZONE @ RATED E & 5A - DEG			

ICW52A	AS FOUND	AS SPECIFIED	AS LEFT
CURRENT TO CLOSE RIGHT CONTACT	I MIN. () * .80 =		A, OR SPECIFIED DROPOUT
ACTUAL CURENT			

TIMING POINTS AT RATED VOLTAGE & MAXIMUM TORQUE ANGLE											
AS FOUND		AS SPECIFIED		AS LEFT		AS FOUND		AS SPECIFIED		AS LEFT	
AMPS	SECONDS	AMPS	SECONDS	AMPS	SECONDS	AMPS	SECONDS	AMPS	SECONDS	AMPS	SECONDS

COMMENTS:

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DEFICIENCIES:

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EQPT. INVENTORY NO. _____ TESTED BY: _____



STATIC TIMING RELAY



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL/STYLE NO. _____
 DC VOLTS _____ AC VOLTS _____ PARTS BULLETIN _____
 TIME RANGE #1 _____ TIME RANGE #2 _____ SEAL-IN RANGE _____
 INSTRUCTION BOOKLET _____ OPERATING DEVICE _____ DEVICES OPERATED _____

VISUAL INSPECTION

COVER GASKET OK	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>

ROUTINE MAINTENANCE

GLASS CLEANED	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>
CT SHORTING BAR REMOVED	<input type="checkbox"/>

RELAY SETTINGS

	TIME DIAL			SEAL-IN		
	AS FOUND	AS SPECIFIED	AS LEFT	AS FOUND	AS SPECIFIED	AS LEFT
UNIT 1				ADC	ADC	ADC
UNIT 2				ADC	ADC	ADC

TEST RESULTS

	TIME UNIT			SEAL-IN UNIT	
	AS FOUND	AS SPECIFIED	AS LEFT	AS FOUND	AS LEFT
UNIT 1	SEC	SEC	SEC	ADC	ADC
UNIT 2	SEC	SEC	SEC	ADC	ADC

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



SYNCHRONISM CHECK RELAY



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ / _____ MODEL / STYLE NO. _____ / _____
 AC VOLTS _____ DC VOLTS _____ CLOSING ANGLE _____ INSTRUCTION BOOKLET _____

VISUAL INSPECTION

COVER GASKET OK	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>

ROUTINE MAINTENANCE

GLASS CLEANED	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>
CT SHORTING BAR REMOVED	<input type="checkbox"/>

RELAY SETTINGS

	AS FOUND	AS SPECIFIED	AS LEFT
EXTERNAL SUPERVISION (UV)			
SYNCH CHECK LL-LB			
SYNCH CHECK DL-DB			
SYNCH CHECK LL-DB			
SYNCH CHECK DL-LB			
TIMER TL-2 2.0-20			
TIMER TL-2 0.2-2.0			
TIMER TL-2 0.02-0.2			

TESTS

UNDERVOLTAGE - LINE	V	V	V
UNDERVOLTAGE - BUS	V	V	V
SUPERVISION INPUT			
PHASE ANGLE	°	°	°
TIMING	SEC	SEC	SEC
SEAL-IN	Adc	Adc	Adc

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



TIMING RELAY



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL/STYLE NO. _____
 RATED VOLTS _____ AMPS _____ PICKUP RANGE _____
 TIME RANGE #1 _____ TIME RANGE #2 _____ SEAL-IN RANGE _____
 INSTRUCTION BOOKLET _____ OPERATING DEVICE _____ DEVICES OPERATED _____

VISUAL INSPECTION

COVER GASKET OK	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>

ROUTINE MAINTENANCE

GLASS CLEANED	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>
CT SHORTING BAR REMOVED	<input type="checkbox"/>

RELAY SETTINGS

	TIME DIAL			SEAL-IN		
	AS FOUND	AS SPECIFIED	AS LEFT	AS FOUND	AS SPECIFIED	AS LEFT
UNIT 1				ADC	ADC	ADC
UNIT 2				ADC	ADC	ADC

TEST RESULTS

	TIME UNIT			SEAL-IN UNIT	
	AS FOUND	AS SPECIFIED	AS LEFT	AS FOUND	AS LEFT
UNIT 1	SEC	SEC	SEC	ADC	ADC
UNIT 2	SEC	SEC	SEC	ADC	ADC

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



TRANSFORMER DIFFERENTIAL RELAY TYPE BDD



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL NO. _____
 CURRENT RATING _____ PICKUP _____
 CURRENT TRANSFORMER RATIO MATCHING TAPS _____
 SLOPE _____ % DC CONTROL VOLTAGES _____
 INSTANTANEOUS _____ A INSTRUCTION BOOKLET _____

VISUAL INSPECTION

	YES	NO	N/A
COVER GASKET OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GLASS OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FOREIGN MATERIAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RUST PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ROUTINE MAINTENANCE

	YES	NO	N/A
GLASS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
INSULATION RES. MEGOHMS			

RELAY SETTINGS

PERCENT SLOPE			DC VOLTAGE TAP		
AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT

CT RATIO MATCHING TAPS					
WINDING 1			WINDING 2		
AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT

RELAY TESTS

	5A TAP; 25% SLOPE		4.6A TAP; 15% SLOPE	
	SPECIFIED	AS FOUND	SPECIFIED	AS FOUND
MINIMUM PICKUP OPERATING VALUE	1.35 - 1.65 A		APPROX. 1.47	
HARMONIC RESTRAINT OPERATING VALUE	9.0 - 10.3 A		NOT SPECIFIED	
SLOPE TEST	7.0 - 8.3 A		4.0 - 5.0 A	
INSTANTANEOUS	36 - 44 A		VERIFY POLAR UNIT DROPOUT	<input type="checkbox"/>

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____

TESTED BY: _____



TRANSFORMER DIFFERENTIAL RELAY TYPE BDD



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL NO. _____
 CURRENT RATING _____ PICKUP _____
 CURRENT TRANSFORMER RATIO MATCHING TAPS _____
 DC CONTROL VOLTAGES _____ INSTRUCTION BOOKLET _____

VISUAL INSPECTION

	YES	NO	N/A
COVER GASKET OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GLASS OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FOREIGN MATERIAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RUST PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ROUTINE MAINTENANCE

	YES	NO	N/A
GLASS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
INSULATION RES. MEGOHMS			

RELAY SETTINGS

PERCENT HARMONIC	INSTANTANEOUS

PERCENT SLOPE			DC VOLTAGE TAP		
AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT

CT RATIO MATCHING TAPS					
WINDING 1			WINDING 2		
AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT

RELAY TESTS

	MINIMUM	MAXIMUM	RESULT	% ERROR	PASS/FAIL
WINDING 1 PICKUP TEST	To	A			
WINDING 2 PICKUP TEST	To	A			
HARMONIC RESTRAINT TEST	To	%			
SLOPE TEST (W1-W2)	To	%			
INSTANTANEOUS UNIT TEST	To	A			
AUX UNIT PICKUP TEST	To	%		NA	
VERIFY POLAR UNIT DROPOUT					

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____

TESTED BY: _____



VOLTAGE RELAY



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 VOLTAGE _____ PICKUP RANGE _____ DROPOUT RANGE _____ SEAL-IN RANGE _____
 INSTRUCTION BOOKLET _____ CURVE _____ VT RATIO _____ :120
 DEVICE NO. _____

VISUAL INSPECTION

	YES	NO	N/A
COVER GASKET OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
GLASS CONDITION OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
FOREIGN MATERIAL	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MOISTURE	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SPIRAL SPRING OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BEARING ENDPLAY OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
BEARING CONDITION OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
DISC CLEARANCE OK	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
RUST PRESENT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ROUTINE MAINTENANCE

	YES	NO	N/A
GLASS CLEANED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CASE CLEANED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
RELAY CLEANED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CONNECTIONS TIGHTENED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TAPS TIGHTENED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CONTACTS CLEANED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
TRIP CIRCUIT TESTED	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
INSULATION RES. MEGOHMS			

RELAY SETTINGS

	AS FOUND	AS SPECIFIED	AS LEFT
VOLTAGE PICKUP	V	V	V
VOLTAGE DROPOUT	V	V	V
TIME DELAY			
TARGET SEAL-IN	ADC	ADC	ADC

PICKUP TESTS

	AS FOUND	AS SPECIFIED	AS LEFT
PICKUP	V	V	V
DROPOUT	V	V	V
TARGET SEAL-IN	ADC	ADC	ADC

TIMING TESTS

	AS FOUND	AS SPECIFIED	AS LEFT
3 PH. DROP-OUT TIME TO	V	CY	CY
1 PH. DROP-OUT TIME TO	V	CY	CY
PICKUP TIME 0.0 V TO RATED		CY	CY

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____

TESTED BY: _____



OVERCURRENT RELAY WITH VOLTAGE RESTRAINT



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER _____ TYPE _____ MODEL / STYLE NO. _____
 RATED VOLTAGE _____ MINIMUM PICKUP _____ VT RATIO _____ :120
 LONG TIME RANGE _____ SEAL-IN RANGE _____ CT RATIO _____ :5
 INSTRUCTION BOOKLET _____ DEVICE NUMBER _____ TCC NO. _____
 DEVICES OPERATED _____

VISUAL INSPECTION

	phA	phB	phC
COVER GASKET OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GLASS CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO FOREIGN MATERIAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO MOISTURE PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SPIRAL SPRING OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING ENDPLAY OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
BEARING CONDITION OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DISC CLEARANCE OK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NO RUST PRESENT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ROUTINE MAINTENANCE

	phA	phB	phC
GLASS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CASE CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RELAY CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONNECTIONS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TAPS TIGHTENED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONTACTS CLEANED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRIP CIRCUIT TESTED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
INSULATION RESISTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CT SHORTING BAR REM.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

RELAY SETTINGS

	TAP/TIME DIAL			SEAL-IN		
	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT
PHASE RELAYS	A/	A/	A/	ADC	ADC	ADC

PICKUP TESTS

PHASE	ZERO RESTRAINT			RATED RESTRAINT UNITY P.F.			RATED RESTRAINT			SEAL-IN	
	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	SPECIFIED	AS LEFT	AS FOUND	AS LEFT
phA										ADC	ADC
phB										ADC	ADC
phC										ADC	ADC

TIMING TESTS @ RATED RESTRAINT & UNITY POWER FACTOR

PHASE	AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT		AS FOUND		SPECIFIED		AS LEFT		
	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	AMPS	SEC.	
phA																			
phB																			
phC																			

COMMENTS:
 DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____



SEL 351 DIRECTIONAL OVERCURRENT RELAY



CUSTOMER SAMPLE FORMS COMPANY PAGE _____
 ADDRESS _____ JOB # FORMS-ALL
 USER SAMPLE FORMS COMPANY
 OWNER REPRESENTATIVE _____ TELEPHONE _____
 DATE 5/7/2008 TEMPERATURE _____ °F HUMIDITY _____ % EQPT. LOCATION _____
 SUBSTATION RELAYS POSITION SEL

Unit	Pickup (amps)					Timing						
	Theo Current	Min Current	Max Current	As Found Current	As Left Current	Multiple	Value Current	Theo Seconds	As Found Sec	As Found Error	As Left Sec	As Left Error
51P Phase A-N	5	4.75	5.25			3	15					
						5	15					
						7	15					
51P Phase B-N	5	4.75	5.25			3	15					
						5	25					
						7	35					
51P Phase C-N	5	4.75	5.25			3	15					
						5	25					
						7	35					
51A						3						
						5						
						7						
51B						3						
						5						
						7						
51C						3						
						5						
						7						
51G						3						
						5						
						7						
51Q						3						
						5						
						7						
51N						3						
						5						
						7						

Pickup (amps)									
Unit	Theo Current	Min Current	Max Current	A - N		B - N		C - N	
				As Found	As Left	As Found	As Left	As Found	As Left
50P1									
50P2									
50P3									
50P4									
50P5									
50P6									

COMMENTS:

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DEFICIENCIES:

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EQPT. INVENTORY NO. _____ TESTED BY: _____



SEL 351 DIRECTIONAL OVERCURRENT RELAY



PAGE _____

Under - Over Voltage Phase Pickups (volts)									
Unit	Theo Volts	Min Volts	Max Volts	A Phase Volts		B Phase Volts		C Phase Volts	
				As Found	As Left	As Found	As Left	As Found	As Left
27P1P UV	5	3.75	6.25						
27P2P UV									
59P1P OV									
59P2P OV									

Under - Over Voltage Phase To Phase Pickups									
Unit	Theo Volts	Min Volts	Max Volts	Phase A-B Volts		Phase B-C Volts		Phase C-A Volts	
				As Found	As Left	As Found	As Left	As Found	As Left
27PP UV									
59PP OV									

Phase To Phase Instantaneous Pickups (amps)									
Unit	Theo Current	Min Current	Max Current	Phase A-B Current		Phase B-C Current		Phase C-A Current	
				As Found	As Left	As Found	As Left	As Found	As Left
50PP1									
50PP2									
50PP3									
50PP4									

Voltage Pickups					
Unit	Theo Volts	Min Volts	Max Volts	Volts	
				As Found	As Left
27P1P 3PH	5	3.75	6.25		
59P1P 3PH					
59N1P OV					
59N2P OV					
59QP OV					
59V1P OV					
27B81P					
27SP					
59S1P					
59S2P					
25VLO					
25VHI					

Current Pickups (amps)					
Unit	Theo Current	Min Current	Max Current	Current	
				As Found	As Left
50PP1					
50PP2					
50PP3					
50PP4					
50G1					
50G2					
50G3					
50G4					
50G5					
50G6					
50Q1					
50Q2					
50Q3					
50Q4					
50Q5					
50Q6					
50QR					
50QF					
50N1					
50N2					
50N3					
50N4					
50N5					
50N6					

Sync Angle (degrees)					
UNIT	Angle	Min	Max	As Found	As Left
25ANG1	LEADING:				
	LAGGING:				
25ANG2	LEADING:				
	LAGGING:				

Slip Frequency						
Unit	Min Hz	Max Hz	Pickup Hz		Drop Out Hz	
			As Found	As Left	As Found	As Left
25						

COMMENTS:

DEFICIENCIES:



SEL 351 DIRECTIONAL OVERCURRENT RELAY



PAGE _____

Frequency Pickup						Frequency Time				
Unit	Theo Hz	Min Hz	Max Hz	Hz		Applied Hz.	Seconds		Seconds	
				As Found	As Left		Min	Max	As Found	As Left
81D1										
81D2										
81D3										
81D4										
81D5										
81D6										

Reach								
Unit	Angle	Voltage	Current (amps)		Impedance (ohms)		Error	
			As Found	As Left	As Found	As Left	As Found	As Left
Z2R								
Z2F								

Timer						
Unit	Multiple	Value	Min Seconds	Max Seconds	Seconds	
					As Found	As Left
67P1						
67P2						
67P3						
67P4						
67G1						
67G2						
67G3						
67G4						
67Q1						
67Q2						
67Q3						
67Q4						
67N1						
67N2						
67N3						
67N4						



SEL 351 DIRECTIONAL OVERCURRENT RELAY



PAGE _____

Identifier Labels		Instantaneous Overcurrent Elements							
RID = _____	TID = _____	Unit	PkUp(50x1P)	PkUp(50x2P)	PkUp(50x3P)	PkUp(50x4P)	PkUp(50x5P)	PkUp(50x6P)	Enable(E50x)
		Ph-Ph(PP)							
Current And Potential Transformer Ratios		Phase(P)							
CTR = _____	PTR = _____	Neutral(N)							
CTRN = _____	PTRS = _____	Res. Gnd.(G)							
VNOM = _____		Neg. Seq.(Q)							
Line Settings		Definite Time Overcurrent Elements							
Z1MAG = _____	Z1ANG = _____	Unit	Time Delay (67x1D)	Time Delay (67x2D)	Time Delay (67x3D)	Time Delay (67x4D)			
Z0MAG = _____	Z0ANG = _____	Phase(P)							
Z0SMAG = _____	Z0SANG = _____	Neutral(N)							
LL = _____		Res. Gnd.(G)							
		Neg. Seq.(Q)							
Other Enable		Time Overcurrent Elements							
E32 _____	ESV _____	ESOTF <input type="checkbox"/>	EVOLT <input type="checkbox"/>						
E79 _____	EDEM _____	E25 <input type="checkbox"/>	ELOAD <input type="checkbox"/>						
E81 _____	ELOP _____	EFLOC <input type="checkbox"/>	ESSI <input type="checkbox"/>						
EPWR _____	ECOMM _____								
Load-Encroachment Elements		Unit	Pickup (51xP)	Curve (51xC)	Time Dial (51xTD)	EM Reset (51xRS)	Enable(E51x)		
ZLF = _____	ZLR = _____	A Phase(A)							
PLAF = _____	NLAF = _____	B Phase(B)							
PLAR = _____	NLAR = _____	C Phase(C)							
		Ph-Ph(P)	5						
		Neutral(N)							
		Res. Gnd.(G)							
		Neg. Seq.(Q)							
Directional Elements		Power Elements							
DIR1 = _____	DIR2 = _____	#	PhPkUp (PWRxP)	3PhPkUp (3PWRxP)	Type (PWRxT)	Time Delay (PWRxD)			
DIR3 = _____	DIR4 = _____	1							
ORDER = _____	50P32P = _____	2							
Z2F = _____	Z2R = _____	3							
50QFP = _____	50QRP = _____	4							
a2 = _____	k2 = _____								
50GFP = _____	50GRP = _____								
a0 = _____	Z0F = _____								
Z0R = _____	50NFP = _____								
50NRP = _____	a0N = _____								
Reclosing Relay		SELogic Control Equation Variable Timers				Switch-onto-Fault			
79O1 = _____	79O2 = _____	#	Pickup (SVxPU)	Dropout (SVxDO)	CLOEND = _____	52AEND = _____			
79O3 = _____	79O4 = _____	1			SOTFD = _____				
79RSD = _____	79RSLD = _____	2							
79CLSD = _____		3							
		4							
		5							
		6							
		7							
		8							
		9							
		10							
		11							
		12							
		13							
		14							
		15							
		16							
Additional DCUB Trip Scheme Settings		Frequency Elements				Demand Metering Settings			
GARD1D = _____	UBDURD = _____	#	Pickup (81DxP)	Dropout (81DxD)	DMTC = _____	PDEMP = _____			
UBEND = _____		1			NDEMP = _____	GDEMP = _____			
		2			QDEMP = _____				
		3							
		4							
		5							
		6							
		7							
		8							
		9							
		10							
		11							
		12							
		13							
		14							
		15							
		16							
Other Settings		Voltage Elements				Reclosing Relay Equations			
TDURD = _____	CFD = _____	UNIT	PkUp (xxxxP)	PkUp (xxx2P)	79RI = _____				
3POD = _____	50LP = _____	Phase Over V (59P1)			79RIS = _____				
		VS Over V (59S)			79DTL = _____				
		NegSeq Over V (59Q)			79DLS = _____				
		ZeroSeq Over V (59N)			79SKP = _____				
		PosSeq Over V (59V1)			79STL = _____				
		Ph-Ph Over V (59P)			79BRS = _____				
		Ph-Ph Under V (27P)			79SEQ = _____				
		VS Under V (27S)			79CLS = _____				
		Phase Under V (27P1)	5						
		Ph UV Block (27B81)							
Wattmetric Element Settings		Voltage Sag / Swell / Interrupt				Trip Logic Equations			
59RES = _____	32WFP = _____	VINT = _____	VSAG = _____	TR = _____					
32WRP = _____	32WD = _____	VSWELL = _____		TRCOMM = _____					
				TRSOFT = _____					
				DTT = _____					
				ULTR = _____					
Synchronism Check Elements		DCB Trip Scheme Settings				Close Logic Equations			
25VLO = _____	25VHI = _____	Z3XPU = _____	Z3XD = _____	52A = _____					
25SF = _____	25ANG1 = _____	BTXD = _____	67P2SD = _____	CL = _____					
25ANG2 = _____	SYNCP = _____	67N2SD = _____	67G2SD = _____	ULCL = _____					
TCLOSD = _____		67Q2SD = _____							
Voltage Sag / Swell / Interrupt		POTT Trip Scheme Settings				Communications-Assisted Trip Scheme Input Equations			
VINT = _____	VSAG = _____	Z3RBD = _____	EBLKD = _____	PT1 = _____					
VSWELL = _____		ETDPU = _____	EDURD = _____	LOG1 = _____					
		EWFC <input type="checkbox"/>		PT2 = _____					
				LOG2 = _____					
				BT = _____					



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Torque Control Equations for Time Overcurrent	Latch Bits Set / Reset Equations			
51ATC = _____	#	Set Latch Bit (SETx)	Reset Latch Bit (RSTx)	
51BTC = _____	1			
51CTC = _____	2			
51PTC = _____	3			
51NTC = _____	4			
51GTC = _____	5			
51QTC = _____	6			
	7			
	8			
	9			
	10			
	11			
	12			
	13			
	14			
	15			
	16			
Torque Control Equations for Inst./Def. Time Overcur	Mirrored Bits Transmit Equations			
67P1TC = _____	#	Channel A (TMBxA)	Channel B (TMBxB)	
67P2TC = _____	1			
67P3TC = _____	2			
67P4TC = _____	3			
67N1TC = _____	4			
67N2TC = _____	5			
67N3TC = _____	6			
67N4TC = _____	7			
67G1TC = _____	8			
67G2TC = _____				
67G3TC = _____				
67G4TC = _____				
67Q1TC = _____				
67Q2TC = _____				
67Q3TC = _____				
67Q4TC = _____				
Setting Group Selection Equations	Display Points			
SS1 = _____	#	Equation (DPx)	On Label (DPx_1)	Off Label (DPx_0)
SS2 = _____	1			
SS3 = _____	2			
SS4 = _____	3			
SS5 = _____	4			
SS6 = _____	5			
	6			
	7			
	8			
Output Contact Equations	Load Profile Settings			
OUT101 = _____	LDLIST = _____	LDAR = _____		
OUT102 = _____				
OUT103 = _____				
OUT104 = _____				
OUT105 = _____				
OUT106 = _____				
OUT107 = _____				
OUT201 = _____				
OUT202 = _____				
OUT203 = _____				
OUT204 = _____				
OUT205 = _____				
OUT206 = _____				
OUT207 = _____				
OUT208 = _____				
OUT209 = _____				
OUT210 = _____				
OUT211 = _____				
OUT212 = _____				
SELogic Control Equation Variable Timer Input	Power System Config & Date Format	Station DC Battery Monitor		
SV1 = _____	NFREQ = _____ PHROT = _____	DCLOP = _____	DCHIP = _____	
SV2 = _____	DATE_F = _____			
SV3 = _____	Settings Group Change Delay	Event Parameters		
SV4 = _____	TGR = _____	LER = _____	PRE = _____	
SV5 = _____	Optoisolated Input Timers	Breaker Monitor Settings		
SV6 = _____	IN101D = _____ IN102D = _____	COSP1 = _____	COSP2 = _____	
SV7 = _____	IN103D = _____ IN104D = _____	COSP3 = _____	KASP1 = _____	
SV8 = _____	IN105D = _____ IN106D = _____	KASP2 = _____	KASP3 = _____	
SV9 = _____	IN201D = _____ IN202D = _____	EBMON = <input type="checkbox"/>		
SV10 = _____	IN203D = _____ IN204D = _____			
SV11 = _____	IN205D = _____ IN206D = _____			
SV12 = _____	IN207D = _____ IN208D = _____			
SV13 = _____	Other Equations	Sequential Events Recorder Triggers		
SV14 = _____	ER = _____	SER1 = _____		
SV15 = _____	FAULT = _____	SER2 = _____		
	BSYNCH = _____	SER3 = _____		
	CLMON = _____			
	BKMON = _____			
	E32IV = _____			
Front-Panel Display Operation	Voltage Input Configuration			
FP_TO = _____ SCROLL = _____	PTCONN = _____	VSCONN = _____		
FPNGD = _____				



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Reclosing Relay Labels	Local Bit Labels				
79LL = _____ 79SL = _____	#	Local Bit (NLBx)	Clear Local Bit (CLBx)	Set Local Bit (SLBx)	Pulse Local Bit (PLBx)
	1				
	2				
	3				
Protocol Settings					
PROTO = _____ PREFIX = _____	4				
ADDR = _____ SETTLE = _____	5				
	6				
	7				
Communication Settings					
SPEED = _____ BITS = _____	8				
PARITY = _____ STOP = _____	9				
	10				
	11				
	12				
	13				
Other Port Settings					
T_OUT = _____ AUTO = _____	14				
RTSCTS = _____ FASTOP = <input type="checkbox"/>	15				
	16				