MEDIUM VOLTAGE SWITCHBOARD INSULATION 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 SWITCHBOARDS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER SERIAL NO. TYPE

CATALOG NO. DRAWING NO. VOLTAGE CLASS

PHASE AMPACITY A WITHSTAND RATING kA CONDUCTOR ☐ CU ☐ AL

INSTALLED DEVICES

VACUUM BREAKERS AIR BREAKERS LOADBREAK DISCONNECTS NUMBER OF BAYS

VOLTAGE RELAYS OVERCURRENT RELAYS OTHER PROTECTIVE RELAYS AUXILIARY RELAY

PANEL METERS kWHR METERS VT's CT's CPT's

OTHER

DESCRIPTION	INSPECTED	CONDITION	CLEANED/LUBED
OVERALL CLEANLINESS	☐		
INSULATING MEMBERS	☐		
CUBICLES	☐		
GROUND CONNECTIONS	☐		
AUXILIARY DEVICES	☐		

INSULATION TEST VOLTAGE kVDC TEST VOLTAGE MULTIPLIER, K1 K2 = (K1) (TCF)

EQUIPMENT TEMPERATURE °C TEMPERATURE CORRECTION FACTOR TO 20°C, TCF =

INSULATION RESISTANCE TEST RESULTS - MEGOHMS										
BUS SECTION TESTED	RANGE MULT.	K2		PHASE						
				A-GND	B-GND	C-GND	N-GND	A - B	A - C	B - C
			RDG.							
			20°C							
			RDG.							
			20°C							
			RDG.							
			20°C							
			RDG.							
			20°C							
			RDG.							
			20°C							

ACTUAL READING SHADING INDICATES TEMPERATURE CORRECTED READING TO 20°C

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. TESTED BY:

MEDIUM VOLTAGE
SWITCHBOARD HIGH POTENTIAL TEST

Your Company Logo

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NAMEPLATE DATA

MANUFACTURER SERIAL NO. TYPE

CATALOG NO. DRAWING NO. VOLTAGE CLASS

PHASE AMPACITY A WITHSTAND RATING kA CONDUCTOR ○ CU ○ AL

INSTALLED DEVICES

VACUUM BREAKERS AIR BREAKERS LOADBREAK DISCONNECTS NUMBER OF BAYS

VOLTAGE RELAYS OVERCURRENT RELAYS OTHER PROTECTIVE RELAYS AUXILIARY RELAYS

PANEL METERS kWHR METERS VT's CT's CPT's

OTHER

DESCRIPTION	INSPECTED	CONDITION	CLEANED/LUBED
OVERALL CLEANLINESS	☐		
INSULATING MEMBERS	☐		
CUBICLES	☐		
GROUND CONNECTIONS	☐		
AUXILIARY DEVICES	☐		

INSULATION TEST VOLTAGE kVDC TEST VOLTAGE MULTIPLIER

EQUIPMENT TEMPERATURE °C

K1 = RANGE MULTIPLIER

HIGHPOTENTIAL TESTS						
BUS SECTION TESTED	K1		LEAKAGE - MICROAMPS			
			A-GND	B-GND	C-GND	N-GND
		RDG.				
		TOTAL LEAKAGE				
		RDG.				
		TOTAL LEAKAGE				
		RDG.				
		TOTAL LEAKAGE				
		RDG.				
		TOTAL LEAKAGE				
		RDG.				
		TOTAL LEAKAGE				

BUS HIGH POTENTIAL TESTS CONDUCTED PHASE TO GROUND, WITH OTHER CONDUCTORS GROUNDED. LEAKAGE RECORDED AFTER TEST VOLTAGE APPLIED FOR ONE MINUTE.

TOTAL LEAKAGE = (K1) (ACTUAL READING)

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. TESTED BY:

LOW VOLTAGE
SWITCHBOARD INSULATION TEST

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SUBSTATION SWITCHBOARDS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER

SERIAL NO.

TYPE

CATALOG NO.

DRAWING NO.

VOLTAGE CLASS

PHASE AMPACITY A

WITHSTAND RATING kA

CONDUCTOR ☐ CU ☐ AL

INSTALLED DEVICES

DRAWOUT LVACB

BOLT-IN LVACB

DRAWOUT MCCB

BOLT-IN MCCB

BOLTED PRESSURE SWITCHES

FUSED DISCONNECTS

PROTECTIVE RELAYS

PANEL METERS

kWHR METERS

VT's

CT's

CPT's

OTHER

DESCRIPTION	INSPECTED	CONDITION	CLEANED/LUBED
OVERALL CLEANLINESS	☐		
INSULATING MEMBERS	☐		
CUBICLES	☐		
GROUND CONNECTION	☐		
AUXILIARY DEVICES	☐		

TEST VOLTAGE kVDC

EQUIPMENT TEMPERATURE °C

TEMPERATURE CORRECTION FACTOR TO 20°C, TCF

BUS SECTION TESTED		INSULATION RESISTANCE TEST RESULTS - MEGOHMS									
		A-GND	B-GND	C-GND	N-GND	A - B	A - C	B - C	A - N	B - N	C - N
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										
	RDG.										
	20°C										

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO.

TESTED BY:

POWER PANEL INSULATION TEST

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DATE 5/7/2008 TEMPERATURE °F HUMIDITY % EQPT. LOCATION

SUBSTATION SWITCHBOARDS POSITION GENERAL

MANUFACTURER CATALOG NO. SERIAL NO.

VOLTAGE TYPE AMPACITY

PANEL WITHSTAND RATING MAIN ○ MLO ○ NO. FEEDER BREAKERS

NO. FEEDER DISCONNECTS OTHER

FED FROM TYPE OF LOADS

EQUIPMENT TEMPERATURE ℃ TEMPERATURE CORRECTION FACTOR TO 20℃, TCF TEST VOLTAGE kVDC

PANEL DESIGNATION: PANEL LOCATION:

TEST RESULTS - MEGOHMS

	RDG.	20℃		RDG.	20℃		RDG.	20℃
A - GRD			A - B			A - N		
B - GRD			A - C			B - N		
C - GRD			B - C			C - N		
N - GRD								

CONNECTED EQUIPMENT

MANUFACTURER CATALOG NO. SERIAL NO.

VOLTAGE TYPE AMPACITY

PANEL WITHSTAND RATING MAIN ○ MLO ○ NO. FEEDER BREAKERS

NO. FEEDER DISCONNECTS OTHER

FED FROM TYPE OF LOADS

EQUIPMENT TEMPERATURE ℃ TEMPERATURE CORRECTION FACTOR TO 20℃, TCF TEST VOLTAGE kVDC

PANEL DESIGNATION: PANEL LOCATION:

TEST RESULTS - MEGOHMS

	RDG.	20℃		RDG.	20℃		RDG.	20℃
A - GRD			A - B			A - N		
B - GRD			A - C			B - N		
C - GRD			B - C			C - N		
N - GRD								

CONNECTED EQUIPMENT

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. TESTED BY:

SWITCHBOARD BUS CONNECTION TEST

CUSTOMER SAMPLE FORMS COMPANY PAGE ______

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OWNER REPRESENTATIVE ______ TELEPHONE ______

DATE 5/7/2008 TEMPERATURE ______ °F HUMIDITY ______ % EQPT. LOCATION ______

SUBSTATION SWITCHBOARDS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER ______ SERIAL NO. ______ TYPE ______

CATALOG NO. ______ DRAWING NO. ______ VOLTAGE CLASS ______

PHASE AMPACITY ______ A WITHSTAND RATING ______ kA CONDUCTOR ○ CU ○ AL

BUS SECTION TESTED		RESISTANCE IN MICRO-OHMS					BUS SECTION TESTED		RESISTANCE IN MICRO-OHMS				
FROM	TO	phA	phB	phC	phN	G	FROM	TO	phA	phB	phC	phN	G

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. ______ TESTED BY: ______

SWITCHGEAR INSPECTION

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DATE 5/7/2008 TEMPERATURE °F HUMIDITY % EQPT. LOCATION

SUBSTATION SWITCHBOARDS POSITION GENERAL

NAMEPLATE DATA

MANUFACTURER SERIAL NO. TYPE

CATALOG NO. CURRENT RATING AMPERES

VOLTAGE CLASS VOLTS ADDITIONAL INFORMATION

CONDITION	REMARK NUMBER	INSPECTIONS
☐ G ☐ P ☐ C ☐ I		EXTERIOR OF EQUIPMENT
☐ G ☐ P ☐ C ☐ I		ALL INTERIOR OF CUBICLES
☐ G ☐ P ☐ C ☐ I		☐ ALL INTERIOR BUS ☐ CABLE SYSTEMS
☐ G ☐ P ☐ C ☐ I		BUS SUPPORT INSULATORS AND SPACING
☐ G ☐ P ☐ C ☐ I		☐ DOORS ☐ PANELS ☐ BRACKETS
☐ G ☐ P ☐ C ☐ I		☐ DOOR HANDLES ☐ LOCKING BARS / MECHANISMS
☐ G ☐ P ☐ C ☐ I		☐ INSTRUMENTS ☐ RELAY COVERS
☐ G ☐ P ☐ C ☐ I		☐ BREAKER ☐ CELL CONTACTS
☐ G ☐ P ☐ C ☐ I		☐ CONTROL TRANSFORMERS ☐ METERING TRANSFORMERS ☐ INSTRUMENTS
☐ G ☐ P ☐ C ☐ I		☐ GROUNDING
☐ G ☐ P ☐ C ☐ I		☐ RAILS ☐ GUIDES ☐ ROLLERS ☐ SHUTTER MECHANISMS
☐ G ☐ P ☐ C ☐ I		☐ WIRING ☐ TERMINAL CONNECTIONS
☐ G ☐ P ☐ C ☐ I		☐ GRID ASSEMBLIES ☐ SPACE HEATERS
☐ G ☐ P ☐ C ☐ I		☐ CELL INTERLOCKS ☐ AUXILIARY CONTACT ASSEMBLIES
☐ G ☐ P ☐ C ☐ I		☐ FILTERS IN PLACE ☐ VENTS ARE CLEAR
☐ G ☐ P ☐ C ☐ I		
☐ G ☐ P ☐ C ☐ I		
CONDITION	**REMARK NUMBER**	**SYSTEM MAINTENANCE AND CHECKS**
☐ G ☐ P ☐ C ☐ I		TORQUE-TEST BOLTED BUS (READILY ACCESSIBLE CONNECTIONS ONLY)
☐ G ☐ P ☐ C ☐ I		LUBRICATE DRAW-OUT ASSEMBLY PARTS
☐ G ☐ P ☐ C ☐ I		VACUUM AND CLEAN INTERIOR OF CUBICLES
☐ G ☐ P ☐ C ☐ I		OPERATE CONTROLS AND CHECK CORRECTNESS OF FUNCTIONS
☐ G ☐ P ☐ C ☐ I		CHECK AUTOMATIC TRANSFER RELAY OPERATION (IF USED)
☐ G ☐ P ☐ C ☐ I		☐ ANNUNCIATOR ☐ ALARM / TARGET OPERATION
☐ G ☐ P ☐ C ☐ I		
☐ G ☐ P ☐ C ☐ I		

G = ITEMS FOUND IN SATISFACTORY CONDITION

P = ITEMS FOUND IN POOR CONDITION AND REQUIRING FUTURE CORRECTIVE ACTION

C = ITEMS REPAIRED OR CORRECTED AND LEFT IN SATISFACTORY CONDITION

I = ITEMS REQUIRING IMMEDIATE CORRECTIVE ACTIONS

SWITCHGEAR INSPECTION

Your Company Logo

INSULATION RESISTANCE

DESCRIBE WHAT WAS TESTED _____

REFERENCE STANDARD: ☐ NETA ☐ _____ ACCEPTABLE

TEST VOLTAGE: _____ VOLTS DC DURATION: _____ MINUTE(S)	MEASURED RESULT (MEGOHMS)	RECOMMENDED MINIMUM (MEGOHMS)	RESULT ACCEPTABLE (YES / N0)
PHASE - TO - PHASE - AND - GROUND			
PHASE A TO PHASE B, PHASE C AND GROUND			
PHASE B TO PHASE C, PHASE A AND GROUND			
PHASE C TO PHASE A, PHASE B AND GROUND			

OVERPOTENTIAL

DESCRIBE WHAT WAS TESTED _____

REFERENCE STANDARD: ☐ NETA ☐ _____ ACCEPTABLE

TEST VOLTAGE: _____ VOLTS DC DURATION: _____ MINUTE(S)	MEASURED RESULT (MEGOHMS)	RESULT (PASS / FAIL)	RESULT ACCEPTABLE (YES / N0)
PHASE - TO - PHASE - AND - GROUND			
PHASE A TO PHASE B, PHASE C AND GROUND			
PHASE B TO PHASE C, PHASE A AND GROUND			
PHASE C TO PHASE A, PHASE B AND GROUND			

CONNECTION RESISTANCE

CONNECTION FROM CONNECTION TO	MEASURED RESULT (_____ OHMS)	ACCEPTABLE (YES / NO)	CONNECTION FROM CONNECTION TO	MEASURED RESULT (_____ OHMS)	ACCEPTABLE (YES / N0)
PHASE ☐ phA ☐ _____			PHASE ☐ phA ☐ _____		
PHASE ☐ phB ☐ _____			PHASE ☐ phB ☐ _____		
PHASE ☐ phC ☐ _____			PHASE ☐ phC ☐ _____		
CONNECTION FROM CONNECTION TO			CONNECTION FROM CONNECTION TO		
PHASE ☐ phA ☐ _____			PHASE ☐ phA ☐ _____		
PHASE ☐ phB ☐ _____			PHASE ☐ phB ☐ _____		
PHASE ☐ phC ☐ _____			PHASE ☐ phC ☐ _____		

☐ NETA ☐ _____ CONNECTION RESISTANCE REQUIREMENT: COMPARE RESULTS TO RESULTS OF SIMILAR CONNECTIONS.

ARE RESULTS SATISFACTORY ☐ YES ☐ NO (IF NO, SEE COMMENTS FOR AN EXPLANATION)

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. _____ TESTED BY: _____