



LOW VOLTAGE POWER CIRCUIT BREAKER TEST AND



CUSTOMER Wilmington VA PAGE 15
ADDRESS 1601 Kirkwood Highway ; Wilmington DE 19805 JOB # 861903
USER Wilmington VA
OWNER REPRESENTATIVE _____ TELEPHONE _____
DATE 5/18/2025 TEMPERATURE 30 °C HUMIDITY 28 % EQPT. LOCATION 1601 Kirkwood Highway
SUBSTATION Building 143 (Emergency Gear) POSITION Main Breaker

MANUFACTURER: Eaton SN / SO NO: N/A MOUNTING: ☒ B.I. ☐ D.O.
BREAKER TYPE: NGS 50K SENSOR TAPS: N/A MANUAL / ELECTRIC: ☒ M ☐ E
TRIP UNIT TYPE: _____ FUSE CAT. NO: N/A CONTROL VOLTAGE CLOSE: N/A
FRAME SIZE: 1200 OPS AS FOUND / AS LEFT: On / On CONTROL VOLTAGE TRIP: N/A

Description	INSPECTED	CONDITION	CLEAN/LUBE
CUBICLE AND RACKING DEVICES	☒	Acceptable	C
CONTACT FINGERS	☐	N/A	N/A
LOADING AND ARCING CONTACTS	☐	N/A	N/A
OVERCURRENT DEV. BATTERY	☐	N/A	N/A

Description	INSPECTED	CONDITION	CLEAN/LUBE
ARC CHUTES	☒	Acceptable	C
AUXILIARY DEVICES	☐	N/A	N/A
GROUND CONNECTION	☐	N/A	N/A
MECHANISM	☒	Acceptable	C

SETTINGS AS FOUND

RATING PLUG(R) 1200 LONG TIME PU 1 X 1200 A = 1200 A DELAY 2
SENSOR TAP N/A SHORT TIME PU 2 = 1200 A ☒ ON ☐ OFF DELAY N/A I²T ☐ IN ☐ OUT ☒ N/A
INST. PU N/A = N/A A ☐ ON ☒ OFF
GRD. FLT. PU N/A = N/A A ☐ ON ☒ OFF DELAY N/A I²T ☐ IN ☐ OUT ☒ N/A

SETTINGS AS LEFT

RATING PLUG(R) 1200 LONG TIME PU 1200 X 1200 A = 1200 A DELAY 2
SENSOR TAP N/A SHORT TIME PU 2 = 1200 A ☐ ON ☐ OFF DELAY N/A I²T ☐ IN ☐ OUT ☒ N/A
INST. PU N/A = N/A A ☐ ON ☐ OFF
GRD. FLT. PU N/A = N/A A ☐ ON ☐ OFF DELAY N/A I²T ☐ IN ☐ OUT ☒ N/A

PRIMARY INJECTION TEST

FUNCTION	TEST CURRENT	TIME BAND / CURRENT		PHASE A		PHASE B		PHASE C	
		MINIMUM	MAXIMUM	AS FOUND	AS LEFT	AS FOUND	AS LEFT	AS FOUND	AS LEFT
PICK UP									
INSTANTANEOUS	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SHORT TIME	N/T	N/T	N/T	N/T	N/T	N/T	N/T	N/T	N/T
LONG TIME	N/T	N/T	N/T	N/T	N/T	N/T	N/T	N/T	N/T
GROUND FAULT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

CONTACT RESISTANCE - IN MICRO-OHMS			Test Current @	10	Amps
BREAKER	A	37	B	36	C
FUSE	N/A	N/A	N/A	N/A	N/A
BREAKER & FUSE	N/A	N/A	N/A	N/A	N/A

MEGGER TEST RESULTS - MEGGER VOLTAGE @ 1,000 VDC					
BREAKER CLOSED	Phase A - Ground	Meg-Ohms	N/T	Phase B - Ground	Meg-Ohms
	Phase A - Phase B	Meg-Ohms	N/T	Phase B - Phase C	Meg-Ohms
	Phase A Line - Load	Meg-Ohms	N/T	Phase B Line - Load	Meg-Ohms
BREAKER OPEN	Phase A - Ground	Meg-Ohms	N/T	Phase B - Ground	Meg-Ohms
	Phase A - Phase B	Meg-Ohms	N/T	Phase B - Phase C	Meg-Ohms
	Phase A Line - Load	Meg-Ohms	N/T	Phase B Line - Load	Meg-Ohms

COMMENTS: Cat #NGS312033E, Style: 1496D04G11. Unable to isolate breaker to perform insulation resistance testing. All test results are acceptable to NETA test standards. Megger Cal #185627. AEMC Cal # 190343.

DEFICIENCIES: While operating breaker, the breaker would not reset. Recommend replacing as soon as possible.

Replace Breaker



LOW VOLTAGE POWER CIRCUIT BREAKER TEST AND INSPECTION



CUSTOMER Wilmington VA PAGE 116
ADDRESS 1601 Kirkwood Highway ; Wilmington DE 19805 JOB # 861903
USER Wilmington VA
OWNER REPRESENTATIVE _____ TELEPHONE _____
DATE 5/17/2025 TEMPERATURE 20 °C HUMIDITY 82 % EQPT. LOCATION 1601 Kirkwood Highway
SUBSTATION Room 244 POSITION Sub B Main Breaker

MANUFACTURER: Westinghouse SN / SO NO: Can not see due to issue MOUNTING: ☐ B.I. ☒ D.O.
BREAKER TYPE: DS 416H SENSOR TAPS: 1600 MANUAL / ELECTRIC: ☒ M ☐ E
TRIP UNIT TYPE: Digitrip RMS 610 FUSE CAT. NO: N/A CONTROL VOLTAGE CLOSE: N/A
FRAME SIZE: 1600 OPS AS FOUND / AS LEFT: N/A / N/A CONTROL VOLTAGE TRIP: N/A

Description	INSPECTED	CONDITION	CLEAN/LUBE
CUBICLE AND RACKING DEVICES	☒	Acceptable	C/L
CONTACT FINGERS	☒	Acceptable	C
LOADING AND ARCING CONTACTS	☒	Acceptable	C
OVERCURRENT DEV. BATTERY	☒	Acceptable	C

Description	INSPECTED	CONDITION	CLEAN/LUBE
ARC CHUTES	☒	Acceptable	C
AUXILIARY DEVICES	☐	N/A	N/A
GROUND CONNECTION	☒	Acceptable	C
MECHANISM	☒	Acceptable	C/L

SETTINGS AS FOUND

RATING PLUG(R)	<u>1600</u>	LONG TIME PU	<u>1.0</u>	X	<u>1600</u>	A =	<u>1600</u>	A	DELAY	<u>24</u>	I ² T	☐ IN ☐ OUT ☒ N/A
SENSOR TAP	<u>1600</u>	SHORT TIME PU	<u>S2</u>	=	<u>19200</u>	A	☒ ON ☐ OFF	DELAY	<u>0.3</u>			
		INST. PU	<u>6</u>	=	<u>9600</u>	A	☒ ON ☐ OFF					
		GRD. FLT. PU	<u>N/A</u>	=	<u>N/A</u>	A	☐ ON ☒ OFF	DELAY	<u>0.3</u>			

SETTINGS AS LEFT

RATING PLUG(R)	<u>1600</u>	LONG TIME PU	<u>1.0</u>	X	<u>1600</u>	A =	<u>1600</u>	A	DELAY	<u>24</u>	I ² T	☐ IN ☐ OUT ☒ N/A
SENSOR TAP	<u>1600</u>	SHORT TIME PU	<u>S2</u>	=	<u>19200</u>	A	☒ ON ☐ OFF	DELAY	<u>0.3</u>			
		INST. PU	<u>6</u>	=	<u>9600</u>	A	☒ ON ☐ OFF					
		GRD. FLT. PU	<u>N/A</u>	=	<u>N/A</u>	A	☐ ON ☒ OFF	DELAY	<u>0.3</u>			

PRIMARY INJECTION TEST

FUNCTION	TEST CURRENT	TIME BAND / CURRENT		PHASE A		PHASE B		PHASE C	
		MINIMUM	MAXIMUM	AS FOUND	AS LEFT	AS FOUND	AS LEFT	AS FOUND	AS LEFT
PICK UP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INSTANTANEOUS	N/T	-20%	+20%	NO DELAY	NO DELAY	NO DELAY	NO DELAY	NO DELAY	NO DELAY
SHORT TIME	14400	.240	.335	.24	.24	.24	.24	.24	.24
LONG TIME	9600	16.08	24.00	21.2	21.2	21.2	21.2	21.2	21.2
GROUND FAULT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

CONTACT RESISTANCE - IN MICRO-OHMS			Test Current @	10	Amps
BREAKER	A	B	C		
FUSE	N/A	N/A	N/A		
BREAKER & FUSE	N/A	N/A	N/A		

MEGGER TEST RESULTS - MEGGER VOLTAGE @			1,000	VDC
BREAKER CLOSED	Phase A - Ground	Phase B - Ground	Phase C - Ground	
	1,000 Meg-Ohms	1,000 Meg-Ohms	1,000 Meg-Ohms	
	Phase A - Phase B	Phase B - Phase C	Phase C - Phase A	
BREAKER OPEN	1,000 Meg-Ohms	1,000 Meg-Ohms	1,000 Meg-Ohms	
	Phase A Line - Load	Phase B Line - Load	Phase C Line - Load	
	1,000 Meg-Ohms	1,000 Meg-Ohms	1,000 Meg-Ohms	

COMMENTS: All test results meet NETA recommended specs.
DEFICIENCIES: Breaker racking mechanism is broken. Can not rack out of cell. Spare should be ordered to take out of service for repair.

*Need new main Breaker: send Broken one out to be
Repair and send back to the VA.
for spare.*



Deficiency Summary Job #861903

PAGE 4

Plant: Wilmington
Substation: Outdoor Switches S4
Circuit_ID: Switch Loop Interconnect SW 4 to SW 3
Equipment: 29000 - MEDIUM VOLTAGE DISCONNECT (TXT)

Page: 92
Date: 5/17/2025

DEFICIENCIES: Red insulator terminal boot covers need show signs of tracking/treeing. Recommend replacing all 3. ✓

Plant: Wilmington
Substation: Outdoor Switches S4
Circuit_ID: Switch Loop Interconnect SW 4 to SW 5
Equipment: 29000 - MEDIUM VOLTAGE DISCONNECT (TXT)

Page: 93
Date: 5/17/2025

DEFICIENCIES: Red insulator terminal boot covers need show signs of tracking/treeing. Recommend replacing all 3. ✓

Plant: Wilmington
Substation: Outdoor Switches S5
Circuit_ID: Switch Loop Interconnect SW 5 to SW 4
Equipment: 29000 - MEDIUM VOLTAGE DISCONNECT (TXT)

Page: 96
Date: 5/17/2025

DEFICIENCIES: Red insulator terminal boot covers need show signs of tracking/treeing. Recommend replacing all 3. ✓

Plant: Wilmington
Substation: Outdoor Switches S5
Circuit_ID: Switch Loop Interconnect SW 5 to SW 6
Equipment: 29000 - MEDIUM VOLTAGE DISCONNECT (TXT)

Page: 97
Date: 5/17/2025

DEFICIENCIES: Red insulator terminal boot covers need show signs of tracking/treeing. Recommend replacing all 3. ✓

Plant: Wilmington
Substation: Room 244
Circuit_ID: Sub B Main Breaker
Equipment: 15118 - LV-CKT BKR TEST

Page: 116
Date: 5/17/2025

DEFICIENCIES: Breaker racking mechanism is broken. Can not rack out of cell. Spare should be ordered to take out of service for repair.

Westinghouse Breaker DS416H get new one, get old repair for spare.

Plant: Wilmington
Substation: Room 244 (ATS)
Circuit_ID: ATS 3

Page: 128
Date: 5/18/2025

TEST EQUIPMENT USED: _____

TESTED BY: _____