Customer	American Family Insurance
Address	6000 American Parkway - Madison, WI 53783
Owner	American Family Insurance
Address	6000 American Parkway - Madison, WI 53783

Date:	5/23/21	
Work Order:	15129	
Temperature:	25 °C	
Humidity	69 %	

Location: Substation PC-S2

Identification: S26

Nameplate Information			
Manufacturer:	Westinghouse	Type:	SPB100
Model:	SPB	Serial Number:	N/A
Catalog Number:	N/A	Voltage Rating:	600 V AC
Frame Ampere Rating:	1600	Interrupting kA Rating:	100 kA @ 480 V
Tripping Voltage:	N/A	Charging Voltage:	N/A
Closing Voltage:	N/A	Shunt Trip Voltage Rating:	N/A

Trip Unit Information			
Manufacturer:	Westinghouse	Trip Module Ampere Rating:	1200
Catalog Number:	N/A	Model:	Digitrip RMS 600
Sensor (CT) Ampere Rating:	1200	Plug Ampere Rating:	1200

Trip Unit Settings				
Element	Ranges	As Found	As Left	As Tested
Long Time Element Setting	Long Time Element Settings			
Long Time Pick Up:	0.5 - 1	1	1	1
Long Time Delay:	2 - 24	4	4	7
Short Time Element Setting	s			
Short Time Pick Up:	2 - 8	3	3	4
Short Time Delay:	0.1 - 0.5	0.1	0.1	0.1
I^2T :	In / Out	Out	Out	In
Ground Fault Element Sett	ngs			
Ground Fault Pick Up:	A - K	Н	Н	С
Ground Fault Delay:	0.1 - 0.5	0.1	0.1	0.1
I^2T :	In / Out	Out	Out	In
Instantaneous Element Settings				
Instantaneous Pick Up:	2 - 10	10	10	4



Identification: S26

Identification: S26				_	
Visual Inspection					
Circuit Breaker: Cleaned		Arc Chutes:		Normal	
Operating Mechanism:	Normal		Cubicle:	Normal	
Electrical Connections:	Normal		Grounded:	Yes	
Main Contacts:	Normal	Aux	iliary Devices:	N/A	
Arcing Contacts:	Normal		Panel Lights:	N/A	
Contact Sequence:	Normal	Racki	ing Mechanism	N/A	
Auxiliary Contacts:	N/A	Shunt 7	Trip Operation:	N/A	
Operational Tests	0.77			0.77	
Manual Open:	OK		Manual Close:	OK	
Electrically Open:	N/A		ctrically Close:	N/A	
Manually Charge:	OK	Elect	rically Charge:	N/A	
Trip with Protective Devices:	OK				
Insulation Resistance Tests			Pole #1	Pole #2	Pole #3
	ance Pole to Pole in Ohms	As Found:	38.1 G	29.2 G	14.1 G
	DC with Contacts Closed	As Left:	38.1 G	29.2 G	14.1 G
	ance Across Pole in Ohms	As Found:	>100 G	>100 G	71.5 G
	DC with Contacts Opened	As Left:	>100 G	>100 G	71.5 G
Contact Resistance Tests	1	113 20111	Pole #1	Pole #2	Pole #3
		As Found:	18	21	22
Resistance in Micro-Ohms		As Left:	18	21	22
Trip Tests					
Long Time F	lements		Pole #1	Pole #2	Pole #3
Long Time Delay in Secon		As Found:	22.4	22.4	22.4
Equal to 360	•	As Left:	22.4	22.4	22.4
Manufacturers Curve 18.7 to					
Short Time I					
Short Time Delay in Second		As Found: As Left:	0.25	0.25	0.25
*	Equal to 7200 Amps		0.25	0.25	0.25
Manufacturers Curve 0.14 to 0.28 Seconds					
Ground Fault Elements		As Found:			
	Ground Fault Delay in Seconds at 150 % Pick Up		0.23	0.23	0.23
Equal to 630 Amps		As Left:	0.23	0.23	0.23
Manufacturers Curve 0.12 to 0.24 Seconds					
Instantaneous Elements		As Found:			
	Instantaneous Pick Up in Amperes		5072	5072	5072
Manufacturers Curve 4320 to	5280 Amperes	As Left:	5072	5072	5072

Tested By: Mike Ney, Chris Wenzel & Jake Stabb

Test Equipment #: 111, 204, 509

Comments: The circuit breaker is acceptable for operation.



Customer	American Family Insurance
Address	6000 American Parkway - Madison, WI 53783
Owner	American Family Insurance
Address	6000 American Parkway - Madison, WI 53783

Date	5/23/21	
Work Order	15129	
Temperature	25 °C	
Humidity	69 %	

Location: Substation PC-S2

Identification: S27

Nameplate Information			
Manufacturer:	Westinghouse	Туре:	SPB100
Model:	SPB	Serial Number:	N/A
Catalog Number:	N/A	Voltage Rating:	600 V AC
Frame Ampere Rating:	800	Interrupting kA Rating:	100 kA @ 480 V
Tripping Voltage:	N/A	Charging Voltage:	N/A
Closing Voltage:	N/A	Shunt Trip Voltage Rating:	N/A

Trip Unit Information			
Manufacturer:	Westinghouse	Trip Module Ampere Rating:	800
Catalog Number:	N/A	Model:	Digitrip RMS 600
Sensor (CT) Ampere Rating:	800	Plug Ampere Rating:	800

Trip Unit Settings				
Element	Ranges	As Found	As Left	As Tested
Long Time Element Setting	Long Time Element Settings			
Long Time Pick Up:	0.5 - 1	1	1	1
Long Time Delay:	2 - 24	7	7	7
Short Time Element Setting	s			
Short Time Pick Up:	2 - 8	3	3	3
Short Time Delay:	0.1 - 0.5	0.1	0.1	0.1
I ² T:	In / Out	In	In	In
Ground Fault Element Sett	ings			
Ground Fault Pick Up:	A - K	С	С	С
Ground Fault Delay:	0.1 - 0.5	0.1	0.1	0.1
I ² T:	In / Out	In	In	In
Instantaneous Element Settings				
Instantaneous Pick Up:	2 - 10	4	4	4



Identification: S27

Visual Inspection	Identification: S27					
Normal Cubicle: Normal Grounded: Yes	Visual Inspection					
Electrical Connections: Normal Auxiliary Devices: N/A	Circuit Breaker: Cleaned		Arc Chutes:		Normal	
Electrical Connections: Normal Auxiliary Devices: N/A	Operating Mechanism:	Normal	Cubicle:		Normal	
Arcing Contacts: Normal Racking Mechanism N/A	Electrical Connections:	Normal		Grounded:	Yes	
Normal Racking Mechanism N/A	Main Contacts:	Normal	Aux	iliary Devices:	N/A	
N/A	Arcing Contacts:	Normal		Panel Lights:	N/A	
Operational Tests Manual Open: OK Manual Close: OK Electrically Open: N/A Electrically Close: N/A Manually Charge: OK Electrically Charge: N/A Trip with Protective Devices: OK Electrically Charge: N/A Insulation Resistance Tests Pole in Ohms As Found: 42.0 G 16.3 G 27.8 G Insulation Resistance Across Pole in Ohms As Left: 42.0 G 16.3 G 27.8 G Insulation Resistance Across Pole in Ohms As Left: 42.0 G 16.3 G 27.8 G Insulation Resistance Across Pole in Ohms As Left: 42.0 G 16.3 G 27.8 G Insulation Resistance Across Pole in Ohms As Left: 42.0 G 16.3 G 27.8 G As End: > 100 G	Contact Sequence:	Normal	Racki	ing Mechanism	N/A	
Manual Open: OK	Auxiliary Contacts:	N/A	Shunt 7	Ггір Operation:	N/A	
Manual Open: OK	Operational Tests					
Electrically Open: N/A Electrically Close: N/A	<u> </u>	OK		Manual Close:	OK	
Manually Charge: OK Electrically Charge: N/A Trip with Protective Devices: OK Pole #1 Pole #2 Pole #3 Insulation Resistance Tests Pole to Pole in Ohms As Found: 42.0 G 16.3 G 27.8 G 27.8 G Insulation Resistance Across Pole in Ohms As Left: 42.0 G 16.3 G 27.8 G 27.8 G Insulation Resistance Across Pole in Ohms As Found: >100 G	•					
Note				·		
Note			Lice	inearly charge.	1071	
Insulation Resistance Pole to Pole in Ohms at 1 kV DC with Contacts Closed at 1 kV DC with Contacts Closed As Left: 42.0 G	The winterstance of the control of t	011				
As Left: 42.0 G 16.3 G 27.8 G	Insulation Resistance Tests			Pole #1	Pole #2	Pole #3
Insulation Resistance Across Pole in Ohms As Found: >100 G >100 G >100 G	Insulation Resist	ance Pole to Pole in Ohms	As Found:	42.0 G	16.3 G	27.8 G
at 1 kV DC with Contacts Opened As Left: >100 G >100 G >100 G Contact Resistance Tests Resistance in Micro-Ohms As Found: 26 24 22 As Left: 26 24 22 Trip Tests Pole #1 Pole #2 20 e #3 Long Time Delay in Seconds at 300 % Pick Up As Found: 22.7	at 1 kV	DC with Contacts Closed	As Left:	42.0 G	16.3 G	27.8 G
Pole #1	Insulation Resist	ance Across Pole in Ohms	As Found:	>100 G	>100 G	>100 G
As Found: 26 24 22	at 1 kV	DC with Contacts Opened	As Left:	>100 G	>100 G	>100 G
Note	Contact Resistance Tests			Pole #1	Pole #2	Pole #3
Trip Tests As Left: 26 24 22 Long Time Delay in Seconds at 300 % Pick Up As Found: 22.7 23.7 24.8 23.8	Desistance in Misma Ohma		As Found:	26	24	22
Long Time Elements Pole #1 Pole #2 Pole #3 Long Time Delay in Seconds at 300 % Pick Up As Found: 22.7 22.7 22.7 22.7 Equal to 2400 Amps As Left: 22.7 22.7 22.7 22.7 Manufacturers Curve 18.7 to 28 Seconds Short Time Elements Short Time Delay in Seconds at 150 % Pick Up As Found: 0.38 0.38 0.38 Equal to 3600 Amps As Left: 0.38 0.38 0.38 Manufacturers Curve 0.14 to 0.28 Seconds Ground Fault Delay in Seconds at 150 % Pick Up As Found: 0.23 0.23 0.23 Equal to 420 Amps As Left: 0.23 0.23 0.23 Manufacturers Curve 0.12 to 0.24 Seconds Instantaneous Elements Instantaneous Pick Up in Amperes As Found: 3376 3376 3376		Resistance in Micro-Ohms		26	24	22
Long Time Elements Pole #1 Pole #2 Pole #3 Long Time Delay in Seconds at 300 % Pick Up As Found: 22.7 22.7 22.7 22.7 Equal to 2400 Amps As Left: 22.7 22.7 22.7 22.7 Manufacturers Curve 18.7 to 28 Seconds Short Time Elements Short Time Delay in Seconds at 150 % Pick Up As Found: 0.38 0.38 0.38 Equal to 3600 Amps As Left: 0.38 0.38 0.38 Manufacturers Curve 0.14 to 0.28 Seconds Ground Fault Delay in Seconds at 150 % Pick Up As Found: 0.23 0.23 0.23 Equal to 420 Amps As Left: 0.23 0.23 0.23 Manufacturers Curve 0.12 to 0.24 Seconds Instantaneous Elements Instantaneous Pick Up in Amperes As Found: 3376 3376 3376	Trip Tests					
Long Time Delay in Seconds at 300 % Pick Up	,	lements		Pole #1	Pole #2	Pole #3
Equal to 2400 Amps As Left: 22.7 22.7 22.7 Manufacturers Curve 18.7 to 28 Seconds Short Time Elements Short Time Delay in Seconds at 150 % Pick Up As Found: 0.38 0.38 0.38 Equal to 3600 Amps As Left: 0.38 0.38 0.38 Manufacturers Curve 0.14 to 0.28 Seconds Ground Fault Elements Ground Fault Delay in Seconds at 150 % Pick Up As Found: 0.23 0.23 0.23 Equal to 420 Amps As Left: 0.23 0.23 0.23 Manufacturers Curve 0.12 to 0.24 Seconds Instantaneous Elements Instantaneous Pick Up in Amperes As Found: 3376 3376 3376	ı		As Found:	22.7	22.7	22.7
Manufacturers Curve 18.7 to 28 Seconds Short Time Elements Short Time Delay in Seconds at 150 % Pick Up As Found: 0.38 0.38 0.38 Equal to 3600 Amps As Left: 0.38 0.38 0.38 Manufacturers Curve 0.14 to 0.28 Seconds Seconds Ground Fault Elements Seconds 0.23 0.23 0.23 0.23 Ground Fault Delay in Seconds at 150 % Pick Up As Found: 0.23 0.23 0.23 0.23 0.23 Manufacturers Curve 0.12 to 0.24 Seconds As Left: 0.23 0.23 0.23 0.23 0.23 0.23 0.23 0.23			As Left:	22.7	22.7	22.7
Short Time Delay in Seconds at 150 % Pick Up As Found: 0.38 0.38 0.38 Equal to 3600 Amps As Left: 0.38 0.38 0.38 Manufacturers Curve 0.14 to 0.28 Seconds Seconds	*	•				
Equal to 3600 Amps As Left: 0.38 0.38 0.38 Manufacturers Curve 0.14 to 0.28 Seconds Ground Fault Elements Ground Fault Delay in Seconds at 150 % Pick Up As Found: 0.23 0.23 0.23 Equal to 420 Amps As Left: 0.23 0.23 0.23 Manufacturers Curve 0.12 to 0.24 Seconds Instantaneous Elements Instantaneous Pick Up in Amperes As Found: 3376 3376 3376	Short Time F	Clements				
Equal to 3600 Amps As Left: 0.38 0.38 0.38 Manufacturers Curve 0.14 to 0.28 Seconds Ground Fault Elements Ground Fault Delay in Seconds at 150 % Pick Up As Found: 0.23 0.23 0.23 Equal to 420 Amps As Left: 0.23 0.23 0.23 Manufacturers Curve 0.12 to 0.24 Seconds Instantaneous Elements Instantaneous Pick Up in Amperes As Found: 3376 3376 3376	Short Time Delay in Second	ls at 150 % Pick Up	As Found:	0.38	0.38	0.38
Manufacturers Curve 0.14 to 0.28 Seconds Ground Fault Elements Ground Fault Delay in Seconds at 150 % Pick Up As Found: 0.23 0.23 0.23 Equal to 420 Amps As Left: 0.23 0.23 0.23 Manufacturers Curve 0.12 to 0.24 Seconds Instantaneous Elements Instantaneous Pick Up in Amperes As Found: 3376 3376 3376	<u> </u>		As Left:	0.38	0.38	0.38
Ground Fault Elements Ground Fault Delay in Seconds at 150 % Pick Up As Found: 0.23 0.23 0.23 Equal to 420 Amps As Left: 0.23 0.23 0.23 Manufacturers Curve 0.12 to 0.24 Seconds Instantaneous Elements Instantaneous Pick Up in Amperes As Found: 3376 3376	<u> </u>					
Equal to 420 Amps As Left: 0.23 0.23 0.23 Manufacturers Curve 0.12 to 0.24 Seconds Instantaneous Elements Instantaneous Pick Up in Amperes As Found: 3376 3376						
Manufacturers Curve 0.12 to 0.24 Seconds Instantaneous Elements Instantaneous Pick Up in Amperes As Found: 3376 3376	Ground Fault Delay in Seconds at 150 % Pick Up		As Found:	0.23	0.23	0.23
Manufacturers Curve 0.12 to 0.24 Seconds Instantaneous Elements Instantaneous Pick Up in Amperes As Found: 3376 3376 3376	Equal to 420 Amps		As Left:	0.23	0.23	0.23
Instantaneous Pick Up in Amperes As Found: 3376 3376 3376	Manufacturers Curve 0.12 to 0.24 Seconds					
1 1	Instantaneous	Instantaneous Elements				
Manufacturers Curve 2880 to 3520 Amperes As Left: 3376 3376 3376	Instantaneous Pick Up in Amperes		As Found:	3376	3376	3376
	Manufacturers Curve 2880 to	3520 Amperes	As Left:	3376	3376	3376

Tested By: Mike Ney, Chris Wenzel & Jake Stabb

Test Equipment #: 111, 204, 509

Comments: The circuit breaker is acceptable for operation.



Customer	American Family Insurance
Address	6000 American Parkway - Madison, WI 53783
Owner	American Family Insurance
Address	6000 American Parkway - Madison, WI 53783

Date	5/23/21	
Work Order:	15129	
Temperature:	25 °C	
Humidity	69 %	

Location: Substation PC-S2

Identification: S28

Nameplate Information			
Manufacturer:	Westinghouse	Type:	SPB100
Model:	SPB	Serial Number:	N/A
Catalog Number:	N/A	Voltage Rating:	600 V AC
Frame Ampere Rating:	1600	Interrupting kA Rating:	100 kA @ 480 V
Tripping Voltage:	N/A	Charging Voltage:	N/A
Closing Voltage:	N/A	Shunt Trip Voltage Rating:	N/A

Trip Unit Information			
Manufacturer:	Westinghouse	Trip Module Ampere Rating:	1200
Catalog Number:	N/A	Model:	Digitrip RMS 600
Sensor (CT) Ampere Rating:	1200	Plug Ampere Rating:	1200

Trip Unit Settings				
Element	Ranges	As Found	As Left	As Tested
Long Time Element Settings				
Long Time Pick Up:	0.5 - 1	1	1	1
Long Time Delay:	2 - 24	7	7	7
Short Time Element Setting	s			
Short Time Pick Up:	2 - 8	4	4	4
Short Time Delay:	0.1 - 0.5	0.1	0.1	0.1
I^2T :	In / Out	In	In	In
Ground Fault Element Sett	ngs			
Ground Fault Pick Up:	A - K	С	С	С
Ground Fault Delay:	0.1 - 0.5	0.1	0.1	0.1
I ² T:	In / Out	In	In	In
Instantaneous Element Settings				
Instantaneous Pick Up:	2 - 10	6	6	4



Identification: S28

Identification: S28						
Visual Inspection						
Circuit Breaker: Cleaned			Arc Chutes:	Normal	Normal	
Operating Mechanism: Normal		Cubicle:		Normal		
Electrical Connections:	Normal	Grounded:		Yes		
Main Contacts:	Normal	Auxiliary Devices:		N/A		
Arcing Contacts:	Normal		Panel Lights:	N/A		
Contact Sequence:	Normal	Racki	ng Mechanism	N/A		
Auxiliary Contacts:	N/A	Shunt 7	Гrip Operation:	N/A		
Operational Tests						
Manual Open:	OK		Manual Close:	OK		
Electrically Open:	N/A		ctrically Close:	N/A		
Manually Charge:	OK	Elect	rically Charge:	N/A		
Trip with Protective Devices:	OK					
Insulation Resistance Tests			Pole #1	Pole #2	Pole #3	
	ance Pole to Pole in Ohms	As Found:	26.0 G	36.6 G	27.0 G	
	DC with Contacts Closed	As Left:	26.0 G	36.6 G	27.0 G	
	cance Across Pole in Ohms	As Found:	>100 G	>100 G	>100 G	
	DC with Contacts Opened	As Left:	>100 G	>100 G	>100 G	
Contact Resistance Tests		113 2010.	Pole #1	Pole #2	Pole #3	
		As Found:	23	20	24	
Resistance in Micro-Ohms		As Left:	23	20	24	
					_ :	
Trip Tests						
Long Time F			Pole #1	Pole #2	Pole #3	
Long Time Delay in Secon	ds at 300 % Pick Up	As Found:	22.7	22.7	22.7	
Equal to 36	00 Amps	As Left:	22.7	22.7	22.7	
Manufacturers Curve 18.7 to	28 Seconds					
Short Time I	Elements					
Short Time Delay in Second	ds at 150 % Pick Up	As Found:	0.25	0.25	0.25	
Equal to 720		As Left:	0.25	0.25	0.25	
Manufacturers Curve 0.14 to 0.28 Seconds						
Ground Fault Elements						
Ground Fault Delay in Seconds at 150 % Pick Up		As Found:	0.23	0.23	0.23	
Equal to 630 Amps		As Left:	0.23	0.23	0.23	
Manufacturers Curve 0.12 to 0.24 Seconds						
Instantaneous						
Instantaneous Pick U	<u> </u>	As Found:	5012	5012	5012	
Manufacturers Curve 4320 to	5280 Amperes	As Left:	5012	5012	5012	

Tested By: Mike Ney, Chris Wenzel & Jake Stabb

Test Equipment #: 111, 204, 509

Comments: The circuit breaker is acceptable for operation.



Customer	American Family Insurance
Address	6000 American Parkway - Madison, WI 53783
Owner	American Family Insurance
Address	6000 American Parkway - Madison, WI 53783

Date	5/23/21	
Work Order	15129	
Temperature	25 °C	
Humidity	69 %	

Location: Substation PC-S2

Identification: B24

Nameplate Information			
Manufacturer:	Westinghouse	Туре:	SPB100
Model:	SPB	Serial Number:	N/A
Catalog Number:	N/A	Voltage Rating:	600 V AC
Frame Ampere Rating:	800	Interrupting kA Rating:	100 kA @ 480 V
Tripping Voltage:	N/A	Charging Voltage:	N/A
Closing Voltage:	N/A	Shunt Trip Voltage Rating:	N/A

Trip Unit Information			
Manufacturer:	Westinghouse	Trip Module Ampere Rating:	800
Catalog Number:	N/A	Model:	Digitrip RMS 600
Sensor (CT) Ampere Rating:	800	Plug Ampere Rating:	800

Trip Unit Settings				
Element	Ranges	As Found	As Left	As Tested
Long Time Element Settings				
Long Time Pick Up:	0.5 - 1.0	1	1	1
Long Time Delay:	2 - 24	7	7	7
Short Time Element Setting	S			
Short Time Pick Up:	2 - 8	4	4	3
Short Time Delay:	0.1 - 0.5	0.1	0.1	0.1
I^2T :	In / Out	Out	Out	In
Ground Fault Element Sett	ngs			
Ground Fault Pick Up:	A - K	K	K	С
Ground Fault Delay:	0.1 - 0.5	0.1	0.1	0.1
I^2T :	In / Out	Out	Out	In
Instantaneous Element Settings				
Instantaneous Pick Up:	2 - 10	10	10	4



Identification: B24

Identification: B24				_		
Visual Inspection						
Circuit Breaker: Cleaned		Arc Chutes:		Normal		
Operating Mechanism: Normal		Cubicle:		Normal		
Electrical Connections:	Normal	Grounded:		Yes	Yes	
Main Contacts:	Normal	Auxiliary Devices:		N/A		
Arcing Contacts:	Normal		Panel Lights:	N/A		
Contact Sequence:	Normal	Racki	ng Mechanism	N/A		
Auxiliary Contacts:	N/A	Shunt 7	Γrip Operation:	N/A		
Operational Tests						
Manual Open:	OK		Manual Close:	OK		
Electrically Open:	N/A		ctrically Close:	N/A		
Manually Charge:	OK	Elect	rically Charge:	N/A		
Trip with Protective Devices:	OK					
Insulation Resistance Tests			Pole #1	Pole #2	Pole #3	
	ance Pole to Pole in Ohms	As Found:	24.8 G	40.0 G	21.1 G	
	DC with Contacts Closed	As Left:	24.8 G	40.0 G	21.1 G	
	ance Across Pole in Ohms	As Found:	>100 G	>100 G	>100 G	
	DC with Contacts Opened	As Left:	>100 G	>100 G	>100 G	
Contact Resistance Tests	De will contact opened	TIS Lett.	Pole #1	Pole #2	Pole #3	
		As Found:	21	24	22	
Resistance in Micro-Ohms		As Left:	21	24	22	
		110 2010				
Trip Tests						
Long Time F	lements		Pole #1	Pole #2	Pole #3	
Long Time Delay in Secon	ds at 300 % Pick Up	As Found:	24.0	24.0	24.0	
Equal to 240	00 Amps	As Left:	24.0	24.0	24.0	
Manufacturers Curve 18.7 to	28 Seconds					
Short Time F	Clements					
Short Time Delay in Second	ls at 150 % Pick Up	As Found:	0.45	0.45	0.45	
Equal to 3600 Amps		As Left:	0.45	0.45	0.45	
Manufacturers Curve 0.26 to 0.50 Seconds						
Ground Fault Elements						
Ground Fault Delay in Seconds at 150 % Pick Up		As Found:	0.21	0.21	0.21	
Equal to 420 Amps		As Left:	0.21	0.21	0.21	
Manufacturers Curve 0.12 to	Manufacturers Curve 0.12 to 0.24 Seconds					
Instantaneous						
Instantaneous Pick U	As Found:	3320	3340	3320		
Manufacturers Curve 2880 to	3520 Amperes	As Left:	3320	3340	3320	

Tested By: Mike Ney, Chris Wenzel & Jake Stabb

Test Equipment #: 111, 204, 509

Comments: The breaker charging handle was found to have no return pressure to restore handle to normal position. The charging handle assembly was taken apart and the spring was found to be out of position. This was repaired and reassembled. The breaker is acceptable for operation.



Customer	American Family Insurance
Address	6000 American Parkway - Madison, WI 53783
Owner	American Family Insurance
Address	6000 American Parkway - Madison, WI 53783

Date 5/23/2		3/21
Work Order	15129	
Temperature	25	°C
Humidity	60	%

Location: Substation PC-S2

Identification: Spare #1

Nameplate Information			
Manufacturer:	Westinghouse	Type:	SPB100
Model:	SPB	Serial Number:	N/A
Catalog Number:	N/A	Voltage Rating:	600 V AC
Frame Ampere Rating:	1600	Interrupting kA Rating:	100 kA @ 480 V
Tripping Voltage:	N/A	Charging Voltage:	N/A
Closing Voltage:	N/A	Shunt Trip Voltage Rating:	N/A

Trip Unit Information			
Manufacturer:	Westinghouse	Trip Module Ampere Rating:	1200
Catalog Number:	N/A	Model:	Digitrip RMS 600
Sensor (CT) Ampere Rating:	1200	Plug Ampere Rating:	1200

Trip Unit Settings				
Element	Ranges	As Found	As Left	As Tested
Long Time Element Setting	s			
Long Time Pick Up:	0.5 - 1.0	1	1	1
Long Time Delay:	2 - 24	2	2	7
Short Time Element Setting	s			
Short Time Pick Up:	2 - 8	4	4	3
Short Time Delay:	0.1 - 0.5	0.1	0.1	0.1
I^2T :	In / Out	Out	In	Fixed
Ground Fault Element Sett	ings			
Ground Fault Pick Up:	A - K	Н	Н	C
Ground Fault Delay:	0.1 - 0.5	0.1	0.1	0.1
I^2T :	In / Out	Out	In	In
Instantaneous Element Settings				
Instantaneous Pick Up:	2 - 10	10	10	4



Identification: Spare #1

Identification: Spare #1						
Visual Inspection						
Circuit Breaker: Cleaned		Arc Chutes:		Normal		
Operating Mechanism: Normal		Cubicle:		Normal		
Electrical Connections:	Normal		Grounded:	Yes	Yes	
Main Contacts:	Normal	Aux	iliary Devices:	N/A		
Arcing Contacts:	Normal		Panel Lights:	N/A		
Contact Sequence:	Normal	Racki	ng Mechanism	N/A		
Auxiliary Contacts:	N/A	Shunt 7	Trip Operation:	N/A		
Operational Tests						
Manual Open:	OK		Manual Close:	OK		
Electrically Open:	N/A		ctrically Close:	N/A		
Manually Charge:	OK	Elect	rically Charge:	N/A		
Trip with Protective Devices:	OK					
Insulation Resistance Tests			Pole #1	Pole #2	Pole #3	
	ance Pole to Pole in Ohms	As Found:	44.0 G	46.2 G	45.8 G	
	DC with Contacts Closed	As I ound: As Left:	44.0 G	46.2 G	45.8 G	
	ance Across Pole in Ohms	As Lett. As Found:	>100 G	>100 G	>100 G	
	DC with Contacts Opened	As Found: As Left:	>100 G	>100 G	>100 G	
Contact Resistance Tests	De with contacts opened	As Lett.	Pole #1	Pole #2	Pole #3	
Contact Resistance Tests		As Found:	19	19	21	
Resistance in Micro-Ohms		As Found: As Left:	19	19	21	
		As Lett.	17	17	21	
Trip Tests						
Long Time F	lements		Pole #1	Pole #2	Pole #3	
Long Time Delay in Second	ds at 300 % Pick Up	As Found:	24.1	24.1	24.1	
Equal to 360	00 Amps	As Left:	24.1	24.1	24.1	
Manufacturers Curve 18.7 to	28 Seconds					
Short Time F	Clements					
Short Time Delay in Second	ls at 150 % Pick Up	As Found:	0.37	0.37	0.37	
Equal to 540	00 Amps	As Left:	0.37	0.37	0.37	
Manufacturers Curve 0.24 to	0.38 Seconds					
Ground Fault	Elements					
Ground Fault Delay in Second	ls at 150 % Pick Up	As Found:	0.19	0.19	0.19	
Equal to 630 Amps		As Left:	0.19	0.19	0.19	
Manufacturers Curve 0.12 to	0.24 Seconds					
Instantaneous	Elements					
Instantaneous Pick U	Jp in Amperes	As Found:	4899	4899	4899	
Manufacturers Curve 3840 to 5760 Amperes		As Left:	4899	4899	4899	

Tested By: Mike Ney, Chris Wenzel & Jake Stabb

Comments: The circuit breaker is acceptable for operation.

Test Equipment #: 111, 204, 509



Customer	American Family Insurance
Address	302 N Walbridge Ave – Madison, WI 53714
Owner	American Family Insurance - Cottage Court
Address	718 Cottage Court – Madison, WI 53716

Date	6/26/21	
Work Order	15177	
Temperature:	24 °C	
Humidity	61 %	

Location: EGS-1

Identification: EGS-1 Main Breaker

Nameplate Information			
Manufacturer:	Square D	Type:	RL1600
Model:	PowerPact	Serial Number:	06409930420011
Catalog Number:	0320-2164-03	Voltage Rating:	600
Frame Ampere Rating:	1600	Interrupting kA Rating:	35 kA @ 480 V
Tripping Voltage:	N/A	Charging Voltage:	N/A
Closing Voltage:	N/A	Shunt Trip Voltage Rating:	N/A

Trip Unit Information			
Manufacturer:	Square D	Trip Module Ampere Rating:	1600
Catalog Number:	N/A	Model:	Micrologic
Sensor (CT) Ampere Rating:	1600	Plug Ampere Rating:	1600

Trip Unit Settings				
Element	Ranges	As Found	As Left	As Tested
Long Time Element Setting	S			
Long Time Pick Up:	0.84 - 1	1	1	1
Long Time Delay:	0.5 - 24	24	24	4
Short Time Element Setting	s			
Short Time Pick Up:	N/A			
Short Time Delay:	N/A			
I^2T :	N/A			
Ground Fault Element Sett	ings			
Ground Fault Pick Up:	N/A			
Ground Fault Delay:	N/A			
I^2T :	N/A			
Instantaneous Element Settings				
Instantaneous Pick Up:	1.5 – 12	8	8	4



Identification: EGS-1 Main Breaker

Identification: EGS-1 Main B	reaker				
Visual Inspection					
Circuit Breaker:	Cleaned		Arc Chutes:	Cleaned	
Operating Mechanism: Lubricated		Cubicle:		Cleaned	
Electrical Connections:	Normal		Grounded:	Yes	
Main Contacts:	Normal	Aux	iliary Devices:	N/A	
Arcing Contacts:	Normal		Panel Lights:	N/A	
Contact Sequence:	Normal	Racki	ng Mechanism	Normal	
Auxiliary Contacts:	Normal	Shunt 7	Γrip Operation:	Normal	
				1	
Operational Tests					
Manual Open:	OK		Manual Close:	OK	
Electrically Open:	N/A		ctrically Close:	N/A	
Manually Charge:	OK	Elect	rically Charge:	N/A	
Trip with Protective Devices:	N/A				
Insulation Resistance Tests			Pole #1	Pole #2	Pole #3
	ance Pole to Pole in Ohms	As Found:	53.5 G	13.8 G	14.5 G
	DC with Contacts Closed	As Left:	53.5 G	13.8 G	14.5 G
		As Found:	68 G	54 G	70 G
ii	ance Across Pole in Ohms DC with Contacts Opened	As Found. As Left:	68 G	54 G	70 G
	De with contacts opened	As Leit.			
Contact Resistance Tests	Contact Resistance Tests		Pole #1	Pole #2	Pole #3
Resistance in Micro-Ohms		As Found:	20	16	15
		As Left:	20	16	15
Trip Tests					
Long Time E	lements		Pole #1	Pole #2	Pole #3
Long Time Delay in Second		As Found:	14.9	15.1	14.7
Equal to 480	•	As Left:	14.9	15.1	14.7
Manufacturers Curve 12 to	•	ris Leit.	11.5	13.1	11.7
Short Time E					
Short Time Delay in Second		As Found:			
Equal to	Amps	As Left:			
Manufacturers Curve to	•				
Ground Fault Elements					
Ground Fault Delay in Seconds at % Pick Up		As Found:			
Equal to	Amps	As Left:			
Manufacturers Curve to	•				
	Instantaneous Elements				
Instantaneous Pick U	Jp in Amperes	As Found:	6410	6360	6490
7.6		A T C	6410	(2.60	6.400

Tested By: Frank Kotecki Test Equipment #: 111, 203, 575

Comments: The circuit breaker is acceptable for operation.

Manufacturers Curve 5600 to 7200 Amperes



As Left:

6410

6360

6490

Customer:	American Family Insurance
Address:	302 N Walbridge Ave – Madison, WI 53714
Owner:	American Family Insurance - Cottage Court
Address	718 Cottage Court – Madison, WI 53716

Date	6/26/21		
Work Order	15177		
Temperature	24 °C		
Humidity	61 %		

Location: EGS-2

Identification: EGS-2 Main Breaker

Nameplate Information			
Manufacturer:	Square D	Type:	RL1600
Model:	PowerPact	Serial Number:	06409930420014
Catalog Number:	0320-2164-03	Voltage Rating:	600
Frame Ampere Rating:	1600	Interrupting kA Rating:	35 kA @ 480 V
Tripping Voltage:	N/A	Charging Voltage:	N/A
Closing Voltage:	N/A	Shunt Trip Voltage Rating:	N/A

Trip Unit Information			
Manufacturer:	Square D	Trip Module Ampere Rating:	1600
Catalog Number:	N/A	Model:	Micrologic
Sensor (CT) Ampere Rating:	1600	Plug Ampere Rating:	1600

Trip Unit Settings				
Element	Ranges	As Found	As Left	As Tested
Long Time Element Setting	S			
Long Time Pick Up:	0.84 - 1	1	1	1
Long Time Delay:	0.5 - 24	24	24	4
Short Time Element Setting	s			
Short Time Pick Up:	N/A			
Short Time Delay:	N/A			
I^2T :	N/A			
Ground Fault Element Sett	ings			
Ground Fault Pick Up:	N/A			
Ground Fault Delay:	N/A			
I ² T:	N/A			
Instantaneous Element Settings				
Instantaneous Pick Up:	1.5 – 12	8	8	4



Identification: EGS-2 Main Breaker

Identification: EGS-2 Main B	reaker				
Visual Inspection					
Circuit Breaker:	Cleaned	Arc Chutes:		Cleaned	
Operating Mechanism:	Lubricated	Cubicle:		Cleaned	
Electrical Connections:	Normal	Grounded:		Yes	
Main Contacts:	Normal	Auxiliary Devices:		N/A	
Arcing Contacts:	Normal	Panel Lights:		N/A	
Contact Sequence:	Normal	Racking Mechanism		Normal	
Auxiliary Contacts:	Normal	Shunt Trip Operation:		Normal	
Operational Tests					
Manual Open:	OK	Manual Close:		OK	
Electrically Open:	N/A		ctrically Close:	N/A	
Manually Charge:	OK	Elect	trically Charge:	N/A	
Trip with Protective Devices:	N/A				
Insulation Resistance Tests			Pole #1	Pole #2	Pole #3
	ance Pole to Pole in Ohms	As Found:	14 G	15.1 G	28.6 G
	DC with Contacts Closed	As Found. As Left:	14 G	15.1 G	28.6 G
			56 G		
Insulation Resist	As Found:		63 G	60 G	
	DC with Contacts Opened	As Left:	56 G	63 G	60 G
Contact Resistance Tests			Pole #1	Pole #2	Pole #3
Resistance in Micro Ohms		As Found:	19	18	18
		As Left:	19	18	18
Trip Tests					
Long Time E	lamants		Pole #1	Pole #2	Pole #3
Long Time Delay in Second		As Found:	14.2	14.0	14.9
Equal to 480		As Found. As Left:	14.2	14.0	14.9
Manufacturers Curve 12 to	•	As Lett.	14.2	14.0	14.9
Short Time F					
Short Time Delay in Second		As Found:			
Equal to Amps		As Found. As Left:			
Manufacturers Curve to	1	115 LCIL			
Ground Fault					
Ground Fault Delay in Seconds at % Pick Up		As Found:			
Equal to	As Found. As Left:				
Equal to Amps Manufacturers Curve to Seconds		115 LCIL			
Instantaneous					
Instantaneous Pick U	As Found:	7120	7001	6890	
mstantaneous Fick (ras i ouliu.	/120	/001	0070	

Tested By: Frank Kotecki Test Equipment #: 111, 203, 575

Amperes

Comments: The circuit breaker is acceptable for operation.

Manufacturers Curve 5600 to 7200



As Left:

7120

7001

6890