

Powertech Labs Inc. 12388 - 88<sup>th</sup> Avenue Surrey, British Columbia Canada V3W 7R7

Tel: (604)590-7500 Fax: (604)590-5347 www.powertech.bc.ca

## CONTROLLER SIMULATED SURGE ARRESTER OPERATION TEST REPORT

Client:	Joslyn Hi-Voltage, 4000 East 116th Street, Cleveland, Ohio, 44105-4398, USA				
Test Date:	16 & 17 June 2004	Project:	15075-27		
Nameplate Data: Controller: Manufacturer: Type: Model No.: Serial No.:		0351R21X81X1XX1			
Recloser: Manufacturer: Model: Model No.: Impulse level (BIL Maximum voltage Rated current: Serial No.:			·		
Test Witness:	Derek Parmley of Parmley Te	Matt Flemming & Edward A. Steele of Joslyn Hi-Voltage, USA Derek Parmley of Parmley Technologies, UK Brian A. R. McKean of Brian McKean Associates Ltd., UK			
Test Standard: IEEE Std C37.60-2003, Clause 6.13.2: "Simulated Surge Arrester Operation Test"					
Atmospheric Conditions:		16 June 20			
	Temperature Relative humidity Barometric pressure	25.1 °C 35 % 761.6 mmł	24.5 °C 45 % Hg 760.5 mmHg		
Test Current:	7 kA <sub>peak</sub>				
Test Configurations (in accordance with the above standard):					
	A – surges applied to the source bushing with the recloser open B – surges applied to the source bushing with the recloser closed C – surges applied to the load bushing with the recloser closed D – surges applied to a properly rated transformer with the recloser open E – surges applied to a properly rated transformer with the recloser closed				
Test Results:	Operation Test performed in				
Remarks:	None.				

Prepared by:

Milan Vasko 14 July Senior Electrical Engineer V

Approved by:

A.J. Vandermaar, P.Eng. 6 1/07/14

Manager, High Voltage Laboratory

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Project #: 15075-27

Page 1 of 1



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## CONTROLLER OSCILLATORY SWC TEST REPORT

Joslyn Hi-Voltage, 4000 East 116th Street, Cleveland, Ohio, 44105-4398, USA Client:

Project: 15087-27 15 June 2004 **Test Date:** 

Nameplate Data:

Controller:

Schweitzer Engineering Laboratories, Pullman, Washington, USA Manufacturer:

SEL-351R Recloser Control Type:

0351R21X81X1XX1 Model No.: 2002357128

Serial No.:

Recloser:

Joslyn Hi-Voltage, Cleveland, Ohio, USA Manufacturer:

TriMod Recloser Model: 3180B0705G2 Model No.: 125 kV<sub>peak</sub> Impulse level (BIL):

29.3 kV<sub>rms</sub> Maximum voltage:

630 A<sub>ms</sub> continuous, 12. 5 kA interrupting Rated current: Prototype Serial No.:

Matt Flemming & Edward A. Steele of Joslyn Hi-Voltage, USA **Test Witness:** 

Derek Parmley of Parmley Technologies, UK

Brian A. R. McKean of Brian McKean Associates Ltd., UK

IEEE C37.60-2003, Clause 6.13.1: "Oscillatory and fast transients surge tests" Test Standard:

24.8 °C Temperature:

2.5 kV<sub>peak</sub> Test Voltage: Test surge applied in common mode and transverse mode to wire pairs. Test Procedure:

The controller and recloser operated normally following the Oscillatory SWC Test Results:

Test. The controller complied with requirements of "IEEE C37.60-2003, Clause

6.13.1".

The controller passed the test. Remarks:

Tested by:

Robert G. Pollock 04

Senior Project Specialist

Approved by:

A.J. Vandermaar, P.Eng. Manager, High Voltage Laboratory

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Project No.: 15087-27(A)

Page 1 of 3



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## **CONTROLLER FAST TRANSIENT SWC TEST REPORT**

Client:	Joslyn Hi-Voltage, 4000 East 116th Street, Cleveland, Ohio, 44105-4398, USA				
Test Date:	15 June 2004	Project:	15087-27		
Nameplate Da	ta:		3		
Controller: Manufacturer: Type: Model No.: Serial No.:	Schweitzer Engineering SEL-351R Recloser Co 0351R21X81X1XX1 2002357128		, Washington, USA		
Recloser: Manufacturer: Model: Model No.: Impulse level (I Maximum volta Rated current: Serial No.:	TriMod Recloser 3180B0705G2 BIL): 125 kV <sub>peak</sub> ge: 29.3 kV <sub>ms</sub>	Joslyn Hi-Voltage, Cleveland, Ohio, USA TriMod Recloser 3180B0705G2 125 kV <sub>peak</sub> 29.3 kV <sub>ms</sub> 630 A <sub>ms</sub> continuous, 12. 5 kA interrupting			
Test Witness:	Derek Parmley of Parm	Matt Flemming & Edward A. Steele of Joslyn Hi-Voltage, USA Derek Parmley of Parmley Technologies, UK Brian A. R. McKean of Brian McKean Associates Ltd., UK			
Test Standard	rest Standard: IEEE C37.60-2003, Clause 6.13.1: "Oscillatory and fast transients surge to		and fast transients surge tests"		
Temperature:	24.8 °C				
Test Voltage:	4.0 kV <sub>peak</sub>	4.0 kV <sub>peak</sub>			
Test Procedur	re: Test surge applied in co	Test surge applied in common mode and transverse mode to wire pairs.			
Test Results:		The controller and recloser operated normally following the Fast Transient SWC Test. The controller complied with the requirements of "C37.60-2003, Clause 6.13.1".			
Remarks:	The controller passed to	he test.			

Tested by:

Robert G. Pollock 04/07 Senior Project Specialist Approved by:

A.J. Vandermaar, P.Eng. 9/07//9 Manager, High Voltage Laboratory

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Project No.: 15087-27(B)

Page 1 of 3