-				INSP	ECTION FO	ORM			Page 1 of 3	
	Vinnipeg	AL	ITOMA	TIC TF	RANSFER	SWIT	CH, 600V		ID:	
ject	Facility:				Project Name:					
Pro	Area :				Bid Opportunity:					
	Manufacturer:			Type:				Serial	l #:	
witch	Rated Voltage			V	Current Rati	ng:		A	Control Voltage:	
ifer S Data		Size <sup>.</sup>		VA	Primary Volt	age		V	Primary Euse	
rans	Control Power Transformer:	Adjustable		VA	(Tap Setting	):		v		
-		Taps:			Secondary V	'oltage	:	V	Secondary Fuse:	
	Identification Tag Installed:			🗌 Yes	🗌 No	Visua	I Signs of Over	heating	g: 🗌 Yes 🗌 No	
бu	Cleanliness (A	s Found):	Good 🗌	Good Acceptable Poor Support Insulators:			Good Acceptable Poor			
Cleani	Connections:		Good 🗌	ood □ Acceptable □ Poor Electro/Mechanical □ N/A □			N/A Good Acceptable Poo			
spection / C	Ground Conne	ction:	Good 🗌	Accept	able 🗌 Poor	Conta Cond	Contactor Switch Condition:			
	Door Mechanie	lechanical: Good			able 🗌 Poor	Conta	act Alignment:		Good Acceptable Poo	
ual Ir	Cables Support	Cables Supported Appropriately:					cise Contactors	/Switch	n: 🗌 Ye	
Vis	Unit Cleaned:				🗌 Yes	Photo	ograph Taken:		□ Ye	
	Comments:									
	Source 1 (Nor	mal) Dropout Voltag	<u>o</u> .		V	Trans	fer to Source 2		/ <sup>.</sup> 59/	
s	Source 1 (Nor	mal) Pickup Voltage			v 	Retra	insfer to Source		av. se	
etting	Source 2 (Eme	ergency) Dropout Vo	ltage.		V	Engir	ne Cool-Down [	Delav:	Sec	
S	Source 2 (Eme	ergency) Pickup Vol	tage:		V	Liigii				
 []			1							
s	Conta P	ctor/Switch osition		Δ	Resistance	ce (μΩ	)	1	Test Summary	
ct/Pole ement:	Source 1 (Norm	al) to Output	A						□ Test Passed □ Test Inconclusive	
Conta Measur	Source 2 (Eme	gency) to Output						[	Further Investigation Required.	
-	Comments:		1				1	I		

## INSPECTION FORM AUTOMATIC TRANSFER SWITCH, 600V

Page 2 of 3

	Test Preparation:	Source 1 (Norn Disconnected Connected Source Isola	nal) Cable: Sou ed	Source 2 (Emerg.) Cable: Disconnected Connected with Source Isolated		able: nnected ected with e Isolated	Note: Approval of City's Representative is required, prior to leaving cables connected during the test.			
			Voltage: 1000 VDC. Ground all phases not under test!							
Resistance Test					Insulation Re	sistance (MΩ	?)			
	Test Pos	sition	S	Switch Position ource 1 (Normal)	)	Switch Position Source 2 (Emergency)				
			Α	В	С	Α	В	C		
	Source 1 Lin	e to GND								
	Source 2 Lin	e to GND								
llation	Output Line	to GND								
lnsu	Source 1 Line	e to Output	N/A	N/A	N/A					
	Source 2 Line	e to Output				N/A	N/A	N/A		
	Comments:									
	Test Passed Test Summary Test Inconclusive - Further Investigation Required Test Failed									

	Step	Description	Res	ult
	1	ATS in Source 1 (Normal) Position with Source 1 Energized. ATS indicates Source 1 available and Source 1 position status is provided.	Pass	🗌 Fail
	2	Power down (or isolate) Source 1. ATS indicates Source 1 is not available.	Pass	🗌 Fail
	3	Source 2/Generator start signal provided.	Pass	🗌 Fail
	4	Source 2/Generator starts. ATS indicates Source 2 available and transfers to Source 2 after appropriate delay. Source 2 position status is displayed	Pass	🗌 Fail
ing	5	Power up (or reconnect) Source 1. ATS indicates Source 1 is available and delay timer starts before transfer back to Source 1. ATS continues to indicate Source 2 position status.	Pass	🗌 Fail
l Test	6	Timer expires and ATS transfers to Source 1. ATS indicates Source 1 position status.	Pass	🗌 Fail
tiona	7	Generator Stops after cool-down timer expires.	Pass	🗌 Fail
Func	8	Ensure loads are isolated such that a phase loss will not damage equipment. Simulate a Source 1 phase loss condition and verify the ATS starts Source 2/Generator and transfers to Source 2.	Pass	🗌 Fail
	9	Reinstate the lost phase on Source 1 and verify that ATS transfers back to Source 1 after the appropriate delay.	Pass	🗌 Fail
	10	Manually start Source 2/Generator and perform a manual transfer to Source 2.	Pass	🗌 Fail
	11	Perform a manual transfer back to Source 1.	Pass	🗌 Fail
	Test S	ummary Test Passed Test Inconclusive - Further Investigation Required Test Failed		

## INSPECTION FORM AUTOMATIC TRANSFER SWITCH, 600V

sis	Returned to Service:	🗌 Yes	🗌 No	Comments:
al Analys	Monitoring / Further Inspection Required:	🗌 Yes	🗌 No	
Fina	Repair / Replacement Required:	☐ Yes	🗌 No	

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

Ĩ	INSPECTION FORM	Pag
Winnipèg	MOLDED CASE CIRCUIT BREAKER, < 1000V	ID:

Page 1 of 2

ject	Facility:	Project Name:				
Pro	Area :	Bid Opportunity:				

a	Location:			Panelboard/MCC:	Cell #:		
er Dat	Manufacturer:			Туре:	Serial #:		
reake	Rated Voltage:	V	Frame Size:	А	Trip Unit:		
8	Interrupting Rating: kA			Comments:			

on /	Breaker Identification Tag Insta	🗌 Yes	🗌 No	Visual Signs of Overhe	ating:	🗌 Yes	🗌 No		
	Cleanliness (As Found):	Good	Acceptable	Poor	Cables Supported App	ropriately:	🗌 Yes	🗌 No	
	specti ining	Connections:	Good 🗌	Acceptable	Poor	Electro/Mechanical Interlock:	□ N/A □ Good □	Acceptable	Poor
	ual In: Clea	Ground Connection:	Good	Acceptable	Poor	Exercise Circuit Breake	er:	🗌 Yes	
	Visu	Door Mechanical:	Good	Acceptable	Poor	Other:			
		Comments:							

	Trip Unit Rating: A	Trip Unit T	ie: ☐ None ☐ Thermal Magnetic ☐ Electronic ☐ LI ☐ LSI ☐ LSIG						
sɓu	Breaker Setting (As Left)		Range	Setpoint		Delay	Ι²Τ		
Settin	Long Time	Fixed Adj.	-	X A =	А	sec	🗌 On 🔲 Off		
aker	Short Time	Fixed Adj.	-	X A =	А	sec	🗌 On 🔲 Off		
Bre	Instantaneous	Fixed Adj.	-	X A =	А	N/A			
	Ground Fault	🗌 Fixed 🔲 Adj.	-	А		sec	🗌 On 🔲 Off		

	Perform ins	sulation re	sista	nce measur	ements for brea	kers >= 250A	, or as speci	fied.				
est	Temperature:		°C	Source:	Source: Disconnected Connected (Source Isolated)					Approval is required, prior to leaving		
θĽ	remperator	10.	0	Load:	Disconnected Connected (Load Isolated)				cables connected during the test.			
anc	Test		Insulation Resistance (MΩ)									
esist	Voltage	Phase	Phase To GND (Breaker Closed)				Phase (Brea	ker Closed)	Line to Load (Breaker Open)			
٦Re	(VDC)	Α		В	С	A – B	B – C	A - C	Α	В	С	
atio												
Insul	Test Summary											
-	Comments:											

act ance	Perform contact measurements	erform contact measurements for breakers >= 250A, or as specified.								
		Α	В	С	Test Summary					
Conta	Resistance (µ\u0)				Test Passed     Test Inconclusive					
Re	Comments:		Test Failed							

#### INSPECTION FORM MOLDED CASE CIRCUIT BREAKER, < 1000V

Page 2 of 2

ID:

<u>is</u>	Returned to Service:	🗌 Yes	🗌 No	Comments:
Final nalys	Monitoring / Further Inspection Required:	🗌 Yes	🗌 No	
Ā	Repair / Replacement Required:	🗌 Yes	🗌 No	

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

					INSPI	ECTIO	N F	ORM					Page 1 of 1		
	Winnipeg			С		TOR E	BAN	K, 600	V				ID:		
oject	Facility:				P	roject Na	ame:								
Pro	Area :				В	id Oppo	rtunity	y:							
ž	Location:				5	Switchge	ear/M	ICC:					Cell #:		
or Bai ta	Manufactu	rer:				Model:					Serial #:	Serial #:			
pacito Da	Size:		VAR F	Rated Voltag	le:	V Capacitanc			nce:		μF				
Ca	Configurat	ion:	] Delta 🛛	Wye-Ungrou	unded [	] Wye-	-Grou	inded							
	Capacito	- Identifica	ition Tag Insta	alled:	Yes	🗌 No	(	Cables S	Supp	ported Appr	opriately:		🗌 Yes 🗌 No		
ual ction/	Cleanline	ss (As Fo	und): [	Good	Acceptab	able 🗌 Poor Anchorage, alignment:						G	iood 🗌 Accep	table 🗌 Poor	
Visu	Connecti	Acceptab	ole 🗌 Po	oor F	Required	I Cle	earances:	[	G	ood 🗌 Accept	able 🗌 Poor				
_	Ground C	connectior	ו: [	Good 🗌 /	Acceptab	le 🗌 Po	oor l	Unit Clea	aneo	d: 🗌 Yes	s Pho	otogra	aph Taken:	☐ Yes	
nce Test	Test Prepa	ration:	ce Isolate	Note: Approval of City's Re prior to leaving cables conn					epresentative is nected during th	s required, ne test.					
esista	Test		Ins	sulation Res Phase T	sistance To GND	(MΩ)			1	Test Summ 	nary				
on R(	Voltage	A	(A-B)	B (B	-C)		C (C	:-A)		Test Pas	ssed onclusive		in1		
sulati	1000 V								[	Test Fail	led	on R	equirea.		
드	Comments	:													
					Test	Su	immary								
tance	A (A	-В)	B (I	B-C)		C (C-A)			Passed Inconclusiv	/e					
apaci								T []	Further Investigation Required.						
с С	Comments	:			•			•							
			Resist	tance (Ω)				Test	Su	Immary					
arge ance	A (A	-В)	B (I	B-C)		C (C-A)			est est	Passed Inconclusiv	/e				
Disch tesist								т []	Furt est	ther Investion Failed	gation Req	uired	l.		
- 6	Comments	:			•			•							
	Returned t	o Service:	:		es 🗌	] No	Com	ments:							
inal Ilysis	Monitoring / Further Inspection				es 🗆	] No									
Ana	Repair / Replacement Required:				es 🗆	] No									
		Company	V	Namo				Sia	nat	uro			Date (1899	u/mm/dd)	
Parfo	rmed Rv	Sompan	y	INAILIE				Sig	iidl					///////du/	
0															
	кеа ву		·			·									

Ĩ			INS		М			Page	1 of 3			
/innipèg		ER C	ABLE, 416	50V			Cable I	D:				
Facility:				Project	Project Name:							
Area :				Bid Op	Bid Opportunity:							
Source:					Dest. / Load:							
Manufactu	rer:		Туре:				Conduc	tor:	Copper	🗌 Alum	inum	
No. of Conductor	s:	Size:		AWG MCM	Length:		m 🗌	Measured Jacket Mark	ings	Previou TDR	s Data	
Rated Volt	age: V	Operating Voltage:		V	Date In	stalled:						
Installatior	: Cable Tra	ay 🗌 EMT	I Condu	uit	Image: Alum. Conduit     Image: Direct Buried       t     Image: PVC Conduit     Image: Underground Duct							
Physical D	amage on Expos	ed Ends:	Yes		Cable Ide	entification T	ag Instal	led:				
Visual Signs of Overheating/Corona:  Yes					Cable Su	pported App	propriatel	y:		🗌 Yes	🗌 No	
Damage to	o Splices/Termina	□ No Shield Grounded: □ Yes □ N						🗌 No				
Bend Radi	us Acceptable:		Yes	No Comments:								
Test Preparatio	Source:	cted d with Source Is	olated	Cable I	Dest. / Load: connected nnected with	Load Isolate	ed	Note: Appro is required,   connected d	oval of City prior to lea luring the t	's Repre ving cab est.	sentative les	
Cable Ten	perature:	°C Temperatu	ure Corr	ection F	actor for 20 <sup>c</sup>	°C:	Gre	ound all cond ch reading.	ductors not	t under te	est for	
Test			Insu	Iation F	Resistance (	MΩ)		Test Summ	ary			
Voltage		A-GNI	D	В	-GND	C-GN	ID	Test Pas	sed			
2500\/	Reading							Test Inco Further	onclusive Investigati	on Requ	ired.	
2000V	Corrected to 20°	с						Test Faile		ed		
Comments	3:	1					I					
	Facility: Facility: Area : Source: Manufactu No. of Conductor Rated Volt Installatior Physical D Visual Sigu Damage to Bend Radi Test Preparatio Cable Tem <b>Test</b> Voltage 2500V Comments	Pacility:         Area :         Area :         Source:         Manufacturer:         No. of Conductors:         Rated Voltage:       V         Installation:       Cable Tra Strapped         Physical Damage on Expose         Visual Signs of Overheating         Damage to Splices/Termina         Bend Radius Acceptable:         Test       Source:         Preparation:       Disconnecter         Cable Temperature:       Disconnecter         Test       Source:         Preparation:       Disconnecter         Connecter       Connecter         Cable Temperature:       Connecter         Test       Source:         Preparation:       Disconnecter         Cable Temperature:       Connecter         Cable Temperature:       Connecter         Test       Source:         2500V       Reading         Corrected to 20°       Corrected to 20°	Pacility:         Area :         Source:         Manufacturer:         No. of Conductors:       Size:         Rated Voltage:       V         Operating Voltage:         Installation:       Cable Tray Strapped         Physical Damage on Exposed Ends:         Visual Signs of Overheating/Corona:         Damage to Splices/Terminations:         Bend Radius Acceptable:         Test         Preparation:         Disconnected         Preparation:         Disconnected         Preparation:         Source:         Preparation:         Pisconnected with Source Is         Connected to 20°C         Corrected to 20°C	Image       Image         Facility:       Area :         Area :	INSPECT POWER C/         Facility:       Projec         Facility:       Projec         Area :       Bid Op         Source:       Size         Manufacturer:       Type:         Manufacturer:       Type:         No. of Conductors:       Size:         Rated Voltage:       V         Operating Conductors:       V         Rated Voltage:       V         Operating Conductors:       V         Physical Damage on Exposed Ends:       Yes         Physical Damage on Exposed Ends:       Yes         Physical Damage on Exposed Ends:       Yes         Oamage to Splices/Terminations:       Yes         Preparation:       Disconnected         Preparation:       Source:         Connected with Source Isolated       Cor         Cable Temperature:       °C         Yoltage       Insulation F         Voltage       Insulation F         2500V       Reading         2500V       Reading         Corrected to 20°C       Insulation F	Project Name:         Facility:       Project Name:         Area :       Bid Opportunity:         Source:       Dest. / Load:         Manufacturer:       Type:         No. of Conductors:       Size:       AWG MCM       Length:         Rated Voltage:       V       Operating Voltage:       V       Date In         Installation:       Cable Tray       EMT       Alum. Co         Physical Damage on Exposed Ends:       Yes       No       Cable Ide         Visual Signs of Overheating/Corona:       Yes       No       Cable Ide         Bend Radius Acceptable:       Yes       No       Comment         Test Voltage       Source:       Cable Dest. / Load:       Disconnected         Preparation:       Connected with Source Isolated       Connected with         Cable Temperature:       °C       Temperature Correction Factor for 20 <sup>o</sup> Test       Neading       Insulation Resistance (Date)         2500V       Reading       Insulation Resistance (Date)         Corrected to 20 <sup>o</sup> C       Insulation Resistance (Date)       Insulation Resistance (Date)         2500V       Reading       Insulation Resistance (Date)       Insulation Resistance (Date)         Corrected to 20 <sup>o</sup> C       I	INSPECTION FORM POWER CABLE, 4160V         Facility:       Project Name:         Facility:       Project Name:         Area :       Bid Opportunity:         Source:       Dest. / Load:         Manufacturer:       Type:         No. of Conductors:       Size:       AWG Operating Voltage:       Length:         Rated Voltage:       V       Operating Voltage:       V       Date Installed:         Installation:       Cable Tray Strapped       EMT Strapped       Alum. Conduit PVC Conduit       PVC Conduit         Physical Damage on Exposed Ends:       Yes       No       Cable Supported App Damage to Splices/Terminations:       Yes       No       Cable Supported App Disconnected         Test Preparation:       Source:       Cable Dest. / Load:       Disconnected       Disconnected         Cable Temperature:       °C       Temperature Correction Factor for 20°C:       Insulation Resistance (MΩ)         Zoov       Reading       Insulation Resistance (MΩ)       C-GN         Qatorice to 20°C       Insulation Resistance (MΩ)       C-GN	INSPECTION FORM POWER CABLE, 4160V         Facility:       Project Name:         Area :       Bid Opportunity:         Source:       Dest. / Load:         Manufacturer:       Type:       Conduc         No. of Conductors:       Size:       AWG MCM       Length:       m         Rated Voltage:       V       Operating Voltage:       V       Date Installed:         Installation:       Cable Tray       EMT Strapped       Alum. Conduit       Direct f         Physical Damage on Exposed Ends:       Yes       No       Cable Identification Tag Instal         Visual Signs of Overheating/Corona:       Yes       No       Cable Supported Appropriatel         Damage to Splices/Terminations:       Yes       No       Shield Grounded:         Bend Radius Acceptable:       Yes       No       Comments:         Test Voltage       Source:       Cable Dest. / Load:       East Disconnected       Connected with Load Isolated         Connected with Source Isolated       Connected for Concel with Load Isolated       Cable Connected mith Load Isolated         Zoorected to 20°C       A-GND       B-GND       C-GND         Zoorected to 20°C       A-GND       B-GND       C-GND         Zoorrected to 20°C       A-GND       B-GN	INSPECTION FORM POWER CABLE, 4160V         Facility:       Project Name:         Area :       Bid Opportunity:         Source:       Dest. / Load:         Manufacturer:       Type:       Conductor:         No. of Conductors:       Size:       AWG MMCM       Length:       m       Measured Masured Jacket Mark         Rated Voltage:       V       Operating Voltage:       V       Date Installed:         Installation:       Cable Tray Strapped       EMT Steel Conduit       Alum. Conduit PVC Conduit       Direct Buried Underground Duct         Physical Damage on Exposed Ends:       Yes       No       Cable Identification Tag Installed:         Visual Signs of Overheating/Corona:       Yes       No       Cable Supported Appropriately:         Damage to Splices/Terminations:       Yes       No       Cable Dest. / Load:       Note: Appropriately:         Damage to Splices/Terminations:       Yes       No       Cable Dest. / Load:       Note: Appropriately:         Disconnected       Disconnected       Disconnected       Disconnected       Cable Connected with Load Isolated       Note: Appropriately:         Disconnected       Connected with Source Isolated       Cable Connected with Load Isolated       Test Summ       Test Summ       Test Summ         Yottage <th>Page     Page       Cable II       Facility:     Project Name:       Area :     Bid Opportunity:       Source:     Dest. / Load:       Manufacturer:     Type:       No. of Conductors:     Size:       Bid Opportunity:     Operating Voltage:       V     Dest. / Load:       Manufacturer:     Type:       Conductors:     Size:       Bid Opportunity:     MCM       Length:     m       Measured     Jacket Markings       Rated Voltage:     V       Operating Voltage:     V       Date Installed:     Underground Duct       Installation:     Cable Tray       Strapped     EHT       Strapped     Steel Conduit       Physical Damage on Exposed Ends:     Yes       No     Cable Identification Tag Installed:       Visual Signs of Overheating/Corona:     Yes       Yes     No       Cable Dest. / Load:     is required, prior to lage       Preparation:     Disconnected       Disconnected     Connected with Source Isolated       Connected with Source Isolated     Connected with Load Isolated       Connected with Source Isolated     Connected for C-GND       Test Parentarie:     Insulation Resistance (MQ)       Test</th> <th>Page       1 of 3         Page       1 of 3         Cable ID:         Facility:       Project Name:         Area :       Bid Opportunity:         Source:       Dest. / Load:         Manufacturer:       Type:       Conductor:       Copper       Alum         No. of       Size:       AWG       Length:       m       Measured       Previou         Conductors:       Size:       AWG       Length:       m       Jacket Markings       TDR         Rated Voltage:       V       Operating Voltage:       V       Date Installed:       Other:         Physical Damage on Exposed Ends:       Yes       No       Cable Identification Tag Installed:       Yes         Physical Damage on Exposed Ends:       Yes       No       Cable Supported Appropriately:       Yes         Damage to Splices/Terminations:       Yes       No       Cable Supported Appropriately:       Yes         Damage to Splices/Terminations:       Yes       No       Cable Supported Appropriately:       Yes         Date Installed:       Yes       No       Cable Disconnected       Strenge of the state of the</th>	Page     Page       Cable II       Facility:     Project Name:       Area :     Bid Opportunity:       Source:     Dest. / Load:       Manufacturer:     Type:       No. of Conductors:     Size:       Bid Opportunity:     Operating Voltage:       V     Dest. / Load:       Manufacturer:     Type:       Conductors:     Size:       Bid Opportunity:     MCM       Length:     m       Measured     Jacket Markings       Rated Voltage:     V       Operating Voltage:     V       Date Installed:     Underground Duct       Installation:     Cable Tray       Strapped     EHT       Strapped     Steel Conduit       Physical Damage on Exposed Ends:     Yes       No     Cable Identification Tag Installed:       Visual Signs of Overheating/Corona:     Yes       Yes     No       Cable Dest. / Load:     is required, prior to lage       Preparation:     Disconnected       Disconnected     Connected with Source Isolated       Connected with Source Isolated     Connected with Load Isolated       Connected with Source Isolated     Connected for C-GND       Test Parentarie:     Insulation Resistance (MQ)       Test	Page       1 of 3         Page       1 of 3         Cable ID:         Facility:       Project Name:         Area :       Bid Opportunity:         Source:       Dest. / Load:         Manufacturer:       Type:       Conductor:       Copper       Alum         No. of       Size:       AWG       Length:       m       Measured       Previou         Conductors:       Size:       AWG       Length:       m       Jacket Markings       TDR         Rated Voltage:       V       Operating Voltage:       V       Date Installed:       Other:         Physical Damage on Exposed Ends:       Yes       No       Cable Identification Tag Installed:       Yes         Physical Damage on Exposed Ends:       Yes       No       Cable Supported Appropriately:       Yes         Damage to Splices/Terminations:       Yes       No       Cable Supported Appropriately:       Yes         Damage to Splices/Terminations:       Yes       No       Cable Supported Appropriately:       Yes         Date Installed:       Yes       No       Cable Disconnected       Strenge of the state of the	

#### INSPECTION FORM 4160V POWER CABLE

Page 2 of 3

Cable ID:

	Test Preparation:		Source: Disconnected Connected with Source Isolated	Cable Dest. / Load:	Note: Approval of City's Representative is required, prior to leaving cables connected during the test.						
	Frequency:	0.1 Hz	Waveform: sinus	soidal	Ground all conductors not under test for each reading.						
	Test Voltage	Elapsed Time	Pea	k Leakage Current (	uA)	Test Summary					
	(RMS)	(min)	A-GND	B-GND	C-GND	Test Passed     Test Inconclusive					
	7000V	0				Further Investigation Required.					
	7000V	1									
	7000V	2									
Test	7000V	3									
NLF)	7000V	4									
tentia ency (	7000V	5									
jh Po requ€	7000V	6									
Hiç ow F	7000V	7									
ery L	7000V	8									
>	7000V	9									
	7000V	10									
	7000V	11									
	7000V	12									
	7000V	13									
	7000V	14									
	7000V	15									
	Comments:										

#### **INSPECTION FORM** 4160V POWER CABLE

Page 3 of 3

Cable ID:

	Frequency:	0.1 Hz	Waveform: si	inusoidal						
	Test Voltage		Α			В			С	
<u>ب</u> ۲	(RMS)	Tan Delta	Capacitance (nF)	Current (µA)	Tan Delta	Capacitance (nF)	Current (µA)	Tan Delta	Capacitance (nF)	Current (µA)
acto: a) Tes	2400V									
ion F Delt	4800V									
sipat	Difference									
Dis (Tar	Test Summary		Comments:							
	<ul> <li>Test Passed</li> <li>Test Inconclust</li> <li>Further Invest</li> <li>Required.</li> <li>Test Failed</li> </ul>	sive stigation								
	Termina	tion	Con	nection Res	istance (µ0	Ω) - As Left		1	oraue Check	
ion			Α		в	С				
nnect sistar	Sourc	e							ОК	
Cor Res	Dest. / L	oad							□ OK	

Comments:

S	Cable Returned to Service:	🗌 Yes	🗌 No
Final	Monitoring / Further Inspection Required:	🗌 Yes	🗌 No
◄	Repair / Replacement Required:	☐ Yes	□ No

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

W	Vinnipeg			INSP POWEF	ECTION R CABLE	FORM < 100	٥v			Page	1 of 1	
t	Facility:				Proiect I	Name:						
Proje	Area :				Bid Opp	ortunity:						
	Source:					Dest. / L	oad:					
g	Manufact	urer:		Тур	e:			Conductor:			pper 🗌 Aluminum	
ole Dat	No. of Conducto	rs:	Size:	ize: [		Lengt	gth: m 🗌 Mea			easured cket Markings	Previous Data	
Cab	Rated Vo	ltage: V	Operatine Voltage:	g	V	Date	Installe	ed:				
	Installatio	n: Cable Tra	ay [	] EMT ] Steel Cond	duit [	] Alum. ( ] PVC Co	Condui onduit	t _	] Direct Bur ] Undergrou	ied C und Duct	other:	
۲.	Physical I	Damage on Expos	ed Ends:	🗌 Yes	🗌 No	Cable I	dentifi	cation Ta	ag Installed	:	🗌 Yes 🗌 No	
isual pectic	Visual Sig	ins of Overheating	:	🗌 Yes	🗌 No	Cable S	Suppor	rted App	oropriately:		🗌 Yes 🗌 No	
> Isu	Bend Rad	lius Acceptable:		☐ Yes	🗌 No	Comme	ents:					
		<u> </u>										
	Test Preparatio	on:	cted d with So	urce Isolated		Disconnected     is     Connected with Load Isolated					of City's Representative to leaving cables g the test.	
e Test	Cable Temperature: °C Temperature Correction Factor for 20°C: Ground all conductors not under test for each reading.											
tance	Test			Ins	ulation Re	sistance	e (MΩ)	)	Te	st Summary		
Resis	Voltage		A-G	IND E	B-GND	C-G	ND	N-G		Test Passed		
ation	V	Reading								Test Inconclu Further Inve	isive stigation Required.	
Insul	•	Corrected to 20°	с							l est Failed		
	Utilize 10	00VDC Test Voltag	ge for 600	V rated cab	es, 500VD	C for cab	les rat	ted <= 30	00V.			
	Comment	S:										
<b></b>	Noto: Tor		d for all a	ablaa Cann	action Doo	intonno T	o ot roc	wired fo	rachiac 1/		<b>0</b> <sup>*</sup>	
eor	Note: Tor	que cneck required	d for all ca	ables. Conn	ection Resi	stance T	est req	quirea to	or cables 4/0	AWG or larg	er.	
kesistar	T€	ermination	A	Connecti	B	C	) - AS	Len	N	То	rque Check	
tion F		Source									□ ок	
nnect	D	est. / Load									ОК	
ပိ	Comment	s:	1	I		1		1				
al /sis	Cable Returned to Service: Yes						nemo.					
Fin	Monitoring / Further Inspection Required: Yes											
	Repair / F	keplacement Requ	ired:	Ye	s 🗌 No							
		Company		Name			Sigr	nature			Date (yyyy/mm/dd)	
Perfor	med By											
Check	ed By											

Form CBL-LV Rev 00, Created by SNC-Lavalin Inc. M:\113099\4ENG\47ELE\RA - Misc Reports & Forms\Forms\F-CBL-LV.doc

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Winnipeg

#### INSPECTION FORM CONTACTOR PANEL, 600V

ject	Facility:	Project Name:
Pro	Area :	Bid Opportunity:

	Load:													
	Manufacture	:			Ту	ype:					Serial #	<b>#</b> :		
	Rated Voltag	e:	V		•		Current F	Rating:	Rating: A		•	Control Volta	ge:	V
ata		□ Fu	ised Disc.	Rating:		А	e:	e: A		Mfg.	•			
nel D	Input Circuit								Model:					
or Pai	Protection:	🗌 Br	eaker	Rating:		A Inst. Setting			ing: A Break					
tacto										Fuse	Mfg.			
Con	Output	🗌 Fu	ise(s)	Fuse Siz	e:	A			Mode	el:				
	Circuit Protection:									Brea	ker Mfg.			
		L Br	eaker(s)	Rating:		A	Inst. Sett	ting:	A	Mode	el:			
	Control Power Transformer:Size:VASec.					Sec. Vo	oltage:	V	Prima	ry Fus	e:	A Second	lary Fuse:	А
	ıD.				Sizo					۲۱۸		10:		V
-oad Data											je.		v	
	Number of Si	teps:			Amp	s per Ste	ep:			ŀ	A Other:			
	Identification	Tag In	stalled:			Yes 🗌	No	Visual	Signs o	of Ove	rheating:		🗌 Yes	🗌 No
bu	Cleanliness (	As Fou	und): [	Good [		ceptable	Poor	Support Insulators:			Good Good	Acceptable	Poor	
Cleani	Connections		[	Good [		ceptable	Poor	Electro Interloc	/Mecha ck:	anical		N/A 🗌 Good	Acceptable	Poor
ion /	Ground Conr	nection	: [	Good [		ceptable	Poor	Contac	tor Co	ndition	:	Good Good	Acceptable	Poor
spect	Door Mechar	nical:	[	Good [		ceptable	Poor	Contac	t Align	ment:		Good 🗌	Acceptable	Poor
ual In	Cables Supported Appropriately:						es 🗌 No	Exercis	se Circ	uit Bre	aker(s)/E	Disconnect:		🗌 Yes
Vis	Unit Cleaned	:					🗌 Yes	/es Photograph Taken:					🗌 Yes	
	Comments:													

## INSPECTION FORM CONTACTOR PANEL, 600V

Page 2 of 3

	Teet			Resistance	(μΩ)		- Tost Summary				
			Α	В		С		ary			
	Main Disconnect/Bre	aker					Test Pase Test Inco Further I	Further Investigation Required.			
nents	Main Fuse						🗌 Test Faile				
suren	Branch Fuse/Breake	r #1					_				
e Mea	Branch Fuse/Breake	r #2					-				
ct/Pol	Branch Fuse/Breake	r #3					_				
Conta	Branch Fuse/Breake	r #4					_				
Ŭ	Branch Fuse/Breake	r #5					_				
	Branch Fuse/Breake	r #6									
	Comments:										
	Test Preparation: So Co	urce: 🗌 Iso ntactor: 🔲	olated Cable Open ☐ Dis ☐ Co	Dest. / Load: sconnected nnected with	Load Isolate	Note: A prior to	Approval of Ci leaving cable	ty's Repres s connecte	sentative is r d during the	required, test.	
			Voltage: 1000 VDC. Ground all phases not under test!								
					Insulatio	on Resista	ance (MΩ)				
	Test	Cor	ntactor Line t	o GND	Contactor Load to GND			Contactor Line to Load			
st		Α	В	С	Α	В	С	Α	В	С	
nce T€	Contactor #1										
sistaı	Contactor #2										
ion Re	Contactor #3										
sulati	Contactor #4										
<u> </u>	Contactor #5										
	Contactor #6										
	Comments:										
	Test Summary	Test Passe Test Incond Test Failed	d Iusive - Furth	er Investigatic	on Required						

### INSPECTION FORM CONTACTOR PANEL, 600V

ID:

al Analysis	Returned to Service:	🗌 Yes	🗌 No	Comments:
	Monitoring / Further Inspection Required:	🗌 Yes	🗌 No	
Fin	Repair / Replacement Required:	☐ Yes	🗌 No	

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

,	Vinni				INSPE						Page 1 of 2		
`	DIG DIG				DIGI	TAI	L METE	R			ID:		
oject	Faci	lity:				Project Name:							
Pro	Area	a :				Bid Opportunity:							
► _ Location: Cell #:												]	
Mete Data	Man	Manufacturer:				Model:							
	Co	over Gaske	et:	🗌 Go	ood 🗌 Acceptabl	e 🗆	] Poor	Cover G	lass:		Good	Acceptable Door	
ual ction	Ge	eneral Con	dition:	🗌 Go	ood 🗌 Acceptabl	e 🗆	] Poor						
Vis		Cleanliness (as found) Good Accepta				e 🗆	] Poor	Unit Clea	aned: 🗌 Y	es			
_	Co	onnections	(as four	nd) 🗌 Go	ood 🗌 Acceptabl	e 🗆	] Poor	Connect Torqued	ions 🗌 Y	es			
	Man	ufacturer:					Model:						
Test Mete	Cali	bration Da	te:				Meter c	alibration	must be within one	year,	unless othe	rwise specified.	
	1											]	
		Nomina Valu (V	ul Test ue )	Phase	Calibrated Met Measuremen (V)	t l	Meter Under Test (V)		Difference (V)		Error (%)	Acceptable (See Specs)	
											🗌 Yes 🗌 No		
	age	0										🗌 Yes 🗌 No	
	Volt											🗌 Yes 🗌 No	
												🗌 Yes 🗌 No	
												🗌 Yes 🗌 No	
												🗌 Yes 🗌 No	
ccuracy		Nomina Valı (V	nl Test ue )	Phase	Calibrated Met Measuremen (A)	t I	Meter Un (A	der Test .)	Difference (A)		Error (%)	Acceptable (See Specs)	
Ă				А								🗌 Yes 🗌 No	
	ent	0		В								🗌 Yes 🗌 No	
	Curr			С								🗌 Yes 🗌 No	
				A								□ Yes □ No	
				В								🗌 Yes 🗌 No	
				С								🗌 Yes 🗌 No	
	Mea	surements	Applica	ble To:	As-Found	As-L	.eft	May	check both boxes	if appl	icable.		
	Unit	Calibratio	n Adjuste	ed:	]Yes □ No     If	f calil eft af	bration wa ter calibra	as adjuste ation.	ed, complete two for	ms, o	ne for as-fou	nd, the other for as-	

## INSPECTION FORM DIGITAL METER

ID:

Final nalysis	Returned to Service:	🗌 Yes	🗌 No	Comments:
	Monitoring / Further Inspection Required:	☐ Yes	🗌 No	
٩	Repair / Replacement Required:	🗌 Yes	🗌 No	

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

Q
Winnipeg

#### **INSPECTION FORM GROUNDING/BONDING CONNECTION RESISTANCE**

Page 1 of 2

Area:

Project Facility:

Area :

Project Name:

#### Bid Opportunity:

	Point A	Point B	Resistance (mΩ)		Acce	ptable
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
ks				🗌 Yes	🗌 No	Inconclusive
Chec Test)				🗌 Yes	🗌 No	Inconclusive
ance ctor 1				🗌 Yes	🗌 No	Inconclusive
esista (Du				🗌 Yes	🗌 No	Inconclusive
Ř				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
				🗌 Yes	🗌 No	Inconclusive
	Comments:					

### INSPECTION FORM GROUNDING/BONDING CONNECTION RESISTANCE

Page 2 of 2

ID:

	Point A	Point B	Resistance (mΩ)	Aco	eptable
				□ Yes □ No	Inconclusive
				🗌 Yes 🗌 No	Inconclusive
				🗌 Yes 🗌 No	Inconclusive
				🗌 Yes 🗌 No	Inconclusive
ks				🗌 Yes 🗌 No	Inconclusive
Chec [est)				🗌 Yes 🗌 No	Inconclusive
ance ( ctor T				🗌 Yes 🗌 No	Inconclusive
esista (Du				🗌 Yes 🗌 No	Inconclusive
Å				🗌 Yes 🗌 No	Inconclusive
				🗌 Yes 🗌 No	Inconclusive
				🗌 Yes 🗌 No	Inconclusive
				🗌 Yes 🗌 No	Inconclusive
				□ Yes □ No	Inconclusive
	Comments:				

is	Monitoring / Inspection Required:	🗌 Yes	🗌 No	Comments:
Final nalys	Repair / Replacement Required:	🗌 Yes	🗌 No	
Ā				

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

	Q				INSPE	ЕСТІС	ON FO	RM		Page 1 of 2		
V	Vinni	peg			INTELLIC	GENT	OVE	RLOAD		ID:		
ject	Fac	ility:				Proje	Project Name:					
Pro	Area	a :				Bid O	pportun	ity:				
	Location: Cell Manufacturer: Mo				Cell #	<u>+:</u>						
0/I Dat					Mode	el:						
_ uo	<b>G</b> e	General Condition: Good Acceptable				le 🗌	Poor					
/isual specti	Cleanliness (as found) Good Acceptable				le 🗌	Poor Unit Cleaned:  Yes						
lns Ins	Connections (as found) Good Acceptable				le 🗌	Poor Connections Torqued:  Yes						
c	Stat	ic IP Addro	ess:				Subnet	Mask				
catio gs												
Settin	Gate	Gateway:					Protocol:					
Com	MAG	C Address	.:									
	Man	ufacturer:					Model					
Test Metei	Cali	Colibration Date:				Motor calibration must be within one year unless otherwise specified						
	Odil						Weter		one year,	unicas otherwise specificu.		
s	Т	ype:	Internal	to O/L	External		External CT Ratio:					
сі	E	xternal Gr	ound CT:	🗌 Yes	🗌 No		Ground CT Ratio:					

#### INSPECTION FORM INTELLIGENT OVERLOAD

Page 2 of 2

ID:

		Verify accu	racy of Inte	lligent O/L Measur	ements with the	use of software via	the communic	ation network.
		Nominal Test Value (A)	Phase	Calibrated Meter Measurement (A)	Intelligent O Measuremen (A)	nt Difference (A)	Error (%)	Acceptable (See Specs)
			А					🗌 Yes 🗌 No
,	ent	0	В					🗌 Yes 🗌 No
uracy	Curre		С					🗌 Yes 🗌 No
Acc			А					🗌 Yes 🗌 No
			В					🗌 Yes 🗌 No
			С					🗌 Yes 🗌 No
	Meas	surements Applica	ble To:	As-Found 🗌 As	-Left	May check both boxes	s if applicable.	
	Unit (	Calibration Adjuste	ed:	] Yes	alibration was ad after calibration.	usted, complete two f	orms, one for a	s-found, the other for as-
	Retu	rned to Service:		□ Yes □	No Commen	ts:		
Final nalysis	Moni Requ	itoring / Further In: uired:	spection	☐ Yes	No			
A	Repa	air / Replacement	Required:	🗌 Yes 🗌	No			

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

	Ĩ			NS	PECTION I	ORM			Page	1 of 6	
V	Vinnipèg				MCC, 600	V			ID:		
ect	Facility:				Project Name:						
Proj	Area :				Bid Opportun	ity:					
	н <i>и</i>								" (0		
g	Location:				1			1	# of Ce	lis:	
: Dat	Manufacturer:				Model:		1	Serial #:			
MCC	Rated Voltage:	V	Main Bus Ratin	g:		А	Main Bus	Neutral Rating	g:	А	
	Bus Conductor	: Copper [	Aluminum	Cu	irrent Withstan	d Rating:	А				
	Identification T			/00			of Overbac	ting			
	Identification 1	ag installed:		res		visual Signs	or Overnea	lung:			
	Visual Signs of	f Moisture:	· []	res	L No	Visual Signs	of Corona:				
	Fuse/Breaker S	Sizes Match Dra	<b>Yes</b>	🗌 No	PT and CT ra	atios match	drawings:	□ N/A	🗌 Yes	🗌 No	
ing	Elevation Draw	vings Correct:	Yes	🗌 No	Cables Supp	orted Appro	opriately:		🗌 Yes	🗌 No	
lean	Cleanliness (A	s Found):	Good Ac	cep	table 🗌 Poor	Insulators Co	ondition:		Good 🗌	Acceptabl	e 🗌 Poor
tion / C	Connections:		Good Ac	cep	table 🗌 Poor	Electro/Mech Interlock Sys	nanical stem:		Good 🗌	Acceptable	9 🗌 Poor
spect	Ground Conne	ction:	Good Ac	cept	able 🗌 Poor	Vents/Filters	:		Good 🗌	Acceptable	) 🗌 Poor
al In:	Doors Mechan	ical:		cept	able 🗌 Poor	Exercise Act	ive Compor	nents:		🗌 Yes	□ No
Visu	Cell Fit and Ali	gnment:	Good Ac	cept	able 🗌 Poor						
	Required Clear Met:	rances are		cept	able 🗌 Poor						
	Indicating mec	hanisms:		cept	able 🗌 Poor	Unit Cleaned	l: 🗌 Ye	s Photograp	ph Taken	: []`	íes 🛛
	Comments:										
	Туре:	Inspectio	n								
er	Main Break	er Complete	appropriate brea	ker	inspection forr	n					
Pow	Disconnect	Complete	appropriate disc	onne	ect inspection	form.					

Po	Disconnect	Complete appropriate disconnect inspection form.										
ming		Visual Inspection: Good Acceptable Poor										
Inco	🗌 Main Lugs	Connections Torqued: 🗌 Yes										
	-	Connection	Α	В	С	N						
		Resistance ( $\mu\Omega$ ) As Left										

## INSPECTION FORM MCC, 600V

	Test Preparation	Source: Disconnect n: Connect Isolated	ected ed with Source t	Cable Dest. / Load:	oad Isolated	Note: Approval of City's Representative is required, prior to leaving cables connected during the test.				
est	Temperatu	re:	C							
ance T	Test Voltage	Ins	ulation Resistar Phase To Pha	nce (MΩ) nse	Test Summary	1				
sista vork	(dc)	A - B	B - C	C - A						
n Re: Busv	1000 V				Further Investigation Required.					
sulatio (	Test Voltage	Ins	ulation Resistar Phase To GN	nce (MΩ) D						
luŝ	Voltage	A - GND	B - GND	C - GND						
	1000 V									
	Comments	:		·						

ance Test)	Point A	Point B	Resistance (μΩ)	Test Summary □ Test Passed □ Test Inconclusive
esista uctor	MCC GND Bus	Facility Ground Electrode		Further Investigation Required.
ind R (Di	MCC GND Bus	MCC Enclosure		
Grou	MCC GND Bus	System Neutral		
	Comments:			

	Visual Inspect Requirements:	G=Good, A=Acceptable, P=Poor Comments are required for all items identified in Poor condition.
	1.	Confirm identification tag / lamacoid is installed.
	2.	Look for visual signs of overheating.
	3.	Inspect and torque connections.
sis	4.	Inspect and test any electro/mechanical interlocks.
eake	5.	Confirm disconnect operation.
er Bı	6.	Check door mechanical condition.
-eed	7.	Exercise circuit breaker.
	8.	Confirm cables are supported and routed appropriately.
	9.	Visually assess the general condition of the installation.
	Note: Comp Short	lete an appropriate Breaker Inspection Form for all breakers with separate adjustable Long and trip settings, or > 250A frame size.
		Continued on next page

## INSPECTION FORM MCC, 600V

Page 3 of 6

			Continued from previous page											
	ID	Loc./ Cell	Frame Rating (A)	Trip Rating (A)	Manuf.	Model	Trip Unit Type	Inst Setting	Visual Inspection	Cleaned	Comments			
sıs														
eake														
er Br														
eed														
	General Comments:			_										

## INSPECTION FORM MCC, 600V

	Overcurrent Protection Type:	B=Breaker (Thermal Magnetic), M=breaker(Motor Circuit Protector), F=Fuse
	Overload Protection Type:	T=Thermal, SS=Solid State
	Visual Inspect Requirements:	G=Good, A=Acceptable, P=Poor Comments are required for all items identified in Poor condition.
rs	1	Confirm identification tag / lamacoid is installed.
acto	2	Look for visual signs of overheating.
Cont	3	Inspect and torque connections.
rs / (	4	Inspect and test any electro/mechanical interlocks.
tarte	5	Confirm disconnect operation.
or S	6	Check door mechanical condition.
Mot	7	Exercise circuit breaker.
	8	Confirm cables are supported and routed appropriately.
	9	Visually assess the general condition of the installation.
	Note: C	omplete a Motor Starter Inspection Form for all Motor Starters Size 4 or larger, with VFDs, or with Soft tarters.

				Overcu	Irrent Pro	tection	Contactor		Overload			
	ID	Loc./ Cell	Type	Rating (A)	Manuf.	Model	Size / Rating	Type	Model	Visual Insp.	Cleaned	Comments
tors												
ntac												
rters												
r Sta												
lotoi												
2												
	General Comments:											

## INSPECTION FORM MCC, 600V

Page 5 of 6

				Overcu	rrent Prof	tection	Contactor		Overload			
	ID	Loc./ Cell	Type	Rating (A)	Manuf.	Model	Size / Rating	Type	Model	Visual Insp.	Cleaned	Comments
ers												
Start												
otor												
Ĕ												
	General Comments:											

## INSPECTION FORM MCC, 600V

ID:

is	Returned to Service:	🗌 Yes	🗌 No	Comments:
Final	Monitoring / Inspection Required:	🗌 Yes	🗌 No	
A	Repair / Replacement Required:	🗌 Yes	🗌 No	

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

Q
Winnipeg

#### **INSPECTION FORM** MOTOR STARTER, FVNR, 600V

ID:

ject	Facility:
Pro	Area :

Project Name:

Bid Opportunity:

	Load:						Starter Lo	oca	ition:							Cell #:	
	Manufacturer	:		Т	уре:								Serial	#:			
	Size:		F	Rated Voltage:		V	V Current		t Rating	Rating:		4	Control Volta	age:		V	
		□ Fu	sed	Disc	Rating <sup>.</sup>	Rating: A		F	Fuse Size: A			e Mfg.	I				
_	Circuit	]	000	2.00.	r tating.					Mod		del:					
Data	Protection:	ection: Breaker		er	Rating:	ng: A		In	st.		А	Mar	nufacture	r:			
rter				_			3	etting	•		Mod	del:					
Stal			erma	al	Class:		10 20	S	etting	/	Δ	Mar	nufacture	r:			
	Protection:		ent	01033.		30 Jnknown	R	ating:		A	Мос	del:					
	Control Power Transformer: Size:				VA	Sec. Voltage: V Primary Fuse			se:	A Second	dary	Fuse:	А				
	Current Transformers:		Pha	ases:	□ A s: □ B □ C		None Ratio		io: Gi Fa		Ground Fault CT:	Present Not Pres	ent	Ratio:			
tor ta	ID:						Size:			kW /		F	ΗP	Voltage:			V
Mo	Full Load Am	ips:		A	Service Fa	actor:		0	ther:								
	Starter Identi	fication	n Tag	g Insta	lled:	□ `	res 🗌 N	٩N		Visual	Signs c	of Ove	erheating	:		🗌 Yes	🗌 No
bu	Cleanliness (	As Fou	und):		Good 🗌	C Ac	ceptable		Poor	Suppo	rt Insula	ators	:	🗌 Good		Acceptable	Poor
Cleanin	Connections				Good		ceptable		Poor	Electro/Mechanical N/A Good				Acceptable	Poor		
ion /	Ground Conn	nection	:		Good 🗌		ceptable		Poor	Contac	ctor Cor	nditio	n:	🗌 Good		Acceptable	Poor
spect	Door Mechan	nical			Good		ceptable		Poor	Contac	t Alignr	nent	:	🗌 Good		Acceptable	Poor
sual Ins	Verify O/L ele the load:	ement i	is co	rrectly	sized for		Yes No Exercise Circuit Bro				Breaker/MCP/Disconnect				🗌 Yes		
Viŝ	Cables Supported Appropriately				□ Yes	Г	1 No	Unit CI	eaned:	Г	∃ Yes	Photograph Ta	aken:	ПҮ	es		

Comments:

Cables Supported Appropriately:

	Test	А	В	с	Test Summary
Contact/Pole Measurements	Contact Resistance ( $\mu\Omega$ )				Test Passed
	Disconnect / Breaker / MCP Resistance (μΩ)				Further Investigation Required.
	Fuse Resistance ( $\mu\Omega$ )				
	Comments:				

☐ Yes ☐ No Unit Cleaned:

🗌 Yes

Photograph Taken:

🗌 Yes

#### INSPECTION FORM MOTOR STARTER, FVNR, 600V

Page 2 of 2

est	Test Preparation: Sour Cont	Representative is required, nected during the test.					
nce T	Teet	Valtara		Insula	tion Resistan	Ground all phases not	
sistaı	Test	voltage		A B		с	under test!
n Re	Contactor Line To GND	1000 VDC					Test Summary
ulatio	Contactor Load To GND	1000 VDC					Test Inconclusive Further Investigation
lns	Contactor Line to Load	1000 VDC					Required.
	Comments:		•	·		·	
	T			1			
S	Returned to Service:	🗌 Yes	🗌 No	Comment	S:		
Final nalysi	Monitoring / Further Inspe Required:	ection 🗌 Yes	🗌 No				
4	Repair / Replacement Re	quired: 🗌 Yes	□ No				

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

	Winnipeg MULTI-S			PECTION	FORM			Page 1 of 3	
	Winnipeg		MULTI-STEP	CAPACITO	OR BANK	, 600V		ID:	
ject	Facility:			Project Name	9:				
Pro	Area :			Bid Opportunity:					
ta	Location:			Switchgear/	MCC:		Cell #:		
ik Dai	Manufactur	er:		Model:		1			
or Bar	Total Size:	VAR	Smallest Step Size:	1	VAR				
pacito	# of Steps:		Stage Ratios:			g Rating:			
Cap	Configuratio	on: 🗌 Delta 🗌	U Wye-Gro	ounded	1				
	Identificatio	on Tag Installed:	□ Yes	ΠNο	Visual Sigr	ns of Overhe	ating:	∏ Yes ∏ N	10
b	Cleanlines	s (As Found):	 Good D Accepta	able 🗌 Poor	Support Ins	sulators:	G	ood □ Acceptable □ P	oor
Cleanir	Connection	ns:	Good Accepta	able 🗌 Poor	Electro/Me Interlock:	chanical	🗌 N/A 🗌 G	ood 🗌 Acceptable 🗌 P	oor
ion / (	Ground Co	nnection:	Good Accepta	able 🗌 Poor	Contactor	ood 🗌 Acceptable 🗌 P	oor		
spect	Door Mech	anical:	Good Accepta	able 🗌 Poor	Contact Ali	gnment:	G	ood 🗌 Acceptable 🗌 P	oor
al In	Cables Su	pported Appropriatel	у: С	] Yes 🗌 No	Exercise C	ircuit Breake	er(s)/Disconnect	:	Yes
Visu	Unit Clean	ed:		🗌 Yes	Photograp	n Taken:			Yes
	Comments	:							
	Test Prepar	Source Ca ation: Discon	ables: nected cted with Source Isola		Note: Approval of City's Representative is required, prior to leaving cables connected during the test.				
		I	nsulation Resistanc 1000V Phase To (	e (MΩ) GND	Test Summary				
		А (А-В)	B (B-C)	C (	C-A)	☐ Test Parent Test Inc	Test Passed Test Inconclusive		
Test	Incoming					Further	· Investigation R iled	equired.	
ance .	Step 1								
esista	Step 2								
on R	Step 3								
sulati	Step 4								
Ë	Step 5								
	Step 6								
	Step 7								
	Step 8								
	Comments:								

## INSPECTION FORM MULTI-STEP CAPACITOR BANK, 600V

Page 2 of 3

	• "		Capacitance (µF)		Test Summary
	Step #	A (A-B)	B (B-C)	C (C-A)	Test Passed     Test Inconclusive
	1				Further Investigation Required.
	2				
acitance	3				
	4				
Capi	5				
	6				
	7				
	8				
	Comments:				

Sten #			Resistance (Ω)		Test Summary
	Step #	A (A-B)	B (B-C)	C (C-A)	☐ Test Passed ☐ Test Inconclusive
	1				Further Investigation Required.
JCe	2				
sistar	3				
je Res	4				
charg	5				
Disc	6				
	7				
	8				
	Comments:				

Checked By

## INSPECTION FORM MULTI-STEP CAPACITOR BANK, 600V

Page 3 of 3

ID:

		Contactor		Resistanc	e (μΩ)		- Tost Summary			
		Contactor	Α	В		С	- Test Summary			
		Incoming					Test Passed	on Required.		
ints		Step 1					Test Failed			
Ireme		Step 2								
Measu		Step 3								
Pole I		Step 4								
Contactor		Step 5								
		Step 6								
		Step 7								
		Step 8								
	Cor	nments:								
	Returned t	o Service:	🗌 Yes	🗌 No	Commer	nts:				
Final nalysi₅	Monitoring / Further Inspection Required:		🗌 Yes	🗌 No						
A	Repair / Replacement Required:		🗌 Yes	🗌 No						
		Company	Name			Signature		Date (yyyy/mm/dd)		
Perfo	Performed By									

## INSPECTION FORM NON-FUSIBLE DISCONNECT SWITCH, 600V

ject	Facility:	Facility:			Project Name	:				
Pro	Area :				Bid Opportun	ity:				
					<u> </u>				]	
onnect ata	Manufacturer:				Model:					
Disco	Rated Voltage:	V	Current Rat	ting:	А		Interrupting Rat	ting:	A	
D	Identification Tag Ins	stalled:		🗌 Yes	🗌 No	Visual Signs	of Overheating:		🗌 Yes 🗌 No	
anin	Cleanliness (As Fou	ind):	Good G	] Accept	able 🗌 Poor	Support Insul	ators:	🗌 Go	od 🗌 Acceptable 🗌 Poor	
/ Cle	Connections: Good Accept			able 🗌 Poor	Blade Condit	ion:	🗌 Go	od 🗌 Acceptable 🗌 Poor		
ection				Accepta	able 🗌 Poor	Verify Blade Operation:	Mechanical	🗌 Go	ood 🗌 Acceptable 🗌 Poor	
l Insp	Door Mechanical:	Good	Accepta	able 🗌 Poor	Poor Unit Cleaned:  Yes					
/isua	Fit Plumb & Square:	:			] Yes 🗌 No	Unit Lubricate	ed:	🗌 Ye	es	
/	Cables Supported A	ely:	] Yes 🗌 No	Other:						
		Resis	stance (uΩ)							
e de		(/	As Left)			Test Sumn	hary			
chbla stan	A		В		С					
Switc Resi						Test Failed				
	Comments:									
est	Test Preparation:	Cable De Disco	est. / Load: innected ected with Loa	N p ad Isolated	lote: Approval o rior to leaving ca	of City's Re ables conn	presentative is required, ected during the test.			
nce T	Test		Voltage			Insulation Re	sistance (MΩ)		Ground all phases not	
sista	Test		Voltage		А	1	3	С	under test!	
on Re	Disconnect Line To GND		1000 VD0	С					Test Summary	
latior	Disconnect Load To GND		1000 VDC						Test Inconclusive	
ulati	Disconnect Load To (	GND	1000 VD0	C					Further Investigation	
Insulati	Disconnect Load To ( Disconnect Line to L	GND oad	1000 VD0						Further Investigation Required. ☐ Test Failed	

## INSPECTION FORM NON-FUSIBLE DISCONNECT SWITCH, 600V

ID

Monitoring / Further Inspection Required: Yes No	 Comments:	□ No	☐ Yes	Returned to Service:	<u>s</u>	
Ā		🗌 No	🗌 Yes	Nonitoring / Further Inspection Required:		
Repair / Replacement Required:   Yes   No		□ No	🗌 Yes	Repair / Replacement Required:	AI	

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

Winnipeg         PANELBOARD, LOW VOLTAGE         ID:           ID:         Facility:         Project Name:         ID:           Area :         Bid Opportunity:         ID:         ID:           ID:         Area :         Bid Opportunity:         ID:           ID:         ID:         ID:         ID:           ID:         Area :         Bid Opportunity:         ID:           ID:         ID:         ID:         ID:           ID:         ID:         ID:         ID:										
Topological         Facility:         Project Name:           Area :         Bid Opportunity:           Area :         Bid Opportunity:           V         Fed From:           Manufacturer:         Model:           Rated Voltage:         V           Quirrent Rating:         A           Main Lugs         Serial No:           Main Breaker:         Rating:         A										
Area :       Bid Opportunity:         Area :       Bid Opportunity:         Image: Second										
Image: Progrege       Location:       Fed From:       No. of Circuits:         Manufacturer:       Model:       Serial No:         Rated Voltage:       V       Current Rating:       A       Withstand Rating:       A         Single Phase       3 Phase, 3 Wire       3 Phase, 4 Wire       Neutral Bonded to Ground       Yes       No         Main Lugs       Main Breaker:       Rating:       A       Manufacturer:       Model:       Inst. Setting:										
Manufacturer:       Model:       Serial No:         Rated Voltage:       V       Current Rating:       A       Withstand Rating:       A         Single Phase       3 Phase, 3 Wire       3 Phase, 4 Wire       Neutral Bonded to Ground       Yes       No         Main Lugs       Main Breaker:       Rating:       A       Manufacturer:       Model:       Inst. Setting:										
Rated Voltage:       V       Current Rating:       A       Withstand Rating:       A         Single Phase       3 Phase, 3 Wire       3 Phase, 4 Wire       Neutral Bonded to Ground       Yes       No         Main Lugs       Main Breaker:       Rating:       A       Model:       Inst. Setting:										
Image: Single Phase       3 Phase, 3 Wire       3 Phase, 4 Wire       Neutral Bonded to Ground       Yes       No         Image: Image: Single Phase       3 Phase, 3 Wire       3 Phase, 4 Wire       Neutral Bonded to Ground       Yes       No         Image: Image										
Main Lugs    Main Breaker:    Rating:    A    Model:   Inst. Setting:										
Main Breaker: Rating: A Manufacturer: Model: Inst. Setting:										
Main Breaker:       Rating:       A       Manufacturer:       Model:       Inst. Setting:										
Complete separate inspection form (F-BKR-MC-LV) for main breaker if >= 250A, or has long, short, or ground fault settings.										
Identification Tag Installed:										
C Visual signs of Moisture:										
0     0 <td></td>										
Cleanliness (As Found): Good Cocceptable Poor Connections: Good Acceptable	e ∏ Poor									
Boor Mechanical: Good Acceptable Poor Ground Connection: Good Acceptable	e 🗌 Poor									
Exercise All Circuit Breakers:										
Source:     Note: Approval of City's Representative is     Equipment Temperature:       Test     Disconnected     required prior to leaving cables connected	°C									
Preparation: Connected with Source Isolated during the test. Temperature Correction Factor to 20°C:										
Β         Insulation Resistance (MΩ)         Test Summary           E         Cround of Phases not under test         Test Summary										
Voltage A-GND B-GND C-GND N-GND Test Passed	Test Passed									
B     RDG     20°C     RDG     2	ł.									
Image: Test Voltages:   120-300V → 500 VDC Test Voltage   301-600V → 1000 VDC Test Voltage										
Comments:										
Breakers < 100A and Without Inst. Setting										
List by model of breaker. Multiple breakers of varying ampacity may be listed per line.										
List by model of breaker. Multiple breakers of varying ampacity may be listed per line.										
List by model of breaker.       Multiple breakers of varying ampacity may be listed per line.         Yet       Manufacturer       Model Series       Interrupting Rating (kA)       Positions/Circuits       Notes										
Type     Manufacturer     Model Series     Interrupting Rating (kA)     Positions/Circuits     Notes										
Type     Manufacturer     Model Series     Interrupting Rating (kA)     Positions/Circuits     Notes       A										
Type     Manufacturer     Model Series     Interrupting Rating (kA)     Positions/Circuits     Notes       A										
List by model of breaker. Multiple breakers of varying ampacity may be listed per line.         Type       Manufacturer       Model Series       Interrupting Rating (kA)       Positions/Circuits       Notes         A										

Form F-PNL-LV Rev 01, Created by SNC-Lavalin Inc. M:\113099\4ENG\47ELE\RA - Misc Reports & Forms\F-PNL-LV.doc

#### INSPECTION FORM PANELBOARD, LOW VOLTAGE

Page 2 of 2

ID:

				Breakers	s >= 100A	or with Ins	st. Setting					
	List each breaker individually. Complete separate inspection form (F-BKR-MC-LV) for breaker if >= 250A, or has long, short, or ground fault settings.											
akers	ID	Pos.	Manufacturer	Model	Trip Rating (A)	Int. Rating (kA)	Inst. Setting	Separate Form	Notes			
Bre												
ad/Feeder												
Ĕ												
	1											
s	Returned to \$	Service:		🗌 Yes 🗌 I	No Cor	nments:						

<u>s</u>	Returned to Service:	🗌 Yes	🗌 No	Comments:
Final	Monitoring / Inspection Required:	🗌 Yes	🗌 No	
Ā	Repair / Replacement Required:	🗌 Yes	🗌 No	

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

_	<u> </u>		I	NSPE		ORM		Page 1 of 2		
	Winnipeg VOLTAGE MC					SSAC-WVM		ID:		
ject	Facility: Project Na									
Area : Bid Opportunity:										
	1									
_	Location:				Cell #: Model:					
Data	Manufacturer:									
Relay	Туре:				Serial No.:					
-	Comments:									
	·	1						I	L	ı

		Α	В	С		Α	В	С
tion	Moisture/Rust:				Relay Cleaned:			
Visual Inspect	Over-heating:				Screws Tightened:			
	Cover/Case:							
	Legend: A-Acceptabl	e C-Co	rrected	N-Needs	Repair NA-Not Applicable			
	Comments:							

	Parameter	Setting (As Found)	Setting (As Left)
Relay Settings	Line Voltage		
	Unbalance		
	Trip Delay		
	Restart Delay		
	Mode Switch		

	Desire	d Phase	Voltage	Actual Voltage			Relav State	Time to Change	OK
	Α	в	С	Α	В	С	Relay State	Time to change	ÖK
	600	600	600						
<b>Fests</b>	0	600	600						
c Voltage 1	600	600	600						
	600	0	600						
Basic	600	600	600						
	600	600	0						
	600	600	600						
	Commer	nts:							

## INSPECTION FORM VOLTAGE MONITOR, SSAC-WVM

ID:

s	Returned to Service:	🗌 Yes	🗌 No	Comments:
Final nalysi	Monitoring / Further Inspection Required:	🗌 Yes	🗌 No	
◄	Repair / Replacement Required:	☐ Yes	🗌 No	

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

	Ĩ			IN	ISP	ECTION F	ORM			Page	1 of 4				
V	Vinnipèg			SV	VITO	CHBOAR	D, 600V			ID:	ID:				
ject	Facility:				F	Project Name	2								
Pro	Area :				E	Bid Opportunity:									
	Lesstien									# =5 0 =	lle :				
e a	Location:								I	# of Ce	lis:				
3 Dat	Manufacturer:					Model:			Serial #:						
SWE	Rated Voltage	e: V	Main Bus	Rating	:		А	Main Bus I	Neutral Ratin	g:	А				
	Bus Conducto	or: 🗌 Copper 🗌	Aluminur	n	Curr	ent Withstan	d Rating:	А							
	Identification -	Tag Installed:		□ Ye	es	□ No	Visual Signs	of Overhea	ting:		🗌 Yes	🗌 No			
	Visual Signs o	of Moisture:		□ Ye	es	□ No	Visual Signs	of Corona:			🗌 Yes	□ No			
	Fuse/Breaker	Sizes Match Dra	wings:	□ Ye	es	🗌 No	PT and CT ra	atios match	drawings:		🗌 Yes	🗌 No			
ing	Elevation Drav	wings Correct:		□ Ye	es	🗌 No	Cables Supp	orted Appro	opriately:		🗌 Yes	□ No			
lean	Cleanliness (A	As Found):	Good 🗌	C Acc	epta	ble 🗌 Poor	Insulators Co	ondition:		Good 🗌	Acceptable	e 🗌 Poor			
ion / C	Connections:		Good	🗌 Acc	epta	ble 🗌 Poor	Electro/Mech Interlock Sys	anical tem:		Good 🗌	Acceptable	Poor			
spect	Ground Conne	ection:	Good 🗌		eptat	ole 🗌 Poor	Vents/Filters:			Good 🗌	Acceptable	Poor			
ial In;	Doors Mechar	nical:	Good 🗌		eptat	ole 🗌 Poor	Exercise Acti	ve Compor	ients:		🗌 Yes	🗌 No			
Visu	Cell Fit and Al	lignment:	Good 🗌		eptat	ole 🗌 Poor									
	Required Clea Met:	arances are	Good 🗌		eptat	ole 🗌 Poor									
	Indicating med	chanisms:	Good 🗌		eptat	ole 🗌 Poor	Unit Cleaned	: 🗌 Yes	s Photogra	ph Taken	: 🗆 Y	′es			
	Comments:														

	Туре:	Inspection											
er	🗌 Main Breaker	Complete appropriate	breaker inspection forr	n.									
Pow	Disconnect	Complete appropriate disconnect inspection form.											
ming		Visual Inspection: Good Acceptable Poor											
Inco	🗌 Main Lugs	Connections Torqued:											
		Connection	Α	В	С	N							
		Resistance ( $\mu\Omega$ ) As Left											

#### INSPECTION FORM SWITCHBOARD, 600V

est	Test Preparatio	Sour D n: C I	rce: Pisconnec Connectec Isolated	ted I with Source	Cable Dest. / Load:	Note: Approval of City's Representative is required, prior to leaving cables connected dur Load Isolated the test.						
est	Temperatu	ıre:	C	;								
istance To ork)	Test Voltage		Insula	ation Resistan Phase To Pha	ce (MΩ) se	Test Summary	1					
sista vork	(dc)	A -	В	B - C	C - A	Test Passed						
n Re: Busv	1000 V					Further Inv	lusive estigation Required.					
sulatio (	Test Voltage		Insula	ation Resistan Phase To GNI	ce (MΩ) D							
lns	Voltage	A - G	SND	B - GND	C - GND							
	1000 V											
	Comments	8:										

ance Test)	Point A	Point B	Resistance (μΩ)	Test Summary □ Test Passed □ Test Inconclusive
esista uctor	SWB GND Bus	Facility Ground Electrode		Further Investigation Required.
ind R (Di	SWB GND Bus	SWB Enclosure		
Grou	SWB GND Bus	System Neutral		
	Comments:			

	Visual Inspect Requirements:	G=Good, A=Acceptable, P=Poor Comments are required for all items identified in Poor condition.
	1.	Confirm identification tag / lamacoid is installed.
	2.	Look for visual signs of overheating.
	3.	Inspect and torque connections.
ers	4.	Inspect and test any electro/mechanical interlocks.
reak	5.	Confirm disconnect operation.
ler B	6.	Check door mechanical condition.
Feed	7.	Exercise circuit breaker.
	8.	Confirm cables are supported and routed appropriately.
	9.	Visually assess the general condition of the installation.
	Note: Comp Short	lete an appropriate Breaker Inspection Form for all breakers with separate adjustable Long and trip settings, Ground trip settings, or > 250A frame size.
		Continued on next page

# INSPECTION FORM SWITCHBOARD, 600V

Page 3 of 4

Continued from previous page												
	ID	Loc./ Cell	Frame Rating (A)	Trip Rating (A)	Manuf.	Model	Trip Unit Type	Inst Setting	Visual Inspection	Cleaned	Comments	
er Breakers												
-eed												
-												
	General Comments:											



## INSPECTION FORM SWITCHBOARD, 600V

- sis	Returned to Service:	🗌 Yes	🗌 No	Comments:
Final nalysi	Monitoring / Inspection Required:	🗌 Yes	🗌 No	
Ā	Repair / Replacement Required:	🗌 Yes	🗌 No	

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

	Ĩ					INSF	PEC	TI	ON FC	RN	1		_			Page	Page 1 of 2		
V	vinnipeg			TRANS	FORM	MER,	, DR	Y	TYPE,	, LC	ow vo	OLTA	GE			ID:			
ject	Facility:						Pro	ec	t Name:										
Pro	Area :						Bid	Op	portunit	y:									
														Sec	ondar	τv.			
	KVA:		Pr	nase:			Primary voitage: V Vol						V Ditage:						
Data	Manufacturer:	<u> </u>					Тур	e:						Ser	ial Nu	Imber:			
rmer	Primary Winding:			Secondar Winding:	У		Y Ir	npe	edance:			%Z	Tem	ıp Ri	se:	٩	CI	K Factor:	
ansfo	Winding Mater	rial:	Сор	oper 🗌 Al	luminuı	inum								•					
Ē	No Load Tap	Тар		1	2		3	4			5						Та	p Setting	
	Changer	Voltage														(As	s Found):		
	Transformer Ic	lentificati	on T	ag Installe	ed.		Yes No Visual Signs of Overheating:						a.				No		
ing	Bushinas:			□ Go	od П	Accer	ceptable  Poor Support Insulators:						□ Good	1 [		Poor			
/ Clean	Paint:	aint: 🗌 Good						Acceptable Poor No Load Tap IN Changer:						] N/A	Good	Good Acceptable Poor			
ction	Fans:		□ N	/A 🗌 Go	od 🗌	Acce	ptable	) (	] Poor	Far	Contro	ls:			] N/A	Good 🗌		Acceptable	Poor
Inspe	Temp. Gauge:		🗆 N	/A 🗌 Go	od 🗌	Accep	ptable	e [	] Poor	Со	nection	s:				Good 🗌		Acceptable	Poor
/isual	Ground Connection:			Go Go	od 🗌	Acce	ptable	e [	] Poor	Ne	utral Bor	nded f	to Gro	ound	:		N/A	A 🗌 Yes 🗌	No
	Cleanliness (A	s Found	):	Go	od 🗌	Acceptable Poor Unit Cleaned: Yes					Phot	Photograph Taken: 🗌 Yes							
	Operational C	onditions	/ No	otes:															
io	Primary Voltag	ge:	H1:H	12:	V	/ H2:	H3:			V H3:H1:			V Measured at:						
spect	Secondary Vo	ltage:	X1:_	_:	V	/ X2:_	:			v >	(3::			VN	/leasu	red at:			
nal In	Current:		Ph A	<b>\</b> :	A	Ph I	B:			AF	Ph C:			AN	/leasu	red at:			
Operatio	Tap Setting:	p Setting:					ommo Tap.	enc	led.		Тар	o Setti	ng (A	s Le	ft):				
	Thermographi Performed:	c Inspect	tion	🗌 Yes	5 A	Attach separa	i repo ately	rt	Results	s: [	☐ No Is ] Poter	sues ntial Is	Found sue l	d dent	ified.				
e											R	esista	ance	(MΩ	)			Dielectric	
istanc		Winding					dc)	ge		3(	sec				60 s	ec.		Absorption Ra 60s/30s	atio
n Res	Primary to Gr	ound, Se	econ	dary Guar	ded														
ulatio	Secondary to	Secondary to Ground, Primary Guarded																	
Insu	Primary to Se	econdary	Gro	ound Guar	ded														

## INSPECTION FORM TRANSFORMER, DRY TYPE, LOW VOLTAGE

ID:

is	Returned to Service:	🗌 Yes	🗌 No	Comments:
Final nalysi	Monitoring / Further Inspection Required:	🗌 Yes	🗌 No	
۷	Repair / Replacement Required:	🗌 Yes	🗌 No	

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				

	)©					INS	PEC	ΓΙΟΝ	FO	RM					Page:	1 c	of 3		
V	Vinnipeg		TR	ANS	FORMI	ER, I	DRY	TYPE	Ξ, Μ	IEDII	JM V	/OL1	ΓAG	E	ID:				
ject	Facility:						Proj	ect Na	me:										
Pro	Area :						Bid	Opport	tunity	/:									
	1/2/14		Dhaqqi		Drimon	Valta						V	500	and any Va	ltogo				V
	Nonufacturari		Fliase.		Fiindiy	Volta	.age. v						Sec		maye.				v
Data	Primary		1	Secon	darv								_	Senai Nu	imber:				
rmer	Winding:		Ϋ́	Vindin	ig:		Y In	npedai	nce:			%Z	Terr	np Rise:		ĉ	K Factor		
ansfo	Cooling:				Wir Mat	nding terial:													
Tra	No Load Tap Tap 1 2								4		5					Та	p Setting	I	
	Changer Voltage															(As	s Found)	:	
	Transformer k	dontif	iontion T	a laat	alladi					Vieue	l Sign	o of C	Worb	ooting:					No
бu	Duchinger	Jentii					entebli			Visua		s or c	vem	eating.					
leani	Bushings:				Good L	] ACC	eptable	ЭПЪ	oor	Supp		ulato	rs:				Accept		Poor
n / Cl	Paint:				Good [	] Acc	eptable	Dtable Door Changer: DN/A C					Good		Accepta	ible 🗌	Poor		
ectio	Fans:		□ N/	A 🗌 (	Good 🗌	Acce	eptable	able Door Fan Controls: N/A					Good	Good Acceptable Poor			] Poor		
dsul	Temp. Gauge	:	□ N/	A 🗌 (	Good 🗌	Acce	eptable	otable Deor Connections:					Good Good	d 🗆	Accept	able 🗌	] Poor		
isual	Ground Connection:				Good 🗌	] Acc	eptable	P 🗆 P	oor	Grou	nd Coi	nduct	or Siz	ze:					
>	Cleanliness (A	As Fo	und):		Good	] Acc	eptable	P 🗆 P	oor	Unit C	leane	ed:		res Pho	tograph Ta	aker	n: [	Yes	
	1																		]
	Operational C	ondit	ions / No	es:		-								- [					
ction	Primary Volta	ge:	H1:H	2:	١	/ H2	::H3:		`	V НЗ	:H1:			V Measu	red at:				
ədsu	Secondary Vo	oltage	: X1:_	_:	١	/ X2	::		Y	V X3	:			V Measu	ured at:				
nal l	Current:		Ph A		ŀ	A Ph	B:			A Ph	C:			A Measu	ured at:				
Operatio	Tap Setting:										Тар	Setti	ng (A	s Left):					
-	Thermographi Performed:	ic Ins	pection	ים	Yes	Attacl separ	h repoi rately	<sup>t</sup> Re	sults		No Is: Poten	sues l Itial Is	Foun sue l	d dentified.					



## TRANSFORMER INSPECTION FORM DRY TYPE, MEDIUM VOLTAGE

		Winding	Temperature:	°C Temperature Correction Factor (20°C):					
		Resistance (MΩ)							
	Time	PRI-GND Test Voltage:		SEC-	GND	PRI-SEC			
				Test Volta	ige:	Test Voltage:			
		Reading	Corrected to 20°C	Reading	Corrected to 20°C	Reading	Corrected to 20°C		
	1 min.								
Insulation Resistance	2 min.								
	3 min.								
	4 min.								
	5 min.								
	6 min.								
	7 min.								
	8 min.								
	9 min.								
	10 min.								
	Polarization Index								

e	Winding Temperature: °C							
istan	Winding	Winding Resistance (m $\Omega$ )	Winding	Winding Resistance (mΩ)				
Winding Res	H2 – H1		X0 – X1					
	H3 – H2		X0 – X2					
	H3 – H1		X0 – X3					

Turns Ratio Test	<b>Tap</b> (Designated)	Primary	Secondary	Calculated	Measured Ratios		
		Voltage (V)	Voltage (V)	Ratio	H3 H1 / X0 X1	3 H1 / X0 X1 H1 H2 / X0 X2 H2 H	H2 H3 / X0 X3

	Note: Torque check required for all cables. Connection Resistance Test required for cables 250MCM or larger.								
Connection Resistance	Termination	Cor	nection Resista						
	rennination	Α	В	С	N	Torque oneck			
	Source					ПОК			
	Dest. / Load					ОК			

## TRANSFORMER INSPECTION FORM DRY TYPE, MEDIUM VOLTAGE

Final Analysis	Returned to Service:	🗌 Yes	🗌 No	Comments:
	Monitoring / Further Inspection Required:	🗌 Yes	🗌 No	
	Repair / Replacement Required:	🗌 Yes	🗌 No	

	Company	Name	Signature	Date (yyyy/mm/dd)
Performed By				
Checked By				