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

Page 1 of 2

Project	Facility:	Project Name:				
	Area :	Bid Opportunity:				
	Location:	Panelboard/MCC:	Cell #:			

	a							
er Dai	er Dat	Manufacturer:			Туре:		Serial #:	
	reake	Rated Voltage: V		Frame Size:		А	Trip Unit:	
	ā	Interrupting Rating: kA		A	Comments:			

spection / ning	Breaker Identification Tag Insta	lled:	☐ Yes	🗌 No	Visual Signs of Overhea	ating:	🗌 Yes	🗌 No
	Cleanliness (As Found):	Good 🗌	Acceptable	Poor	Cables Supported Appr	opriately:	🗌 Yes	🗌 No
	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 Ty	/pe: 🗌 None 🗌	e: None Thermal Magnetic Electronic LI LSI LSIG							
sɓu	Breaker Setting (As Left)		Range	Setpoint		Delay	I ² T				
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 in:	sulation res	istanc	ce measure	ements for brea	kers >= 250A	l, or as specif	fied.				
est	Temperature:		°C 5	Source: Disconnected Connected (Source Isolated)					Approval is required, prior to leaving			
e Te	remperatu	ie. C	L	Load:	Disconnec	ted 🗌 Co	nnected (Load	cables connected during the test.				
tanc	Test Voltage (VDC)		Insulation Resistance (MΩ)									
sist		Phase	Phase To GND (Breaker Closed)				Phase (Brea	ker Closed)	Line to Load (Breaker Open)			
۱Re		Α		В	С	A – B	B – C	A - C	Α	В	С	
atio												
Insul	Test Sumr	Test Summary Test Passed Test Inconclusive. Further Investigation Required.										
_	Comments	Comments:										

Contact Resistance	Perform contact measurements	Perform contact measurements for breakers >= 250A, or as specified.									
		A B		С	Test Summary						
	Resistance (µΩ)				Test Inconclusive						
	Comments:		Test Failed								

INSPECTION FORM MOLDED CASE CIRCUIT BREAKER, < 1000V

Page 2 of 2

ID:

Final 1alysis	Returned to Service:	🗌 Yes	🗌 No	Comments:
	Monitoring / Further Inspection Required:	🗌 Yes	🗌 No	
A	Repair / Replacement Required:	☐ Yes	🗌 No	

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

v	Vinnipeg		INSPECTION FORM POWER CABLE < 100							Page	1 of 1
#	Eacility:				Project	Jama:				Cable ID	
rojec					Bid Opp	ortunity:					
<u> </u>	Alea .				ый Орр	· · · · · · · · · · · · · · · · · · ·					
	Source:					Dest. / L	oad:				
ø	Manufact	urer:		Туре:			Conductor: Copper Alun			pper 🔲 Aluminum	
ole Dat	No. of Conducto	rs:	Size:	Size:		AWG MCM Length:		m ☐ Measured ☐ F		Previous Data	
Cat	Rated Vo	ltage: V	Operatino Voltage:	g	V	Date I	nstalle	ed:			
	Installatio	n: Cable Tra	iy [EMT Alu Steel Conduit PV			Alum. Conduit Direct Buried Other:			other:	
	Physical I	Damage on Expose	ed Ends:	☐ Yes	🗌 No	Cable lo	dentific	cation T	ag Installed:		🗌 Yes 🗌 No
sual	Visual Sig	ns of Overheating	🗌 Yes	🗌 No	Cable S	uppor	ted App	propriately:		🗌 Yes 🔲 No	
N V	Bend Rad	lius Acceptable:		🗌 Yes	🗌 No	Comme	nts:				
	Test Source: Cable Dest. / Load: Note: Approval of City's Representative is required, prior to leaving cables Preparation: Disconnected Disconnected is required, prior to leaving cables Connected with Source Isolated Connected with Load Isolated connected during the test.										
Test	Cable Te	mperature:	°C Te	mperature C	orrection F	actor for 2	20°C:		Ground a reading.	all conducto	rs not under test for each
tance	Test			Ins	ulation Re	sistance	(MΩ)		Test	Summarv	
Resis	Voltage		A-G	ND B	-GND	C-GI	ID	N-C		est Passed	
ation	V	Reading							T	est Inconclu Further Inve	isive stigation Required.
Insula	v	Corrected to 20°	С						ТПт	est Failed	
_	Utilize 1000VDC Test Voltage for 600V rated cables, 500VDC for cables rated <= 300V.										
	Comment	S:									
6)	Note: Tor	que check required	l for all ca	ables. Conn	ection Res	stance Te	est req	uired fo	or cables 4/0 A	WG or larg	er.
stance	Те	ermination		Connectio	on Resista	ince (μΩ)	- As	Left		То	rque Check
Resis			A		В	С		I	N		
ction		Source									ОК
onne	D	est. / Load									ОК
ပ	Comment	s:									
	Cable Re	turned to Service:		🗌 Ye	s 🗌 No	Comm	ents:				
inal Ilysis	Monitorin	g / Further Inspecti	on Requi	red: TYe	 s □ No						
Ana	Repair / F	Replacement Requi	red:		s 🗌 No						
		Company		Name			Sign	aturo			Date (\\\\\\mm/dd)
Perfor	med By	Sompany		Naille			Sign	ature			
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

)©		INS	PECTION	FORM		Page	e 1 of 1	
١	Vinnipèg		DI	GITAL ME	TER		ID:		
ject	Facility:			Project Name:					
Pro	Area :			Bid Opportunity:					
	T								
eter ata	Location:			Cell #:					
Me Da	Manufacturer	:		Model:					
1					- -				
-	Cover Gask	et:	Good Acceptab	le 🗌 Poor	Cover Glass:		Good [Acceptable Deor	
tion /	General Co	ndition:	Good Acceptab	le 🗌 Poor					
Visu	Cleanliness	(as found)	Good CAcceptab	le 🗌 Poor	Unit Cleaned:	🗌 Yes			
-	Connections	s (as found)	Good Acceptab	le 🗌 Poor	Connections Torqued:	🗌 Yes			

Accuracy Accuracy	Voltage	Test	Phas	e A	Pha	ise B	Pha	se C	
		Value (V)	Reading As Found (V)	Reading As Left (V)	Reading As Found (V)	Reading As Left (V)	Reading As Found (V)	Reading As Left (V)	
		0							
	Current	Test Value (A)	Phas	e A	Pha	ise B	Phase C		
			Reading As Found (A)	Reading As Left (A)	Reading As Found (A)	Reading As Left (A)	Reading As Found (A)	Reading As Left (A)	
		0							
	Unit Calibrated:		□ Yes □ No						

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				

Winnipeg		INSPE GROUNDING/BONDING	Page 1 of 1 Area:	
ect	Facility:		Project Name:	
Proj	Area :		Bid Opportunity:	

	Point A	Point B	Resistance (mΩ)		Acceptable		
				☐ Yes	🗌 No	Inconclusive	
				☐ Yes	🗌 No	Inconclusive	
				□ Yes	🗌 No	Inconclusive	
				□ Yes	🗌 No	Inconclusive	
cks				□ Yes	🗌 No	Inconclusive	
Che Test)				🗌 Yes	🗌 No	Inconclusive	
tance uctor				☐ Yes	🗌 No	Inconclusive	
tesist (Du				🗌 Yes	🗌 No	Inconclusive	
–				□ Yes	🗌 No	Inconclusive	
				🗌 Yes	🗌 No	Inconclusive	
				🗌 Yes	🗌 No	Inconclusive	
				🗌 Yes	🗌 No	Inconclusive	
	Comments:						
·	1						

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				

	Ĩ				INS	PECTI	ON FC	ORM					Page 1 of	2	
V	Vinnipèg			МОТ	ORS	START	ER, F\	/NR, 6	600V			Ī	ID:		
ject	Facility:					Proje	ct Name	e:							
Pro	Area :	Area : Bid Opport						unity:							
	Load: Starter Location													Cell #	
	Manufacturer		Ту	no.					Serial #						
			Datad				C	t Datias		•	Senai #				
	Size:		Rated v	oltage:	\	/	Curren	t Rating):	A		Conti	rol voltage:		V
	Circuit	Fuse	d Disc.	Rating:		А	Fuse S	Size:	А	Fuse	Mfg.				
Data	Circuit Protection:		(or				Inct			Mani	n. Ifacturer				
ter I			MCP Rating:		A	Setting	j:	A	Mode	el:					
Sta	Overload		mal	Class.))	Setting	ı /	Δ		Manufacturer:				
	Protection:	L Elect	ronic		∐ 30 □ U) nknown	wn Rating: A Model:								
	Control Power Transformer: Size: VA			Sec. Volt	ec. Voltage: V Primary Fuse: A Se			Secondary	Fuse:	А					
	Current Transformer: Ratio: 1					Type:									
2 8	ID:					Size:	ize: kW / HP			Vo	Voltage: V				
Moto Data	Full Load Am	ps:	AS	Service Fac	tor:	□ 1.00 □ 1.15	Other:								
	Starter Identi	fication Ta	ag Install	ed:		es 🗌 I	No	Visual	Signs o	of Over	heating:			☐ Yes	□ No
פר	Cleanliness (As Found):	Good [eptable [] Poor	Suppo	rt Insula	ators:			Good	Acceptable	e 🗌 Poor
Cleanir	Connections			Good [eptable [] Poor	Electro	o/Mecha ck:	anical] Good 🔲 A	Acceptable	e 🗌 Poor
on /	Ground Conr	ection:		Good [eptable [] Poor	Contac	ctor Co	ndition] Good 🔲 A	Acceptable	e 🗌 Poor
pecti	Door Mechar	nical		Good [eptable [] Poor	Contac	ct Aligni	ment:		Γ	Good	Acceptable	e 🗌 Poor
ual Ins	Verify O/L ele the load:	ement is c	correctly	sized for		🗌 Yes	🗌 No	Exerci	se Circı	uit Brea	aker/MCF	P/Disco	onnect		□ Yes
Vis	Cables Supp	orted App	oropriatel	y:		☐ Yes	🗌 No	Unit C	leaned:		Yes F	hotog	raph Taken:	۲ 🗆	′es
	Comments:					-									

	Test	Α	В	с	Test Summary
ntact/Pole surements	Contact Resistance ($\mu\Omega$)				Test Passed Test Inconclusive
	Disconnect / Breaker / MCP Resistance (μΩ)				Further Investigation Required.
Co Mea	Fuse Resistance ($\mu\Omega$)				
	Comments:				

INSPECTION FORM MOTOR STARTER, FVNR, 600V

Page 2 of 2

ID:

est	Test Prepa	Test Preparation: Source: Isolated Contactor: Cable Dest. / Load: Note: Approval of City's Representative is required, prior to leaving cables connected during the test.										
T e T	Test		V	oltago		Insu	lation Resistar	nce (MΩ)	Ground all phases not			
on Resistar		1631	v	voltage		Α	В	С	under test!			
	Contacto	r Line To GND	100	DO VDC					Test Summary			
ulatio	Contactor	Load To GND	100	DO VDC					Test Inconclusive			
lns	Contacto	Contactor Line to Load 10		00 VDC					Required.			
	Comments											
	Returned	I to Service:		🗌 Yes	🗌 No	Comme	nts:					
Final nalysis	Monitorin Required	g / Further Inspe	ection	☐ Yes	🗌 No	_						
A	Repair / I	Replacement Re	quired:	🗌 Yes	🗌 No							
	÷											
		Company		Name			Signature		Date (yyyy/mm/dd)			
Perfor	rmed By											
Check	Checked By											

INSPECTION FORM AC MOTOR, LOW VOLTAGE

Page: 1 of 2

ID:

jec	Facility:			Pr	roject Name	:				
Pro	Area :			Bi	id Opportuni	ty:				
		. ,								
, D	Size: kV	V /	HP	Voltag	ge:	V	R.P.M:			
r Dat	Manufacturer:			Mode				Serial Number:		
Moto	Frame Type:			Facto	ce or:		Other:			
	Cooling:	☐ Air ☐ Fan	# Cooling Fans:	1	W M	inding aterial:				
	Motor Identification	n Tag Instal	led:	Yes	🗌 No	Visual Signs of Overho	eating:		Yes 🗌 No	
ŋg	Connections:		Good A	cceptab	ole 🗌 Poor	Air Baffles:		Good Acc	ceptable 🗌 Poor	
clean	Paint:		Good A	cceptab	ole 🗌 Poor	Filter Media:	🗌 N/A	Good Acc	ceptable 🗌 Poor	
on / C	Cooling Fans:	□ N	/A 🗌 Good 🗌 A	cceptab	ole 🗌 Poor	Fan Controls:	🗌 N/A	Good Acc	ceptable 🗌 Poor	
pecti	Anchorage/Alignm	ient:	Good A	cceptab	ble 🗌 Poor					
al Ins	Ground Connectio	n:	Good A	cceptab	ole 🗌 Poor					
Visua	Mechanical/Electrical Noise During Yes				🗌 No	Lubrication Required:		□ Ye	es 🗌 No	
	Cleanliness (As Found):				ble 🗌 Poor	Unit Cleaned: 🛛 Y	es Photo	graph Taken:	☐ Yes	
	Test									
		Test	Winding			Resistance (MΩ)		Dielectric	Polarization	
	Stator Winding	Test Voltage (Vdc)	Winding Temperature (°	C)	30 Sec	Resistance (MΩ)) min. (a)	Dielectric Absorption Ratio	Polarization Index (a)	
Ince	Stator Winding	Test Voltage (Vdc)	Winding Temperature (°	C)	30 Sec	Resistance (MΩ) 1 min.) min. (a)	Dielectric Absorption Ratio	Polarization Index (a)	
sistance	Stator Winding	Test Voltage (Vdc) 500	Winding Temperature (°	c)	30 Sec	Resistance (MΩ) 1 min. 1) min. (a)	Dielectric Absorption Ratio	Polarization Index (a) -	
on Resistance	Stator Winding	Test Voltage (Vdc) 500	Winding Temperature (° 40	C)	30 Sec	Resistance (MΩ) 1 min. 1) min. (a)	Dielectric Absorption Ratio	Polarization Index (a) -	
ulation Resistance	Stator Winding	Test Voltage (Vdc) 500	Winding Temperature (° 40 40	C)	30 Sec	Resistance (MΩ) 1 min.) min. (a)	Dielectric Absorption Ratio -	Polarization Index (a) - -	
ig Insulation Resistance	Stator Winding	Test Voltage (Vdc) 500	Winding Temperature (° 40 40	C)	30 Sec	Resistance (MΩ) 1 min. 1) min. (a)	Dielectric Absorption Ratio -	Polarization Index (a) - -	
inding Insulation Resistance	Stator Winding	Test Voltage (Vdc) 500 500	Winding Temperature (° 40 40 40 40		30 Sec	Resistance (MΩ) 1 min. 10 1 <t< td=""><td>) min. (a)</td><td>Dielectric Absorption Ratio -</td><td>Polarization Index (a) - - -</td></t<>) min. (a)	Dielectric Absorption Ratio -	Polarization Index (a) - - -	
Winding Insulation Resistance	Stator Winding	Test Voltage (Vdc) 500 500 500	Winding Temperature (° 40 40 40 40		30 Sec	Resistance (MΩ) 1 min. 1) min. (a)	Dielectric Absorption Ratio - -	Polarization Index (a) - - -	
Winding Insulation Resistance	Stator Winding Stator Winding Notes: (a) Testing to	Test Voltage (Vdc) 500 500 500	Winding Temperature (° 40 40 40 40 s and calculation or Test Passed	f Polariz	30 Sec	Resistance (MΩ) 1 min. 1 min. 1) min. (a) ors > 150 k Required	Dielectric Absorption Ratio - - - W (200 HP) Test Fail	Polarization Index (a) - -	
Winding Insulation Resistance	Stator Winding Stator Winding Notes: (a) Testing to Test Summary	Test Voltage (Vdc) 500 500 500	Winding Temperature (° 40 40 40 5 and calculation o Test Passed	f Polariz	30 Sec	Resistance (MΩ) 1 min. 1 min. 1) min. (a) 0 min. (a) 0 min. (a) 0 min. (a)	Dielectric Absorption Ratio - - - W (200 HP) Test Fail	Polarization Index (a) - -	
e Winding Insulation Resistance	Stator Winding Stator Winding Notes: (a) Testing to Test Summary	Test Voltage (Vdc) 500 500 500 0 10 minutes Cartering Res	Winding Temperature (° 40 40 40 5 and calculation o Test Passed [5istance (μΩ)	f Polariz	30 Sec	Resistance (MΩ) 1 min. 1 min. 1 .) min. (a)) min. (a) ors > 150 k Required.	Dielectric Absorption Ratio	Polarization Index (a) - -	
/inding Winding Insulation Resistance	Stator Winding Notes: (a) Testing to Test Summary A - B	Test Voltage (Vdc) 500 500 500 0 10 minutes Res	Winding Temperature (° 40 40 40 40 40 5 and calculation or Test Passed Sistance (μΩ) B – C	f Polariz Test	30 Sec	Resistance (MΩ) 1 min. 1 min. 1 is only required for mode. Further Investigation Test Summary Test Inconclusion Further Investig Test Nummary Further Investig) min. (a)) min. (a) ors > 150 k Required. // // // // // // // // // // // // //	Dielectric Absorption Ratio - - - W (200 HP) Test Fail	Polarization Index (a) - - -	

INSPECTION FORM AC MOTOR, LOW VOLTAGE

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ID:

_	Not Applicable	Not Applicable											
tior	Bearing	Test Voltage	Bearing	Resistance (MΩ)									
ng Insula esistance		(Vdc)	Temperature (°C)	1 min.	Corrected to 40°C								
		500											
3earii Ri		500											
	Test Summary	Test Passed	Test Inconclusiv	e. Further Investigation Require	red. 🗌 Test Failed								

	Not Applicable						
	Actual Winding Ter	nperature:	°C	Actual Bearing Temperature		°C	
	RTD	Resistance (Ω)	Calculated Temperature (°C)	RTD	Resistance (Ω)	Calculated Temperature (°C)	
ince							
sista							
TD R¢							
<u>بح</u>							
	Test Summary	Test Passed	Test Inconclusiv	e. Further Investigation Requi	red. 🗌 Test	Failed	

Note: Test connection resistance of bolted connections. Report on cable inspection sheet.

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

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

	<u>.</u>	`				INS	PEC	СТІС	ON FOR	RM_				Pag	e 1 of 2	2	
	Winni	peg			PA	NELB		D, L		OLT	AGE			ID:			
ject	Faci	lity:					I	Proje	ct Name:								
Pro	Area	ι:					I	Bid C)pportunit	ty:							
	Loca	ation:						Fed	From:						No. of C	Circuits:	
	Man	ufacture	r:					Model: Serial					Serial	No:			
Data	Rate	d Voltad	ne:	V	Currer	nt Rating:				A		Withstar	nd Rating:	-	Α		
oard		□ Single Phase □ 3 Phase, 3 Wire □ 3 Phase, 4 Wire Neutral Bonded to Ground □ Yes □ No															
anelb		☐ Main Lugs															
ě.		Main Brasker: Pating: A Manufacturer: Model: Jost Cotting:															
	Com	plete se	parate	inspectio	n form (F-	-BKR-MC	C-LV)	for m	ain breal	ker if	>= 25	0A, or has	ong, shori	t, or g	round fai	ult settings.	
	1			-	,		,						= .	5			
_	Iden	tification	Tag In:	stalled:] Yes	s [□ No	Visua	al Sigr	ns of Overh	eating:			☐ Yes	□ No
tion /	Visu	al signs	of Mois	ture:		Ľ] Yes	s [□ No	Visua	al Sigr	ns of Coron	a:			☐ Yes	□ No
spec	Fuse	e/Breake	er Sizes	Match D	rawings:	[] Yes	s [□ No	Cabl	es Sup	pported App	propriately	:		🗌 Yes	🗌 No
ual In Clea	Clea	nliness	(As Fou	ind):	Goo Goo	od 🗌 Ac	cepta	ble [] Poor	Conr	ectior	ns:			Good 🗌	Acceptable	Poor
Visi	Doo	r Mecha	nical:		🗌 Goo	od 🗌 Ac	cepta	ble [] Poor	Grou	nd Co	nnection:			Good 🗌	Acceptable	Poor
	Exer	cise All	Circuit I	Breakers:		[] Yes	s [□ No	Com	ments	:					
			Sou	urce:		Nata	A					· · .	Fauinmo	~+ T~	maaratur		°C
	Test Prepa	ration:		Disconne Connecte	cted d with	Note: / require	Appro d, pric	ior to leaving cables connected				Tempera	mperature Correction				
e Tes				Source	solated	uuning		51.					Factor to	20°C	;		
tance	Tes	st			Ins Groun	Insulation Resistance (MΩ) Ground all Phases not under test!							Test Sun	nmar	У		
Resis	Volta	ige	A-GI	ND	B-G	ND		C-G	ND		N-G	GND	Test F Test I	Passe ncon	ed mclusive		
tion F		I	RDG	20°C	RDG	20°C	R	G	20°C	RI	DG	20°C	Furth	er In ailed	vestigatio I	n Required.	
sula																	
ı	Test V	oltages:	120)-300∨ →	500 VD0	C Test Vo	ltage			301-6	600V -	→ 1000 VD	C Test Vo	ltage			
	Comm	ients:															
						Bre	akers	s < 10	00A and	With	out In	st. Setting					
	List by	model (of break	ker. Multi	ple break	ers of va	rying	ampa	acity may	' be li	sted p	er line.					
akers	Туре	Ма	nufacti	urer	Мос	lel Series	S	In R	terruptin ating (kA	ng A)	Po	ositions/Ci	rcuits	Not	es		
Brea	А																
eedei	В																
ad/F																	
Ĕ	E																
	F																

INSPECTION FORM PANELBOARD, LOW VOLTAGE

Page 2 of 2

ID:

		Breakers >= 100A or with Inst. Setting											
akers	List each bre fault settings	aker ind.	ividually. Complete	e separate inspe	ection form	(F-BKR-M	C-LV) for b	oreaker if >= .	250A, or has long, short, or ground				
	ID	Pos.	Manufacturer	Model	Trip Rating (A)	Int. Rating (kA)	Inst. Setting	Separate Form	Notes				
· Bre													
eeder													
ad/F													
Ĕ													
	Returned to	Service			No Cor	nments:							
- is		OCIVICC.											
Fina	Monitoring /	Inspecti	on Required:	🗌 Yes 🗌	No								

Ā	Repair / Repla	acement Required:	☐ Yes	🗌 No		
	Co	mpany	Name		Signature	Date (yyyy/mm/dd)
Perfo	rmed By					
Checl	ked By					

	Ĩ					INSF	PEC	TIC	ON FO	RM					Page	1 c	of 2	
V	Vinnipeg			RANS	FORM	/IER,	, DR`											
ject	Facility:						Proj	Project Name:										
Pro	Area :						Bid (Op	portunity	y:								
														Second	arv	,		
	KVA:		Ph	ase:			Prim	nar	y Voltag	e:			V	Voltage:	,	V		
Data	Manufacturer:						Тур	e:						Serial N	umber:			
rmer	Primary Winding:	$\Box X Secondary \Box \Box Y Winding: \Box$					r In	npe	edance:			%Z	Tem	p Rise:	q	C ł	K Factor:	
ansfo	Winding Mater	terial: Copper Caluminum				m												
Ē	No Load Tap	Тар		1	2		3		4		5					Тар	p Setting	
	Changer	Voltage														(AS	s Found):	
	Transformer Io	Transformer Identification Tag Installed: Yes No Visual Signs of Overheating: Yes No										No						
ning	Bushings:	gs: 🗌 Good 🗌 Acce					otable		Poor Support Insulators: Good Acceptable Po						Poor			
/ Clea	Paint:	aint: Good Acceptable Poor No Load Tap Changer: N/A Good Acceptable Poor																
/isual Inspection	Fans:		□ N/	A 🗌 Go	od 🗌	Accep	otable] Poor	Fan	Contro	ols:		□ N/.	A 🗌 Good		Acceptable	Poor
	Temp. Gauge:	:	🗆 N/	A 🗌 Go	od 🗌	Accep	otable] Poor	Con	nectior	ns:			Good 🗌		Acceptable	Poor
	Ground Connection:			🗌 Go	od 🗌	Accep	otable] Poor	Neu	tral Bo	nded 1	to Gro	ound:		N/A	A 🗌 Yes 🔲	No
	Cleanliness (A	s Found)):	🗌 Go	od 🗌	Accep	otable] Poor	Unit	Clean	ed:	<u>ا ا</u>	/es Ph	otograph Ta	aken	n: 🗌 Yes	
	Operational Conditions / Notes:																	
ion	Primary Voltag	ge:	H1:H	2:	V	H2:	H3:			VН	3:H1:			V Measured at:				
spect	Secondary Vo	ltage:	X1:	_:	V	X2:_	_:			v x	3::			V Meas	ured at:			
nal In	Current:		Ph A	:	A	Ph I	B:			A P	n C:			A Meas	ured at:			
Operatio	Tap Setting:		A Fi R	opears Sa urther Mo ecommer	atisfacto nitoring nd Char	ory g Reco nging	omme Tap.	end	led.		Тар	o Setti	ng (A	s Left):				
	Thermographi Performed:	c Inspect	tion	☐ Yes	s A	Attach separa	repoi ately	rt	Results	s: [] No Is] Potei	sues ntial Is	Found sue l	d dentified.				
۵											R	esista	ance	(MQ)			Dielectric	
stanc		Windi	ng		1	rest V (V	/oltag dc)	je		30	sec			60 sec			Absorption Ra 60s/30s	atio
n Resi	Primary to Gr	ound, Se	econd	lary Guar	ded											+		
llatio	Secondary to	Ground,	Prim	ary Guar	ded													
Insu	Primary to Se	econdary	Gro	und Guar	ded													

INSPECTION FORM TRANSFORMER, DRY TYPE, LOW VOLTAGE

ID:

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

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

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INSTRUMENTATION SWITCH CHECKLIST

Project						
Facility:	Project Name:					
Area :	Bid Opportunity:					

Instrument							
Tag:	Description:						
Manufacturer:	Model:	Serial Number:					

	Inspection Checklist									
No.	Item to be Inspected	Comments	Pass (P/F)							
1.	Instrument type and class per P&ID and specification									
2.	Instrument tag(s) installed and correct									
3.	Installation of sensor complete and correct									
4.	Block and drain valves									
5.	Pneumatic / hydraulic tubing leak tested									
6.	Heat tracing / insulation / instrument housing									
7.	Wiring correct									
8.	Drawings marked up as-built									
9.	HMI Graphic symbol and tag correct									

State Checklist						
State State Desc	PLC Input	Local HMI	SCADA	Alarm		Pass (P/F)
0				🗌 On 🔲 Off		
1				🗌 On 🔲 Off		

Calibration						
Transition	Setpoint Trip Point (incl. units)	Actual Trip Point (incl. units)	Setpoint Time Delay	Actual Time Delay	Pass (P/F)	
0 → 1						
1 → 0						

	Company	Name	Signature	Date (yyyy/mm/dd)
Tested By				
Witnessed By				

INSTRUMENTATION TRANSMITTER LOOP CHECKLIST

Project			
Facility:	Project Name:		
Area :	Bid Opportunity:		

Instrument (Sensor / Element)			
Tag: Description:			
Manufacturer:	Model:	Serial Number:	

	Transmitter					
Tag: Description:			ion:			
Manufacturer:			Model:			Serial Number:
Units:			Design Range:		-	
Output	□ 4-20 mA □ 0-10 V	Modb Etherr	us net IP	Other:		

	Inspection Checklist				
No.	Item to be Inspected	Comments	Pass (P/F)		
1.	Instrument type and class per P&ID and specification				
2.	Instrument tag(s) installed and correct				
3.	Installation of sensor complete and correct				
4.	Block and drain valves				
5.	Pneumatic / hydraulic tubing leak tested				
6.	Heat tracing / insulation / instrument housing				
7.	Impulse lines pressure tested				
8.	Wiring correct				
9.	Drawings marked up as-built				
10.	HMI Graphic symbol, tag and units correct				



Signal Validation					
Input Signal	Location	Design Value	Actual Value	Error (%)	Pass (P/F)
	Transmitter Display				
	Transmitter Output				
	Process Display				
	PLC				
	НМІ				
	Transmitter Display				
	Transmitter Output				
	Process Display				
	PLC				
	НМІ				
	Transmitter Display				
	Transmitter Output				
	Process Display				
	PLC				
	НМІ				

Notes:

Attach factory calbration forms for all instruments where provided and/or specified. Provide instrument parameters for each parameter changed from the factory default. 1. 2.

	Company	Name	Signature	Date (yyyy/mm/dd)
Tested By				
Witnessed By				

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MODULATING CONTROL DEVICE CHECKLIST

Project		
Facility:	Project Name:	
Area :	Bid Opportunity:	

Control Device			
Tag:	Description:		
Manufacturer:	Model:	Serial Number:	

	Inspection Checklist						
No.	Item to be Inspected	Comments	Pass (P/F)				
1.	Actuator type and class per P&ID and specification						
2.	Instrument tag(s) installed and correct						
3.	Installation of actuator complete and correct						
4.	Wiring correct						
5.	Drawings marked up as-built						
6.	HMI graphic symbol, tag and units correct						

Control Validation							
Control Output	Location	Design Value	Actual Value	Error (%)	Pass (P/F)		
0%	PLC Output						
078	Field Device						
50%	PLC Output						
50 %	Field Device						
100%	PLC Output						
10078	Field Device						

Notes: 1.

Attach factory calbration forms for all instruments where provided and/or specified. Provide instrument parameters for each parameter changed from the factory default. 2.

	Company	Name	Signature	Date (yyyy/mm/dd)
Tested By				
Witnessed By				

Winnipeg	♦) SNC+LAVALIN	PID CONTROLLER CHECKLIST
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Project				
Facility:	Project Name:			
Area :	Bid Opportunity:			

Controller Loop

Tag:

Description:

	Test Checklist						
No.	Item to be Inspected	Comments	Pass (P/F)				
1.	Startup Test						
2.	Input signal positive bump test						
3.	Input signal negative bump test						
4.	Bumpless auto-manual control transition						
4.	Manual output capability						
5.	Bumpless manual-auto control transition						
6.	HMI graphic symbols, tag and units correct						
7.	HMI equipment faceplate correct						

Final PID Tuning Values				
Ρ:	1:	D :		

Notes:

1. Attach printouts of trends for varous tests, with final PID tuning values.

	Company	Name	Signature	Date (yyyy/mm/dd)
Tested By				
Witnessed By				

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Project				
Facility:	Project Name:			
Area :	Bid Opportunity:			

PLC					
PLC ID:	Description:				
Rack:	Slot:				

Pt	Tag	Description	State	State Desc.	PLC Input	Local HMI	SCADA	Alarm		Pass (P/F)
			0					🗌 On 🔲 Off	. □ N/A	
			1					🗌 On 🔲 Off		
			0					🗌 On 🔲 Off		
			1					🗌 On 🔲 Off		
			0					🗌 On 🔲 Off	□ N/A	
			1					🗌 On 🔲 Off		
			0					🗌 On 🔲 Off	□ N/A	
			1					🗌 On 🔲 Off		
			0					🗌 On 🔲 Off	□ N/A	
			1					🗌 On 🔲 Off		
			0					🗌 On 🔲 Off	off □ N/A off	
			1					🗌 On 🔲 Off		
			0					🗌 On 🔲 Off	□ N/A	
			1					🗌 On 🔲 Off		
			0					🗌 On 🔲 Off	. □ N/A	
			1					🗌 On 🔲 Off		
			0					🗌 On 🔲 Off	. □ N/A	
			1					🗌 On 🔲 Off		
			0					🗌 On 🔲 Off	. □ N/A	
			1					🗌 On 🔲 Off		
			0					🗌 On 🔲 Off	- 🗆 N/A	
			1					🗌 On 🔲 Off		
			0					🗌 On 🔲 Off		
			1					🗌 On 🔲 Off	ff	

Winnipeg SNC+LAVALIN		PLC DISCRETE INPUT CHECKLIST				Page 2 o	f 2			
				0				□ On □	Off	
				1				🗌 On 🔲	Off	
				0				🗌 On 🔲		
				1				🗌 On 🔲	Off	
				0				🗌 On 🔲	Off	
				1				🗌 On 🔲	Off	
				0				🗌 On 🔲	Off	
		1								

🗌 On 📋 Off

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	Company	Name	Signature	Date (yyyy/mm/dd)
Tested By				
Witnessed By				

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PLC DISCRETE OUTPUT CHECKLIST

Project					
Facility:	Project Name:				
Area :	Bid Opportunity:				

PLC							
PLC ID:	Description:						
Rack:	Slot:						

Pt	Tag	Description	State	State Desc.	PLC Output	Field Device	Pass (P/F)
			0				
			1				
			0				
			1				
			0				
			1				
			0				
			1				
			0				
			1				
			0				
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			0				
			1				
			0				
			1				

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				0				
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	Company	Name	Signature	Date (yyyy/mm/dd)
Tested By				
Witnessed By				