	_	Q		IN	SPECT		I FO	RM		Page	Page 1 of 1		
	Wir	mipèg	AUT	OMATION	– COI	NTR	OL	CONDUCTORS	5	ID:			
ç	Facility	·:			Project	Name	e:						
roje	Area				Bid Opp	ortun	itv.						
_	/				Bid Opp	ortar	inty.						
lit	Source	):				Des	t.:						
ondt		Cable					Condu	uit		Other:			
ole/C	Installa	ation: ☐ Ca ☐ Str	ble Tray apped	Direct B	Buried EMT Alum. Rigid Steel PVC								
Cab	No. of	Conductors:		Size:		A	WG	Туре:		Rated Vo	oltage:	V	
ļ											-		
u	Cable	Identification Tag	nstalled:	Yes 🗌 No		N/A	Encl	osure Entry Accept	able:		🗆 Y	′es 🗌 No	
isual	Wire ta	igs installed:		Yes 🗌 No	No Conduit / Cable Supported Appropriately: Yes							′es 🗌 No	
v Insp	Comm	ents:											
Test V Ambient Temperature: °C All conductors not under test grounded for each Yes No										6 🗌 No			
	#		мо	#			ing.	мо	#		D	мо	
	1			19					37		2		
	2			20					38				
	3			21					39				
	4			22					40				
	5			23					41				
	6			24					42				
	7			25					43				
st	8			26					44				
e Te	9			27					45				
anc	10			28					46				
sist	11			29					47				
۱Re	12			30					48				
atio	13			31					49				
sula	14			32					50				
-	15			33					51				
	16			34					52				
	17			35					53				
	18			36					54				
	1.	Utilize 1000VE	C Test Voltag	ge for 600V ra	ted cabl	es, 50	00VD	C for cables rated <	= 300V.				
	2.	Disconnect bo	th ends of wiri	ing prior to tes	uit. StS.								
	nd. All condu ss than 22 M	ctors no	t und	er tes	t must be grounded	during of conduct	each test.						
	Comm	ents:			0, 0igi								
		— — —											
	Test S	ummary: 📋 T	est Passed	∐ Test Fai	lled								
Company Name Signature Date (yyyy/mm/dd)											/y/mm/dd)		

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

Image         Instrumentation CABLE - PARED (\$ 8 PARE)         Page         Ind 1           Tablity:         Project Name:         Cable 10:         Cable 10:         Cable 10:           Tablity:         Project Name:         Cable 10:         Cable 10:         Cable 10:           Tablity:         Project Name:         Cable 10:         Cable 10:         Cable 10:           Tablity:         Cable 10:         Cable 10:         Cable 10:         Cable 10:         Cable 10:           Tablity:         Cable 10:         Cable 10:         Cable 10:         Cable 10:         Cable 10:         Cable 10:           Table 10:         Cable 10:														
Winnipog         INSTRUMENTATION CABLE - PAIRED (S & PAIRS)         Cable ID:           Table ID:         Project Name:         Proj			Ĩ			INS	<b>PECTION</b>	I FOI	RM		Page	1 of 1		
No         Project Name:           rec:         Bid Opportunity:           rec:         Direct Burley           Installation:         Cable           Source:         Cable           Installation:         Cable           State         State           No. of Pairs:         Size:           Auto:         Size:           Very Bard         Very Bard           Very Bard         Ambient Temperature:         C           Very Bard         Cond. 1(H) to Shield         Cond. 1(H) to Shield         Cond. 1(H) to Shield           I         I         I         I         I           I         I		V	/innipèg		INSTRU	MENTATIO	ON CABL	E – P.	AIRED (≤ 8 F	PAIRS)	Cable ID	):		
indication: <ul> <li></li></ul>	ect	Facili	ty:			Pr	oject Nam	e:						
Burner         Source:         Dest.:           Installation:         Cable Tray         Direct Burled         Conduit         Other:           Installation:         Cable Tray         Direct Burled         Pet.         Regid Steel         Pvc           No. of Pairs:         Size:         AWG         Type:         Rated Voltage:         V           Image: V         Size:         NO         N/A         Enclosure Entry Acceptable:         Pres         No           Comments:         Conduit / Cable Supported Appropriately:         Pres         No         Conduit / Cable Supported Appropriately:         Pres         No           Pr         ID         Cond. 1 (+) to Shield (MO)         Cond. 2 (+) to Shield Cond. 2 (+) to Shield to Gnd/Armour (MO)         Cond. 2 (+) to Shield to Gnd/Armour (MO)         Shield to Gnd/Armour (MO)         Cond. 1 (+) to Cond. 2 (+)         Shield to Gnd/Armour (MO)           1	Proj	Area	:			Bi	d Opportu	nity:						
Source:       Dest:         installation:       Cable Tray       Direct Burled       Conduit       Aum.       Other:       No         No. of Pairs:       Size:       AWG       Type:       Rated Voltage:       V         Model dentification Tag Installed:       Ves       No       No/A       Enclosure Entry Acceptable:       Yes       No         Wret tags installed:       Ves       No       Onduit / Cable Supported Appropriately:       Yes       No         Vert tags installed:       V       Ambient Temperature:       °C       Utilize to00/UC Test Voltage for GOUV roted cables, 500/UC for cables rated (MO)         Pr       ID       Cond. 1 (+) to Shield       Cond. 2 (+) to Shield       Cond. 1 (+) to Cond. 2 (+)       Shield to Gnd/Armour (MO)         1       C       Cond. 1 (+) to Shield       Cond. 2 (+) to Shield       Cond. 1 (+) to Cond. 2 (+)       Shield to Gnd/Armour (MO)         3       C       C       Cond. 1 (+) to Shield       Cond. 1 (+) to Cond. 2 (+)       Shield to Gnd/Armour (MO)         6       C       C       Cond. 1 (+) to Shield       Cond. 1 (+) to Cond. 2 (+)       Cond. 1 (+)         7       C       Cond. 1 (+) & Shield Loop       Cond. 1 (+)       Cond. 1 (+)       Shield to Gnd/Armour (MO)         8       C <th>I</th> <td>1</td> <td></td>	I	1												
metallation:	, m	Sour	ce:				Dest.:							
No. of Pairs:       Size:       AWG       Type:       Rated Voltage:       V         Image:       V       Size:       NO       NO. of Pairs:       V       Conduit / Cable Supported Appropriately:       V       NO. of Pairs:       V       NO. of Pairs:       V       Conduit / Cable Supported Appropriately:       V       NO. of Pairs:       V       NO. of Pairs:       V       No. of Pairs:       V       No. of Pairs:       V       Conduit / Cable Supported Appropriately:       V       No. of Pairs:       V <t< td=""><th>Cable Dat</th><td>Insta</td><td>Lation: Cable</td><td>ole Tray apped</td><td>C</td><td>] Direct Buri</td><td>ed</td><td>Cond EN Rig</td><td>uit 1T gid Steel</td><td></td><td>U Other:</td><td></td></t<>	Cable Dat	Insta	Lation: Cable	ole Tray apped	C	] Direct Buri	ed	Cond EN Rig	uit 1T gid Steel		U Other:			
Properties       Image: basic late late late late late late late late		No. c	of Pairs:			Size:		AWG	Туре:		Rated V	oltage:	V	
Test voltage:         v         Ambient Temperature:         °C         Utilize 1000/DC Test Voltage for 600V rated cables, 500VDC for cables rated <= 300V.		. Cable Identification Tag Installed:						Enc	losure Entry Ar	centable:				
S         D         Converts         Converts<	sual ection	Wire	tags installed:		☐ Yes			Cor	nduit / Cable Su	apported Approp	riatelv:	☐ Yes		
Pr         ID         Cond. 1 (+) to Shield (MΩ)         Cond. 2 (-) to Shield (MΩ)         Cond. 1 (+) to Cond. 2 (-) (MΩ)         Shield to Gnd/Armour (MΩ)           1	iv Insp	Comments:												
Image:         V         Ambient Temperature:         C         Utilize 1000/DC/Cest Voltage for 600V rated cables, 500/DC/for cables rated < 300V.           Image:         V         Ambient Temperature:         C         Utilize 1000/DC/Cest Voltage for 600V rated cables, 500/DC/for cables rated < 300V.           Image:		Comments:												
Pr         ID         Cond. 1 (+) to Shield (MΩ)         Cond. 2 (-) to Shield (MΩ)         Cond. 1 (+) to Cond. 2 (-) (MΩ)         Shield to Gnd/Armour (MΩ)           1		Test Voltage:       V       Ambient Temperature:       °C       Utilize 1000VDC Test Voltage for 600V rated ca         <= 300V.								ated cable	es, 500VDC for cab	oles rated		
Note         Note         Cond. 1(+) & Cond. 2(-) Loop (Q)         Cond. 1(+) & Shield Loop (Q)         Short loop ot opposite end from measurement.           1		Pr	ID		) Cond. 1 (ا	+) to Shield VIΩ)	Co	nd. 2 ( (I	-) to Shield VIΩ)	Cond. 1 (+) to (ΜΩ)	Cond. 2 (-) )	) Shield to Gno (MC	d/Armour 2)	
Perform         2 <th< td=""><th>st</th><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	st	1												
Image: state strate	ice Te	2												
4	sistan	3												
Pr         ID         Cond. 1 (+) & Cond. 2 (-) Loop (Ω)         Cond. 1 (+) & Shield Loop (Ω)         Short loop at opposite end from measurement.           1	n Res	4												
Pr       ID       Cond. 1 (+) & Cond. 2 (-) Loop (Ω)       Cond. 1 (+) & Shield Loop (Ω)       Short loop at opposite end from measurement.         1	latio	6												
8       Image: Constraint of the second of the	Insu	7												
Comments:       Test Summary:       Test Passed       Test Failed         Pr       ID       Cond. 1 (+) & Cond. 2 (-) Loop (Ω)       Cond. 1 (+) & Shield Loop (Ω)       Shield Loop (Ω)         1		8												
Image: height test summary:         Test Passed         Test Failed           Pr         ID         Cond. 1 (+) & Cond. 2 (-) Loop (Ω)         Cond. 1 (+) & Shield Loop (Ω)         Shield Loop (Ω)           1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 <td< td=""><th></th><td>Com</td><td>ments:</td><td colspan="2"></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>		Com	ments:											
Pr         ID         Cond. 1 (+) & Cond. 2 (-) Loop (Ω)         Cond. 1 (+) & Shield Loop (Ω)         Shield Loop (Ω)           1         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -		Test	<b>Test Summary:</b> Test Passed Test Fa											
Pr         ID         Cond. 1 (+) & Cond. 2 (-) Loop (Ω)         Cond. 1 (+) & Sheld Loop (Ω)           1						(.) 0.0	2/)			(.) 0 Chialdean	-			
1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1		Pr	ID		Cond. 1	(+) & Cond. (Ω)	2 (-) LOOP		Cond. 1	(+) & Shield Loo (Ω)	p			
Image: State of the s		1												
3     Short loop at opposite end from measurement.       4     Short loop at opposite end from measurement.       5     Short loop at opposite end from measurement.       6     Short loop at opposite end from measurement.       7     Short loop at opposite end from measurement.		2												
4         5         6         7         6         6         6         6         6         6         6         6         6         6         6         6         6         6         6         6         6         6         6         6         6         6         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7	est	3										Short loop at opp	osite end	
Operation         Operation <t< td=""><th>lity T</th><td>4 5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>jrom measureme</td><td>nt.</td></t<>	lity T	4 5										jrom measureme	nt.	
5         6           7            8	ltinu	5												
	ē	7												
		, 8												

Test Summary:
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Comments:

Test Failed

Test Passed

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

	<u> </u>		I	NSPECT	ION	FOR	м		Page 2	1 of 1		
	Winnipeg	INSTRU	MENTA	TION CA	BLE	– TR	IAD (≤ 8 TRIA	Cable ID:				
ject	Facility:			Project Name:								
Pro	Area :			Bid Opportunity:								
	Source:			Dest.	.:							
Cable Data	Cable Installation: Cab Stra	le Tray [	] Direct B	Conduit Buried EMT Alum Rigid Steel PVC					🗌 Ot	her:		
	No. of Triads:		Size:		A۱	NG	Туре:		Rated Voltage	:	V	
5	Cable Identification Tag Ins	talled: Yes	No No		N/A	Enclo	osure Entry Acce	ptable:		Yes	No No	
Visual specti	Wire tags installed:	Yes	🗌 No	)		Cond	luit / Cable Supp	orted Approp	riately:	Yes	🗌 No	
ln	Comments:											
	Test Voltage: V	Ambient Tempera	ture:	°C	Utiliz <= 30	e 100 00V.	0VDC Test Volta	ge for 600V ra	ited cables, 500	VDC for cal	bles rated	

	rest	voltage: v	Ambient Ten	iperature:	<= 300	V.			
	Pr	ID	Cond. 1 to Shield (MΩ)	Cond. 2 to Shield (MΩ)	Cond. 3 to Shield (MΩ)	Cond. 1 to Cond. 2 (MΩ)	Cond. 1 to Cond. 3 (MΩ)	Cond. 2 to Cond. 3 (MΩ)	Shield to Gnd/Armour (MΩ)
ţ	1								
e Te	2								
tance	3								
ı Resista	4								
on F	5								
ulati	6								
lns	7								
	8								
	Com	ments:							
	Test	Summary:	] Test Passed	Test Faile	d				

	Pr	ID	Cond. 1 & Cond. 2 Loop (Ω)	Cond. 2 & Cond. 3 Loop (Ω)	Cond. 1 & Shield Loop (Ω)	
	1					
	2					
t.	3					Short loop at opposite
y Tes	4					end from measurement.
nuit	5					
Conti	6					
	7					
	8					
	Com	ments:				
	Test	Summary: Test Passed	Test Failed			
						1

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

	0			INS	SPE	CTION	FORM					Page	1 of 1		
V	/innipeg		ER	CABLE	< 1000	V				Cable I	D:				
oject	Facility:		Project N	lame:											
Pro	Area :					Bid Oppo	ortunity:								
	Source:						Dest. / Lo	bad:							
	Manufact	urer:		Т	Type:					Condu	ctor:	□c	opper	Alum	inum
e Data	No. of	re:	Size:			AWG	Length	1:		 	] Mea	sured		viou	s Data
Cable	Rated Vol	tage: V	Operating	g		V	Date Ir	nstalle	d:	L			90 [] 10		
	Installatio	n: Cable Tra	iy [	] EMT ] Steel Co	ondu	iit 🗆	Alum. Co PVC Cor	onduit nduit		] Direct ] Under	Burie	d d Duct	Other:		
	L									9.00.1					
al tion	Physical [	Damage on Expose	ed Ends:	🗌 Ye	es	🗌 No	Cable Id	entific	ation T	ag Insta	alled:		□` `	′es	🗌 No
Visua	Visual Sig	ins of Overheating		🗌 Ye	es	🗌 No	Cable S	upport	ted App	oropriate	ely:		<u>с</u>	′es	🗌 No
2	Bend Radius Acceptable:					🗌 No	Commer	nts:							
	Test     Source:       Preparation:     Disconnected       Connected with Source Isolated					Cable Dest. / Load: Not Disconnected is re					Note is rec	e: Approval of City's Representative equired, prior to leaving cables nected during the test.			sentative les
e Test	Cable Ter	mperature:	°C Te	mperature	e Co	rrection Fa	actor for 2	20°C:		Grea	ound a ading.	all conduct	tors not und	er tes	st for each
tance	Test				Insu	lation Re	sistance	(MΩ)							
								• •			Test	Summary	v		
Resist	Voltage		A-G	SND	B-0	GND	C-GN	ID	N-O	GND	Test	Summary	<b>y</b> d		
ation Resist	Voltage	Reading	A-G	IND	B-(	GND	C-GN	ID	N-C	GND	Test	Summary est Passe est Incond Further Inv	<b>y</b> d clusive /estigation F	equi	red.
nsulation Resist	Voltage	Reading Corrected to 20°	A-G	IND	B-(	GND	C-GN	ID	N-C	GND	<b>Test</b>	Summary est Passe est Inconc Further Inv est Failed	<b>y</b> d clusive vestigation F	equi	red.
Insulation Resist	Voltage V Utilize 100	Reading Corrected to 20° 20VDC Test Voltag	A-G C ge for 600	GND	B-0	<b>GND</b> s, 500VD0	<b>C-GN</b>	ID es rate	<b>N-0</b>	<b>GND</b> 800V.	<b>Test</b>	Summary est Passe est Incond Further Inv est Failed	<b>y</b> d clusive vestigation F	equi	red.
Insulation Resist	Voltage V Utilize 100 Comment	Reading Corrected to 20° 00VDC Test Voltag s:	A-G C ge for 600	GND	B-(	<b>GND</b> s, 500VD0	C-GN	ID es rate	<b>N-C</b>	3ND 200V.		Summary est Passe est Inconc Further Inv est Failed	<b>y</b> clusive vestigation F	equi	red.
e Insulation Resist	Voltage V Utilize 100 Comment	Reading Corrected to 20° 00VDC Test Voltag s: rque check required fi	A-G	DV rated constructions. Connect	B-4 cables	GND s, 500VD0 Resistance	C-GN	ID es rate	N-C	3ND 300V. 4/0 AWG	Test	Summary est Passe est Inconc Further Inv est Failed	<b>y</b> clusive vestigation F	equi	red.
tance Insulation Resist	Voltage V Utilize 100 Comment Note: Tor	Reading Corrected to 20° 00VDC Test Voltag s: rque check required f	A-G	DV rated connections. Connection	B- cables	GND s, 500VD0 Resistance n Resista	C-GN C for cable Test requir nce (μΩ)	ID ess rate ed for o - As	N-C ed <= 3 cables 4 Left	3ND 300V. 4/0 AWG	Test	Summary est Passe est Inconc Further Inv est Failed	y d clusive restigation F	equi	red.
Resistance Insulation Resist	Voltage V Utilize 100 Comment Note: Tor	Reading Corrected to 20° DOVDC Test Voltag s: rque check required for ermination	A-G	ND V rated co ss. Connec Conne	B-( cables ction F	GND s, 500VD0 Resistance n Resista B	C-GN C for cable Test requir nce (μΩ) C	ed for the set of the	N-C ed <= 3 cables 4 Left	3ND 300V. 4/0 AWG		Summary est Passe est Inconc Further Inv est Failed	y d clusive restigation F quired in the s orque Chec	equi	red.
tion Resistance Insulation Resist	Voltage V Utilize 100 Comment Note: Tor	Reading Corrected to 20° 20VDC Test Voltag s: rque check required for ermination Source	A-G	SND	B-( cables	GND s, 500VD0 Resistance n Resista B	C-GN C for cable Test requir nce (μΩ) C	iD ess rate red for o - As	N-C ed <= 3 cables 4 Left	3ND 200V. 200V.		Summary est Passe est Inconc Further Inv est Failed	y d clusive restigation F quired in the s orque Chec OK	equi	red.
innection Resistance	Voltage V Utilize 100 Comment Note: Tor Te	Reading Corrected to 20° 20VDC Test Voltag s: rque check required f ermination Source est. / Load	A-G	SND	B-C cables ction F	GND s, 500VD0 Resistance n Resista B	C-GN C for cable Test requir nce (μΩ) C	ID eed for c - As	N-C ed <= 3 cables 4 Left	3ND 200V. 4/0 AWG N	or large	Summary est Passe est Inconc Further Inv est Failed	y d clusive vestigation F quired in the s orque Cheo OK	equi	red.
Connection Resistance Insulation Resist	Voltage V Utilize 100 Comment Note: Top Te Du Comment	Reading Corrected to 20° DOVDC Test Voltages: rque check required for ermination Source est. / Load s:	A-G	ND	B-4	GND s, 500VD0 Resistance n Resista B	C-GN C for cable Test requir nce (μΩ) C	eed for c	N-C ed <= 3 cables 4 Left	3ND 200V. 1/0 AWG N		Summary est Passe est Inconc Further Inv est Failed	y d clusive restigation F quired in the s orque Chec OK OK	pecifi kk	cations.
Connection Resistance Insulation Resist	Voltage V Utilize 100 Comment Note: Top Te Do Comment Cable Ref	Reading Corrected to 20° 20VDC Test Voltag s: rque check required for ermination Source est. / Load s:	A-G	ND	B-4	GND s, 500VD0 Resistance n Resista B	C-GN	eed for c	N-C	3ND 200V. 200V. 200V.	or large	Summary est Passe est Incond Further Inv est Failed	y d clusive vestigation F quired in the s orque Cheo OK	becifi k	cations.
inal Connection Resistance Insulation Resist	Voltage V Utilize 100 Comment Note: Top Te Do Comment Cable Ref	Reading Corrected to 20° 20VDC Test Voltages: arque check required for ermination Source est. / Load s: turned to Service: g / Further Inspecti	A-G	SND	B-d cables ction F ectior Yes Yes	GND s, 500VD0 Resistance n Resista B	C-GN	eed for a compared fo	N-C	3ND 200V. 1/0 AWG		Summary est Passe est Inconc Further Inv est Failed	y d clusive vestigation F quired in the s orque Chec OK	equi	cations.
Final Connection Resistance Insulation Resist	Voltage V Utilize 100 Comment Note: To Te Do Comment Cable Ret Monitoring Repair / R	Reading Corrected to 20° 00VDC Test Voltages: and the second seco	A-G	SND	B-I cables cables rection F ection Yes Yes	GND s, 500VD0 Resistance n Resista B	C-GN	eed for d - As eents:	N-C	3ND 200V. 1/0 AWG		Summary est Passe est Incond Further Inv est Failed	y d clusive vestigation F quired in the s orque Chec OK	equi pecifi	red.
Final         Connection Resistance         Insulation Resist	Voltage Voltage V Utilize 100 Comment Note: To Te Do Comment Cable Ref Monitoring Repair / R	Reading Corrected to 20° 20VDC Test Voltages: and the check required for ermination Source est. / Load s: turned to Service: g / Further Inspection Replacement Required Company:	A-G	SND	B-G cables ction F ection Yes Yes	GND s, 500VD0 Resistance n Resista B	C-GN	ed for a second	N-C	3ND 200V. 4/0 AWG		Summary est Passe est Inconc Further Inv est Failed	y d clusive vestigation F quired in the s orque Chec OK	equi oecifi k	red.

Checked By

#### INSPECTION FORM HEAT TRACE SYSTEM

Page: 1 of 1

ID:

ect	Facility:				Project Name:								
Proj	Area :				Bid Oppo	rtunity	:						
٤_	Manufactu	rer:		N	Model:				Serial Number:				
Syste Data	Voltage:	V		N	lominal Cab	le Pov	ver:	W/m	Cable Length:		m		
.,	Other:												
	System Ide	entification Tag Instal	led:	□ Yes	s 🔲	No	od 🗌 Accep	otable 🗌 Poo	or				
ction /	Controls:	🗌 N/A	Good [		eptable							or	
nspec	Ground Co	onnection:	Good [		ceptable  Poor							_	
sual I Cle	Cleanlines	s (As Found):	Good		eptable 🗌 F	Poor	Unit Cle	aned: 🗌 Ye	es Photograph 1	Taken:	🗌 Yes		
Ň	Comments	S:											
										th Source lee	latad	-	
Test	Test Preparation: Source: Disconnected									under test for es		_	
ance .	Teet		Tempera	Insu	lation Resi	istanc	e (MΩ)	Giouna				_	
esista	Voltage		1-GND	2-0	GND	3-G	SND	N-GND					
tion R	Reading								Test Inconclus Further Inves	sive stigation Regu	uired.		
nsula	v	Corrected to 20°C							Test Failed	0			
-	Comments	8:											
	Not Ap	plicable		Ambi	nbient Temperature °C								
Test	Voltage:		V	Curr	Surrent: V								
ower	Total Powe	er:	W	Pow	ver per mete	er:		W / m				_	
ш	Test Sum	mary 🗌 To	est Passed	T	Fest Inconcl	usive.	Furthe	r Investigation F	Required.	] Test Failed			
	Ground Fa	ult Test: 🗌 Pas	sed 🗌	Failed								7	
GFC Tes	Comments	8:										_	
						0							
al /sis	Returned	to Service:		□ Y	res 🗌	No	Comr	ients:					
Fin. Analy	Monitorin	g / Further Inspection		res	No								
	Repair / F	[] Y	res	No									
		е	Signature Date (yyyy/n					mm/dd)					
Perfo	rmed By												
Check	ked By		in roop onsite	for or	uring that the	data :-	tronser	ad from the hours	huritten form comth	u and that the	h i-		

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Winnipeg

# INSPECTION FORM HEATER, ELECTRIC

Page: 1 of 1

ID:

ject	Facility: Project Nan						):				
Pro	Area :				Bid Oppo	ortun	ity:				
System Data	Voltage: Manufacto Other:	V urer:		P	Phase: Model:	ase: Power:					
Visual Inspection / Cleaning	System Identification Tag Installed:       Yes         Controls:       N/A       Good       Accept         Ground Connection:       Good       Accept         Cleanliness (As Found):       Good       Accept         Comments:       Comments:       Comments:					No       Connections:       Good       Acceptable       Poor         table       Poor         table       Poor         otable       Poor         Ditable       Poor         Unit Cleaned:       Yes					ceptable  Poor
	Test Prep	aration:	Source:		Discor	nnect	ed		Connected v	vith Source	Isolated
e Test	Cable Te	prrection Fa	ctor	for 20°C:	Gro	und all conducto	ors not unde	r test for each			
istance	Test			Insulation Resistance (MΩ)				Test Summary			
Resis	Voltage		A-GND	B-GND C-		-GND	N-GND	Test Passed			
sulation	V	Reading							Test Inconclusive     Further Investigation Required.     Test Failed		equired.
Ϊ	Čomments:										
		policoplo		Amb	iont Tompo	rotu			*0		
				Amb				P	 Ρh Δ· Δ		
ower Test	Voltage a	t Heater: B-N	□ R-C □ C-A		v v		Current	rrent Ph B: A Ph C: A			
<u>е</u>	Total Pow	ver:	W								
•	Test Sum	imary 🗌 T	est Passed	۱ 🗌	Test Inconc	lusiv	e. Furthei	r Investigation F	Required.	🗌 Test Fai	ed
	Returne	d to Service:		□ Yes		0	Comm	nents:			
Final 1alysis	Monitorii Required	ng / Further Inspection	1	□ Yes		0					
A	Repair /	Replacement Require	ed:	🗌 Yes		0					
		Company	Name	•			Signa	ature		Date (yyy)	//mm/dd)
Perfor	med By						_				
Check	ed By										
Note:	The ners	on(s) performing the c	hack is rasn	onsible	for ensurin	a the	t the data	is transcribed f	rom the handwri	tten form co	rrectly and

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### INSTRUMENTATION TRANSMITTER LOOP CHECKLIST

Project								
Facility:	Project Name:	Project Name:						
Area :	Bid Opportunity	:						
	Instrument (	Instrument (Sensor / Element)						
Tag:	Description:							
Manufacturer:	Model:		Serial Number:					
	_	•••						
	Ira	nsmitter						
Tag:	Description:							
Manufacturer:	Model:		Serial Number:					
Units:	Design Range:	-						
Output	is   Other: et IP							
	PL	C / DCS						
I/O Address:								

	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: 1. 2.

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

Comments:

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

Project

Motor Data

Visual Inspection / Cleaning

## INSPECTION FORM AC MOTOR, LOW VOLTAGE

Page: 1 of 2

ID:

Facility:					Proje	Project Name:							
	Area :				Bid O	pportu	unity	:					
	Size:	kW /		HP	Voltage:			V	F	R.P.M:			
	Manufacturer:				Model:				S	Serial Numb	er:		
	Frame Type:		FLA:		А	Serv	ice F	Factor:	(	Other:			
	Cooling:	☐ Air ☐ Fan	# Cooling F	ans:			Wine Mate	ding erial:					
	Motor Identificat	ion Tag Instal	led:	□ Ye	es	🗌 No	٥ ١	Visual Signs of	Overheat	ing:	C	Yes	🗌 No
	Connections:		Good 🗌		ceptable	🗌 Po	oor /	Air Baffles:			] Good 🔲 A	cceptal	ole 🗌 Poor
	Paint:		Good 🗌		ceptable	🗌 Po	bor f	Filter Media:		🗆 N/A 🗖	] Good 🔲 A	cceptal	ole 🗌 Poor
	Cooling Fans:		/A 🗌 Good		ceptable	🗌 Po	oor I	Fan Controls:		🗆 N/A 🗆	] Good 🛛 A	cceptal	ole 🗌 Poor
	Anchorage/Align	iment:	Good 🗌		ceptable	🗌 Po	oor						
	Ground Connect	tion:	Good 🗌		ceptable	🗌 Po	oor						
	Mechanical/Elec Operation:	trical Noise D	uring	□ Ye	es		οl	Lubrication Req	uired:			′es	🗌 No
	Cleanliness (As	Found):	Good Good	🗌 Ac	ceptable	🗌 Po	bor l	Unit Cleaned:	☐ Yes	Photogra	ph Taken:		Yes

		Test Winding		F	esistance (MΩ)		Dielectric	Polarization	
	Stator Winding	Voltage (Vdc)	Temperature (°C)	30 Sec	1 min.	10 min. (a)	Absorption Ratio	Index (a)	
nce		500					-	-	
sista		500	40						
on Re		500					-	-	
sulati		500	40						
sul gr		500					-	-	
/indi		500	40						
5	Notes:								
	(a) Testing to 10 minutes and calculation of Polarization Index is only required for motors > 150 kW (200 HP)								
	Test Summary	ו 🗌	Test Passed	est Inconclusive.	Further Investiga	tion Required.	🗌 Test Fail	ed	

		Resistance (μΩ)		Test Summary
ing ance	A - B	B – C A - C		Test Passed Test Inconclusive
Windi Resista				Further Investigation Required.
	Comments:			

## INSPECTION FORM AC MOTOR, LOW VOLTAGE

Page: 2 of 2

ID:

_	Not Applicable	] Not Applicable										
tion	Boaring	Test Voltage		Resistance (MΩ)								
ng Insula	Bearing	(Vdc)	Temperature (°C)	1 min.	Corrected to 40°C							
		500										
3earii R(		500										
	Test Summary	Test Passed	Test Inconclusiv	e. Further Investigation Require	ed. 🗌 Test Failed							

	Not Applicable						
	Actual Winding Ter	mperature:	°C	Actual Bearing Temperature	re °C		
	Thermistor / SwitchResistance (Ω)		Thermistor / Switch	Resistance (Ω)	Thermistor / Switch	Resistance (Ω)	
ø							
Resistanc	RTD Resistance (Ω)		Calculated Temperature (°C)	RTD	Resistance (Ω)	Calculated Temperature (°C)	
stor F							
ermis							
) / Th							
RTI							
	Test Summary	Test Passed	Test Inconclusiv	ve. Further Investigation Require	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	
٨	Repair / Replacement Required:	🗌 Yes	🗌 No	

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

#### INSPECTION FORM VALVE, ACTUATED, ON-OFF

Page: 1 of 1

ID:

ject	Facility:			Project N	Project Name:							
Pro	Area :			Bid Opportunity:								
Valve Data	Service Fluid:			'alve Size: mm					Valve Type:			
	Valve Manuf.:			Jalve Model:					Serial Number:			
	Actuator Type: Solenoid Pneumatic			c Limit Switche	Limit Opened Closed					Other:		
	Actuator Manufacturer:			Actuator Model:	Actuator Model:					Serial Number:		
	Value Identification Tag											
isual Inspection / Cleaning												
	Connections: Good Acce			cceptable	eptable Poor Hazardous Location			Not Required				
	Paint: Good Acce				otable Poor Requirements Deficient			it				
	Mechanical/Electrical Noise During Operation: 🗌 Yes			es 🗌	No Lubrication Required:			🗌 Yes 🗌 No				
>	Cleanliness (As Found):			Acceptable	ceptable 🗌 Poor Unit Cleaned: 🗌 Ye			2s Photograph Taken: Yes				
			PICI/O									
	Local/Remote Switch	Local Open/Close Switch	HMI Manual Command	DI Bemote	DI		DI	DO Open	DO Close	HMI / SCADA	Pass (P/F)	
est		Class		Keniote	Oper	ieu	cioseu	Open				
rolT	Local	Close	-									
Cont		Open										
nual (	Remote	- Close Open	Close									
Ma			Open									
	Comments			•					I.			
	Test Summary	🗌 Test Pa	assed	] Test Failed								
	Process Conditions											
				1								

Travel Time Test	Travel	Time (sec)	Test Summary				
	Closed $\rightarrow$ Open		Test Passed				
	Open $ ightarrow$ Closed		Test Failed				
	Comments:						

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

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