<u> </u>	_			C						М				Page	е	1 of 2	2
Winni	peg 				AIR (CON	DITI	IONE	R					Equi	ipment Tag:		
ect	Facility:			F	Project N	lame:											
Project	Area:			F	RFP No.							Tend	ler No				
	General Cor	ntractor:			Pro	niect M	lanar	nor.									
Project Contact	Consultant:	iliaotor.				-			or:					Ged From: Gerial #: A			
F S	City of Winn	ipeg			Co	nsultin	ng Pro	oject M	lan	ager:							
											7 D(
er	A/C Equipme	ent No.			A/C	C Loca	tion:				_	- 11	Fed Fi	om:			
Air Conditioner Location & Data	Drawings:	Single Lir	ne:		Med	ch. Sc	hedu	ıle:				Ç	Schem	natic:] N/A
. Con	A/C	Manufact	turer:		Mod	del:						,	Serial	Equipment Tag: FNo. FNo. Final #: Final #:			
Air	Ratings:	Power: Ton Size	kW	Rate	d Voltage	e:	٧	/AC F	Full	Load /	Amps:	•	Α		1-Phase	□ 3-	Phase
		1.0	•				1										
	Air Condition	ner Lamad	coid Installed:	☐ Ye	es		lo	Visual	Si	gns of (Overhe	ating:			☐ Yes		□No
_	Power Cable	es Labelle	d:	☐ Ye	es	□N	lo	Appro	pria	ate Bre	aker / F	use S	Size In	stalle	ed: 🗌 Yes		□No
aning	Appropriate	Duct / Duc	ctless Installation:	☐ Ye	es	□N	lo	Suffici	ent	Ton S	Equipment Tag: Tender No.	□No					
/ Cle	Cleanliness:	•	☐ Good	Project Name: Project Manager: Contract Administrator: Consulting Project Manager: Ped From: Ductleds Fed From: Ductless Ped From: Ductless Ped From: Ped F	ptable	☐ Poor											
ction	Power Conn	ection:	☐ Good	☐ Ac	cceptable	P	oor	Groun	d C	Connec	tion:] God	od 🗌 Acce	ptable	☐ Poor
nspe	Fully Function	onal Contr	oller: Good	☐ Ac	cceptable	e □ P	oor	Contro	olle	r Displa	ay Worl	ks:] God	od 🗌 Acce	ptable	Poor
Visual Inspection / Cleaning	Remote Cor	ntroller Ins	talled:	☐ Ye	es 🗌 No) N	I/A	Remot	te (Control	er Cab	Good Acceptable Good Acceptable Good Acceptable Acceptable Good Good Acceptable Good Good Acceptable Good Acceptable Good Good Acceptable Good Goo	□ N/A				
ķ	Cables Supp	ported App	oropriately:	☐ Ye	es 🗌 No)		Equipr	mei	nt Clea	ned:	☐ Ye	s Pl	☐ Yes ☐ Good ☐ Acceptable ☐ ☐ Good ☐ Acceptable ☐ ☐ Good ☐ Acceptable ☐ ☐ Helled: ☐ Yes ☐ No ☐		☐ Yes	
	Comments:													No. From:			
	1																
	Test Preparation	: Sou	Setup: rce:	, [Discor	nnecte											
_	WARNING:	DISCON	NECT ALL FIELD	POW	ER CABI	LES P	RIOF	R ТО Т	ES	ST.							
sting		Та	est		Foot Volt	togo		Ins	ula	tion Re	esistan	nce (M	ΙΩ)		Ground a	all phas	ses not
al Te		16	est	<u>'</u>	lest voit	tage	Ph	ase A		Pha	se B	Р	hase	С			
ectric	Co	ntactor Li	ne to Ground		V	'DC											
er Ele	Co	ntactor Lo	ad to Ground		V	'DC										•	
lition	С	Contactor L	ine to Load		V	'DC											sive
Air Conditioner Electrical Testing		Т			Tooto				F	Resista	nce (µ	Ω)					tigation
Air		16	est		reste	"	Phas	ses A-	В	Phase	es B-C	Pha	ases (С-В	☐ Test Fa	iled	
		Heating	Element		Fluke Me	eter											
	Comments:																

@	$\overline{}$					COMM	ICCION	INC F	ODM			Page		2 of 2
Winnip	peg					COMM	CONDI					Equipme	nt Tag:	
												Equipme	iii rag.	
Project	Faci	lity:				Project N	lame:							
Pro	Area	a:				RFP No.					Tender No).		
	TES	TING: AI	R CON	IDITIONER TO			. ,	INUTES						
	Tem	perature			Turr	On Setpo	oint:		٥	C /	Actual Turn C	n Setpoin	t:	°C
<u>g</u>			Devic						M	leasured (Current			
Load Operation	sp		Devic	e		Phase	e A			Phase	В		Phas	e C
	C Loads	Compr	ressor	□ N/A			Α				A			Α
	A/C	Fa	ın	□ N/A			Α				Α			Α
		Hea	iter	□ N/A			Α				A			Α
	tor	L	Descrip	tion	Con	troller Cor	ntact Stat	us	(Contactor	Status		A/C S	tatus
ш	Contactor	Conta	actor	□ N/A		Close	ed		☐ Cle	osed	Opened	Rur	ning	☐ Stopped
	S					Open	ied		☐ Cle	osed	☐ Opened	Rur	ning	☐ Stopped
	Com	nments:												
	Date							Comm	nonte:					
al ⁄sis		rned to Ser				☐ Yes	□ No	-	ieriis.					
Final Analysis	Mon	itoring / Fur	ther Ins	spection Requi	red:	☐ Yes	☐ No							
٧	Rep	air / Replac	ement	Required:		☐ Yes	☐ No							
		1		Company			Name				Signature		Data	(yyyy/mm/dd)
Genera Repres		ntractor tive		Company			IVAIII	<u> </u>			Signature		Date	(уууу/ППП/ССС)

Winni	_													Page	e 1 of	3
vviiiiij	peg •				AL	лом	ATIC	TRANS	SFER	SWI	ГСН			Equip	oment Tag:	
ect	Facility:					Pro	ject Na	me:								
Proj	Area:					RFI	P No.					Tende	er No.			
+	General Contr	actor:					Proie	ect Mana	aer:					ion No. Control Voltage: Bkr Location: Yes Bkr Location: A AC-3 AC A Secondary Fuse: Yes Condition Acceptable Good Acceptable Good Acceptable Correctly Yes Control Voltage: Test Summary Condition Condit		
oject ntac	Consultant:									r:					No. Transition: Yes Control Voltage: Bkr Location: Bkr Location: A AC-3 A Secondary Fuse: Yes Scood Acceptable Good Acceptable Good Acceptable Good Acceptable Good Acceptable Grectly Yes notograph Taken: Test Summary Test Passed Test Inconclus Further Inves Required.	
Pre	City of Winnip	eq									er:					
													Equipment Tag: Control Voltage: Control Voltag			
	ATS Downstre	am Loac	i:				ATS I	_ocation:				S	Section	n No.		□ N/A
	Sources:						Sourc	e 2 (Eme	ergency)	:		C	Closed	l Tran	nsition: Yes	□No
	Drawings:	Single L	ine:				Conn	ection:				L	oop:	Equipment Tag: Equipment Tag:		
	ATS:	Manufa	cturer:				Mode	l:				S	Serial #			
_	χ13.	Power F	Rating:			Rated	Voltage	e:	VAC	Cui	rrent Ratin	g:	Α	Co	No. Transition: Yes Control Voltage: Bkr Location: Bkr Location: A AC-3	VAC
Data	Source 1							Inat			Manufact	urer:				
tion &	(Normal) Circuit Protection:	☐ Brea	ıker	Ratii	ng:	F	4	Setting:		Α	Model:				Bkr Location:	
oca	Source 2	AUTOMATIC TRANSFER SWITCO Project Name:	Manufacti	urer:												
Visual Inspection / Cleaning ATS Location & Data Contact Contact	(Emergency) Circuit Protection:	☐ Brea	ıker	Ratii	ng:	A	4			Α	Model:				Bkr Location:	
	Line 1				Manufa	cturer:					Model:				•	
	(Normal) Contactor:				NEMA :	Size:				I/A	IEC Ratin	g:	Equipment Tag:	AC-4		
	Line 2				Manufa	cturer:					Model:					
	(Emergency) Contactor:				NEMA :	Size:			1	I/A	IEC Ratin	g:		Α	☐ AC-3 ☐	AC-4
	Control Powe	r Transf	ormer:	Size	•	VA S	econda	ry Voltag	je:	V	Primary F	use:		A S	econdary Fuse:	Α
	ATS Lamacoid	d Installa	vq.			ПУ	·	No	Visual	Siane	of Overhe	ating:				П No
.				th Fn	ys.								oth Fn	ds.		□ No
ıninç	Cleanliness:	Labolio													<u> </u>	
Clea		Connec	tions:				<u> </u>									
on /												-				
ecti	Door Mechani						-									
al Insp		ors are o	correctl		- d		Project Name: RFP No.	stly	□ No							
Visu	Cables Suppo	rted App	ropriat	ely:		☐ Yes	. □ No)	Equipm	ent C	Cleaned:	☐ Ye	es P	hotog	graph Taken:	☐ Yes
	Comments:												<u> </u>			
			T -						F	Resis	tance (μΩ)			Test Summary	
ole nts			ıes	τ				Phas	se A	Pł	nase B	Ph	nase C	;	_	
act / Pu	So	ource 1 (Norma	l) Lin	e to Loa	d									Further Inves	
Conta	Sou	rce 2 (Er	merger	icy) L	ine to Lo	oad										

Comments:

(_				COMN	MISSION	ING F	ORM			Pag	е	2 of 3	1
Winnij	peg			AU ⁻	TOMAT	IC TRAN	ISFE	R SWIT	ГСН		Equi	pment Ta	g:	
ect	Facili	ty:	I		Project	Name:								
Project	Area:				RFP No	D.				Tender No).			
												Indipment Tag: Contact Contact		
	Test Prepa	☐ Disearation: ☐ Cor	conne necte		☐ Disc	2 (Emerge connected nected with	n		Load Cabl Discon Conne	nected cted with	Re prid	presentati or to leavir	ve is requ ng cables	uired,
est	WAR							INFCT A						
ce To	VVAIN	NING. DISCON	INLO	I ALL I OWLK A	TIO CADI	LOANDI			Resistanc		_1\\ 1\\			
Insulation Resistance Test		Te	st		Voltag	e Ph	ase A		nase B	· ,	С			
Resi	S	Source 1 (Normal) Line	to Ground	1000 VE	С						Test Sun	nmary	
tion	Soi	urce 2 (Emergen	cy) Li	ne to Ground	1000 VE	С						☐ Test F	assed	
sula		Load to	Grour	nd	1000 VE	С								
п		Source 1 (Norma	al) Lir	e to Load	1000 VE	С								igation
	S	ource 2 (Emerge	ncy) l	ine to Load	1000 VE	С						☐ Test F	-ailed	
	Comr	nents:												
.		natic Mode Swite ource 1 Power D			ce 2 🗌 Y	'es □ No			node Swite 1 Power F		2 to	Source 1	☐ Yes	□No
stinç	es	Mode Description	on					Sour	ce Powers	s Load	Note: Approval of City's Representative is required prior to leaving cables connected during the test. POWER FUSES PRIOR TO TEST. (10)	uminates		
Operational Testing	Operating Modes	Automatic Mode	e - So	urce 1 (Utility)] Yes	☐ No	□ N/A		☐ Yes	☐ No	□ N/A
iona	ıting	Automatic Mode	e - So	urce 2 (Emerger	ncy) via S	ource 1 Fa	il [Yes	☐ No	□ N/A		☐ Yes	☐ No	□ N/A
oerat	pera	Normal Test Mo	de - S	Source 1 (Utility)				Yes	☐ No	□ N/A		☐ Yes	☐ No	□ N/A
Q	0	Emergency Tes	t Moc	le - Source 2 (Er	mergency)		Yes	☐ No	□ N/A		☐ Yes	☐ No	□ N/A
	Comr	nents:												
	Progr	am ATS Settings	s to M	atch Setting Let	ter.		Comn	nents:						
		ngs Applied to AT		☐ Yes										
<u>s</u>		Setting Letter File					1							
tting		ce 1 (Normal) Dro		Voltage:		V	Sourc	e 1 (Nor	mal) Picku	ıp Voltage:				V
ATS Settings	Source	ce 2 (Emergency) Drop	oout Voltage:		V	Sourc	e 2 (Em	ergency) F	Pickup Volta	ge:			V
ΑT	Trans	fer to Source 2 (Emer	gency) Time De	lay:	sec.	Retrai	nsfer to S	Source 1 (Normal) Tim	ne De	lay:		sec.
	Source	ce 1 to 2 Closed	Trans	ition Time:	sec.	□ N/A	Sourc	e 2 to 1	Closed Tra	ansition Tim	ie:	S	ec.	N/A
	Source	ce 2 (Emergency) War	m-Up Time Dela	ay:	sec.	Sourc	e 2 (Em	ergency) (Cool-Down 7	Γime I	Delay:		sec.
	Vorify	Control Signals	Rotw	oon ATS and DI	C		Comn	ants:						
nals		To		sical signals rati		nstalling	-	iorito.						
Sign	Test			for signals			1							
ntrol	Field	Wires Labelled a	at Bot	_		☐ No	<u> </u>		T			T		
ATS & PLC Control Signals	gnal	Signal Descript	ion	ATS Pilot L Illuminat			al Rece PLC Ca			nal Appears HMI Screen		SCADA	Can See	e Signal
& PL	Discrete Signal	On Source 1 Po	wer	☐ Yes ☐ No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□ No □] N/A	☐ Yes	☐ No	□ N/A
\TS	iscre	On Source 2 Po	wer	☐ Yes ☐ No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□ No □	N/A	☐ Yes	☐ No	□ N/A
1		ATS Alarm		☐ Yes ☐ No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□ No □] N/A	☐ Yes	☐ No	□ N/A

<u> </u>			COMMISSIONING FORM		Page	3 of 3
Winni	peg	AUT	OMATIC TRANSFER SWITCH		Equipment Tag:	
oject	Facility:		Project Name:			
Pro	Area:		RFP No.	Tender No).	

	Step	Description	Res	ult
	1	ATS in Source 1 (Normal) Position with Source 1 Energized. ATS indicates Source 1 (Normal) available and Source 1 (Normal) position status is provided.	☐ Pass	☐ Fail
	2	Power down (or isolate) Source 1 (Normal). ATS indicates Source 1 (Normal) is not available.	☐ Pass	☐ Fail
	3	Source 2 (Emergency) start signal provided.	☐ Pass	☐ Fail
	4	Source 2 (Emergency) starts. ATS indicates Source 2 (Emergency) available and transfers to Source 2 (Emergency) after appropriate delay. Source 2 position status is displayed.	☐ Pass	☐ Fail
ting	5	Power up (or reconnect) Source 1 (Normal). ATS indicates Source 1 (Normal) is available and delay timer starts before transfer back to Source 1 (Normal). ATS continues to indicate Source 2 (Emergency) position status.	☐ Pass	☐ Fail
Functional Testing	6	Timer expires and ATS transfers to Source 1 (Normal). ATS indicates Source 1 (Normal) position status.	☐ Pass	☐ Fail
ctior	7	Source 2 (Emergency) Stops after cool-down timer expires.	☐ Pass	☐ Fail
Ē	8	Ensure loads are isolated such that a phase loss will not damage equipment. Simulate a Source 1 (Normal) phase loss condition and verify the ATS starts Source 2 (Emergency) Generator and transfers to Source 2 (Emergency).	☐ Pass	☐ Fail
	9	Reinstate the lost phase on Source 1 (Normal) and verify that ATS transfers back to Source 1 (Normal) after the appropriate delay.	☐ Pass	☐ Fail
	10	Manually start Source 2 (Emergency) and perform a manual transfer to Source 2 (Emergency).	☐ Pass	☐ Fail
	11	Perform a manual transfer back to Source 1 (Normal).	☐ Pass	☐ Fail
	Test	Summary Test Passed Test Inconclusive - Further Investigation Required Test Failed		
v	Retur	ned to Service: Yes No Comments:		
Final Analysis	Monit	oring / Further Inspection Required:		
Ar	Repa	ir / Replacement Required:		

	Company	Name	Signature	Date (yyyy/mm/dd)
General Contractor Representative				
City Representative				

Wi-												Pag	ge 1 of :	2
Winni	peg 			CUST	ОМЕ	R SEF	RVICE T	ERMII	ITAV	ON END)	Equ	uipment Tag:	
ect	Facility:				Р	roject N	ame:							
Project	Area:				R	FP No.					Tender	No.		
	0 10													
Project Contact	General Cont	tractor:												
Proj Con	Consultant: City of Winnip													
	City of Willing	Jeg					risulting Fi	OJECT IVI	anaye	ži.				
	CSTE Downs	stream Lo	ad:			Eq	uipment N	0.			Lo	Location: Site Plan: Serial #: Remote Enclosure:		
ata	Drawings:	Single L	ine:			Gro	ounding:				Sit	e Plan:		
& Da		Manufac	cturer:			Мо	del:				Se	erial #:		
CSTE Location & Data	CSTE:	Mountin	g Type:	☐ Floor	□Wa	all Me	tering Typ	<u> -</u>		_		mote E	nclosure:	☐ No
E Loc		Rated C	urrent:	Α	Rate	d Volta	ge:	VAC	Pha	ses: 🗌 1-l	Ph □ 3-	Ph Sho	rt-Circuit Rating	kAIC
CST	Main	_					Inst.			Manufact	urer:			
	Disconnect Type:	☐ N/A	ch	Rating:		А			А	Model:				
		Project Name:												
e Size & Cabling	Service Size:		kVA l	•		Ra	ted Service	e Currer	nt:	A			er: Pole P	admount
vice Siza TE Cabli	CSTE Load Side Cabling Size and Typ	e: (ie 2	2 x 4C, 35	0 kcmil T	eck90)			Bot	tom [☐ Side / R	eari		nstream	
Ser	CSTE Load S Cable Rating		Γable		Dia		CEC C22.1		etail:					
	CSTE Lamac	oid Insta	lled:		☐ Yes	<u> </u>	□No	Visual	Signs	of Overhe	ating:		☐ Yes	□No
ing	Power Cables	s Labelle	d at Both	Ends:	☐ Yes	5	□No	Phases	s Labe	elled Inside	Enclosu	ıre:	☐ Yes	□No
Cleaning	Cleanliness:		[Good	☐ Acc	eptable	Poor	Power	Cable	e Connection	ons:	☐ Go	ood	☐ Poor
on /	Main Disconr	nect:	[Good	☐ Acc	eptable	Poor	Service	e Entr	ance Enclo	sure:	☐ Go	ood	☐ Poor
Visual Inspection /	Ground Conn	ections:	[Good	☐ Acc	eptable	Poor	Bus Ba	ars an	d Insulator	s:	☐ Go	ood	☐ Poor
al Ins	Door Mechan	nical:	[Good	☐ Acc	eptable	Poor	Exercis	sed C	ircuit Break	cer / Disc	onnect:	Yes	□No
Visua	Cables Supp	orted App	oropriately	/:	☐ Yes	Project Name: RFP No. Tender No. Tender No.	☐ Yes							
	Comments:											1		
									Dania	tamaa (v.O			Toot Summory	
Ş			Test				Dhac				1	sa C	4	
Resistance easurement		Interior	· Bus Bar	/ Cabling			Filas		r	iiase D	FIId	3 c U	☐ Test Inconclus	
Resistance Jeasurements		Brea	ker / Disc	onnect									Required.	-

Comments:

<u></u>	_			COMMISSIO	NING FORI	VI		Page	2 of 2
Winni	peg		CUSTON	IER SERVIC	ETERMINA	TION END)	Equipm	ent Tag:
ect	Facility:			Project Name:					
Proj	Area:			RFP No.			Tender No	Equipment Tag: Inder No. Inder	
	Test Preparation:	Sou Con	Setup: rce: Isolated tactor: Open	Cable Dest Disconnect Connected Isolated		Note: Apprior to le	oproval of Ci eaving cable	ity's Rep	resentative is required, cted during the test.
est			NECT ALL POWER C OL POWER FUSES PI		FD MODULE A	ND CAPACI	TORS, AND	DISCO	NNECT ALL
sulation Resistance Test		т.	est	Valtage	Insula	tion Resista	nce (MΩ)		Ground all phases not
		10	est	Voltage	Phase A	Phase B	Phase	C	under test!
n Resi	Interior Bu	s Bar /	Cabling to Ground	1000 VDC					·
Final Breaker Insulation Resistance Test Projection Resistance Test Project	Main Dis	connec	ct Line to Ground	1000 VDC					Test Passed Test Inconclusive
	Main Disc	connec	t Load to Ground	1000 VDC					Further Investigation Required.
	Main Di	sconne	ect Line to Load	1000 VDC					Test Failed
	Comments:			1			1	•	
	ī								
er	Adjust Settings	to Mat	ch Single Line Diagran	n	Comments:				
Final Breaker Analysis Settings O O O O O O O O O O O O O O O O O O O	Settings Applied	d to Br	eaker: 🗌 Yes	☐ No					
Б S	Single Line Dia	gram:							
	I				0				
= sis	Returned to Se	rvice:		☐ Yes ☐ No	Comments:				
Fina	Monitoring / Fu	rther In	spection Required:	☐ Yes ☐ No)				
Ā	Repair / Replac	ement	Required:	☐ Yes ☐ No					
			0				0:		B-1-6
	al Contractor sentative		Company	Na	me		Signature		Date (yyyy/mm/dd)

Winni												Fed From: Connection: Serial #: Auxiliary Contacts:		of 2
Project Name: Project Name:				-										
Proje	Area:				RFP	No.					Tende	er No.	Equipment Tag: Cool	
	<u> </u>													
ect act	General Cor	ntractor:												
Proj														
	City of Winn	ipeg				Consu	Iting P	roject Ma	anage	er:				
_	Disconnect E	quipment	No.			Locatio	n:				F	ed From	:	
atior	Drawings:	Single Lir	ne:			Schem	atic:				С	onnectio	on:	
Loc		Manufact	turer:			Model:				Connection: Serial #: of Poles: Auxiliary Contacts: Yes Manufacturer: Model: Set of Overheating: Yes It is of Overheating: Yes				
onnect & Da				- 11	Rated V	oltage:		VAC	No.	of Poles:	•	Auxiliar	ry Contacts: Y	es 🗌 No
Disc		☐ Install	.ed 🔲 N/.	A F	Rating:			Α	Тур	e:			acturer:	
	Disconnect	l amacoid	Installed:		Yes		l No	Visual 9	Sians	of Overhe	ating.		□Yes	П №
ing												•		□ No
lean						·							_	□ No
n/c								1						
ectio	Switchblade	Mechanic			Project Name: Project Name:									
nsp	Exercised S	witchblade	e Operation:		Yes [Equipment Tag:	□ No							
sual	Cables Supp	oorted App	propriately:		Yes [] No						1	ograph Taken:	☐ Yes
, Vi	Comments:												m: tion: ary Contacts:	
	I.											Good Acceptable te: Yes Photograph Taken:		
ıse			Toot					F	Resis	tance (μΩ))		-	
& Fu			rest				Phas	se A	Р	hase B	Ph	ase C		
lade uren		Switchblad	de Pole Meas	surement	s									ssilgation
tchb		Fuse	e Measureme	ents									☐ Test Failed	
Swi	Comr	nents:				Į.		L			l			
	1													
	Test Preparation	. —	e: connected nnected with	Source I	solated	☐ Di	sconn		Load	Isolated	require	ed, prior	to leaving cables	
est	WARNING:	Isolate S	Source and L	oad Cabl	ling Prio	r To Te	st. Use	500 VD	C for	< 300 V ra	ited and	d 1000 V	'DC for > 300 V ra	ted.
Switchblade & Fuse Measurements		т	est		v	oltana		Inst	ulatio	on Resista	nce (M	Ω)		
istan						onage	ı	Phase A	١.	Phase B	P	hase C	under te	est!
Res	Disco	onnect Lin	e Side to Gro	ound		VD0	0							
sulation	Disco	nnect Loa	ad Side to Gro	ound		VDO	5						☐ Further Inve	
lns	С	isconnect	Line to Load	d		VD0								
	Comments:				U									

Winni	peg			DISCO	ONNEC.	T SWITCH		Equipme	nt Tag:		
ject	Facility:			Project I	Name:						
Project	Area:			RFP No			Tender No).			
is.	Returned to Se	rvice:		☐ Yes	□No	Comments:					
Final nalysis	Monitoring / Fu	rther In	spection Required:	☐ Yes	☐ No						
- Ā	Repair / Replace	ement	Required:	☐ Yes	☐ No						
			Company		Name	e	Signature		Date (yyyy/mm/dd)		
Genera	al Contractor					•					

COMMISSIONING FORM

Page

2 of 2

Note: The General Contractor Representative is responsible for ensuring that the data is transcribed from the handwritten form correctly, and that the analysis results are correct.

Representative

City Representative

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Winnij	pèg				DRY T	YPE TF	RAN	SFORM	ΛE	ER			Equ	ipment Tag:	
ect	Facility:	Project Name: Project Name:													
Project	Area:				RFP	No.					Tender No. Single Line Dwg: Serial #: kVA				
	General Contra	actor.				Project M	lana	ner.							
Project Contact	Consultant:	<u> </u>		Project Manager: Contract Administrator: Consulting Project Manager: No. Location: Single Line Dwg:											
Pro	City of Winnipe	eg								ger:					
<u> </u>								•				1			
	Transformer Ed	quipmen	t No.			Location:						Single	Line	e Dwg:	
ion		Manufa	cturer:		1	CAT / Mo	del N	No.				Serial:	#:		
ocat		Primary	/ :	V	Seconda	ary Voltage	э:	V	R	Rating:	k	VA] 1-Phase	3-Phase
ner L Data	Ratings:	Prima	ry Windi	Project Name: RFP No. Tender No.	Temp. Rise:										
forn				Y-Gnd	Δ	Y		Y-Gnd	Į [Aluminum	<u> </u>	Copper		%Z	°C
_	Transformer Taps:	☐ Sec	-	Project Name: RFP No. Tender No.	Tap Setting On V										
	Transformer L	amacoio	d Installe	d: [] Yes		lo	Visual Si	gn	ns of Overhea	ating	:		☐ Yes	☐ No
/ u	Power Cables	Labelle	d:] Yes		lo	Any Expo	os	ed Energized	d Me	tal:		☐ Yes	☐ No
ectio ng	Cleanliness:			☐ Good ☐	Accept	able 🗌 F	oor	Enclosure	е :	Secured:] Go	od 🗌 Acce	ptable Poor
al Inspect Cleaning	Power Connec	ctions:		☐ Good ☐	Accept	able 🗌 F	oor	Ground C	Со	nnections:] Go	od	ptable Poor
ual I	Transformer S	upporte	d Approp	oriately:] Yes [No 🗆 N	I/A	Neutral B	301	nded to Grou	und:		Resistance to be recorded after 60 sec. Equipment Tag:	□ N/A	
Vis	Cables Suppo	rted App	ropriatel	y: [] Yes [] No		Equipme	nt	Cleaned:	☐ Y	es Ph	Equipment Tag: No. Sigle Line Dwg: ial #: 1-Phase 3-Phase 3-Phase	: Yes	
	Comments:														
		Sou	roo:												
	Test Preparation:		Disconne		ce Isolate	ed							ve is	required, p	rior to leaving
est	WARNING: [DISCON	INECT IN	NCOMING S	SOURCE	POWER	CAB	LES PRIC	OR	R TO TEST.		Single Line Dwg: Serial #: (VA			
ce T		\A/: _m	dina		V	altana		Insul	ati	ion Resistar	nce ((ΜΩ)		Resis	tance to be
stan		VVIII	laing		V	onage	F	Phase A		Phase B		Phase	С	recorded	l after 60 sec.
insi) C	F	Primary	to Groun	d		VDC								Test Sumi	mary
	Se	econdar	y to Grou	ınd		VDC									
Insula	Pr	imary to	Second	ary		VDC								Requir	ed.
														☐ Test Fa	alled
	Comments:														
"	Returned to S	ervice:			Y€	es 🗌 N	0 (Comments	s:						
Final Analysis			spection	Required:											
Ana	Repair / Repla		•	•											

<u> </u>	_		COMMISSIONING FORM		Page	2 of 2
Winnij	peg	D	RY TYPE TRANSFORMER		Equipment Tag:	
oject	Facility:		Project Name:			
Pro	Area:		RFP No.	Tender No		

	Company	Name	Signature	Date (yyyy/mm/dd)
General Contractor Representative				
City Representative				

<u> </u>				CON	MMISSI	ONIN	JG F	ΩR	M		Pag	е	1 of 2	
Winnip	peg				DUCT				•••		Equ	ipment Tag		
t	Facility:			Proje	ect Name:						<u> </u>			
Project	Area:			RFP	No.					Tender N	lo.			
	7 •													
oct act	General Cor	ntractor:			Project I	Mana	ger:							
Project Contact	Consultant:				Contrac									
4 0	City of Winn	ipeg			Consulti	ng Pr	oject N	Mana	ager:					
	Heater Equip	ment No.			Heater L	.ocatio	on:			Fed	From:			
er Oata	Drawings:	Single Lir	ne:		Mech. S	chedu	ıle:			Sche	ematic:			N/A
Duct Heater ocation & Da		Manufact	urer:		Model:					Seria	al #:			
Duct Heater -ocation & Data	Duct Heater Ratings:	Power:	kW	Rated Vo	l oltage:		VAC	Full	Load Amps:	A		1-Phase	3-F	Phase
Ľ	Raungs.	Flow Rate	e: L/s	Control V	/oltage:		VAC	Sta	ges:		SCR	Controls:	to	V
I														
	Duct Heater	Lamacoid	Installed:	☐ Yes	<u></u>	No	Visua	ıl Siç	gns of Overhe	ating:		☐ Yes		☐ No
_	Power Cable	es Labelle	d:	☐ Yes	<u> </u>	No	Appro	pria	ate Breaker / F	use Size	nstalle	ed: Yes		☐ No
aninç	SCR Contro	l Cables L	abelled:	☐ Yes		No	SCR	Con	trols Properly	Installed:		☐ Yes		□ No
/ Cle	Cleanliness:		☐ Good	□ Ассер	table 🔲	Poor	Heate	er Pr	roperly Installe	ed:	☐ Go	od 🗌 Acce	ptable	☐ Poor
tion	Power Conn	ection:	☐ Good	□ Ассер	table 🔲	Poor	SCR	Con	trols Connecti	on:	☐ Go	od 🗌 Acce	ptable	☐ Poor
Visual Inspection / Cleaning	Ground Con	nection:	Good	□ Ассер	table 🔲	Poor	Grour	nd C	Connection:		☐ Go	od 🗌 Acce	ptable	☐ Poor
suall	Remote The	rmostat In	stalled:	☐ Yes ☐] No □ I	N/A	Remo	ote T	Thermostat Ca	ble Labell	ed	☐ Yes	□No	□ N/A
Χį	Cables Supp	oorted App	propriately:	☐ Yes ☐] No		Equip	mer	nt Cleaned:	☐ Yes	Photog	graph Taker	1:	☐ Yes
	Comments:													
	Test Preparation:	Sou	, 🗆 D	ower Cab isconnect onnected							Representat nnected duri			
5 1	WARNING:	DISCON	INECT ALL FIELD	POWER	CABLES I	FRON	и мот	OR	PRIOR TO T	EST.				
Heater Electrical Testing		Te	et	Tost	Voltage		Ins	sula	tion Resistan	ce (MΩ)		Ground		
calT				1031	Voltage	Pł	nase A	١	Phase B	Phas	e C		der test!	!
lectri		Line to	Ground		VDC							Test Sum	-	
ter El		т.		_				R	Resistance (µ	Ω)		☐ Test Pa		ve
Hea		Те	:5l		ester	Pha	ses A	-В	Phases B-C	Phases	с-В		r Investi	
		Heating	Element	Fluk	e Meter							☐ Test Fa		
	Comments:			•										

<u> </u>				COMMI	SSION	ING FORM			Page	2 0	f 2
Winni	pèg				ICT HE				Equipmer	nt Tag:	
ect	Facility:			Project N	ame:						
Project	Area:			RFP No.				Tender No).	RECORDING VOV.	
		ATER TO BE RUN CR DUTY POINTS									VALUES.
	Temperature		Turi	n On Setpo	oint:	٥	C A	ctual Turn C	n Setpoint	t:	°C
bu	SCR Duty Point	SCR Volts				Duct He	ater Measu	red Current	t		
esti	CON Buty 1 om	CON VOICE		Phase	e A		Phase E	3		Phase C	
T lar	1	V			Α		,	4		Α	
atior	2	V			Α			4		А	
Operational Testing	3	V			Α			4		А	
0	4	V			Α		,	4		А	
	5	V			Α		,	4		А	
	Comments:										
	Returned to Serv	vice:		☐ Yes	П №	Comments:					
Final Analysis			uirod.		□ No						
Fir	_	her Inspection Req	uirea:	Yes							
	Repair / Replace	ement Required:		☐ Yes	☐ No						
		Company			Name			Signature		Date (yyy	y/mm/dd)

General Contractor Representative

<u> </u>	_							MISSION						Page 1	of 2
Winni	peg						EME	RGENCY	LIGHT	ING	•			Equipment Tag:	
ect	Facili	ty:					Proje	ect Name:							
Project	Area:	:					RFP	No.				Ten	der No).	
.	Gene	ral Contr	actor:					Project Mar	nager:						
Project Contact	Cons	ultant:						Contract Ac	lministrate	or:					
<u>r</u> 0	City o	of Winnip	eg					Consulting	Project M	ana	ger:				
				1				I							
БL	Batte Locat	ry Bank ion:			ry Bank oment No	0.		Panel Feed Circuit No.	:		Control Panel No.			Applicable Drawings:	
Emergency Lighting Location & Data	Batte		Manufa					Catalog No						Serial #:	
cy Li	Bank	•	Input V			VAC	Output	t Voltage:	VDO		Vattage:		V	/ Internal Lamp Qty	
gen			Manufa	cturer:		1		Catalog No			<u>-</u>			Remote Fixtures 0	Qty:
Imer	Remo Fixtu		Input V	oltage:		VDC	Input C	Current:	Α	L	amp Wattag	ge:	V	/ Fixture Lamp Qty:	
			Installe	d Loca	tions:										
	Idonti	fication L	omoosi	do Inote	allod:		V00	□ No	Lompo	Dro	perly Aimed	ı <u>.</u>		☐ Yes	□ No
D D		Il Signs o			alleu.			□ No	<u> </u>		Properly Op		-	☐ Yes	□ No
anin		Vell Rem				<u> </u>			Valve		mber Remot				
/Cle		ure Proo				Ш,	res L	No □ N/A	Moistu	re P	roof Rated:				No N/A
) u		Well Rem sion Pro				□`	Yes [No □ N/A			or Chamber Proof Rated:		ote Fix	tures	No 🗌 N/A
edsu	Clear	nliness:			☐ Go	od 🔲	Accept	table 🗌 Pod	or Cable	Con	nections:			☐ Good ☐ Accepta	ble 🗌 Poor
ual Ir	Grou	nd Conne	ections:		☐ Go	od 🔲	Accept	table 🗌 Pod	or Conne	ctior	ns Properly S	Seale	d: [☐ Good ☐ Accepta	ble 🗌 Poor
Visi	Cable	es Suppo	rted App	ropriat	ely:		Yes	☐ No	Equipr	nent	Cleaned:	□ \	es/	Photograph Taken:	☐ Yes
	Comr	ments:													
	Batte	ry Bank ⁻	Tempera	iture			Ba	attery Bank To	emperatu	re		_	Test	Summary	
	Befor	e Startin	g Testing	g:		°C		ter Testing C	ompleted			°C		est Passed	
ting		ry Voltag							V				□ Те	est Inconclusive	
Tes		ry Backu Until All			<u> </u>					inute	es minimum		1	irther Investigation R est Failed	equired
Battery Testing		ured Bat					ı Testir	na:	A	iiiut				st Falleu	
Bai		to Fully I	-					<u> </u>		inute	es				
	Comments:														
	1														
	Emer Autor	gency Li natically	ghts Tur in Norma	n On ai al Mode	nd Off e:] Yes ☐ No	Emer	geno	cy Lights Tui	rn On	in Tes	et Mode:	Yes □ No
Operational Testing	des	Mode D	escriptio	on						Eme	ergency Ligh	nts Or	1	Time For Eme Lights to Tu	
al Te	Normal Mode – Normal Station Ope					Operat	tion				No			N/A	
ation	Operating Modes	Normal	Mode –	Battery	/ Bank P	ower S	upply I	Failure		es	☐ No			S	ec
pera	Oper	Normal	Mode –	Individ	ual Norm	nal Ligh	ting Ci	ircuits Fail	`		☐ No			S	ec
		Test Mo	ode						D \	es/	☐ No		N/A	S	ec
	Comr	ments:													ļ

<u> </u>			COMMISSIONIN	NG FORM		Page	2 of 2
Winni	peg		EMERGENCY L	IGHTING		Equipmen	t Tag:
Project	Facility:		Project Name:				
Pro	Area:		RFP No.		Tender No		
<u>s</u>	Returned to Ser	vice:	☐ Yes ☐ No ☐	Comments:			
Final Analysis	Monitoring / Fur	ther Inspection Required:	☐ Yes ☐ No				
Ā	Repair / Replac	ement Required:	☐ Yes ☐ No				
			1				
		Company	Name		Signature		Date (yyyy/mm/dd)
Genera	al Contractor	_					

Representative

City Representative

<u> </u>	Vinnipeg				СО	MMISSI	IINC	NG FORM			Page	1 of 2	2
Winnip	peg				GEI	NERATO)R [DAMPERS			Equipme	nt Tag:	
ect	Facility:				Proj	ect Name:							
Project	Area:				RFF	No.				Tender No			
•	General C	ontractor:				Project I	Mana	nger:					
Project Contact	Consultan	:						ninistrator:					
Co	City of Wir	nipeg				Consulti	ng P	roject Manage	er:				
										I			
ata	Station Ve Room(s) /					Generato Equipme		o.		HVAC Con Equip. No.	trol Panel		□ N/A
Damper Actuators Location & Data	Drawings	HVAC F	%ID:			Control F	Panel	:		Dampers L	оор:		
tion		Room Ir				Equipme	nt No	o.		Control Typ	e: Mo	odulating	On / Off
oca.	Combusti Air Dampe	Manufa	cturer:			Catalog	No.			Serial #:			
rs L	1 Actuato	D (Supply:	VAC	VDC	Torque:		Nr	n	Runtime:		sec.	
uato		Control	Input:	VAC	VDC	Control C	Dutpu	ıt: VA	AC / VDC	Auxiliary S	witch Prov	rided: Yes	i □ No
Actı		Room Ir	nstalled:			Equipme	nt No	Э.		Туре:	□Мо	odulating	On/Off
per	Combusti Air Dampe	r				Catalog	No.			Serial #:			
Jam	2 Actuato	: Power S		VAC		Torque:		Nr		Runtime:		sec.	
		Control	Input:	VAC	VDC	Control (Dutpu	ut: VA	AC / VDC	Auxiliary S	witch Prov	rided: Yes	i ∐ No
	Damper L	amacoids Ir	nstalled:		Yes		No	Damper Actu	uator Lama	acoids Instal	led:	☐ Yes	□No
, u	Power Ca	oles Labelle	ed at Both	Ends:	Yes		No	Control Cabl	es Labelle	d at Both Er	nds:	☐ Yes	□No
Visual Inspection / Cleaning	Cleanlines	s:		☐ Good ☐	Accep	otable 🔲	Poor	Power Cable	Connection	ons:	Good [Acceptable	☐ Poor
al Inspect Cleaning	Fully Fund	tioning Act	uators:	☐ Good ☐] Accer	otable 🔲	Poor	Actuators Pro	operly Inst	alled:	Good [Acceptable	☐ Poor
lal Ir Cle	All Actuato	r Inputs W	ork:	☐ Good ☐	Accep	otable 🔲	Poor	All Actuator (Outputs W	ork:	Good [Acceptable	☐ Poor
Vist	Cables Su	pported Ap	propriatel	ly:] Yes	□ No □	N/A	Equipment C	Cleaned:	☐ Yes P	hotograph	s Taken:	☐ Yes
	Comments	i:											
	Combustic	n Air Dam	per 1 Actu	uator			Con	nbustion Air D	amper 1 A	ctuator			
	Measured	-				sec		asured Closing					sec
Б		n Air Damp Opening T		ıator		sec		nbustion Air Dasured Closing		ctuator			sec
estin		n Air Damp entilation t			☐ Ye	es 🗌 No		nbustion Air D m High Ventila				☐ Yes	□No
Operational Testing		n Air Damp entilation t			☐ Ye	es 🗌 No		nbustion Air D m High Ventila				☐ Yes	□No
erati	_D Mod	le Descripti	on					Fail-Safe Pos	sition	No Ventilat	ion Rate	High Ventilat	ion Rate
Q	Modes Con	bustion Air	Damper	1 Open Po	sition			Opened \square	Closed		%		%
	Con	bustion Air	Damper	2 Open Po	sition			Opened \square	Closed		%		%
	Comments	::											
	Adjust Dar	nper Actua	tor Setting	gs for Damp	er Bala	ncina	С	omments:					
Damper Actuator Settings	Damper S	<u> </u>		☐ Yes		□ No							
Damper Actuator Settings		mbustion A			ction C	ontrol	\top	Angle of R	otation Po	sitions	Auxilia	ary Switch Pos	sition
7 5		per Actuato		□ ccv	<u>/</u>] ccw	_]	Starting:	Endin	ng:		☐ Not	Used

	200						NING FORM			Page	2 of 2
vviiiiij	eg				G	ENERATOR	DAMPERS	i		Equipme	ent Tag:
ject	Facilit	ty:			Р	roject Name:					
Damper 1			R	FP No.			Tender No				
	Damp	ers	. Tes	t physical sigi	nals rather t		Comments:				
			jum		lls ☐ Yes	. □ No					
nals				Signal	Measured Input Voltage	_	Output Rec at PLC C		Signal App on HMI So		SCADA Can See Signal
put Control Sign	ntilation Ra	Combu	stion	□ 0 – 5V □ 0 – 10V □ On / Off	VDO	C VDC	☐ Yes ☐ No	□ N/A	☐ Yes ☐ No	o □ N/A	☐ Yes ☐ No ☐ N/A
put / Output C	No Ve	Combus Dampe	stion er 2	□ 0 – 5V □ 0 – 10V □ On / Off	VDO	C VDC	☐ Yes ☐ No	□ N/A	☐ Yes ☐ No	o □ N/A	☐ Yes ☐ No ☐ N/A
tuator In	ate	Actua	ntor		Measured Input Voltage	Measured Output Voltage	Output Rec at PLC C		Signal App on HMI So		SCADA Can See Signal
Ac	entilation R	Combu	stion	☐ 0 – 5V ☐ 0 – 10V ☐ On / Off	VDO	VDC	☐ Yes ☐ No	□ N/A	☐ Yes ☐ No	o □ N/A	☐ Yes ☐ No ☐ N/A
	High Ve	Combus Dampe	stion er 2	□ 0 – 5V □ 0 – 10V □ On / Off	VDO	C VDC	☐ Yes ☐ No	□ N/A	☐ Yes ☐ No	o □ N/A	☐ Yes ☐ No ☐ N/A
	Retur	ned to So	wice:		Г] Yes □ No	Comments:				
nal Iysis				nection Regu		Yes No					
Fi						Yes No					
				Commonii	Ī	Man	20		Cianatura		Date (space/mm/dd/
Genera Repres				Company		Nan	ic .		Signature		Date (yyyy/mm/dd)

W:	_				CO		SSIONIN		RM				Pa	ige 1 of 4	4
Winni	peg					GE	ENERAT	ΓOR					Eq	uipment Tag:	
ect	Facility:				Proj	ect Na	ame:								
Project	Area:				RFF	No.					Т	ender N	٥.		
= 5	General Con	tractor:				Proj	ject Mana	ger:							
Project Contact	Consultant:					Con	ntract Adm	ninistrator:							
دَ ت	City of Winnip	peg				Con	sulting Pr	oject Mar	nage	r:					
	Generator Do	wnetream	l oad:			Equip	ment No.					Locat	ion:		
	Drawings:	Single Li				<u> </u>	rator Loop							ctor Loop:	
	Diawings.	Combus					oustion Air					Gasil		<u> </u>	
	Associated	Damper					per 2 No.	•		l	□ N/A	1		nt No.	□ N/A
	Equipment:	HVAC S Damper:				HVA0	C Exhaust ber:					HVA(Dam		eturn	
		Manufac	turer:			Mode						Seria			
& Data	Generator:	Power R	ating:	kW kVA	Rated \	Voltag	e:	VAC	Cui	rrent R	ating:	ŀ		ower Factor: fficiency:	
tion	Generator.	Engine F	RPM:		X"D Re	eactan	ce:	%	Fue	[_ Die	sel	Ва	attery Voltage:	VDC
Loca		Alternato	or RPM:		X'D Re	actano	ce:	%	Тур	oe: L	☐ Nat ☐ Pro	tural Gas pane		o. of Batteries:	
Gene	Engine:	Manufac	turer:			Mode Horse	el: epower		HF	· ·	_	Seria	l #:		
	Main Circuit Protection:	☐ Break	ker	Rating: Auxiliary Contacts	□ No		Adjustab Settings:			Manu Mode	facture I:	er:			
	Load Bank Circuit Protection:	☐ Break	cer	Rating: Shunt Trip:	□ No		Adjustab Settings	ile 🗆 Yo		Manu Mode	facture I:	er:			
	Generator Panelboard:	☐ Instal	led	Rating:		VAC A	No. of Circuits:			Manu Mode	facture I:	er:			
	Generator La	macoid li	nstalled:	Г] Yes		□No	Sufficien	t Co	olina F	Provide	ed:		☐ Yes	□No
ng	Power Cable				Yes		□ No					at Both E	nds:		□ No
eani	Cleanliness:			Good [otable		Power C					_	ood Acceptable	
/ C	Control Cable	e Connec		Good [Elect./ M	ech.	. Interle	ocks:			ood Acceptable	
tion	Ground Conr	nections:		Good [Accep	otable	☐ Poor	Protection	n Bı	reakers	s Cond	dition: [] G	ood	☐ Poor
spec	Generator Int	ake Gas	Line: [Good [Accep	otable	☐ Poor	Generate	or Ex	xhaust	Line:	[☐ G	ood	☐ Poor
Visual Inspection / Cleaning	Visual Signs	of Overhe	eating:	[] Yes [□No	□ N/A	Exercise	d Pr	otectic	n Brea	akers:		☐ Yes	□No
Visu	Cables Supp	orted App	ropriately	r: [] Yes [□No		Equipme	nt C	leane	d: 🗆	Yes F	Photo	ograph Taken:	☐ Yes
	Comments:														
								Re	esis	tance	(μΩ)			Test Summary	
Protection Breaker Measurements			Test				Phas	se A	Pł	nase E	3	Phase	С	☐ Test Passed	
Protection Breaker easuremen	ı	Main Circ	uit Protect	tion Break	er									☐ Inconclusive☐ ☐ Test Failed	
Pro Br east	Loa	d Bank C	ircuit Prot	ection Bre	aker										
Σ	Comm	ents:													

<u> </u>	_				COMMISSIC	NING F	ORN	ı		Page		2 of	4
Winni	peg				GENE	RATOR				Equip	ment T	ag:	
ect	Fac	ility:			Project Name:					•			
Project	Area	a:			RFP No.				Tender No	0.			
ļ.				I					<u> </u>				
	Tes Pre _l	t paration: Sou	Setup: rce:	Isolated	Cable Load Disconnect Connected Isolated	ted	I		pproval of C eaving cabl				
insulation Resistance Test	WA	RNING: DISCON FUSES	INECT ALL PRIOR TO		ABLES FROM G	ENERAT	OR OL	JTPUT, AN	D DISCON	NECT A	LL CO	NTROL I	POWER
ance		-			Valtana	In	sulati	ion Resista	ance (MΩ)		Groui	nd all pha	ases not
sista		10	est		Voltage	Phase	Α	Phase E	Phas	e C		under te	
Re.										Т	est Su	ımmary	
atior											☐ Test	Passed	
Insul		Alternator Ou	tput to Gro	und	1000 VDC						Fur	Inconcluther Invequired.	usive stigation
] Test	Failed	
	Con	nments:											
	Dun	annorator at full la	م مانطین ام م	avering the	lood book Con	rotor obou	مطامات	run for at la	and thirty (2	0) minu	too bot	r	
	valu	generator at full loses.	bad wrille p	owening the	load balik. Geli	erator Shot	uid be	Turrior at it	asi ilility (3	o) minu	ies bei	ore reco	ruing
	Tota	al Run Time:	minutes		Temperature ting Testing:		°C		Tempera Complet				°C
	Ran	np Up Time		Specified:			sec	;	Actual:				sec
	Ran	np Down Time		Specified:			sec	;	Actual:				sec
	Ger	erator Measured \	Voltage	Phase /	A VA	.C	Phase	e В	VAC	Ph	ase C		VAC
Banl	Con	troller Displayed V	/oltage	Phase /	A VA	C	Phase	B	VAC	Ph	ase C		VAC
oad	Ger	erator Measured (Current	Phase /	Α Α		Phase	В	Α	Ph	ase C		Α
on Load Bank	Con	troller Displayed C	Current	Phase /	Α Α		Phase	В	Α	Ph	ase C		Α
_		omatic Mode Starts Station Power Dis		r	☐ Yes ☐ No			e Stops Ge wer Restore				☐ Yes	□No
onal Te	Mar	nual Mode Starts G	Generator:		☐ Yes ☐ No			ction Preve Running:	nts			☐ Yes	□No
Full Load Operational Testing		nbustion Damper(s erator is Running:		nen	☐ Yes ☐ No	HVAC Ve Generate			s Operate V	Vhen		☐ Yes	□No
oad O		Mode Description	า				Gener	ator Runnir	ng			ler Indica tor Runn	
<u> </u>	es	Automatic Mode	– Utility Po	wer Available	9	☐ Ye	s	□ No	□ N/A	☐ Y	es	□No	□ N/A
L L	Moc	Automatic Mode	– Loss of U	Itility Power		☐ Ye	s	□ No	□ N/A	☐ Y	es	□No	□ N/A
	ating	Automatic Mode	– Low Gas	Detection		☐ Ye	s	□ No	□ N/A	☐ Y	es	□No	□ N/A
	Operating Modes	Automatic Mode	– High Gas	Detection		☐ Ye	s	□ No	□ N/A	☐ Y	es	□No	□ N/A
	O	Manual Mode – L	ow Gas De	etection		☐ Ye	s	□ No	□ N/A	☐ Y	es	□No	□ N/A
		Manual Mode – H	High Gas D	etection		☐ Ye	s	□No	□ N/A	☐ Y	es	□No	□ N/A
	Con	nments:								·			

					СОМ	MISSIO	NING I	ORM			Pag	e	3 of 4	1
Winnip	peg		atting Letter File: ge:											
ect	Faci	lity:			Projec	t Name:								
Project	Area	:			RFP N	No.				Tender I	No.			
	Facility:													
or s	_													
Generator Controller Settings														
Sor Ser	Outp	out Voltage:			· · · · · ·	VAC	Outpo	ut Freque	ncy					Hz
	Engi	ne Warmup Time:				sec.	Engir	ne Cool D	own Time):				sec.
	Verif	v Control Signals I	Between Ge	nerator C	Controlle	r and PLC	Comr	nents:						
		Preparation: Tes	t physical sig	gnals rat										
nals	Field	l Wires Labelled at	Both Ends:		⁄es	□No								
rol Sigr		Signal Description)									SCADA	Can Se	e Signal
Cont		Auto Mode	☐ Yes	□No	□ N/A		□No	□ N/A	☐ Yes	□No	□ N/A	\	□No	□ N/A
PLC	gnals	Manual Mode	☐ Yes	□No	□ N/A	. ☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	\	☐ No	□ N/A
tor &	S	Running	☐ Yes	☐ No	□ N/A	Yes	□No	□ N/A	☐ Yes	□No	□ N/A	\	☐ No	□ N/A
enera	Discre	Alarm	☐ Yes	□No	□ N/A	Yes	□No	□ N/A	☐ Yes	□No	□ N/A	\	□No	□ N/A
ŏ			r	□No	□ N/A	Yes	□No	□ N/A	☐ Yes	□No	□ N/A	√ ☐ Yes	□No	□ N/A
			er	☐ No	□ N/A	Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	√ ☐ Yes	□No	□ N/A
	Ctarr	Description											20014	
	Step	•											cesuit	
	1	Set Generator in	Auto Mode	with Utili	ty power	ing the Sta	ation. E	nsure ATS	S is in Aut	to Mode.		☐ Pass] Fail
	2	Verify Generator	breaker and	l Load B	ank brea	ker are bo	th close	d.				☐ Pass] Fail
	3	Power down (or	isolate) Utilit	y power.	Verify /	ATS sends	a start	signal to (Generator			☐ Pass] Fail
	4	Generator starts	and after ap	propriate	e delay,	Generator	is conne	ected to p	ower Stat	ion loads		☐ Pass] Fail
sting	5	Start a pump and	d ensure Ge	nerator o	an powe	er the load						☐ Pass] Fail
al Te	6	Verify Load Banl	c breaker ha	s been d	pened b	y a shunt t	rip.					☐ Pass] Fail
Functional Testing	7	verify Generator	powers add								n	☐ Pass] Fail
	8		: VA	C Pha	se B Volt	tage:		Phase (C Voltage:	:		☐ Pass] Fail
	9	Once the Wet W										☐ Pass] Fail
	10	Restore Utility po										☐ Pass] Fail
	11	After transfer tim			S tranefe	are hack to	Litility n	OWAT SOLII	·re			□ Pass] Fail

Q Q	_						ING FORM			Page		4 of 4	
Winnij	peg				GE	NERA	TOR			Equipme	nt Tag:		
ect	Facili	ty:			Project Na	me:							
Project	Area:				RFP No.				Tender No				
	12	Verify AT	S send	ds cool down signal to	Generator.					_ F	Pass	☐ Fail	
	13	After coo	l down	timer expires, verify G	enerator has	s stoppe	ed running.			- I	Pass	☐ Fail	
	14	Manually	start C	Generator and perform	a manual tra	ansfer c	on the ATS to t	the Generat	or	_ F	Pass	☐ Fail	
	15	Start a po	ump ar	nd ensure Generator ca	an power the	e load.				_ F	Pass	☐ Fail	
	16	Once the	Wet V	Vell has been pumped	down, stop t	the pum	np(s) from runr	ning.		_ F	Pass	☐ Fail	
	17	Perform a	a manı	ual transfer on the ATS	back to Util	ity powe	er source.			_ F	Pass	☐ Fail	
	18	Verify AT	S has	been put back into Aut	to mode.					_ F	Pass	☐ Fail	
	19	Manually	stop tl	ne Generator and put the	he Generato	or back	into Auto mod	e.		_ F	Pass	☐ Fail	
	Test	Summary	, 										
	Comr	ments:											
	Provid	do Einal C	onorat	or Breaker Adjustable	Sottings								
v	Trip F		епега	Manufacturer:	Settings		Model:		Trip I	Plug Size:		A	
Generator Breaker Settings		Time Sett	ings	□ N/A			Pickup:			ne Delay:			
Generator aker Settir	_	Time Sett		□ N/A			Pickup:			ne Delay:			
Gen	Instar	ntaneous \$	Setting	s N/A			Pickup:		Tir	ne Delay:			
Br	Grou	nd Setting:	s	□ N/A			Pickup:		Tir	ne Delay:			
	Comr	ments:											
	Retur	ned to Se	rvice:		☐ Yes [□ No	Comments:						
Final Analysis				spection Required:		□ No							
Ana				Required:		 □ No							
				Company		Name			Signature		Date /	yyyy/mm/dd)	
		tractor		Company		Hanne	•		oignature .		Date (yyyy/11111/du)	
Repres		ve entative											

	/innipeg			(MISSION		_			Page 1	of 3			
vviiiiii _j	res 				HV	AC CON	IIRC)LLEF	.		Equipment Tag:				
ect	Facility:				Proje	ct Name:									
Project	Area:				RFP	No.				Tender No).				
٠, ٠	General Co	ontractor:				Project Ma	anage	er:							
Project Contact	Consultant	:				Contract A			:						
န္ ပိ	City of Win	nipeg				Consulting	g Proje	ect Mar	nager:						
										1,5,4,0					
ta	HVAC Cont	roller Locat	ion:			Equipment	t No.				Control Equip. No.	□ N/A			
& Dai	Drawings:	HVAC P8	RID:			Control Pa	nel:			Damp	ers Loop:				
	Controlled Dampers:	Supply Da Equipmen			N/A	Return Dar Equipment			□ N/ <i>I</i>		ust Damper ment No.	□ N/A			
er Loc	Controlled Heaters:	Heater No	0.		N/A	Heater No.			□ N/A	A Heate	r No.	□ N/A			
itroll	HVAC	Manufact	urer:			Catalog No	0.			Serial	#:				
Con	Controller:	Power Ra	ating:	_		upply:		VAC	Current Rating		Control Voltage:	VAC			
	Control Po	wer Transf	ormer: Size:	VA	Sec	condary Vol	ltage:		V Primary F	use:	A Secondary Fuse:	Α			
	HVAC Cor	troller Lam	acoid Installed:	ΠΥ	es		o V	isual S	igns of Overhe	ating:	☐ Yes	□No			
/-	Power Cab	les Labelle	d at Both Ends:	□ Y	es	□ No	-		Cables Labelle		nds: Yes	□No			
ctior g	Cleanlines	s:	Good	ПА	ccept	able 🗌 Po	or P	ower C	able Connection	ons:	☐ Good ☐ Acceptable ☐ Poo				
Visual Inspection / Cleaning	Fully Func	tioning Con	troller: Good	ПА	ccept	able 🗌 Po	or C	ontrolle	er Properly Mo	unted:	☐ Good ☐ Acceptable ☐ Poo				
ual II Cle	Controller	Fully Functioning Controller: Good Acceptable Controller Fully Programmed: Good Acceptable							s & Outputs We	ork:	☐ Good ☐ Acceptab	ole 🗌 Poor			
Vis	Cables Su	oported App	oropriately:	□ Y	es [No No	A E	quipme	ent Cleaned:	☐ Yes P	hotograph Taken:	☐ Yes			
	Comments	:													
	Station Oc	cupied Ligh	t Switch Activates					Cor	nments:						
		ation Rate:			☐ Ye	es 🗌 No 📗	□ N/.	A	minents.						
1		oor Temperation Rate:	ature Activates		☐ Ye	es 🗌 No 📗	□ N/.	Ά.							
- estinç		Detection Adate:			☐ Ye	es 🗌 No 📗	□ N/	Ά.							
Operational Testing	Controller (Changes Fr w Ventilatio	om High Ventilation n Rate:	n	☐ Ye	es 🗌 No 📗	□ N/.	Ά							
erat	Controller	Defaults to	Low Ventilation Ra	ite:	☐ Ye	es 🗌 No 📗	□ N/.	Ά							
Ö	Mode Description High Ventilation Rate			Supp	oly Damper (0 – 100% ₎		n	Return Damp (0 – 100							
	Mod	High V	entilation Rate			% [] N/A		%	□ N/A	%	□ N/A			
	0	Low Ve	entilation Rate			% [N/A		%	□ N/A	%	□ N/A			
	Drogram L	\/AC Cantr	oller Settings to Ma	atob S	Cotting	a Lottor		Cor	nments:						
oller ngs	_				-						Introl Juip. No. N/A Loop: Damper Int No. N/A Dontrol Voltage: VAC Secondary Fuse: A Yes No Good Acceptable Poor Good Acceptable Poor Good Acceptable Poor Good Acceptable Poor Good Neceptable Poor Good Neceptable No Good Neceptable Neceptable Good Neceptable Neceptable Good Neceptable Neceptable Good Neceptable				
Controller Settings				res		∐ No									
υ "	Settings Applied to Controller: Yes No HVAC Controller Setting Letter File:														

Winnin	innipeg			COMMISSION			Page	2	2 of 3	
wiiiiij	peg			HVAC CON	TROLLER		Equipment	t Tag:		
Project	Facilit	ty:		Project Name:						
Pro	Area:			RFP No.		Tender No).			
	Test F	Propagation: Tes	st physical signals	er and Field Devices rather than installing	Comments:					
		Signal Descript		State Description	Signal Appears on Controller Screen	Modulated (0 – 10			ated 2 100	? Output
	Discrete 1 Input	☐ Not Used	Low (0)		Yes No N/A Yes No N/A	%	√ N/A	(0.	%	□ N/A □ N/A
	1	Signal Descript	Signal Type	Condition Pickup Level	Signal Appears on Controller Screen	Modulated (0 – 10			ated 2 - 100	Output
	Sensor A Input	☐ Not Used	☐ RTD ☐ PT100 ☐ PT1000 ☐ 4-20 mA	_ Low ≤ °C _ High > °C	☐ Yes ☐ No ☐ N/A ☐ Yes ☐ No ☐ N/A	%	□ N/A			□ N/A
	r B t	Signal Descript	ion Signal Type	Condition Pickup Level	Signal Appears on Controller Screen	Modulated (0 – 1			ated 2 – 100	2 Output 9 %)
	Sensor I Input	☐ Not Used	☐ RTD ☐ PT100 ☐ PT1000	Low ≤ °C High > °C	☐ Yes ☐ No ☐ N/A ☐ Yes ☐ No ☐ N/A	%	□ N/A			□ N/A
tput Siç	Output	Signal Descript	on Output Goes To	Output Changes Based on Signal Input	Output State Level	State Des	scription			ears on Screen
Controller Input / Output Signals	Relay 1 Ou	☐ Not Used	1	☐ Discrete Input 1 ☐ Sensor A ☐ Sensor B	Low (0) High (1)			Yes Yes	No No	N/A
Controll	tput	Signal Descript	Output Goes To	Output Changes Based on Signal Input	Output State Level	State Des	scription			ears on Screen
	ıy 2 Out			☐ Discrete Input 1☐ Sensor A	Low (0)			☐ Yes	□ No	□ N/A
	Relay	☐ Not Used	t	☐ Sensor A☐ Sensor B	High (1)			☐ Yes	□ No	□ N/A
	1	Output Goes Field Devices		Output Changes Based on Signal Input	Output State Level	Signal Ap Controlle			ured V / m	Output A)
	Modulated Output	☐ Heater SCR ☐ Supply Damp		☐ Discrete Input 1	Low	☐ Yes ☐ N	No □ N/A		V.	/ mA
	Mo	☐ Return Damp ☐ Exhaust Dam ☐ Not Used	- I —	Sensor A Sensor B	High	☐ Yes ☐ N	No □ N/A		V	/ mA
	2	Output Goes Field Device		Output Changes Based on Signal Input	Output State Level	Signal Ap _l Controlle			ured V / m	Output A)
	Modulated 2 Output	☐ Heater SCR☐ Supply Damp		☐ Discrete Input 1	Low	☐ Yes ☐ I	No □ N/A		V	/ mA
	Mod O	☐ Return Damp ☐ Exhaust Dam ☐ Not Used		Sensor A Sensor B	High	☐ Yes ☐ I	No □ N/A		V	/ mA

Winnij	peg			HVAC	CONT	ROLLER		Equipme	nt Tag:
ect	Facility:			Project N	Name:				
Project	Area:			RFP No.			Tender No).	
s	Returned to Se		☐ Yes	□No	Comments:				
Final Analysis	Monitoring / Further Inspection Required:			☐ Yes	☐ No				
Ar Ar	Repair / Replacement Required:			☐ Yes	☐ No				
	Company				Name	•	Signature Date (yyyy/mm/dd)		

COMMISSIONING FORM

Page

3 of 3

	Company	Name	Signature	Date (yyyy/mm/dd)
General Contractor Representative				
City Representative				

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Winni _]	nnipeg					Н	VAC D	MAC	PERS			Equipme	nt Tag:			
ect	Facilit	ty:				Р	rojec	t Name:					•			
Project	Area:					R	RFP N	No.				Tender N	0.			
												•				
Project Contact			ntractor:					Project I								
Proj		ultant:	inna							inistrator:						
	City 0	of Winn	ipeg					Consuli	ilg Fi	oject Mar	iagei.					
		n Vent n(s) / A						HVAC Co Equipme				HVAC Co Equip. No	ntrol Panel			□ N/A
	Draw	ings:	HVAC P	&ID:			(Control F	Panel			Dampers	Loop:			
Damper Actuators Location & Data			Room In				-	Equipme).			/pe: Mo	odulating		On / Off
ي 2	Supp Damp		Manufac					Catalog I	No.			Serial #:				
atio	Actua	ator:	Power S			VDC		Γorque:	S 1		Nm VAC / VDC	Runtime: sec.				
Loc			Control I	•	VAC	C / VDC	-	Control C	nt No.			1 1, 1, 1 1 1 1 1 1 1 1 1			□ No On/Off	
tors	Retur	rn	Manufac					Catalog I				Serial #:		Judiating		<u> </u>
ctus	Damp Actua		Power S		VAC	C / VDC		Forque:			Nm	Runtime:		sec.		
er A	Aotac		Control I	Input:	VAC	C / VDC				t:	VAC / VDC	Auxiliary Switch Provided: Ye			Yes	☐ No
amp			Room In	stalled:			E	Equipme	nt No).		Type:	□Мо	odulating		On/Off
	Exha		Manufac	turer:			(Catalog I	No.			Serial #:				
	Damp Actua	ator: Power S				C / VDC		Forque:			Nm	Runtime:		sec.		
			Control I	nput:	VAC	C / VDC	0	Control C	Dutpu	t:	VAC / VDC	Auxiliary S	Switch Prov	ided:	Yes	☐ No
	HVAC	Damp	per Lamac	coids Inst	alled:	☐ Yes	s		No	HVAC D	amper Actuat	or Lamacoi	ds Installed	: Yes	s	☐ No
u/u	Powe	r Cable	es Labelle	d at Both	Ends:	☐ Yes	S		No	Control (Cables Labell	ed at Both E	nds:	☐ Yes	s	☐ No
ctio ng	Clean	iliness:			☐ Good	☐ Acc	cepta	ıble 🔲 I	Poor	Power C	able Connect	ions:	☐ Good ☐	Accepta	ble	☐ Poor
al Inspect Cleaning	Fully	Function	oning Actu	uators:	Good	☐ Acc	cepta	ıble 🔲 I	Poor	Actuator	s Properly Ins	stalled:	☐ Good [Accepta	ble	☐ Poor
'isual Inspection / Cleaning	All Ac	tuator	Inputs Wo	ork:				ıble 🔲 I		All Actua	ator Outputs V	Vork:	☐ Good ☐	Accepta	ble [☐ Poor
Visi	Cable	es Supp	oorted App	propriatel	y:	☐ Yes	s 🗌	No 🔲	N/A	Equipme	ent Cleaned:	☐ Yes I	Photograph	s Taken:		☐ Yes
	Comn	ments:														
	Cunni	ly Astro	otor Mos-	urod Or :	ening Time	<u> </u>			C	oly Astro-	tor Macaura	Closing Tim	201			000
				<u> </u>				sec			tor Measured for Measured					sec
		Return Actuator Measured Opening Time:						sec sec			ator Measure					sec
	Exhaust Actuator Measured Opening Time: Supply Damper Changes From										er Changes F					
bu			ion to Hig			Ш	Yes	☐ No			on to Low Ver			☐ Y	es	☐ No
Operational Testing		turn Damper Changes From w Ventilation to High Ventilation:						□No			er Changes F on to Low Ve			□Y	'es	□No
ationa			nper Chai				Yes	□No			per Changes on to Low Ve			ΠY	'es	□No
per	6	Mode	Description	on						Fail-Safe	Position	Low Ventil	lation Rate	High Ver	ntilati	on Rate
	Operating Modes	Suppl	y Damper	Open Po	sition					Opened	☐ Closed		%			%
	Ope	Return	n Damper	Open Po	sition					Opened	☐ Closed		%			%
		Exhau	ıst Dampe	er Open P	osition					Opened	☐ Closed		%			%
	Comn	Supply Damper Open Position Return Damper Open Position Exhaust Damper Open Position Comments:														

<u> </u>	_			CC	MMISSION	NING FORM		Page	2 of 3		
Winni	oeg				HVAC DA	MPERS		Equipme	ent Tag:		
ect	Facili	ty:		Pro	ject Name:			•			
Project	Area:			RF	P No.		Tender No).			
	Adjus	t Damper Actuato	r Settings for	Damper Bala	ancing	Comments:					
Damper Actuator Settings	Damp Applie		Supply [Damper	Return Damper	Exhaust Damper						
or Se				Direction (Angle of Rotation F	ositions	Auxil	iary Switch Position		
tuato	Su	pply Damper Actu	iator] ccw	□ ccw	Starting: End	ding:		☐ Not Used		
r Ac	Ra	turn Damper Actu	ıator	Direction C	Control	Angle of Rotation F	ositions	Auxil	iary Switch Position		
mpe		nam Bampor Aoto] CCW	□ ccw		ding:		☐ Not Used		
Dai	Exh	naust Damper Act	uator _	Direction C		Angle of Rotation F		Auxil	-		
			<u> </u>] ccw	□ ccw	Starting: End	ding:		☐ Not Used		
	Verify	Control Signals E	Between HVA	C Controller	and Dampers	Comments:					
	Test F		t physical sig		an installing						
		juni	pers for signa								
	Field	Wires Labelled at	Both Ends:	☐ Yes Measured	☐ No Measured						
Actuator Input / Output Control Signals		Actuator	Signal Type	Input Voltage	Output Voltage	Output Received at PLC Card	Signal Ap on HMI S		SCADA Can See Signal		
	tion Rate	Supply Damper Not Used	☐ 0 – 5V ☐ 0 – 10V ☐ On / Off	VDC	VDC	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No	o □ N/A	☐ Yes ☐ No ☐ N/A		
	Low Ventilation Rate	Return Damper Not Used	□ 0 – 5V □ 0 – 10V □ On / Off	VDC	VDC	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No	o □ N/A	☐ Yes ☐ No ☐ N/A		
rt / Output	Γ	Exhaust Damper Not Used	□ 0 – 5V □ 0 – 10V □ On / Off	VDC	VDC	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No	o □ N/A	☐ Yes ☐ No ☐ N/A		
uator Inpu		Actuator	Signal Type	Measured Input Voltage	Measured Output Voltage	Output Received at PLC Card	Signal Ap	pears creen	SCADA Can See Signal		
Act	ation Rate	Supply Damper Not Used	□ 0 – 5V □ 0 – 10V □ On / Off	VDC	VDC	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No	o □ N/A	☐ Yes ☐ No ☐ N/A		
	High Ventilation Rate	Return Damper Not Used	□ 0 – 5V □ 0 – 10V □ On / Off	VDC	VDC	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No	o □ N/A	☐ Yes ☐ No ☐ N/A		
	+	Exhaust Damper Not Used	□ 0 – 5V □ 0 – 10V □ On / Off	VDC	VDC	☐ Yes ☐ No ☐ N/A	 ☐ Yes ☐ No	 o □ N/A	☐ Yes ☐ No ☐ N/A		
	Retur	ned to Service:			Yes □ No	Comments:					
Final Analysis		toring / Further Ins	enection Peg		Yes No	-		Auxiliary Switch Position			
Fi _l Ana		ir / Replacement			Yes No	\dashv					
	Nepa	ii / Nepiacement	roquii c u.		1 69 110	1					

9		COMMISSIONING FORM		Page	3 of 3
Winni	peg	HVAC DAMPERS		Equipment Tag:	
oject	Facility:	Project Name:			
Pro	Area:	RFP No.	Tender No	ı.	

	Company	Name	Signature	Date (yyyy/mm/dd)
General Contractor Representative				
City Representative				

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Winni	peg					HVAC	FA	ANS & S	TARTE	RS	;			Equipme	ent Tag:	
ct	Facility:					Proje	ct Na	ame:								
Project	Area:					RFP	No.					Tend	ler No			
	General Cor	ntractor:					Pro	ject Mana	ger:							
Project Contact	Consultant:							ntract Adm								
P. S	City of Winn	ipeg					Con	nsulting Pr	oject Man	nage	er:					
	Starter Down	1						ter Location	on:				Sectio			□ N/A
	Drawings:	Single Li						ematic:					Conne			
	Contactor	Manufac					Mod						Serial			
	Ratings:	Power R	ating:		F	Rated V	oltag	e:	VAC	Cui	rrent Ratin	g:	Α	Control	Voltage:	VAC
Data	Circuit Protection:	☐ Break ☐ Fuse	er	Ra	ating:	А		Inst. Setting:		Α	Manufacti Model:	urer:				
& ⊏	Exhaust		NEM	IA M	lanufact	urer:		•			Model:					
Starter Location & Data	Contactor:	Type:	☐ IEC	NI	EMA Si	ze:			□ N	/A	IEC Ratin	g:		Α	☐ AC-3	☐ AC-4
er Lc	Supply		NEM	IA M	lanufact	urer:					Model:					
Stari	Contactor:	Type:	☐ IEC	NI	EMA Si	ze:	: N/A IEC Rating:						☐ AC-3	☐ AC-4		
	Overload	☐ Therm			ī] 10] 20		Setting /	,		Manufacti	urer:				
	Protection:	☐ Electr			iass:	⊒ 30 ⊒ Unkr	nown	Rating:		Α	Model:					
	Current Trai	nsformer		Ratio:	:					Type:						
	Control Pow	er Trans	former:	Size:		cond	ary Voltag	je:	e: V Primary Fuse:				A Seco	ndary Fuse:	Α	
Exhaust Fan Data	Equipment 7	Гаg:				Powe	er:		kW /		HP			Voltage:		VAC
Exl	Full Load Ar	nps:	A S	Service	Factor:		lı	nverter Du	uty Rated:		☐ Yes		No	Insulatio	n Class:	
y ita	Equipment 1	Гаg:				Powe	er:		kW /		HP			Voltage:		VAC
Supply Fan Data	Full Load Ar	nps:	A S	Service	Factor:		lı	nverter Du	uty Rated:		☐ Yes		No	Insulatio	n Class:	
	Fan Lamaco	oid(s) Insta	alled:			Yes		□No	Visual Si	gns	of Overhe	ating:			Yes	☐ No
ng	Power Cable	es Labelle	d at Bo	th Ends	s: 🗌	Yes		□No	Control C	Cabl	es Labelle	d at Bo	oth En	ıds: [☐ Yes	☐ No
eani	Cleanliness:			□G	Good 🗌	Accept	able	☐ Poor	Power C	able	Connection	ons:		Good	☐ Acceptab	le 🗌 Poor
/ CI	Control Cab	le Connec	tions:	□G	Good 🗆	Accept	able	☐ Poor	Elec / Me	ech	Interlocks:			Good	☐ Acceptab	le 🗌 Poor
ctior	Door Mecha	nical:		□G	Good 🗌	Accept	able	☐ Poor	Contacto	r Ali	ignment:			Good	Acceptab	le 🗌 Poor
eds	Door Mecha			□G		Accept	able	☐ Poor	Contact /	Aligr	nment:			Good	Acceptab	le 🗌 Poor
Visual Inspection / Cleaning	Verify O/L el for the loads		e correc	tly size	ed 🗆	Yes [] No	□ N/A	Exercise	d Ci	rcuit Break	ker / D	isconr	nect: [☐ Yes	□No
Vis	Cables Supp	oorted Ap	oropriat	ely:		Yes [No		Equipme	nt C	Cleaned:	☐ Ye	s Pl	notograp	n Taken:	☐ Yes
	Comments:															

<u> </u>	_					COMN	/IISSIO	NING F	ORM			Page	е	2 of 3	3
Winni	pèg					HVAC	FANS	& STAR	TERS			Equi	ipment Tag	g:	
ect	Faci	lity:				Project	Name:								
Project	Area	n:				RFP No	ο.				Tender N	0.			
						ı						ı			
			Tes	t						ance (μΩ	_		Test Sun	-	
Contact / Pole Measurements		Exhaust F	· O		0		P	hase A	Ph	ase B	Phase	· C	☐ Test P		ive
act / uren		Supply Fa											Furth Requ	er Invest	igation
cont			ker / Di										☐ Test F		
0 ≥		Comments:													
		paration: Sou Con	tactor:	☐ Iso ☐ Op	en	☐ Dis ☐ Co Iso	sconnect nnected lated	with Load	d	prior to le	oproval of (eaving cabl	es con	nected du	ring the t	test.
est	WAI	RNING: DISCON PRIOR 1			OWER (CABLES I	FROM C	ONTACT	ORS AN	D DISCO	NNECT AL	L CON	NTROL PC)WER FL	JSES
Insulation Resistance Test		т.	001			Val	1000	Ir	sulation	n Resista	nce (MΩ)		Ground	l all phas	es not
stan			est			VOI	tage	Phase	: A	Phase B	Phas	e C		nder test	
Resi		Exhaust Contact	tor Line	to Gro	ound	1000	VDC						Test Sun	nmary	
tion		Exhaust Contact	or Load	to Gr	ound	1000	1000 VDC 1000 VDC						☐ Test P	'assed	
sula		Exhaust Contac	ctor Line	e to Lo	ad	1000) VDC						☐ Test Ir		
ؾ		Supply Contacto	or Line t	to Gro	und	1000	1000 VDC					Requ	er Invest ired.	igation	
		Supply Contacto	or Load	to Gro	und	1000	VDC						☐ Test F	ailed	
		Supply Contac	tor Line	to Lo	ad	1000) VDC						<u>L</u>		
	Con	nments:													
	Veri	fy Control Signals	Betwee	en Sta	rter and	PI C		Commer	nts:						
					gnals rati										
	Tes	t Preparation: Te ins	stalling j	umper	s for sig	nals									
	Fiel	d Wires Labelled a	at Both	Ends:		es [□No			Т					
nals	Signals	Si 15 i i 57 i i 1				ninates		gnal Rece at PLC Ca			gnal Appea HMI Scree		SCADA	Can Se	e Signal
l Sig	n Sig	Manual Mode Yes N			☐ No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	\	☐ No	□ N/A
ontro	ly Fa	a			☐ No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	\	☐ No	□ N/A
Ö	ddng	Run] Yes	□No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	\ \ \ \ Yes	☐ No	□ N/A
& PL		Overload / Fault] Yes	☐ No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	\	□No	□ N/A
Starter & PLC Control Signals	als	Signal Description	on I	Pilot L	ight Illun	ninates		gnal Rece at PLC Ca			gnal Appea HMI Scree		SCADA	A Can Se	e Signal
	Signals	Manual Mode] Yes	□No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	√ ☐ Yes	□No	□ N/A
	Exhaust Fan	Auto Mode] Yes	□No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	√ ☐ Yes	□No	□ N/A
	haust	Run] Yes	☐ No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	√ ☐ Yes	□No	□ N/A
	Ä	Overload / Fault] Yes	□No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	√ ☐ Yes	□No	□ N/A

<u> </u>	_					СОММ		Page	3	of 3				
Winni	peg				H	HVAC F	ANS 8	s ST	TARTER	S		Equipme	nt Tag:	
Project	Fac	ility:				Project N	Name:							
Pro	Are	a:				RFP No.					Tender No	o.		
	Exh	aust Fan M	easure	d Current	Phase	A	Α		Phase B		Α	Phase C		А
sting	Supply Fan Measured Current Phase Mode Description					Α	Α		Phase	в	Α	Phase	С	Α
- Te	Mode Description								Run S	Start & Sto	o	Overlo	oad Disabl	es Run
Operational Testing	perating Modes	Manual Mo	ode						Yes	□ No	□ N/A	☐ Yes	□No	□ N/A
pera	Automatic Mode								Yes	□ No	□ N/A	☐ Yes	☐ No	□ N/A
0	Con	nments:												
_ <u>si</u>	Ret	urned to Se	rvice:			☐ Yes	☐ No	C	omments:					
Final	Monitoring / Further Inspection Required:				equired:	☐ Yes	☐ No							
A A	Repair / Replacement Required:					☐ Yes	☐ No							
											0 : ,		5	/ / / 1.10
	Company			ny	Name Signa			Signature		Date (y)	yyy/mm/dd)			
	eneral Contractor epresentative													

Winni									IG FORM		_	Page	1 of	3
Winni	peg			INSTRU	JMENT	TRA	ANSN	ИІТТ	ER (CONT	ROLLE	R)	Equipment	Tag:	
ect	Facili	ty:			Pro	ject N	lame:							
Project	Area:				RFI	P No.					Tender N	0.		
# 5	Gene	ral Cont	tractor:			Pro	oject N	/lana(ger:					
Project Contact	Cons	ultant:				Со	ntract	Adm	inistrator:					
ت ت	City o	of Winni	peg			Co	nsultir	ng Pr	oject Manager	r:				
	Draw	ings:	P&ID:			Cor	ntrol P	anel:			Loop Diag	ıram:		
ent				nstalled:		+	uipmer					gnal:	0 mA 🔲	0 – 10V
Instrument Data	Instri	ument:	Manufa	cturer:		Cat	alog N	No.			Serial #:			
lns	mour	ament.	Power	Supply: VA	C / VDC	Loo	p Pov	vered	☐ Yes		Auxiliary (Provided:	Contacts	☐ Ye	s 🗌 No
	Instru	ıment La	amacoic	Installed:	☐ Yes			No	Instrument Pr	roperly Mo	unted:		☐ Yes	□No
۱ / د	Powe	r Cable	s Labell	ed at Both Ends:	☐ Yes		_ N		Control Cable			inds:	Yes	□ No
Visual Inspection / Cleaning	Clear	nliness:		☐ Good	☐ Acce	Acceptable Poor Wiring Matches Loop Diagram:						☐ Good ☐ /	Acceptable	☐ Poor
al Inspect Cleaning	,	Function	ning	☐ Good	☐ Acce	Acceptable Poor Fully Functioning Output Signal(s):				ıt	☐ Good ☐ /	Acceptable	☐ Poor	
Visu	Instru	ment D	isplay W	orks Properly:	☐ Yes	□ No	1 🗌 c	N/A	Equipment Cl	leaned: [☐ Yes F	Photographs	Гaken:	☐ Yes
	Comr	ments:												
	Opera	ational t 1. For 2. For 3. For 4. For 5. For	esting s r flow de r gas de r level d r pressu r tempe	nould be done as for tection, use a mult tection, use a gas of tection, use a phy re detection, use a rature detection, use a on detection, use a	ollows: imeter to calibration sical level multimete e a heat o	simula kit to and/o er to s gun ar	ate simul or sim simula	late s ulate te sig nultin	ignal for flow a d signal for lev nal for pressu neter for temp	alarm leve vel alarm le ire alarm le perature ala	evel. evel. arm level.			
ing	Analo Read		uts Mato	h Instrument	□Y	es [] No	Disp	ay Reflects In	nstrument I	Readings ((if applicable):	Yes	☐ No
nal Test		Alarm Condition Visually Appears on Display (if applicable)				es [] No		n Condition Applicable)	nnunciates	from Inst	rument	☐ Yes	□No
eration		n Output n Levels	e 🗆 Y	es [n Output Cont Is Reached (if			Vhen Alarm	☐ Yes	□No		
ent Op		Sens	or	Mode Des	scription			Ala	arm Output Co	ontact Stat		ured Analog tput Signal	Instrumer (include	
Instrument Operational Testing	Instrument Normal Level (vel Opera	tion		□ o	pened 🗌 Cl	losed 🗌 N	I/A	□ mA □ V		□ N/A
	Operating Modes	Serisoi		rument Alarm Leve	el Operation	on		_ o	pened 🗌 CI	losed 🗌 N	J/A	□ mA □ V		□ N/A
	Oper	Senso	r 2	rument Normal Lev	vel Opera	tion		□ o	pened 🗌 CI	losed 🗌 N	J/A	□ mA □ V		□ N/A
		□ N/A	Ins	rument Alarm Leve	el Operation	on		□ o	pened 🗌 CI	losed 🗌 N	I/A	□ mA □ V		□ N/A

Comments:

٩			COMMISSIONING FORM	Page 2 of 3		
Winni	peg	INSTRUME	NT TRANSMITTER (CONTROLLE	Equipment Tag:		
oject	Facility:		Project Name:			
Pro	Area:		RFP No.).		
	•			•		

	Verify	Control Signals Betwe	en Instrument	and Control Panel	Comments:				
	Test F		sical signals ra for signals	ther than installing					
	Field \	Wires Labelled at Both	Ends:	☐ Yes ☐ No					
	Analog Output Signal 1	Signal Type (Flow, Gas Reading, Level, Pressure, Temperature, Vibration, etc.)	Transmitter Display (include units)	Measured Output Signal	Output Received at PLC Card	Signal Appears on HMI Screen	SCADA Can See Signal		
	Analc Si		□ N/A	□ mA □ V	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A		
nals	Analog Output Signal 2	Signal Type (Flow, Gas Reading, Level, Pressure, Temperature, Vibration, etc.)	Transmitter Display (include units)	Measured Output Signal	Output Received Signal Appea at PLC Card on HMI Scree		SCADA Can See Signal		
Instrument Output Control Signals	Anale	□ N/A	□ N/A	□ mA □ V	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A		
utput C	t 1	Signal Description	State	Description	Output Received at PLC Card	Signal Appears on HMI Screen	SCADA Can See Signal		
i O	Discrete Output 1		0		☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A		
rume		□ N/A	1		☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A		
Inst	ite t 2	Signal Description	State	Description	Output Received at PLC Card	Signal Appears on HMI Screen	SCADA Can See Signal		
	Discrete Output 2		0		☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A		
	O	□ N/A	1		☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A		
	te :3	Signal Description	State	Description	Output Received at PLC Card	Signal Appears on HMI Screen	SCADA Can See Signal		
	Discrete Output 3		0		☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A		
		□ N/A	1		☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A		
	ete t 4	Signal Description	State	Description	Output Received at PLC Card	Signal Appears on HMI Screen	SCADA Can See Signal		
	Discrete Output 4		0		☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A		
	J	□ N/A	1		☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A		
	Retur	ned to Service:		☐ Yes ☐ No	Comments:				
Final Analysis		oring / Further Inspecti	on Required:	Yes No	_				
Fi		r / Replacement Requi	•	☐ Yes ☐ No	\dashv				

<u> </u>			COMMISSIONING FORM	Page 3 of 3				
Winni	peg	INSTRUME	INSTRUMENT TRANSMITTER (CONTROLLER)					
oject	Facility:		Project Name:					
Pro	Area:		RFP No.	ı.				

	Company	Name	Signature	Date (yyyy/mm/dd)
General Contractor Representative				
City Representative				

Q .				COMMISSIONING FORM							Pag	Page 1 of 2		
Winnipèg					LIFT PUMP						Equ	Equipment Tag:		
ect	Facility:			Project I	Project Name:									
Project	Area:			RFP No).					Tender	· No.			
ूर इंट्र	General Co	ntractor:		Pi	roject l	Manag	ger:							
Project Contact	Consultant:			C	Contract Administrator:									
	City of Winn	ipeg		C	onsulti	ng Pro	oject M	lanaç	ger:					
	Drawings:	Single Lir	ne:	Sc	chemat	tic:				С	Connection	on:		
, a		Equipme	nt No.	Lo	cation	:				E	nclosure	Type: ODP	☐ TEFC	
Dat		Manufact	urer:	Mo	odel:					S	Serial No.			
ع 2	Matari	Power:	HP	Vo	oltage:		V	'AC	□ 1Ø □	3Ø F	ull Load	Amps: A		
catic	Motor:	Speed:	RPM S	Service Fa	ctor:		E	Efficie	ency:	<u> </u>		Power Factor:		
Lift Pump Location & Data		Inverter [Outy Rated: No	nsulation (Class:		ļ	Ambi	ent Temp.		°C	Weight:	lbs	
ft Pu		Equipme	nt No.	Lo	cation	:				N	lech. Se	al: Single	Double	
	Pump:	Manufact	urer:	Me	Model: Se				Serial No.	erial No.				
	Impeller Size: mm Dr					ver Power: kW Flow: L/s @ TDH						Speed:	RPM	
	Motor Lama	Yes		No	Pumn	Lam	acoid Install	eq.		☐ Yes	□ No			
	Drive Shaft	Yes	es No Visual Signs of Overheating					☐ Yes	□ No					
ng	Motor Powe	r Cables L	Yes	es No Motor Control Cables Labelle						Yes	No			
Visual Inspection / Cleaning	Motor Opera	ation:	Acceptabl	cceptable Poor Pump Operation:					☐ Good ☐ Acceptable ☐ Poor					
 	Motor Moun	ting Install	Acceptabl	cceptable Poor Pump Mounting Installation:			ation:	☐ Good ☐ Acceptable ☐ Poor						
ction	Cleanliness		Acceptabl	Acceptable Poor Power Cable Connections:			ons:	☐ Good ☐ Acceptable ☐ Poor						
edsı	Control Cab	le Connec	Acceptabl	Acceptable Poor Ground Connections:					☐ Good ☐ Acceptable ☐ Poor					
lal In	Paint		☐ Good ☐	Acceptabl	Acceptable Poor Mechanical Noise / Vibrations					rations	s ☐ Good ☐ Acceptable ☐ Poor			
Visu	Seal Water	Automatic	ally Turns On:	Yes 🗌 N	'es ☐ No ☐ N/A Seal Water Automatically Tur					lly Turns	rns Off: Yes No N/A			
	Cables Sup	ported App	oropriately:	Yes 🗌 N	'es ☐ No Equipment Cleaned: ☐ Yes					☐ Yes	Photographs Taken: Yes			
	Comments:													
				Dowe	or Cob	lo.								
	Test Preparation	: Sou	Setup: rce: ☐ Isolated	Disco	Power Cable ☐ Disconnected ☐ Connected Note: Approval of City's Represe prior to leaving cables connected									
5	WARNING: DISCONNECT ALL FIELD POWER CABLES FROM MOTOR PRIOR TO TEST.													
Motor Electrical Testing		Te	est	Test Vo	ltage		Ins	ulatio	on Resistan	ce (MΩ))	Ground all pha		
cal T		16	:51	Test vo	niage	Ph	nase A	A Phase B		Pha	ase C	under te	st!	
ectric		Line to	,	VDC							Test Summary			
Ä								Re	sistance (u	Ω)		☐ Test Passed		
Motc		Test			er	Phas	Resistance (μΩ) Phases A-B Phases B-C P			T	es C-B	Test Inconclu Further Inve		
		Windina F	Resistance	Fluke N	/leter							Required. Test Failed		
	Comments:				-							☐ Lest Falled		
I	Johnnettis.													

Winnipeg					C	OMMISSI					Page	2 (of 2
						LIFT	PUN	/IP			Equipment Tag:		
ect	Faci	lity:			Pr	Project Name:							
Project	Area	a:			RI	P No.				Tender No).		
L													
	TES	TING: M	IOTOR AN	ND PUMP T	O BE RUN	FOR FIVE (5) MIN	NUTES UND	ER FULL I	OAD PRIO	R TO REC	ORDING V	/ALUES.
	Bea	ring Tempe	erature	□ N/A	Recomme	nded Alarm	Level:	· °	C Rec	ommended	Lockout L	evel:	°C
		ring Vibratio		□ N/A	Recomme	nded Alarm	Level:	: n	nm/s Red	ommended	Lockout L	evel:	mm/s
		-		ure N/A					C Rec	ommended	Lockout L	evel:	°C
	Moto	or Measure	d Current		Phase	A	Α	Phas	e B	Α	Phase	e C	Α
	Star	ter Displaye	ed Current	t	Phase	A	Α	Phas	e B	Α	Phase	e C	Α
		Bea	ring Desc	ription	Monitor	ing Signal	Mea	asured Value	e Calcula	ated Value	PLC / F	HMI Display	red Value
		Matan	Daine Facil	1 (1 1)	Temperati	ıre 🗌 N/A		Ω		°C		°C	
ō	ring	MOTOR	Drive End (Upper)		Vibration ☐ N/A			mA		mm/s		n/s	
stin	onito	Motor	Drive End	rive End (Lower)		Temperature ☐ N/A		Ω		°C	°C		
] E	g Mc	WOTO				□ N/A		mA		mm/s		n/s	
ion	Bearing Monitoring	Pump	Drive End	l (Upper)	Temperature □ N/A			Ω		°C		°C	
erat					Vibration N/A			mA		mm/s		mn	
o p		Pump	Drive End	I (Lower)	Temperate Vibration	ure		Ω mA	°C Mm/s			°C mn	
Loa							<u> </u>	IIIA IIIII/3		11111/3			1/3
Full Load Operational Testing	bu	Motor V	Vinding De	escription	Monitoring Signal		Меа	asured Valu	e Calcula	ated Value	Alarm Co	ontact to PL	_C Initiated
	Motor Winding		Phase A		Temperati	nperature		Ω		°C	☐ Yes	□No	□ N/A
	lotor		Phase B			ure N/A		Ω		°C	☐ Yes	□No	□ N/A
	2		Phase C		Temperate	ure N/A		Ω		°C	☐ Yes	☐ No	□ N/A
		Seal	Water Inst	trument	Motor Status			Instrument Output Stat		tatus Output R		Received at Seal / PLC	
	Seal Water	Sol	enoid	□ N/A	Ru	nning		Closed		Opened	☐ Yes	☐ No	□ N/A
	eal V		011014	noid 🔲 N/A		Stopped		Closed		Opened	Yes	□ No	□ N/A
	Š	Flow	Switch	□ N/A		nning opped		☐ Closed		Opened Opened	☐ Yes	☐ No ☐ No	□ N/A□ N/A
	Com	nments:			L	-	1			-	<u> </u>		
1													
- sis	Retu	rned to Se	rvice:			Yes 🗌 N	10 C	Comments:					
Final Analysis	Mon	itoring / Fu	rther Inspe	ection Requi	ired:	Yes 🗆 N	10						
A A	Repair / Replacement Required:					Yes 🗆 N	10						
										Signature		Data /:==	yy/mm/dd)
Gener	General Contractor				N	ame			Signature		Date (yy)	/y/IIIIII/dd)	
Repres													
City Representative													

Page

2 of 2

Note: The General Contractor Representative is responsible for ensuring that the data is transcribed from the handwritten form correctly, and that the analysis results are correct.

<u></u>

Q VV						CO	MMISSIOI	NII	NG FORM		Page	1 of 2	
Winnip	pèg					N	IOTORIZE	D	VALVE		Equipment Tag:		
ect	Facility:				Pro	Project Name:							
Project	Area:					RF	P No.			Tender N	Tender No.		
•	Genera	al Cont	ractor:				Project Ma	ana	aer:				
Project Contact	Consul	Itant:					Contract A						
Pr	City of	Winnip	peg				Consulting	y Pı	roject Manager:				
										la			
	Motoriz Equipm						Location:			Control P Equipme		□ N/A	
a e	Drawin	ngs:	P&ID:				Control Pa	nel	:	Loop Dia	gram:		
Valve Data			Manufac	turer:			Model / CA	ΙT	No.	Serial #:			
zed v	Motori: Valve:		Power S	upply:	VAC	/ VDC	Torque:		Nm	Control T	ype: 🔲 Modu	lating 🗌 On / Off	
Motorized Valve Location & Data			Control I	nput:	VAC	/ VDC	Control Ou	tpu	t: VAC / VDC	Auxiliary	Switch Provided	d: Yes No	
Mc	Remote Manual Station	ıl n:	Manufac	turer:			Model / CAT No.			Display Screen Provided: ☐ Yes ☐ No			
			h I		-111-				Viewel Circus of County	- C			
									Visual Signs of Overhe			Yes No	
ning									Control Cables Labelle Visual Position Indicate			☐ Yes ☐ No ☐ Yes ☐ No	
Clea	Remote Manual Operator Installed: Yes If Cleanliness: Good Acceptable P							Power Cable Connection			ceptable Poor		
on /	Control Cable Connections: Good Acceptable Pe								Ground Connections:	-		ceptable Poor	
pecti	Fully Functioning Valve: Good Acceptable P						'	·					
l Ins	All Valve Inputs Work: Good Acceptable						ptable ☐ Po	oor All Valve Outputs Work: Good Acceptable Poor					
Visual Inspection / Cleaning							□ No □ N/	o □ N/A Equipment Cleaned: □ Yes Photographs Taken:				aken:	
۸	Comments:												
	Motoriz	zed Va	lve Meas	ured One	ening Time	۶.	sec	М	otorized Valve Measure	d Closina	Time:	sec	
							V	Motorized Valve Measured Closing Voltage:					
Festing	Motorized Valve Measured Opening Voltage: V Motorized Valve Changes From Open to Closed Position: Yes □ No						Yes 🗌 No	М	otorized Valve Changes			☐ Yes ☐ No	
Operational Testing	ating des	Mode I	Descriptio	on					Fail-Safe Position	N	linimum Open Position	Maximum Open Position	
Oper	Mode Description Motorized Valve Position								☐ Opened ☐ Closed ☐ N/A		%	%	
	Comme	ents:											
8	Adjust I	Dampe	er Actuate	or Setting	gs for Dam	per Bala	ancing	C	omments:				
Valve Settings					Open	Directio	n Control	H	Angle of Rotation Pos	sitions	Auxiliary	Switch Position	
- as	Motorized Valve				CCW		Starting: Endin		□ Not Used				

Winnip	oeg						MMISSION MOTORIZE	NING FORM			Page	2 of 2
											Equipme	ent rag:
Project	Facili	ty:				Pro	ject Name:					
Pro	Area:					RFI	P No.			Tender No		
	Verify	Control Sig	nals	Between Cont	roller and	l Val	lve	Comments:				
ignals	Test F	reparation:		st physical sig		er tha	an installing					
rol S	Field \	Wires Label	led a	t Both Ends:	□ Y	es	☐ No					
out Cont	Open on	Description	C	ontrol Signal Type	Measur Input Signa		Measured Output Voltage	Output Rec		Signal App on HMI So		SCADA Can See Signal
Motorized Valve Input / Output Control Signals	Minimum Open Position	Motorized Valve] 4 – 20 mA] 0 – 10V] On / Off	□ mA □] V	□ mA □ V	☐ Yes ☐ No	□ N/A	☐ Yes ☐ No	o □ N/A	☐ Yes ☐ No ☐ N/A
zed Valve	num osition	Description	n	Signal Type	Measur Input Voltag		Measured Output Voltage	Output Rec		Signal App on HMI Sc		SCADA Can See Signal
Motori	Maximum Open Position	Motorized Valve] 4 – 20 mA] 0 – 10V] On / Off	□ mA □] V	□ mA □ V	☐ Yes ☐ No	□ N/A	☐ Yes ☐ No	o □ N/A	☐ Yes ☐ No ☐ N/A
	5 .	14.0					·	Comments:				
al /sis		ned to Serv					<u> </u>	Comments.				
Final Analysis				spection Requ	uired:		_	4				
	Repa	ir / Replace	ment	Required:			Yes No					
				Company			Nam	ne		Signature		Date (yyyy/mm/dd)
Genera Repres										<u> </u>		, , , ,
City Re	prese	ntative										

<u></u>	_					COI	MMISSIONII	NG FOR	2M		Page	1 of	2
Winni	peg					Ol	UTDOOR LI	GHTING	}		Equipment Ta	ag:	
ect	Facility:					Proj	ect Name:						
Project	Area:					RFP	No.			Tender No).		
	General	Cont	ractor:				Project Mana	aer:					
Project Contact	Consult						Contract Adm						
r S	City of V	Vinnip	eg				Consulting P	roject Man	nager:				
							1		1				
	Battery Location			Battery Ba Equipmen			Panel Feed: Circuit No.		Control Panel No.		Applicable Drawings:		
ing	Outdoo	-	Manufa	acturer:			Catalog No.		•		Control Type		
ighti & Da	Lightin	g	Rated '	Voltage:	VAC	Input	Current:	Α	Lamp Wattag	ge: V	/ Outdoor Fixt	ures Qty	:
or L	Fixture	S:	Installe	d on Outdo	or Walls:		☐ North] East		outh	□ W	/est
Outdoor Lighting Location & Data			Manufa	acturer:			Catalog No.		Adjustable T		_		☐ No
0 -	Photoce	ell:							Adjustable T	urn-Off Lev			☐ No
			Rated '	Voltage:	VAC	Rated	Current:	Α	Installed Location:		Turn-On / Tu Ratio:	ırn-Off	□ N/A
	Identific	ation I	amacoi	ds Installed:	·	Yes		Lamps P	roperly Aimed	l <u>.</u>		<u></u>	☐ No
Jing	-		of Moistu			Yes	□ No	-	s Properly Op				□ No
Clear				re Proof Ra			□ No □ N/A		Light Levels A			es 🗌 No	
) / uc	Cleanlin	ess:			Good	Accep	otable Poor	Cable Co	onnections:	. [☐ Good ☐ Ac	ceptable	Poor
ection	Ground	Conn	ections:		Good	Accep	otable Poor	Connecti	ions Properly	Sealed: [☐ Good ☐ Ac	ceptable	Poor
Visual Inspection / Cleaning	Photoce	ell Inst	allation:		Good	Accep	otable Poor	Dimming	Controller Ins	tallation: [☐ Good ☐ Ac	ceptable	Poor
sual	Cables	Suppo	orted App	oropriately:		Yes	☐ No	Equipme	nt Cleaned:	☐ Yes F	hotograph Tak	en:	☐ Yes
į	Comme	nts:											
	1									1_	_		
DG .			Tempera g Testing		°C	;	Battery Bank 1 After Testing C			°C	Summary		
ell & Festi			n-On Lev		foot-car	ndles	Photocell Turn				est Passed est Inconclusive	e	
toce	Photoce	ell Turi	n-Off Lev	/el:	foot-car	ndles	Photocell Turn	-Off Time:			urther Investiga		uired
Photocell & Controller Testi	Measur	ed Lig	ht Outpu	rt:	foot-car	ndles	Dimming Cont	roller Outp	out:	V	est Failed		
ပိ	Comme	nts:											
	Outdoo	·Liabt	c Turn C	n and Off									
_	by Phot	ocell i	n Autom	atic Mode:			Yes No		r Lights Turn C		al Mode:	☐ Yes	s 🗌 No
sting	Light O	ıtput A	Adjustabl	e by Dimmi	ng Contro	ller:	Yes No	Photoce	ell Turn-On Le	vel:		foot-cand	
Operational Testing	ρ <i>ν</i>	lode E	Descriptio	on				(Outdoor Lights	s On		or Outdo to Turn (
tion	- a o ⊢			e – Normal (No			N/A	
pera				e – Photoce				1	Yes [No		sec	
			Mode –	Individual N	Normal Lig	hting C	Circuits Fail	[☐ Yes ☐	No		sec	
	Comme	nts:											

<u> </u>			COMMISSIONING FORM		Page 2 of 2
Winni	peg		OUTDOOR LIGHTING		Equipment Tag:
Project	Facility:		Project Name:		
Pro	Area:		RFP No.	Tender No	o.
	Г		<u> </u>		
<u>s</u>	Returned to Sei	rvice:	☐ Yes ☐ No Comments:		
Final Analysis	Monitoring / Fu	ther Inspection Required:	☐ Yes ☐ No		
Ā	Repair / Replac	ement Required:	☐ Yes ☐ No		
		Company	Name	Signature	Date (yyyy/mm/dd)
Genera	al Contractor				

Representative

City Representative

_			1										1			
<u> </u>	_				СО	ММІ	ISSI	ONII	NG FOR	RM				Page	e 1 of	2
Winni	peg					PA	ANE	LBO	ARD					Equi	pment Tag:	
t	Facility:		-1		Pro	ject N	Name:	:								
Project	-											T	NI -			
ь.	Area:				KF	P No.						rena	er No.	•		
+ #	General Co	ontractor:				Pro	oject	Mana	ger:							
Project Contact	Consultant	:				Со	ontrac	t Adn	ninistrator:							
<u> </u>	City of Win	nipeg				Со	nsult	ing Pı	roject Mar	nager	r:					
	Daniel Envis	ana ant Na										1	ed Fr			
8	Panel Equipos:	Single L	ino:					ocatio chedu					-ea Fr Schem			
atio	Diawings.	Manufac				_	del:	criedo	ile.				Serial			
rd Loc Data	Panelboard Ratings:			Α									Jenai	1	Single Phase [3-wire
oard	itatiligs.	Withstar	-	kAIC	Rated	Volta	ge:		VAC	No.	of Circuits	S:				4-wire
Panelboard Location & Data	Main		nstalled	Datin		^	Ins	st.		Α	Manufacti	urer:				
Ра	Breaker:	☐ N/A	m Installed	Rating:		Α	Se	etting:	□ N	/A	Model:					
	1			_			1									
	List all bra Breaker		ers installed. GFCI Rated	1	e each	comm	non si	ize br	eaker for l	numb	1		ole, 2-	-pole	& 3-pole) and GF	-CI rated.
	Size (A)	Poles	(Yes / No)	Ma	anufact	urer			Model No.		Interru Rating	(kA)	Note	S		
۱																
Branch Breakers																
Brea																
ınch																
Bra																
	Comments	S:														
	Panelboard	d Lamacoi	d Installed:	Г	Yes			No	Visual Si	ians (of Overhe	ating:			☐ Yes	☐ No
jing	Power Cab				Yes						Energize		al:		☐ Yes	□ No
Clear	Typewritte	n Directory	Installed:		Yes						izes Matcl				☐ Yes	□No
) / uc	Cleanlines	s:		Good [Acce	ptable	e 🗆	Poor	Enclosur	e Co	ver Secur	ed:] God	od	Poor
ection	Door Mech	nanical:		Good [Acce	ptable	e 🗆	Poor	Ground (Conn	ection:] God	od	Poor
Visual Inspection / Cleaning	Exercised	Main Brea	ker:		Yes	□ No	o 🗆	N/A	Exercise	d All	Branch C	ircuit E	Breake	ers:	☐ Yes	□No
sual	Cables Su	pported Ap	propriately:		Yes	□No)		Equipme	nt Cl	leaned:	☐ Yes	s Ph	notog	raph Taken:	☐ Yes
Ş	Comments	s:											•			
	T															
بي			Test						Re	esista	ance (μΩ)			Test Summary	
eake nent			1631					Phas	se A	Ph	ase B	Pł	nase (•	☐ Test Passed☐ Further Inves	etication
Main Breaker Measurements		Main Brea	ker Pole Me	asureme	nts										Required.	Jaganon
Mai Mea				.acaioiii6											☐ Test Failed	
	Com	nments:														

Winnip	Winnipeg				COMMISSIONING FORM PANELBOARD					2 of 2 ent Tag:
ect	Facility:			Project N	lame:					
Project	Area:			RFP No.				Tender No		
	Test Preparation:		ce: Disconnected Connected with Source	Isolated		Note: Approva			ive is red	uired, prior to leaving
Fest	WARNING: DISCONNECT INCOMING SOURCE POWER CABLES PRIOR TO TEST.									
Jce J		Te	est	Voltage		Insulati	on Resista	nce (MΩ)	(Ground all phases not
istar				Voltage		Phase A	Phase B	Phase	C	under test!
Res	Main Brea	ıker Lir	e Side to Ground	500 VDC					Те	st Summary
ion	Main Brea	ker Loa	ad Side to Ground	500 \	/DC					Test Passed
Insulation Resistance Test	Bu	s Bars	to Ground	500 \	/DC					Further Investigation Required. Test Failed
	Comments:			ı	L				L	
	D - 1 1 0					Comments:				
al 'sis	Returned to Ser			☐ Yes	☐ No	Comments.				
Fina	Monitoring / Further Inspection Required:			☐ Yes	☐ No					
∢	Repair / Replacement Required:				☐ No					
			0		Maria	_		0:		B -1- ((1-0)
General Contractor Representative				Nam	e		Signature		Date (yyyy/mm/dd)	
City Re										

	COMMISSIONING FORM Page 1 of 2 PLC ANALOG INPUT CARD					:							
Winni	PLC ANALOG INPUT CARD Facility: Project Name:						Equipme	ent Tag:					
ect	Facility:			Pro	oject	Name:							
Project	Area:			RF	FP No).			Tende	er No).		
				<u> </u>									
ect	General Contra	actor:				roject Mana	_						
Project Contact	Consultant:					Contract Adm							
	City of Winnipe	∍g			C	onsulting Pi	roject Manager:						
	PLC Enclosure	Name:				PLC Manuf	acturer:		ı	PLC	Model:		
PLC Data	Card Catalog I	No.				Rated Input	Voltage:	VDC	ı	nput	s 0-7 Fus	e No.	
127	Documents:	I/O Wiri	ing Dwg:			DNP3 I/O F	ïle:		(Contr	ol Narrati	ve:	
"	PLC:	Equipm	nent Tag:			Rack:			ı	Modu	ıle:		
	Pre-Manufactu	urad Ca	ble Lebelled	□Yes		∏No	Dro Monufactur	ad Cabl	o Too				
			rminal Blocks:	☐ Yes		☐ No	Pre-Manufactur All Input Wires I				al Blocks:	☐ Yes	П №
Visual Inspection	All Inputs Sep			☐ Yes			All Inputs Wired					☐ Yes	□ No
edsı	Cleanliness:	diatory					Wire Connectio		<u> </u>			☐ Acceptable	
la lu	Fully Function	ing Car				ble 🔲 Poor						☐ Acceptable	
Visu	Card Fully Pro					ble 🗌 Poor						☐ Acceptable	
	Comments:	<u>-</u>					<u> </u>						
Point	Physical Tag	j l	Description	Signal T	Гуре	Sign	al Mapping	PLC Input			SCADA	Condition Pickup Level	Pass (P/F)
	Physical Tag	j I	Description	0 - 20	0mA	Sign	al Mapping mA/V =	Input	HN	/II		Pickup Level	
Point 0	Physical Tag	j I	Description	□ 0 – 20 □ 4 – 20	0mA 0mA					/II	SCADA	Pickup Level ☐ Low ☐ High	
	Physical Tag	j I	Description	0 - 20	0mA 0mA 0V	Low: High:	mA/V = mA/V =	Input	HN	/II		Pickup Level	
	Physical Tag	j I	Description	0 - 20 4 - 20 0 - 10 0 - 20 4 - 20	0mA 0mA 0V 0mA 0mA	Low: High: Low:	mA/V =	Input	HN	ΛI		Pickup Level Low High N/A Low High	
0	Physical Tag	j I	Description	0 - 20 0 - 10 0 - 20 0 - 10 0 - 20 0 - 10	0mA 0mA 0V 0mA 0mA	Low: High:	mA/V = mA/V =	Input	HN	ΛI		Low High Low High N/A High N/A	
0	Physical Tag	j I	Description	0 - 20 0 - 10 0 - 10 0 - 10 0 - 20 0 - 10 0 - 20	OmA OmA OV OmA OMA OV	Low: High: Low:	mA/V = $mA/V =$ $mA/V =$ $mA/V =$ $mA/V =$	Input	: HN	/II		Low High Low High N/A High N/A Low N/A Low Low Low Low Low Low Low Low	
0	Physical Tag	, !	Description	0 - 20 0 - 10 0 - 20 0 - 10 0 - 20 0 - 10	OmA OW OMA OMA OW OMA OMA	Low: High: Low: High:	mA/V = $mA/V =$ $mA/V =$ $mA/V =$	Input	HN	/II		Low High Low High N/A High N/A	
0 1 2	Physical Tag	j !	Description	0 - 20 1 4 - 20 1 0 - 10 1 0 - 20 1 4 - 20 1 0 - 10 1 0 - 20 1 4 - 20 1 0 - 10 1 0 - 20 1 0 - 10 1 0 - 20 1 0 - 20 1 0 - 20 1 0 - 20	OmA OmA OV OmA OV OmA OMA OV	Low: High: Low: High:	mA/V = $mA/V =$ $mA/V =$ $mA/V =$ $mA/V =$		t HM	/II		Low High Low High N/A Low High N/A Low High N/A N/A Low High N/A Low	
0	Physical Tag		Description	0 - 20 0 - 10 0 - 10 0 - 10 0 - 10 0 - 10 0 - 10 0 - 20 0 - 10 0 - 20 0 - 10 0 - 20 0 - 4 - 20 0 - 10	OmA OWA OWA OMA OV OMA OWA OMA	Low: High: Low: High: Low: High:	mA/V = $mA/V =$ $mA/V =$ $mA/V =$ $mA/V =$ $mA/V =$	Input	: HN	/II		Low High N/A Low High N/A Low High N/A Low High N/A Low High Hi	
0 1 2	Physical Tag	, ,	Description	0 - 20 1 4 - 20 1 0 - 10 1 0 - 20 1 4 - 20 1 0 - 10 1 0 - 20 1 4 - 20 1 0 - 10 1 0 - 20 1 0 - 10 1 0 - 20 1 0 - 20 1 0 - 20 1 0 - 20	OmA OWA OMA OMA OV OMA OWA OMA OWA OMA	Low: High: Low: High: Low: High: Low: High:	mA/V =		t HM	/II		Low High Low High N/A Low High N/A Low High N/A N/A Low High N/A Low	
0 1 2	Physical Tag	, ,	Description	0 - 20	0mA 0mA 0V 0mA 0V 0mA 0W 0mA 0V 0mA 00mA 0V 0mA	Low: High: Low: High: Low: High: Low: High: Low: High:	mA/V =		t HM	///		Low High N/A Low High H	
0 1 2 3	Physical Tag	, ,	Description	0 - 20	0mA 0mA 0V 0mA 0V 0mA 0V 0mA 0V 0mA 0V 0mA 0V	Low: High: Low: High: Low: High: Low: High:	mA/V =			///		Pickup Level Low High N/A N/A N/A	
0 1 2 3	Physical Tag	, ,	Description	0 - 20	0mA 0mA 0V 0mA 0V 0mA 00V 0mA 00V 0mA 00V 0mA 00V	Low: High: Low: High: Low: High: Low: High: Low: High:	mA/V =			//		Pickup Level Low High N/A Low High Low Low How High Low Low How How Low How Low How Low Low Low Low Low Low Low Low Low L	
0 1 2 3	Physical Tag		Description	0 - 20	0mA 0mA 0V 0mA 0V 0mA 00V 0mA 00V 0mA 00V 0mA 00V	Low: High: Low: High: Low: High: Low: High: Low: High:	mA/V =			//		Pickup Level Low High N/A N/A N/A	
0 1 2 3	Physical Tag		Description	0 - 20 4 - 20 0 - 10 0 - 20 4 - 20 0 - 10 0 - 20 4 - 20 0 - 10 0 - 20 0 - 20 0 - 10 0 - 20 0 - 20 0 - 10 0 - 20 0 - 20 0 - 10 0 - 20 0	0mA 0mA 0V 0mA 0V 0mA 0V 0mA 0V 0mA 0V 0mA 0V 0mA 0V 0mA	Low: High: Low: High: Low: High: Low: High: Low: High: Low: High:	mA/V =			//		Low High N/A Low	
0 1 2 3	Physical Tag		Description	0 - 20	Oma Oma Owa Oma Owa Oma Oma Oma Owa Oma Owa Oma Oma Owa Oma Oma Oma Owa Oma Oma Owa Oma Owa Owa Oma Owa Owa Owa Oma Oma Oma Oma Oma Oma Oma Oma Oma Om	Low: High: Low: High: Low: High: Low: High: Low: High: Low: High:	mA/V =			//		Pickup Level Low High N/A Low High	
0 1 2 3 4 5	Physical Tag		Description	0 - 20 4 - 20 0 - 10 0 - 20 4 - 20 0 - 10 0 - 20 4 - 20 0 - 10 0 - 20 4 - 20 0 - 10 0 - 20 4 - 20 0 - 10 0 - 20 0 - 10	OmA OWA OWA OWA OWA OWA OWA OWA OWA OWA OW	Low: High:	mA/V =			//		Pickup Level Low High N/A N/A	
0 1 2 3 4 5	Physical Tag		Description	0 - 20	Oma Oma Owa Oma Owa Oma Oma Oma Owa Oma Oma Owa Oma Oma Owa Oma Oma Owa Owa Oma Owa Owa Oma Owa Owa Owa Oma Oma Oma Oma Oma Oma Oma Oma Oma Om	Low: High:	mA/V =					Pickup Level Low High N/A Low High	

Winnipeg			COMMISSIONING FORM PLC ANALOG INPUT CARD					Page 2 of 2			
Winni	peg 		F	PLC ANA	ALOG II	NPUT CAR	D		Equipmer	nt Tag:	
Project	Facility:			Project N	lame:						
Pro	Area:			RFP No.				Tender No	•		
is	Returned to Ser	vice:		☐ Yes	□No	Comments:					
Final Analysis	Monitoring / Fur	ther In	spection Required:	☐ Yes	□No						
I An	Repair / Replace	ement	Required:	☐ Yes	□No						
Comme	ents:										
Commi	orito.										
	7			1							
			Company		Name)		Signature		Date ((yyyy/mm/dd)
	al Contractor sentative										

City Representative

<u> </u>	Dipleg DI C ANALOC INDUT DED CARD													
Winni	peg			PLC ANA	ALOC	3 INPU	IT RTD	CARD)			Equipme	ent Tag:	
čť	Facility:			Proje	ct Nar	ne:					•			
Project	Area:			RFP	No.					Tende	er No			
	7 11 0 0 .											'		
ಕಕ	General Contr	actor:			Proje	ct Mana	ger:							
Project Contact	Consultant:				Contr	ract Adm	inistrator:							
т О	City of Winnip	eg			Cons	sulting Pr	oject Man	ager:						
	PLC Enclosure	e Name:			PLO	C Manufa	acturer:			F	PLC N	/lodel:		
ata	Card Catalog I				-		Voltage:		VDC			0-7 Fus	e No.	
PLC Data	_		ng Dwg:		-	P3 I/O F					-	ol Narrati		
_	PLC:	Equipm	ent Tag:		Rad	ck:				١	Nodul	e:		
	D M ()					-	D 14		10.11					
	Pre-Manufacti			Yes		□ No	Pre-Manu					I Dia alca		
tion	All Inputs Wire			☐ Yes		□ No □ No	All Input							□ No □ No
Visual Inspection	Cleanliness:	aratery		od			Wire Con			<u> </u>			Acceptable [
al In	Fully Function	ing Car		od			Card Sec						Acceptable [
Visu	Card Fully Pro			od									Acceptable [
	Comments:			<u> </u>									<u> </u>	
		_							1					
Point	Physical Tag	3	Description	Signal Typ	e s	Signal M	lapping R	Range	PLC Input	Loc HN		SCADA	Condition Pickup Level	Pass (P/F)
				2-wire R						_			Low	
0				☐ 3-wire R	TD		°C -	°C		L	J		☐ High ☐ N/A	
				2-wire R	TD								Low	
1				3-wire R	TD		°C -	°C]		☐ High	
				☐ PT100	TD								□ N/A	
2				2-wire R			°C -	°C					☐ Low ☐ High	
				☐ PT100									□ N/A	
				2-wire R			°C -	°C			,	_	Low	
3				☐ 3-wire R	וטו		C -	C			J		☐ High ☐ N/A	
				2-wire R	TD								Low	
4				3-wire R	TD		°C -	°C]		High	
				☐ PT100 ☐ 2-wire R	TD								□ N/A	
5				☐ 3-wire R			°C -	°C]		High	
				☐ PT100	_								□ N/A	
6				☐ PT100 ☐ 2-wire R			°C -	°C			+		Low	
6				☐ PT100			°C -	°C						
6				☐ PT100 ☐ 2-wire R ☐ 3-wire R	TD TD		°C -	°C					Low High	

X X 7				COMMISSIONING FORM C ANALOG INPUT RTD CARD					Page 2 of 2		
Winnip	peg		PLO	CANAL	OG INP	UT RTD C	ARD		Equipme	nt Tag:	
Project	Facility:			Project N	Name:						
Pro	Area:			RFP No.				Tender No			
is	Returned to Ser	vice:		☐ Yes	☐ No	Comments:	_	-	_	_	
Final Analysis	Monitoring / Fur	ther In	spection Required:	☐ Yes	☐ No						
Ar	Repair / Replace	ement	Required:	☐ Yes	□No						
Comme	ents:										
			Company		Name	•		Signature		Date	(yyyy/mm/dd)
Genera	al Contractor		Company		Hami	•		o.g.iatare		Date	(3,3,3,7,11111, GG)

Representative
City Representative

Winni	peg			COMMISSIONING FORM PLC ANALOG OUTPUT CARD					Page 1 of 2 Equipment Tag:			
+	Facility:			Projec	ct Name:				Equi	ритент та	.y. 	
Project	,			RFP N				Tandar No				
ш.	Area:			KFF	NO.			Tender No	J.			
ct	General Contra	actor:			Project Ma	anager:						
Project Contact	Consultant:				Contract A							
	City of Winnipe	eg			Consulting	g Projec	t Manager:					
_	PLC Enclosure	Name	:		PLC Mar	ufactur	er:	PLC	Model	:		
PLC Data	Card Catalog N	No.			Rated Ou	utput Vo	ltage: VAC /	VDC Outp	uts 0-3	3 Fuse No).	
PLC	Documents:	I/O Wir	ing Dwg:		DNP3 I/C	File:		Cont	rol Nar	rrative:		
	PLC:	Equipm	nent Tag:		Rack:			Modu	ule:			
	Pre-Manufactu	ıred Ca	ble Labelled:	☐ Yes	□ No	Pre	-Manufactured Cab	e Tag:				
u.	All Outputs Wi	red to T	erminal Blocks:	☐ Yes	☐ No	All (Output Wires Labell	ed at Term	inal Bl	ocks:] Yes	□No
Visual Inspection	All Outputs Se	parately	y Fused:	☐ Yes	□No	All	Outputs Wired at Ar	alog Outpu	ut Card	d: [] Yes	□ No
lnsp	Cleanliness:		☐ Good	☐ Accept	able 🗌 Po	or Wir	e Connections Both	Ends: [☐ Goo	od 🗌 Ac	ceptable	☐ Poor
sual	Fully Function	ing Card	d: Good	☐ Accept	able 🗌 Po	or Car	d Secured on PLC	Rack: [☐ Goo	od 🗌 Ac	ceptable	☐ Poor
Ι	Card Fully Pro	gramm	ed: Good	☐ Accept	able 🗌 Po	or All	Card Input Lights W	ork: [☐ Goo	od 🗌 Ac	ceptable	☐ Poor
	Comments:											
Point	Physical T	ag	Description	Sign	nal Type		State Mapping		_C	SCADA	Field	Pass
Point	Physical T	ag	Description		nal Type – 20mA	1	State Mapping		_C out	SCADA	Field Device	Pass (P/F)
Point	Physical Ta	ag	Description	□ 0 □ 4	– 20mA – 20mA	Low	mA/V =	Inp		SCADA		
	Physical T	ag	Description	0 4 0	– 20mA – 20mA – 10V	Low High	mA/V = mA/V =	Inp	out	_	Device	
	Physical T	ag	Description	0 4 0 0	– 20mA – 20mA	High Low	mA/V = mA/V = mA/V =	Ing [out	_	Device	
0	Physical T	ag	Description	0 4 0 0 4 0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V	High	mA/V = mA/V =	Ing [out :		Device	
0	Physical T	ag	Description	0 4 0 0 4 0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA	High Low	mA/V = mA/V = mA/V =	[out :		Device	
0	Physical T	ag	Description	0 4 0 0 0 4 0 0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V	High Low High	mA/V =	[out :		Device	
0 1 2	Physical To	ag	Description	0 0 4 0 0 0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA	High Low High Low	mA/V =	Inp	out :		Device	
0	Physical T	ag	Description	0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 20mA - 20mA	Low High Low High	mA/V =	Inp	out :		Device	
0 1 2			Description	0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 10V	High Low High Low High Low High	mA/V =	Inp	out :		Device	
0 1 2 3	Returned to S	ervice:		0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 10V - 20mA - 10V	High Low High Low High Com	mA/V =	Inp	out :		Device	
0 1 2 3	Returned to Sometime Monitoring / For	ervice:	nspection Required:	0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 10V - 20mA - 10V	High Low High Low High Com	mA/V =	Inp	out :		Device	
0 1 2	Returned to S	ervice:	nspection Required:	0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 10V - 20mA - 10V	High Low High Low High Com	mA/V =	Inp	out :		Device	
0 1 2 3	Returned to Sometime Monitoring / Fig. Repair / Repla	ervice:	nspection Required:	0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 10V - 20mA - 10V	High Low High Low High Com	mA/V =	Inp	out :		Device	
Final 2 3 Analysis	Returned to Sometime Monitoring / Fig. Repair / Repla	ervice:	nspection Required:	0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 10V - 20mA - 10V	High Low High Low High Com	mA/V =	Inp	out :		Device	
Final 2 3 Analysis	Returned to Sometime Monitoring / Fig. Repair / Repla	ervice:	nspection Required:	0	- 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 20mA - 10V - 20mA - 10V - 20mA - 10V	High Low High Low High Com	mA/V =	Inp	out :		Device	

<u> </u>			COMMISSIONING FORM		Page	2 of 2
Winni	peg	PL	C ANALOG OUTPUT CARD		Equipment Tag:	
oject	Facility:		Project Name:			
Pro	Area:		RFP No.	Tender No).	

	Company	Name	Signature	Date (yyyy/mm/dd)
General Contractor Representative				
City Representative				

<u> </u>	_			CO	MMIS	SIONI	NG I	ORM			Page	1 of 3	
Winnij	peg			PLC D	ISCR	ETE II	NPU	T CAR	RD		Equipment 7	ag:	
ct	Facility:			Proj	ect Nar	ne:					•		
Project	Area:			RFF	No.					Tender	No.		
+ #	General Contr	actor:			Proje	ct Mana	ger:						
Project Contact	Consultant:				Cont	ract Adn	ninisti	ator:					
C P	City of Winnip	eg			Cons	ulting P	roject	Manage	er:				
	PLC Enclosure	e Name:			PLC	Manufa	acture	er:		PLO	C Model:		
PLC Data	Card Catalog	No.			Rate	ed Input	s Volt	age:	VAC /	ADCI :	uts 0-15 Fuse Nuts 16-31 Fuse		
PLC	Documents:	I/O Wiri	ng Dwg:		DNF	23 I/O F	ile:				ntrol Narrative:		
	PLC:	Equipm	ent Tag:		Rac	k:				Мо	dule:		
	- · · ·			7.7	,		_						
	Pre-Manufact			☐ Yes ☐ Yes		□ No □ No			ctured Cab		inal Blacks	☐ Yes [□ No
tion	All Inputs Wire			□ res □ Yes		⊒ No		•	ired at Disc				
sbec	Cleanliness:	aratery	Good						ctions Both		Good A		
Visual Inspection	Fully Function	ing Car					1		ed on PLC		Good A	•	
Visu	Card Fully Pro								ut Lights W		Good A		
	Comments:				•		I	<u> </u>					
TESTI	AS AN E	EXAMPL	INPUTS SHOULD I LE, A MANUAL MOD S AT THE PLC CAF	DE STAT									
Point	Physical Tag	3	Description	State	State	Descrip	tion	PLC Input	Local HMI	SCADA	Alar	n	Pass (P/F)
0				0							☐ On ☐ Off		(,,,,
0				1							5]]		(.,,)
1				0							□ On □ Off	— □ N/A	(177)
'											On Off	— □ N/A	(,,,,
2				1							On Off	— □ N/A : — □ N/A	
				1 0							On Off	— □ N/A — □ N/A	
3											On Off	— □ N/A — □ N/A — □ N/A	,
				0							On Off	— □ N/A — □ N/A — □ N/A	
				0							On Off		
4				0 1 0							On Off		
4				0 1 0 1							On Off	N/A N/A	
5				0 1 0 1 0							On Off	N/A N/A	
				0 1 0 1 0 1							On Off	N/A N/A	
				0 1 0 1 0 1 0							On Off		
5				0 1 0 1 0 1 0 1							On Off	N/A N/A	
5				0 1 0 1 0 1 0							On Off		

Winni					MMISSIONING I				Page	2 of 3	
Winni	peg			PLC [DISCRETE INPU	T CAF	RD		Equipment Ta	g:	
ect	Facility:			Pro	ject Name:						
Project	Area:			RFI	P No.			Tender l	No.		
TESTI	AS AN EX	AMPL		DE STA	TED AT THE INSTR TUS WOULD BE TE						
Point	Physical Tag		Description	State	State Description	PLC Input	Local HMI	SCADA	Alarm		Pass (P/F)
8				0					On Off	- □ N/A	
0				1					☐ On ☐ Off	□ IV/A	
9				0					☐ On ☐ Off	- □ N/A	
9				1					☐ On ☐ Off	□ IN/A	
10				0					On Off	- □ N/A	
10				1					On Off	- 🗀 IN/A	
44				0					On Off		
11				1					On Off	- □ N/A	
40				0					☐ On ☐ Off	□ N/A	
12				1					☐ On ☐ Off	- □ N/A	
10				0					☐ On ☐ Off	- □ N/A	
13				1					On Off	· LIN/A	
4.4				0					☐ On ☐ Off	- □ N/A	
14				1					☐ On ☐ Off	- □ IN/A	
45				0					On Off		
15				1					On Off	- □ N/A	
TESTI	AS AN EX	AMPL		DE STA	TED AT THE INSTR TUS WOULD BE TE						
Point	Physical Tag		Description	State	State Description	PLC Input	Local HMI	SCADA	Alarm		Pass (P/F)
				0					On Off		
16				1					On Off	- □ N/A	
				0					On Off		
17				1					On Off	- □ N/A	
4.5				0					☐ On ☐ Off		
18				1					☐ On ☐ Off	- □ N/A	
40				0					☐ On ☐ Off		
19				1					☐ On ☐ Off	- □ N/A	
0.5				0					☐ On ☐ Off		
20				1					☐ On ☐ Off	- □ N/A	
				0					☐ On ☐ Off		

□ N/A

☐ On ☐ Off

1

21

Winni					MMISSION					Page	3 of 3	
Winni	peg		F	LC [DISCRETE	INPU [*]	T CAR	RD		Equipmer	t Tag:	
Project	Facility:			Proj	ect Name:							
Pro	Area:			RFF	P No.				Tender N	No.		
TESTIN	AS AN EX	KAMPL	INPUTS SHOULD BE E, A MANUAL MODE S AT THE PLC CARE	E STA								
Point	Physical Tag		Description	State	State Descri	ption	PLC Input	Local HMI	SCADA	Al	arm	Pass (P/F)
22				0						□ On □	Off DN/A	
22				1						□ On □	Off N/A	
00				0						□ On □	Off DN/A	
23				1						□ On □	Off N/A	
24				0						□ On □	Off N/A	
24				1						□ On □	Off LIN/A	
25				0						□ On □	Off □ N/A	
25				1						□ On □	Off Live	
26				0						□ On □	Off N/A	
20				1						□ On □	Off Living	
27				0						□ On □	Off N/A	
21				1						□ On □	Off	
28				0						□ On □	Off N/A	
20				1						□ On □	Off	
29				0						□ On □	Off N/A	
25				1						□ On □	Off	
30				0						□ On □	Off N/A	
30				1						□ On □	Off	
31				0						□ On □	Off N/A	
31				1						□ On □	Off	
	Returned to Ser	vice:			Yes □ No	Comr	nents:					
ıal ysis			an action Demotes to			0011111	nonc.					
Final Analysis			spection Required:									
	Repair / Replac	ement	Required:	<u> </u>	Yes No							
Comme	ents:											
							1			I		<u> </u>
			Company		Name	•			Signature	е	Date (yyyy/m	ım/dd)

Company Name Signature Date (yyyy/mm/dd)

General Contractor Representative

City Representative

<u> </u>	_			COI	MMISSIONII	NG FORM			Page	1 of 2	
Winnip	peg		P	LC DI	SCRETE OU	JTPUT CARD			Equipment	Tag:	
ect	Facility:			Proj	ect Name:						
Project	Area:			RFP	No.		Tend	ler No			
				l							
ಕ್ಷಕ	General Contrac	ctor:			Project Mana	ger:					
Project Contact	Consultant:				Contract Adm	ninistrator:					
πО	City of Winnipeg	l			Consulting Pr	oject Manager:					
	PLC Enclosure N	Name:			PLC Manufa	acturer:		PLC I	Model:		
PLC Data	Card Catalog No).			Rated Outpu	ut Voltage: VAC	/ VDC	Outpu	ıts 0-7 Fuse	No.	
LC I	Documents: I/0	O Wirir	ng Dwg:		DNP3 I/O Fi	le:		Contr	ol Narrative:		
_	PLC: E	quipme	ent Tag:		Rack:			Modu	le:		
	Pre-Manufacture			Yes	□ No	Pre-Manufactured Ca					-
tion	All Outputs Wire			Yes	□ No	All Output Wires Lab					□ No
Visual Inspection	All Outputs Sepa	arately		Yes	□ No	All Outputs Wired at					□ No
I Ins	Cleanliness:				ptable Poor	Wire Connections Bo				Acceptable [
'isua	Fully Functioning				ptable Poor	Card Secured on PL				Acceptable [
>	Card Fully Progr	ramme	:a:	Acce	ptable Poor	All Card Input Lights	vvork:		J Good ∐ .	Acceptable [Poor
	Comments:										
Point	Physical Tag		Description	State	State I	Description	PLC		SCADA	Field	Pass
			-	0			Outpu	It		Device	(P/F)
0				1							
				0							
1				1							
				0							
2				1							
				0							
3				1							
				0							
4				1							
				0				-			
5				1				\dashv			1
				0							
6				1							1
				0							

1

<u> </u>				COMM	ISSION	ING FORM			Page	:	2 of 2
Winni	peg		PL	C DISC	RETE O	OUTPUT CA	RD		Equipmer	nt Tag:	
Project	Facility:			Project N	Name:						
Pro	Area:			RFP No.				Tender No	•		
	Returned to Ser	vice:		☐ Yes	□No	Comments:					
Final Analysis	Monitoring / Fur	spection Required:	☐ Yes	☐ No							
Ar	Repair / Replace	ement	Required:	☐ Yes	□No						
Comme	ents:										
			Company		Name		,	Signature		Date ()	yyyy/mm/dd)
	al Contractor sentative									_	

City Representative

<u> </u>	_				COM	MISSION	ING I	FORM			Page		1 of	2
Winni	peg					PLC SYS	STEM				Equipme	nt Tag:	:	
ect	Facility	/ :			Projec	t Name:								
Project	Area:				RFP N	lo.				Tender N	lo.			
		10 /			•	D :				•				
Project Contact		al Contr	actor:			Project Man								
Project Contact	City of	Winnip	00			Contract Ad								
	City of	vviiiiip	ey			Consulting I	riojeci	iviariager.						
	PLC E	nclosur	e Name:			PLC Manu	facture	er:		PLC	Model:			
	PLC N	o. of Mo	odules (S	lots)		Rated PLC	: Volta	ge:	VAC /	V/13C:	nmunicatior CADA:] Wired	
	HMI So	creen In	stalled:	☐ Yes	□ N/A	HMI Manut	facture	r:		НМ	Model:			
ıţa	_		Power D	ist Schem.		Pump Ctrl	Schem	natic:		Con	trol Narrativ	/e:		
PLC Data	Docum	nents:	Network	Diagram:		PLC Mode	Scher	natic		DNI	P3 I/O List:			
P.			Power S Catalog			Rack Num	ber			Mod	lule (Slot) N	lo.		
	PLC:		Process Catalog			Rack Num	ber			Mod	lule (Slot) N	lo.		
			Commu Card Ca	nication talog No.		Rack Num	bers			Mod	lule (Slot) N	lo.		
	DI O I				V		\ <i>I</i> '		0	- Co		7.7		
ion			d Installe		Yes	□ No	-	al Signs of			_	Yes		□ No
al Inspect Cleaning	Cleanli		ina DI Ci	Good G			-	Properly N			Good [
l Ins	-	ds Wor	ing PLC:			No □ N/A		ipment Cle			Photograph		-	Yes
Visual Inspection / Cleaning			Ν.		162 🗆	NO LINA	Lqu	ipinent Cie	aneu.	□ 162	Filologiapi	Taken	1.	
	Comm	ents:												
	Wet W	ell Leve	els Start a	and Stop Pumps:	☐ Yes	s □ No □] N/A	Comment	S:					
	PLC M	ode Cy	cles Pun	np Duties:	☐ Yes	S □ No □	N/A							
	HMI So	creen F	unctions	Properly:	☐ Yes	No [N/A							
	Alarm	Test Sv	vitch Bloc	ck Alarms to SCADA:	☐ Yes	S □ No □] N/A							
	HMI So	creen F	unctions	Properly:	☐ Yes	S □ No □] N/A							
βι	Local N	Mode P	ushbutto	n Works:	☐ Yes	No [N/A	PLC Mode	Pushbu	utton Work	is:	Yes	☐ No	□ N/A
estii	PLC R	eset Cl	ears PLC	Mode Fail Alarm:	☐ Yes	S □ No □] N/A	PLC Mode	Fails to	Local Mo	de:	Yes	☐ No	□ N/A
Operational Testing	SCADA	A Wirele	ess Conn	ection Works:	☐ Yes	No [N/A	SCADA W	ired Co	nnection V			☐ No	
atio		Pump	Duty	Setpoint	Se	etpoint Leve	el .	Output Ch					· ·	s on HMI
Oper	on	Duty 1		Start		m		Yes	□ No				No	□ N/A
	erati			Stop Start		m m		☐ Yes	□ No				No No	□ N/A
	do e	Duty 2	: N/A	Stop		m		☐ Yes	□ No				No	□ N/A
	Mod€			Start		m		☐ Yes	□ No				No	□ N/A
	PLC Mode Operation	Duty 3	□ N/A	Stop		m		☐ Yes	☐ No				No	□ N/A
	ш	D. 4 4	☐ N1/A	Start		m		☐ Yes	☐ No	D □ N/A	. Yes	; 🗆	No	□ N/A
		Duty 4	. N/A	Ston		m		ПУес	□Nc	. □ N/A		. 🗆	l No	□ N/A

	\				СОММІ						Page		2 of 2
Winni	peg				P	LC SYS	TEM				Equipmer	nt Tag:	
Project	Facility:				Project N	lame:							
Pro	Area:				RFP No.					Tender No			
ıgs	Program PLC S	ettings	to Match (Control Narra	ative.			Comme	ents:				
PLC Settings	Programming A	☐ Yes		No									
PLC (PLC Programmi	mpany		Name									
v	Returned to Ser	rvice:			☐ Yes	□No	Com	ments:					
Final Analysis	Monitoring / Fur	ther In	spection R	equired:	Yes	□No							
An	Repair / Replac	ement	Required:		☐ Yes	□No							
		1			i								
			Compa	ny		Name	•			Signature		Date	(yyyy/mm/dd)
	al Contractor sentative												
City Re	presentative											_	

و ا					СОМ	MISSI	ONII	NG FO	RM	1			Pag	е	1 of 2	2
Winni	peg					UNIT	HEA	TER					Equ	ipment Tag:		
ect	Facility:				Projec	ct Name:										
Project	Area:				RFP N	No.					Ten	der No).			
	1]											
ect act	General Cor	ntractor:				Project										
Project Contact	Consultant:					Contrac										
	City of Winn	ipeg				Consult	ing Pi	oject Ma	ana	ger:						
ata	Heater Equip	ment No.				Heater L	_ocati	on:				Fed F	rom:			
leatei 8 D	Drawings:	Single Lir	ne:			Mech. S	chedi	ule:				Scher	natic:] N/A
Unit Heater Location & Data	Unit Heater	Manufact	urer:			Model:						Serial	#:			
Loc	Ratings:	Power:	k\	N Rat	ted Volt	tage:	,	VAC F	ull L	_oad Amps	S:	Α		1-Phase	3-1	Phase
	<u> </u>							<u></u>								
	Unit Heater			`						ns of Overl				Yes		□ No
/ uo	Power Cable			`										ed: Yes		□ No
ecti ing	Cleanliness:					able 🗌				perly Insta	alled:			od 🗌 Acce	•	
al Inspect Cleaning	Power Conn					able 🗌				nnection:				od		
Visual Inspection / Cleaning	Remote The					No 🗌	N/A			nermostat				☐ Yes		∐ N/A
Ϊ	Cables Supp	ported App	propriately:	`	Yes 🗌	No		Equipm	nent	Cleaned:	☐ Ye	es P	hotog	graph Taken	:	☐ Yes
	Comments:															
	T 1		0-1		Po	wer Cab	le			NI-4-	A	-1 -4 0	:LJ. F			
	Test Preparation:	: Sou	Setup: rce:	ated	=	sconnect nnected								Representati nnected durii		
g.	WARNING:	DISCON	NECT ALL FIE	LD PO	WER C	ABLES	FRON	и мотс	OR F	PRIOR TO	TEST.					
Testing		Та	est		Toot \	/oltage		Insu	ulati	on Resist	ance (N	/ΙΩ)		Ground a	all phas	es not
_		16	:51		Test v	voitage	PI	nase A		Phase B	S F	Phase	С	unc	der test	!
Heater Electrica		Line to	Ground			VDC								Test Sumn	•	
er El									Re	sistance	(uΩ)			☐ Test Pa		
Heat		Te	est		Те	ster	Pha	ses A-E		Phases B	-	nases	С-В	Test Inc	r Invest	
		Heating	Element		Fluke	Meter								Require Test Fa		
	Comments:															
	1															
sting	TESTING:	HEATER	R TO BE RUN F	OR FI	/E (5) N	MINUTE	S UNI	DER FU	JLL L	_OAD PRI	OR TO	RECC	ORDIN	NG VALUES	i <u>.</u>	
Full Load Testing	Temperature	е		Turr	n On Se	etpoint:				°C	Actual	Turn C	On Se	tpoint:		°C
E	Heater Mea	sured Cur	rent	Pha	se A		Α		Pha	se B	Α	١	F	Phase C		Α
Ŀ	Comments:															

<u> </u>			COMMISSION	IING FORM		Page	2 of 2
Winnij	peg		UNIT HE	ATER		Equipmer	nt Tag:
Project	Facility:		Project Name:				
Pro	Area:		RFP No.		Tender No).	
				_			
Si	Returned to Ser	vice:	☐ Yes ☐ No	Comments:			
Final Analysis	Monitoring / Fur	ther Inspection Required:	☐ Yes ☐ No				
Ar	Repair / Replac	ement Required:	☐ Yes ☐ No				
		Company	Nam	е	Signature		Date (yyyy/mm/dd)
	al Contractor						_

City Representative

<u> </u>	_					СОМ	MIS	SIONI	NG FOR	RM				Page	1 of	4
Winni	peg				V	ARIAB	LEI	FREQU	ENCY	DRI	VE			Equipn	nent Tag:	
ect	Facility:					Projec	ct Na	me:								
Project	Area:					RFP I	No.					Tender	· No.			
# 5	General Cor	ntractor:					Proj	ect Mana	ger:							
Project Contact	Consultant:						Con	tract Adm	inistrator	:						
ت ت	City of Winn	ipeg					Con	sulting Pr	oject Ma	nage	r:					
	VFD Equipm	ent No.					VFD	Location	<u> </u>			Do	wns	tream L	_oad.	
	Drawings:	Single Lir	ne:				Sche	ematic:				Co	nne	ction:		
		Manufact	urer:				Mod	el:				Se	erial :	#:		
	VFD:	Power Ra	ating:			Rated Vo	oltage	ə:	VAC	Cui	rrent Ratin	g:	Α	Contro	ol Voltage:	VAC
	Circuit Protection:	☐ Break	er	F	Rating:	А		Inst. Setting:		Α	Manufacti Model:	urer:				
Data	Line Reactor:	☐ Install	F	Rating:						Manufacti Model:	urer:					
VFD Location & Data	Harmonic Filter:	☐ Install	ed	F	Rating:						Manufacti Model:	urer:				
VFD Loc	Load Reactor:	☐ Install	ed	F	Rating:						Manufacti Model:	urer:				
	Bypass		☐ NEM	A N	Manufact	turer:					Model:					
	Contactor:	Type: [١	NEMA Si	ize:			_ N	I/A	IEC Ratin	g:		Α	☐ AC-3	☐ AC-4	
	Bypass Overload	☐ Therm		C	Class:	☐ 10 ☐ 20		Setting /		Α	Manufacti	urer:				
	Protection:	☐ Not Ap	oplicable	е		☐ 30 ☐ Unkner	own	Rating:			Model:					
	Current Trar	nsformer:		Ratio	o:						Туре:					
	Control Pow	er Transf	ormer:	Size	•	VA Sec	onda	ary Voltag	e:	V	Primary F	use:		A Sec	condary Fuse:	А
5 -	Equipment 1	-ag:				Powe	r:		kW /		HP			Voltage	e:	VAC
Motor Data	Full Load An		A S	ervic	e Factor:	:	Ir	verter Du	ıty Rated	:	☐ Yes	□ No)		ion Class:	
						1										
	VFD Lamace					Yes		□ No		_	of Overhe			.1	Yes	□ No
ning	Power Cable		a at Bot			Yes		□ No			es Labelle Connection				☐ Yes	□ No
Clea	Cleanliness: Control Cab		tions:			Accepta		☐ Poor			. Interlocks				☐ Acceptable	
on /	Ground Con		tions.			Accepta			Contact) .			☐ Acceptable	
ecti	Door Mecha					Accepta			Contact						☐ Acceptable	
Visual Inspection / Cleaning	Verify Bypas sized for the	s O/L eler	ment is		ctly	Yes 🗆					rcuit Break	er / Disc			Yes	□ No
Visu	Cables Supp		ropriate	ely:		Yes 🗌	No		Equipme	ent C	leaned:	☐ Yes	Pł	notogra	ph Taken:	☐ Yes
	Comments:															

<u> </u>	_				COMMIS	SIOI	NING	FOF	RM		Pag	je	2	of 4
Winni	pèg			VAF	RIABLE F	REC	QUEN	ICY	DRIVE		Equ	iipmer	nt Tag:	
ect	Fac	ility:			Project Na	me:								
Project	Area	a:			RFP No.					Tender N	0.			
	1											1		
			Test						esistance (µ	Í			Summar	
Contact / Pole Measurements						Pł	nase /	١.	Phase B	Phase	С		est Passe est Incond	-
ct /				ctor Contact								_ F	urther Inv	estigation
onta			Contactor									_	Required. est Failed	
υğ			IKEI / DISCOI	mect								ш.	COLT GIICG	
		Comments:												
		paration: Con	tactor:		Cable Discor Conne	nnecte ected v	ed with Lo	oad	Note: A	Approval of C leaving cabl	es co	nnecte	ed during t	he test.
	VVA	RNING: DISCON CONTRO	OL POWER	FUSES PR	RIOR TO TE	ST.	-D IVIC	DULE	AND CAPA	CITORS, AN	ט טופ	COM	NECT ALL	
#		т.	est		Voltag			Insu	lation Resis	tance (MΩ)		Gr		hases not
Insulation Resistance Test		•			Voltag	6	Pha	se A	Phase	B Phas	e C		under t	est!
ance		VFD Line	to Ground		1000 VE	C								
sist		VFD Load	d to Ground		1000 VE	C						_ ,	_	
n Re		VFD Lin	e to Load		1000 VE	C							Summar	
atio	Н	armonic Filter Con	tactor Line	to Ground	1000 VE	C							est Passe	
nsu	Ha	armonic Filter Con	tactor Load	to Ground	1000 VE	С							est Incond Further Inv	estigation
_	ı	Harmonic Filter Co	ntactor Line	e to Load	1000 VE	C						F	Required.	
		Bypass Contact	or Line to G	round	1000 VE	C						ПТ	est Failed	
		Bypass Contacto	or Load to C	Fround	1000 VE	C								
		Bypass Contac	ctor Line to	Load	1000 VE	C								
	Con	nments:												
	1			T										
	-	np Up Time		Specified:				sec		Actual:				sec
	-	np Down Time		Specified:				sec		Actual:	1			sec
_		or Measured Curre		Phase /		Α			ase B	Α		Phase		A
ting	-	Displayed Currer		Phase /		Α			ase B	Α	1	Phase		Α
Tes	-	HMI Screen Disp	•		A		Amme	eter Cu	urrent in Bypa	ass Mode:		Yes	☐ No	□ N/A
Full Load Operational Testing	Pote	entiometer Adjusts de:	Speed in N	/lanual	☐ Yes ☐] No	Poten	tiomet	er Adjusts Sp	eed in Local	Auto	Mode	: 🗌 Yes	☐ No
erat		Mode Description	n				ŀ	orwar	d Run Start d	& Stop	R	everse	e Run Star	t & Stop
l o	sapo	VFD Manual Mod	de					Yes	☐ No	□ N/A		Yes	☐ No	□ N/A
Loa	g Mc	VFD Automatic N	/lode – PLC	Mode				Yes	☐ No	□ N/A		Yes	☐ No	□ N/A
ᇤ	Operating Modes	VFD Automatic N	Node – Loca	al Mode				Yes	☐ No	□ N/A		Yes	□No	□ N/A
	Ope	Bypass Manual N	Mode					Yes	☐ No	□ N/A		Yes	□No	□ N/A
		Bypass Automati	c Mode – L	ocal Mode				Yes	☐ No	□ N/A		Yes	□No	□ N/A
	Con	nments:				4				•				

Winnin							NING F				Page)	3 of 4	1
Winni	peg			VA	ARIABL	E FRE	QUENC	Y DRIV	/E		Equi	pment Ta	g:	
ect	Fac	ility:			Project	Name:								
Project	Area	a:			RFP N	0.				Tender	No.			
2	Prog	gram VFD Settings	to Match Se	etting Let	ter.		Commer	nts:						
VFD Settings	Sett	ings Applied to VF	D: Ye	es	□No)								
Ø	VFD	Setting Letter File): :											
	Veri	fy Control Signals	Between VF	D and Pl			Commer	nts:						
		t Propagation: Tes	t physical si	gnals rat	her than									
		d Wires Labelled a	alling jumpe t Both Ends:			□ No								
		Signal Description	n Pilot L	ight Illun	ninates		ınal Rece at PLC Ca			nal Appe HMI Scre		SCADA	l Can Se	e Signal
		Ready	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
		VFD Mode	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
als	S	Bypass Mode	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
Sign	Signals	Manual Mode	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
VFD & PLC Control Signals	Discrete 3	Auto Mode	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
ပိ	Disc	Forward Run	☐ Yes	☐ No	□ N/A	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	☐ No	□ N/A
8 PI		Reverse Run	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
VFC		VFD Fault	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
		Bypass Fault	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
		Vibration Lockout	☐ Yes	☐ No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
	als	Signal Description	n Mea	asured S	ignal		gnal recei FD / PLC			nal Appe HMI Scre		SCADA	Can Se	e Signal
	Signals	Speed Input		m	A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
	Analog	Speed Reference	!	m	Α	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
	⋖	Motor Current		m	A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A	☐ Yes	□No	□ N/A
	Reti	urned to Service:			☐ Yes	. □ No	Comn	nents:						
Final Analysis		nitoring / Further In:	spection Rec	quired:	☐ Yes		_							
Ang		air / Replacement	•	-	Yes									

Winnipeg			COMMISSIONING FORM		Page	4 of 4
		VARIABLE FREQUENCY DRIVE			Equipment Tag:	
Project	Facility:		Project Name:			
	Area:		RFP No.	Tender No) .	

	Company	Name	Signature	Date (yyyy/mm/dd)
General Contractor Representative				
City Representative				