

Year: Location: Electrical Room:

Prepared for:

The Andersons Canada Limited

Contractor:

Inspected By:

Inspection Date:

Brief description of Job:



General Comments

- The observations and recommendations found during maintenance are reported on the following pages.
- All points of isolation should be identified for each individual Electrical Room, this should be locked out at point of distribution ahead of the Electrical Room, thus eliminating any potential risk to personnel.
- Under no circumstance should any work be performed LIVE, unless for testing and troubleshooting purposes, for this scope of work. (Inspecting and Cleaning), live work is not permitted.
- Adequate time from Site Supervisor should be arranged for a complete shutdown, once Electrical has been isolated and verified. Under no circumstances should the Electrical be turned back on, once work on electrical equipment has begun. This is to ensure for a proper inspection and safety for all personnel.
- Prior to starting work, review the results and recommendations of the most recent IR and Arc Flash reports. Where possible, any items noted in the reports, relative to the work area, should be resolved if not already done so.

Findings and Recommendations

During Electrical PMI, the following deficiencies were found, which should be addressed. These are listed below and prioritized:

Table 1 - Deficiency Correction Rankings

Priority Le	vel	Definition

А	Deficiency requires immediate attention. May pose serious threat to safety
	And/or equipment reliability or severe electrical safety code violation.
В	Deficiency requires repair during the next opportune of outage.
С	Deficiency should be repaired during the next maintenance shutdown
D	Deficiency should be monitored. Further assessment required.
E	Electrical Code violation

Priority	Deficiency- not listed in report	



Items to Be Checked		omplete	ed	Action Taken/Required		Upgrade Needed	
	Yes	No	N/A	Repaired during Inspection	Priority List	Yes	No
1. Inspect the overall condition of the							
Electrical Room							
- Has the electrical room name been identified on the Exterior door(s).							
- Signs of water, dirt ,rodents etc.							
- Door Closers installed and working.							
- Lighting working at full potential.							
 Heating and cooling of Electrical Room working (does it need A/C or Heat.) 							
- Ensure the Electrical Room is not being used							
for storage or a break room, and 1 m							
clearance is maintained in front of all panels.							
- Where electrical drawings(one-lines,							
schematics, etc) are present in the room,							
ensure they are up to date, clean and legible.							
2. Inspect Exterior of Distribution Equipment/MCC							
 Proper/Complete Labelling. 							
- Panel Screws installed.							
- Ensure all open and unused holes are filled.							
 Signs of water on top or sides of the panels. Yes- Water Present No- No Water Present 							
3. Inspect all lighting Panel and Transformer							
 Proper/Complete Labelling of lighting panel 							
- Check wire connections							
- Clean both lighting panel and transformer							



Items to Be Checked		omplete	ed	Action Taken / Required		Upgrade Needed	
	Yes	No	N/A	Repaired during inspection	Priority Level	Yes	Νο
 Inspect transformers for loose connections, signs of heating and ensure no rodents are present in transformer. A form of low pressure compressed air (free of moisture) should be used to blow out dust from within the transformer 							
 Transformer windings should be Meggered (Insulation Test) as well as Primary and Secondary wiring. 							
 Low Resistive test should be done on all breakers and fusible Disconnects 							
 Exercise all circuit breakers by cycling them "off" and back "on" (or vice versa) 							
4. Interior Inspection of Distribution Equipment/MCC							
 Ensure all disconnect switches are aligned and in good working order. 							
- Check all wiring for loose connections.							
 Check all contacts and clean if possible, if they need replacing this should be done immediately. 							
 Remove each Bucket (Cell) and inspect clips on backplane, ensure no cracks or heating of insulator. 							
 Inspect all Buss Bar and Insulators within interior of MCC, these should be cleaned when buckets are removed. 							
 MCC should be Meggered (Insulation Test) to ensure all insulators and buss, are within spec. 							
 Check to ensure proper fusing has been installed, and all fuses are legible and in good working order with catalog no. and rating facing out. Replace any mismatched fuses with the same manufacturer, part number and size that are listed on the Bucket (Cell) or the most recent arc flash report if available. 							
- Clean all dirt from bucket (Cell).							
- Inspect and clean all wireway.							
 Low Resistive test should be done on all breakers and Fusible Disconnects. 							
 Exercise all circuit breakers by cycling them "off" and back "on" (or vice versa) 							



Location

Contractor

Electrical Room

Inspection Date

MCC Insulation Test

Manufacturer:

Serial Number:

Amperage Rating:

Voltage:

Electrical Tests								
Insulation Resistance 1	ſest V	Test Temp	С					
Phase		Impedance /Ohms						
Α								
В								
С								

Comments:



Location: Contractor Inspection Date:

CIRCUIT BREAKER TEST REPORT

	CIRCUIT BREAKER DATA						
Sub Loc.:	Voltage Rating:	V	Operation:				
SWBD ID:	Interrupt Cap.:	kA					
BKR. ID:	Frame Rating: A Serial No.:						
	Sensor/CT Rating:	А	Sensor Info:				
Mfr.:	Relay:		Kasalataria				
Model:	Fuse Type & Size:	ze: Key Interlock					
Cat #:	As Found Position:	l Or	n 🗌 Out 🗌 N/A 🛛 Den 🗌 👘 C	□ losed □			

BREAKER INSPECTION

Manual Open/Close:	Charging Handle:	Cradle:			
Electrical Open/Close:	Manual Charging:	Guide Rails:			
Close / Trip Indicator:	Electrical Charging:	Breaker Stabs:			
Indicator Lights:	Charge Indicator:	Cabinet Condition:			
Fixed / Moving Cont.:	Contact Blocks:	Aux. Contacts:			
Electrical Lockout Mech.:	Local Control Switch:	Condition of Equipment:			
Mechanical Lockout Mech.: Remote Operation Switch:					
	Blown Fuse Indicators:	Rust: Yes 🗆 NO 🗆			

Condition: Good – Acceptable; Poor – Not Acceptable; N/A – Not Applicable

ELECTRICAL TESTS

Contact Resista	ance	Breaker	Insulation Resistance				
	Test Current: 10 A DC		Test Voltage:	V Stan	dardized to 20°C		
Phase A	Phase B	Phase C	A-B+C+G	B-C+A+G	C-A+B+G		
μΩ	μΩ	μΩ	MΩ	MΩ	MΩ		

OVERCURRENT RELAY TESTS

I _R = 2000 I _G =	A A	Range	Setting Found	Test Settings	А	В	С	Setting As Left
	LTPU:	0.5 - 1.0						
LT [Delay:	2 – 30						
	STPU:	2 - 10						
ST [Delay:	0.1-0.3						
	Inst.:	4 – 12						
(GFPU:	0.2 - 0.6						
GF	Delay:	0.1-0.45						
Trip Test: Pass: 🗆 Fail: 🗆			Target Indicators: Pass: 🗆 Fail: 🗆 N/A: 🗆					

COMMENTS

Breaker left in satisfactory condition:	YES 🗆	NO 🗆	Inspected By:



Location:

Contractor:

Electrical Room:

Inspection Date:

	Designation				Voltage:	V		Pag	e: 1 of 10	
Substation Location:					Bus Rating:	Α		Ту	pe:	
	Manufacturer			Int	errupting Cap.:	kA		Syste	em: 🗌 3PH3W	□ 3PH4W
#	Catalog #	Designation	Frame	Fuse	Fuse Type	Switch/Fuse	Resistar	nce (μΩ) at 10 A DC	Mechanical Check
1			A		4	T Hase A	11105	CD	T Hase e	CHEEK
2			•		•					
2			А	ŀ	4					
3			A	ŀ	4					
4			А	ŀ	4					
5			А	ļ	4					
6			А	A	4					
7			А	ļ	4					
8			А	ļ	4					
9			А	ŀ	4					
10			A	ļ	4					
11			A	ŀ	4					
CON	IMENTS									

Equipment left in satisfactory condition:

YES 🗌 NO 🗆

Inspected By



Location:

Contractor:

Electrical Room:

Inspection Date:

	Designation:				Voltage:	V		Pag	e: 2 of 10	
	Substation Location:				Bus Rating:	А		Туре:		
	Manufacturer:			1	Interrupting Cap.:	kA		System: 🗌 3PH3W		□ 3PH4W
#	Catalog #	Designation	Frame	Fuse	Fuse Type	Switch/Fuse	Resista	nce (μΩ	Mechanical	
	5		Rating	Rating	g //	Phase A	Phas	se B	Phase C	Check
12			A		A					
13			А		Α					
14			А		А					
15			А		А					
16			А		А					
17			А		A					
18			А		А					
19			А		А					
20			А		А					
21			А		А					
22			А		Α					
CON	IMENTS									

Equipment left in satisfactory condition:

YES 🗌 NO 🗆

Inspected By



Location:

Contractor:

Electrical Room:

Inspection Date:

	Designation:					Voltage:	V		Pag	e: 3 of 10	
	Substation Location:					Bus Rating:	А		Туре:		
	Manufacturer:				Interru	upting Cap.:	kA		Syste	em: 🗌 3PH3W	🗌 3PH4W
#	# Catalog # Designation Frame F				e	Fuse Type	Switch/Fuse	Resista	nce (μΩ se B) at 10 A DC	Mechanical Check
23			A	Hatin	A		T Huse /	1114		Thuse e	Check
24			А		А						
25			А		А						
26			А		А						
27			А		А						
28			А		А						
29			А		А						
30			А		А						
31			А		А						
32			А		А						
33			А		А						
CON	IMENTS										

Equipment left in satisfactory condition:

YES 🗌 NO 🗆

Inspected By



Location:

Contractor:

Electrical Room:

Inspection Date:

	Designation				Voltage:	V		Page	e: 4 of 10	
	Substation Location:				Bus Rating:	А		Туре:		
	Manufacturer			Ir	nterrupting Cap.:	kA		Syste	em: 🗌 3PH3W	□ 3PH4W
#	Catalog #	Designation	Frame Rating	Fuse Rating	Fuse Type	Switch/Fuse	Resista	nce (μΩ) at 10 A DC		Mechanical Check
34			A	Hatting	A	Thuse A	1110		Thuse e	Check
35			А		A					
36			А		A					
37			А		A					
38			А		А					
39			А		A					
40			А		Α					
41			А		Α					
42			А		A					
43			А		A					
44			А		А					<u> </u>
CON	/IMENTS									

.

Equipment left in satisfactory condition:

Note: If more than one sheet added. Fill in comments and sign on final sheet.

YES 🗆

NO 🗆



Location:

Contractor:

Electrical Room:

Inspection Date:

	Designation:				Voltage:	V		Page	e: 5 of 10	
	Substation Location:				Bus Rating:	А		Туре:		
	Manufacturer:			Int	terrupting Cap.:	kA		Syste	em: 🗌 3PH3W	🗌 3PH4W
#	Catalog #	Designation	Frame	Fuse	Fuse Type	Switch/Fuse	Resistan	ice (μΩ)) at 10 A DC	Mechanical
45			Rating	Rating		Phase A	Plids	ев	Phase C	CHECK
45			A		A					
46			А		A					
47			А		A					
48			А		A					
49			А		A					
50			А		A					
51			А		A					
52			А		A					
53			А		A					
54			А		A					
55			А		A					
CON	IMENTS									

Equipment left in satisfactory condition:

YES 🗌 🛛 NO 🗆

Inspected By



Location:

Contractor:

Electrical Room:

Inspection Date:

	Designation:				Voltage:	V		Pag	e: 6 of 10	
	Substation Location:				Bus Rating:	А		Туре:		
	Manufacturer:				Interrupting Cap.:	kA		Syste	em: 🗌 3PH3W	□ 3PH4W
#	Catalog #	Designation	Frame	Fuse	Fuse Type	Switch/Fuse	Switch/Fuse Resista) at 10 A DC	Mechanical
	C .		Rating	Rating	g	Phase A	Pha	se B	Phase C	Спеск
56			A		A					
57			А		А					
58			А		А					
59			А		A					
60			А		A					
61			А		A					
62			А		A					
63			А		A					
64			А		A					
65			A		Α					
66			A		Α					
CON	IMENTS									

Note: If more than one sheet added. Fill in comments and sign on final sheet.

YES 🗆

NO 🗆

Equipment left in satisfactory condition:



Location:

Contractor:

Electrical Room:

Inspection Date:

	Designation:				Voltage:	V		Page	e: 7 of 10	
	Substation Location:				Bus Rating:	А		Туре:		
	Manufacturer:			1	Interrupting Cap.:	kA		Syste	em: 🗌 3PH3W	🗌 3PH4W
#	# Catalog # Designation Frame F				, Fuse Type	Switch/Fuse	Resista	nce (μΩ)) at 10 A DC	Mechanical Check
67			A	Hating	A	Thuse A	1114.		Thuse e	Check
68			А		A					
69			А		A					
70			А		A					
71			А		Α					
72			А		Α					
73			А		Α					
74			А		A					
75			А		Α					
76			А		Α					
77			А		A					
CON	IMENTS									

Note: If more than one sheet added. Fill in comments and sign on final sheet.

YES 🗆

NO 🗆

Equipment left in satisfactory condition:



Location:

Contractor:

Electrical Room:

Inspection Date:

	Designation:				Voltage:	V		Page	: 8 of 10	
	Substation Location:				Bus Rating:	А		Ту	pe:	
	Manufacturer:			l	Interrupting Cap.:	kA		Syste	em: 🗌 3PH3W	🗌 3PH4W
#	Catalog #	Designation	Frame	Fuse	Fuse Type	Switch/Fuse	Switch/Fuse Resistan) at 10 A DC	Mechanical
70			Rating	Rating	<u>,</u>	Phase A	Plids	ев	Phase C	CHECK
/8			A		A					
79			A		A					
80			А		А					
81			А		А					
82			А		А					
83			А		A					
84			А		A					
85			А		А					
86			А		А					
87			А		А					
88			А		Α					
CON	/IMENTS									

Note: If more than one sheet added. Fill in comments and sign on final sheet.

YES 🗆

NO 🗆

Equipment left in satisfactory condition:



Location:

Contractor:

Electrical Room:

Inspection Date:

	Designation:				Voltage:	V		Pag	e: 9 of 10	
	Substation Location:				Bus Rating:	А		Ту	pe:	
	Manufacturer:			li	nterrupting Cap.:	kA		Syste	em: 🗌 3PH3W	🗌 3PH4W
#	Catalog #	Designation	Frame	Fuse	Fuse Type	Switch/Fuse	Switch/Fuse Resistan) at 10 A DC	Mechanical
				Natilig	<u> </u>	Plidse A	Pilds	Бер	Pliase C	CHECK
89			А		A					
90			A		A					
91			А		А					
92			А		А					
93			А		Α					
94			А		Α					
95			А		А					
96			А		А					
97			А		А					
98			А		А					
99			А		А					
CON	/IMENTS									

Note: If more than one sheet added. Fill in comments and sign on final sheet.

YES 🗆

NO 🗆

Equipment left in satisfactory condition:



Location:

Contractor:

Electrical Room:

Inspection Date:

	Designation:				Voltage:	V		Page	10 of 10	
	Substation Location:				Bus Rating:	А		Туре:		
	Manufacturer:			In	nterrupting Cap.:	kA		Syste	em: 🗌 3PH3W	□ 3PH4W
#	Catalog #	Designation	Frame Rating	Fuse Rating	Fuse Type	Switch/Fuse Resista		nce (μΩ ie B) at 10 A DC Phase C	Mechanical Check
100			A		A			-		
101			А		A					
102			А		A					
103			А		A					
104			А		A					
105			А		A					
106			А		Α					
107			А		Α					
108			А		Α					
109			А		Α					
110			А		A					
CON	IMENTS									

Equipment left in satisfactory condition:

YES 🗌 🛛 NO 🗆

Inspected By