

PRECOMMISSIONING CHECKLIST

ISSUE NO. 1





DATE: May 11, 2021

SUBSTATION: ORANGE BAY 69/24 kV SUBSTATION (TRANSFORMER T1 OIL PROCESSING)

The equipment summarized below has been subjected to the precommissioning tests detailed in the specifications and has been found to be in acceptable condition to be energized. This also certifies that the equipment is authorized for commercial use following satisfactory completion of on-load tests.

ATTACHED: Test Reports

EQUIPMENT & INSPECTION/TEST ITEMS	INSPECTION/TEST STATUS	
	COMPLETE	INCOMPLETE
25 MVA 69-24 kV DISTRIBUTION TRANSFORMER T1		
EXTERNAL VISUAL INSPECTION	✓	
VALVE POSITIONS (RADIATOR, CONSERVATOR, ETC)	✓	
CONSERVATOR & AIR BREATHERS	✓	
BUSHINGS & SURGE ARRESTERS	✓	
BUCHHOLZ RELAY & PRESSURE RELIEF DEVICE	✓	
OIL TEMPERATURE GAUGES	✓	
WINDING TEMPERATURE GAUGES	✓	
COOLING FANS	✓	
OIL LEVEL INDICATORS (TRANSF & CONSERVATOR)	✓	
GROUNDING	✓	
OIL DIELECTRIC TESTS	✓	
INSULATION RESISTANCE/PI TESTS	✓	
TURNS RATIO TEST	✓	
WINDING RESISTANCE TEST	✓	
TAP CHANGER OPERATION	✓	
TAP CHANGER RELAY	✓	
INSULATION CAPACITANCE/P.F. TESTS	✓	

PREPARED BY: 	ISSUED FOR TEST: 	TEST STATUS CERT: 	AUTHOR TO ENERGIZE & FOR COMMERCIAL USE: 
DATE: May-11-2021	DATE: May-11-2021	DATE: May-11-2021	DATE: May-14-2021

Orange Bay 2021

Session Test Date

5/2/2021 1:33:51 PM



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Company	JPS	Serial Number	88.2.4020
Location	Orange Bay s/s	Special ID	T1
Division	SUBSTATIONS WEST	Circuit Designation	
Manufacturer	Pauwels Trafo	Configuration	Δ-Y
Year Manufactured	1988	Tank Type	Sealed Conservation
Mfr Location	Belgium	Coolant	Oil
Phases	Three	Class	OA
Oil Volume	15.8 TN	BIL	350 kV
Weight	63.5 TN		
kV	69, 24	VA Rating	25 MVA

Administration

Test Date	5/2/2021	Test Time:	1:33 PM	Weather	Cloudy
Air Temperature	13°C	Apparatus Temp	40°C	Humidity	8%
Tester	V. Thorpe & Crew	Work Order		Date Last Tested	
Verified by	E. Vassell	Test Set Type		Date Retested	
Verification Date	6-May-21	Set Top Serial #		Reason	
Approved by		Set Bottom Serial #		Travel Time	
Approved Date	May-11-2021	Ins. Book #		Duration	
Authorized by		Authorized Date	May-14-2021	Crew Size	3

Overall Tests

	Insulation	Test kV	mA	Watts	% PF Corr.	Corr Fctr	Cap (pF)	FRANK™	Manual
1	CH+CHL	10	40.788	1.017	0.222	0.889	13114.6		
2	CH	10.001	11.242	0.451	0.357	0.889	3614.785	Good	
3	CHL(UST)	10.001	29.532	0.559	0.168	0.889	9495.49	Good	
4	CHL	0	29.546	0.566	0.17	0.889	9499.815		
5	CL+CHL	10	63.281	1.778	0.25	0.889	20346.35		
6	CL	10	33.74	1.219	0.321	0.889	10848.05	Good	
7	CHL(UST)	10	29.531	0.551	0.166	0.889	9494.8		
8	CHL	0	29.541	0.559	0.168	0.889	9498.299	Good	

Notes:



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TRANSFORMER WINDING RESISTANCE TEST



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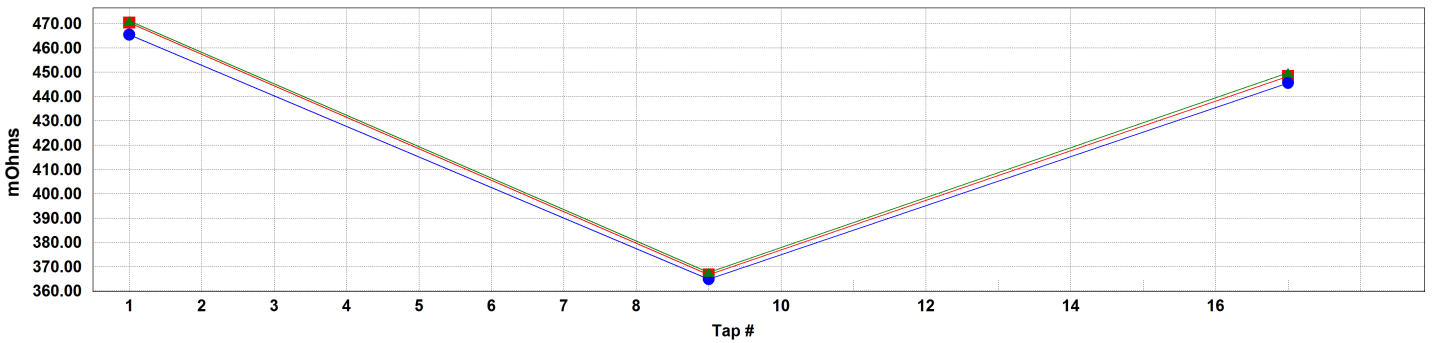
HIGH VOLTAGE WINDING RESISTANCE

Show Graph

Disable Recording of Make/Break Transition

Units:

#	TAP	Current (amp)	Nameplate Voltage	Measured Resistance			Reading Stability %	Winding Difference %	Make/Break			
				H ₁ - H ₃	H ₂ - H ₁	H ₃ - H ₂						
15	15		63,825									
16	16		62,962									
17	17	0.1077	62,100	448.4	445.6	449.8	99.9277	0.941	20 ms	Pass	Pass	Pass



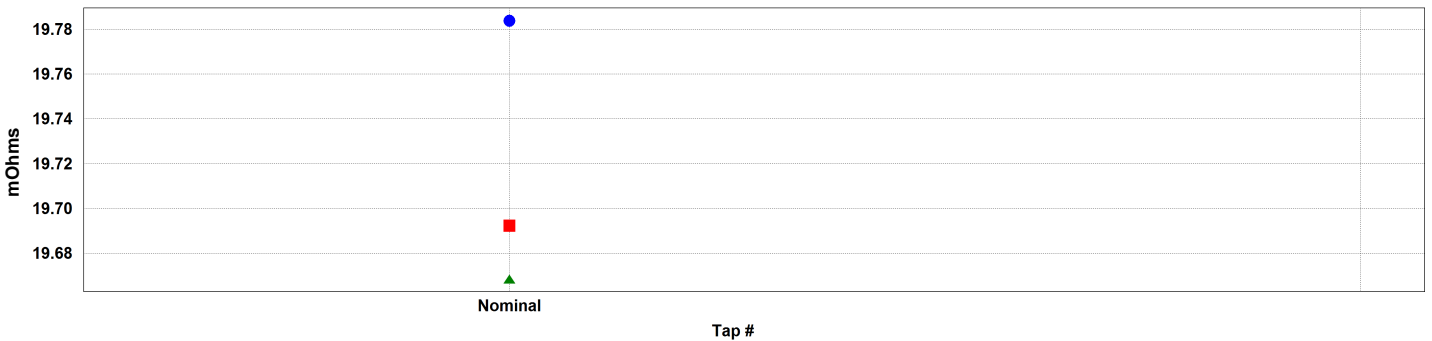
H₁ - H₃
H₂ - H₁
H₃ - H₂

LOW VOLTAGE WINDING RESISTANCE

Show Graph

Units:

#	TAP	Current (amp)	Nameplate Voltage	Measured Resistance			Reading Stability %	Winding Difference %			
				X ₁ - X ₀	X ₂ - X ₀	X ₃ - X ₀					
18	Nominal	1.0091	24,000	19.69	19.78	19.67	99.9651	0.585			



X₁ - X₀
X₂ - X₀
X₃ - X₀

COMMENTS:
DEFICIENCIES:

Form Number and Date: 56353, REVISED 03-May-17

Serial Number: 4003_1116

Firmware Information: 310

Calibration Date: 11/15/2016

[Signature]

May-14-2021

[Signature]

May-11-2021

[Signature]

May-11-2021

Ratio Tests - Turns Ratio Test (TTR) Method

Substation:	ORANGE BAY		
Date:	02-May-21		
Transformer S.N.:	88.2.4020		
MVA Rating	25		
Manufacturer:	PAUWELS TRAF0		
Year of Manufacturer:	1988		
Voltage Rating HV/LV:	69/24		kV

Test	Equipment	Result
Ambient Temperature		
Humidity		

Test Method	Equipment	Type/Model
SINGLE	MEGGER	TTR 100-1

Item No.	Connections	Ratio Tap Positions																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
			Voltage	75,900								69,000						
	Design Ratio																	
1	Star - Delta (Ynd)																	
1.1	Phase A (H ₁ -Ho:X ₁ -X ₂)																	
1.2	Phase B (H ₂ -Ho:X ₂ -X ₃)																	
1.3	Phase C (H ₃ -Ho:X ₃ -X ₁)																	
1.4	Maximum Variation (%)																	
2	Delta - Star (Dyn1)																	
2.1	Phase A (H ₁ -H ₃ :X ₁ -X ₀)	5.51								5.01								4.50
2.2	Phase B (H ₂ -H ₁ :X ₂ -X ₀)	5.51								5.01								4.50
2.3	Phase C (H ₃ -H ₂ :X ₃ -X ₀)	5.51								5.01								4.50
2.4	Maximum Variation (%)	0.16%								0.18%								0.18%
	Max allowed = 0.5%																	

Notes


1. Perform Null & Unity Ratio checks
2. Check winding polarity
3. Do not change connection until the test set is deenergised

Tested By V. THORPE and Crew

Date: 2-May-21

Checked By 

Date: May-11-2021

Approved By 

Date: May-11-2021

May-14-2021

Signature Certificate

Folder Ref: e4b048d5dc72a2d6af73c93bad04e0c5f5a54783



Author: Earl Vassell Creation Date: 11 May 2021, 13:08:23, EST Completion Date: 14 May 2021, 13:47:30, EST

Document Details:

Name: OBay - Results_After Processing

Type:

Document Ref: 6b290480fe9823705364d83262d3605ae3482a022cc8a9a521124f1564136861

Document Total 6
Pages:

Document Signed By:

Name: Hugh Garvey
Email: hGarvey@jpsco.com
IP: 208.131.181.146
Location: KINGSTON, 02 (JM)
Date: 11 May 2021, 13:48:21, EST
Consent: eSignature Consent Accepted
Security Level: Email

Name: Earl Vassell
Email: eVassell@jpsco.com
IP: 208.131.181.146
Location: KINGSTON, 02 (JM)
Date: 11 May 2021, 13:23:05, EST
Consent: eSignature Consent Accepted
Security Level: Email

Name: Lenbern Hopkins
Email: lHopkins@jpsco.com
IP: 104.244.230.68
Location: KINGSTON, 02 (JM)
Date: 14 May 2021, 13:47:29, EST
Consent: eSignature Consent Accepted
Security Level: Email

Document History:

Folder Created Earl Vassell created this folder on 11 May 2021, 13:08:23, EST
Invitation Sent Invitation sent to Earl Vassell on 11 May 2021, 13:22:50, EST
Invitation Accepted Invitation accepted by Earl Vassell on 11 May 2021, 13:22:50, EST
Signed By Earl Vassell Earl Vassell signed this folder on 11 May 2021, 13:23:05, EST

Invitation Sent	Invitation sent to Hugh Garvey on 11 May 2021, 13:23:05, EST
Invitation Accepted	Invitation accepted by Hugh Garvey on 11 May 2021, 13:42:53, EST
Signed By Hugh Garvey	Hugh Garvey signed this folder on 11 May 2021, 13:48:21, EST
Invitation Sent	Invitation sent to Lenbern Hopkins on 11 May 2021, 13:48:22, EST
Invitation Accepted	Invitation accepted by Lenbern Hopkins on 14 May 2021, 13:43:48, EST
Signed By Lenbern Hopkins	Lenbern Hopkins signed this folder on 14 May 2021, 13:47:29, EST
Executed	Document(s) successfully executed on 14 May 2021, 13:47:30, EST
Signed Document(s)	Link Emailed to eVassell@jpsco.com
Signed Document(s)	Link Emailed to hGarvey@jpsco.com
Signed Document(s)	Link Emailed to lHopkins@jpsco.com
Signed Document(s)	Link Emailed to kCowan@jpsco.com
Signed Document(s)	Link Emailed to Control_Engineers@jpsco.com
Signed Document(s)	Link Emailed to Assistant_Control_Engineers@jpsco.com
Signed Document(s)	Link Emailed to crDixon@jpsco.com