

# **SITE ACCEPTANCE TEST**

**AEG TRANSFORMER**

**S.N : 307710-01 (2281B)**  
**25 MVA 11.5/6 kV Dyn11**

**AFTER REGASKETING**

**[ PT. PETROKIMIA GRESIK ]**

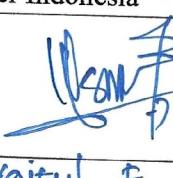
**SITE ACCEPTANCE TEST REPORT**  
**(After Regasketing)**

Brand : AEG	Connection : Dyn11	TP PT. TRAFOINDO POWER a Trafoindo and Siemens Energy company
Serial No. : 307710-01 (2281B)	Transformer : 25 MVA 11.5/6 kV	

Date of test  
27<sup>th</sup> of January, 2024

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Tested by:	Checked by:	Witnessed by :	
PT. Trafoindo Power Indonesia		PT. Aflah Azaria	PT. Petrokimia Gresik
			
Silans Maulana	Syaiful F		

**SITE ACCEPTANCE TEST REPORT**  
**(After Regasketing)**



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Serial No. : 307710-01 (2281B)	Transformer : 25 MVA 11.5/6 kV	Date of test 27 <sup>th</sup> of January, 2024

**Transformer Turns Ratio Primary – Secondary**

Instrument : CPC 100  
 Brand : OMICRON  
 Serial Number : TD083A  
 Voltage Test : 150 V

Tap	Nom. ratio	Phase R		Phase S		Phase T	
		TTR	Ratio dev	TTR	Ratio dev	TTR	Ratio dev
1	3,4858	3,4919	0,17 %	3,4919	0,17 %	3,4919	0,17 %
2	3,4029	3,4044	0,04 %	3,4043	0,04 %	3,4044	0,04 %
3	3,3198	3,3167	-0,09 %	3,3168	-0,09 %	3,3168	-0,09 %
4	3,2369	3,2288	-0,25 %	3,2289	-0,25 %	3,2288	-0,25 %
5	3,1538	3,1589	0,16 %	3,1589	0,16 %	3,1588	0,16 %

Passed Criteria : < 0.5 %

Reference : IEC 60076-1

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Silang Maulana	Syaiful F		

**SITE ACCEPTANCE TEST REPORT**  
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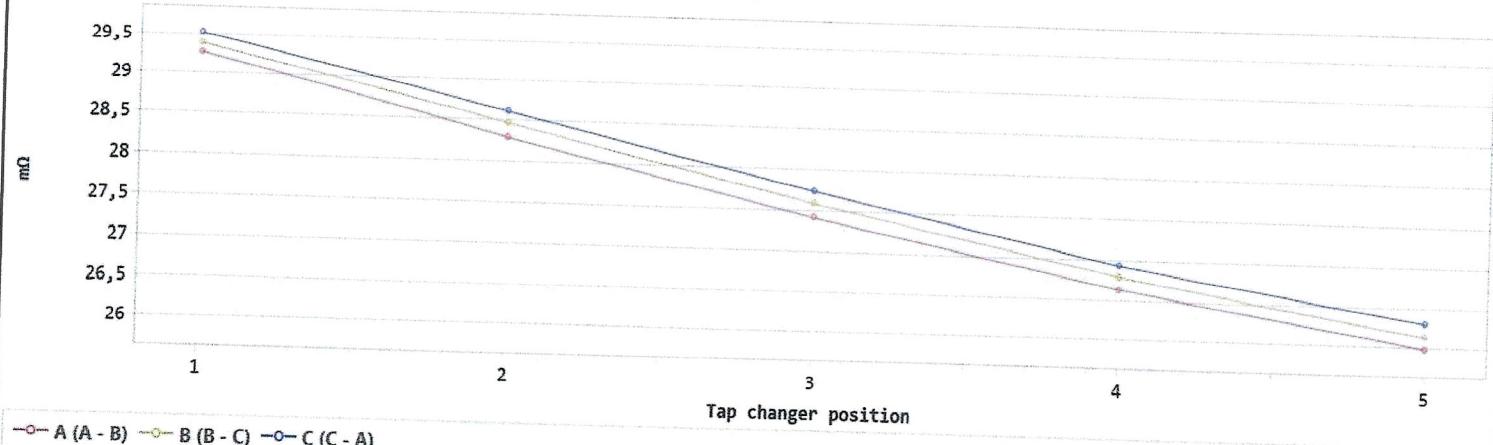
Brand : AEG	Connection : Dyn11	Date of test
Serial No. : 307710-01 (2281B)	Transformer : 25 MVA 11.5/6 kV	27 <sup>th</sup> of January, 2024

**Measurement Of Winding Resistance Primary**

Instrument : CPC 100  
 Brand : OMICRON  
 Serial Number : TD083A  
 Current Test : 5 A

Tap	PHASE R ( R - S )			PHASE S ( S - T )			PHASE T ( T - R )		
	R meas	R dev	R corr	R meas	R dev	R corr	R meas	R dev	R corr
1	25,012 mΩ	0,086 %	29,264 mΩ	25,110 mΩ	0,093 %	29,379 mΩ	25,230 mΩ	0,090 %	29,519 mΩ
2	24,176 mΩ	0,079 %	28,286 mΩ	24,325 mΩ	0,076 %	28,460 mΩ	24,444 mΩ	0,092 %	28,600 mΩ
3	23,432 mΩ	0,042 %	27,416 mΩ	23,579 mΩ	0,085 %	27,587 mΩ	23,706 mΩ	0,062 %	27,736 mΩ
4	22,768 mΩ	0,083 %	26,639 mΩ	22,903 mΩ	0,079 %	26,796 mΩ	23,019 mΩ	0,035 %	26,932 mΩ
5	22,206 mΩ	0,082 %	25,981 mΩ	22,332 mΩ	0,075 %	26,129 mΩ	22,481 mΩ	0,081 %	26,303 mΩ

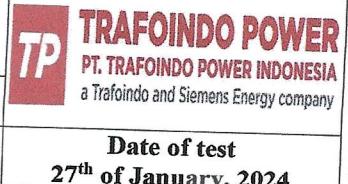
DC Winding Resistance



Passing Criteria : < 0.5 %  
 Reference : IEC 60076-1

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**SITE ACCEPTANCE TEST REPORT**  
**(After Regasketing)**



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	Date of test 27 <sup>th</sup> of January, 2024

**Measurement Of Winding Resistance Secondary**

Instrument : CPC 100  
 Brand : OMICRON  
 Serial Number : TD083A  
 Test Current : 5 A

Tap	PHASE r ( r - n )			PHASE s ( s - n )			PHASE t ( t - n )		
	R meas	R dev	R corr	R meas	R dev	R corr	R meas	R dev	R corr
	2,045 mΩ	0,092 %	2,045 mΩ	2,054 mΩ	0,099 %	2,054 mΩ	2,057 mΩ	0,042 %	2,057 mΩ

Passed Criteria : < 0.5 %

Refference : IEC 60076-1

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Brand : AEG	Connection : Dyn11	TP PT. TRAFOINDO POWER a Trafoindo and Siemens Energy company
Serial No. : 307710-01 (2281B)	Transformer : 25 MVA 11.5/6 kV	

Date of test  
27<sup>th</sup> of January, 2024

**Measurement Of Dissipation Factor  
(Tan Delta Winding)**

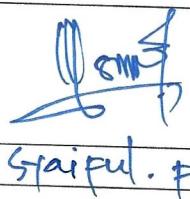
Instrument : CPC 100 & CPTD1  
Brand : OMICRON  
Serial Number : TD083A & QD790W

• HV Side	
Corr. temperature	30 °C
Corr. Factor 20°C	0.8
* Reference voltage	5,0 kV

No.	Meas.	Test mode	Freq.	V out	* I out	* Watt losses	DF meas	DF corr	Cap. meas
1	ICH+ICHL	GST	50,00 Hz	5,00 kV	19,74 mA	455,29 mW	0,4613 %	0,3552 %	12557,8 pF
2	ICH	GSTg-A	50,00 Hz	5,00 kV	3,12 mA	58,66 mW	0,3762 %	0,2897 %	1981,7 pF
3	ICHL	UST-A	50,00 Hz	5,00 kV	16,61 mA	396,47 mW	0,4774 %	0,3676 %	10575,2 pF

• LV side	
Corr. temperature	30 °C
Corr. Factor 20°C	0.8
* Reference voltage	3,0 kV

4	ICL+ICLH	GST	50,00 Hz	3,00 kV	16,98 mA	279,76 mW	0,5490 %	0,4227 %	18009,0 pF
5	ICL	GSTg-A	50,00 Hz	3,00 kV	7,01 mA	137,10 mW	0,6521 %	0,5021 %	7433,2 pF
6	ICLH	UST-A	50,00 Hz	3,00 kV	9,97 mA	142,90 mW	0,4780 %	0,3680 %	10574,1 pF

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**SITE ACCEPTANCE TEST REPORT**  
**(After Regasketing)**



Brand : AEG	Connection : Dyn11	Date of test 27 <sup>th</sup> of January, 2024
Serial No. : 307710-01 (2281B)	Transformer : 25 MVA 11.5/6 kV	

**DIRANA Test**

Instrument : DRA 2  
 Brand : OMICRON  
 Serial Number : GA646X

Name	CHL
Moisture in cellulose	2,0 %
Moisture category	dry
Moisture saturation	5,6 %
Bubbling inception temperature	156,0 °C
Compens. of aging by-products	yes
Oil conductivity	7,9 pS/m
Oil conductivity @ 20°C	4,7 pS/m
Oil category	good
Max. stop frequency reached	yes

Channel	CH1
Capacitance @ 50 Hz	10,563 nF
Capacitance @ 60 Hz	10,559 nF
Tan δ / power factor @ 50 Hz	0,48% / 0,48%
Tan δ / power factor @ 60 Hz	0,45% / 0,45%
C (10 mHz) / C (50 Hz)	1,764
Barriers (X)	20 %
Spacers (Y)	40 %
Polarization index	2,230
DAR	1,341

Moisture categories

dry	< 2,2%
moderately wet	≥ 2,2% and < 3,7%
wet	≥ 3,7% and < 4,8%
extremely wet	≥ 4,8%

Oil categories

very good	< 3 pS/m
good	≥ 3 pS/m and < 20 pS/m
satisfactory	≥ 20 pS/m and < 57 pS/m
unsatisfactory	≥ 57 pS/m

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**(After Regasketing)**

Brand : AEG	Connection : Dyn11	TP TRAFOINDO POWER PT. TRAFOINDO POWER INDONESIA a Trafoindo and Siemens Energy company
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Date of test  
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**Insulation Resistance & Polarization Index**

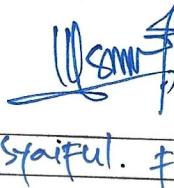
Instrument	: Resistance Measurement
Brand	: SANWA
Voltage	: 5000 VDC

Minute	HV - E	HV - LV	LV - E
1	14.2	7.43	11.3
2	16.9	9.49	13.7
3	18.0	10.7	14.9
4	19.1	11.5	15.6
5	19.6	12.2	16.2
6	20.0	12.8	16.6
7	20.3	13.2	17.0
8	20.5	13.5	17.2
9	20.7	13.8	17.5
10	20.9	14.1	17.7
PI	1.47	1.90	1.57

Polarization Index (PI)	Insulation Condition
< 1	Dangerous
1.0 - 1.1	Poor
1.1 - 1.25	Questionable
1.25 - 2.0	Fair
Above 2.0	Good

Test Result : Good / Not Good

Standard : IEC 60076-1

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**Water Content/Dryness Before and After Purification**

Type Of The Instulation Oil : Mineral Oil  
Oil Tester / Instrument : Moisturise & Temperature Transmitter  
Brand : VAISALA

MAIN TANK		
No Sample	Water Content (ppm)	
	Before	After
	31.8 °C	30.3 °C
1	16	6



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Serial No.	: 307710-01 (2281B)	Transformer	: 25 MVA 11.5/6 kV	

**Breakdown Voltage Of The Insulating Oil**

Brand : MEGGER  
 Standar : IEC 60156-95  
 Test Result : Good / Not Good

AFTER BOTTOM			AFTER TOP		
Test	Oil Kv (2,5 mm)	Oil Temp	Test	Oil Kv (2,5 mm)	Oil Temp
1	88.7	32 °C	1	93.5	34 °C
2	91.7	32 °C	2	83.8	34 °C
3	94.3	32 °C	3	90.5	34 °C
4	80.8	32 °C	4	100.0	34 °C
5	98.3	32 °C	5	89.0	34 °C
6	93.2	32 °C	6	100.0	34 °C
AVG	91.2		AVG	92.8	

BEFORE BOTTOM			BEFORE TOP		
Test	Oil Kv (2,5 mm)	Oil Temp	Test	Oil Kv (2,5 mm)	Oil Temp
1	85.7	31 °C	1	89.6	32 °C
2	75.9	31 °C	2	81.5	32 °C
3	68.4	31 °C	3	81.6	32 °C
4	83.1	31 °C	4	87.2	32 °C
5	80.3	31 °C	5	79.2	32 °C
6	81.8	31 °C	6	83.7	32 °C
AVG	79.2		AVG	83.8	

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Silano Maulana	Syaiful F		

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**(After Regasketing)**



**TRAFOINDO POWER**  
**PT. TRAFOINDO POWER INDONESIA**  
 a Trafoindo and Siemens Energy company

Brand : AEG	Connection : Dyn11	Transformer : 25 MVA 11.5/6 kV	Date of test 27 <sup>th</sup> of January, 2024
Serial No. : 307710-01 (2281B)	Transformer		

**Protection Check**

Instrument : Function Test  
 Brand : SANWA

No.	Device or Accesories	Terminal No		Result	Remark
1.	Oil Temperature Indicator (OTI)	X1	1 – 5 10 – 17	OK	Alarm Trip
2.	Winding Temperature Indicator (WTI)	X1	2 – 6 11 – 18	OK	Alarm Trip
3.	Bucholz Relay Main Tank	X1	3 – 7 12 – 19	OK	Alarm Trip
4.	Pressure Relief Device Main Tank	X1	13 – 20	OK	Trip
5.	Oil Level Indicator	X1	1 – 2 1 – 3	OK	Max/High Min/Low

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**ATTACHMENTS**



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Elians Maulana	Syaiful f		