

# **SITE ACCEPTANCE TEST**

**AEG TRANSFORMER**

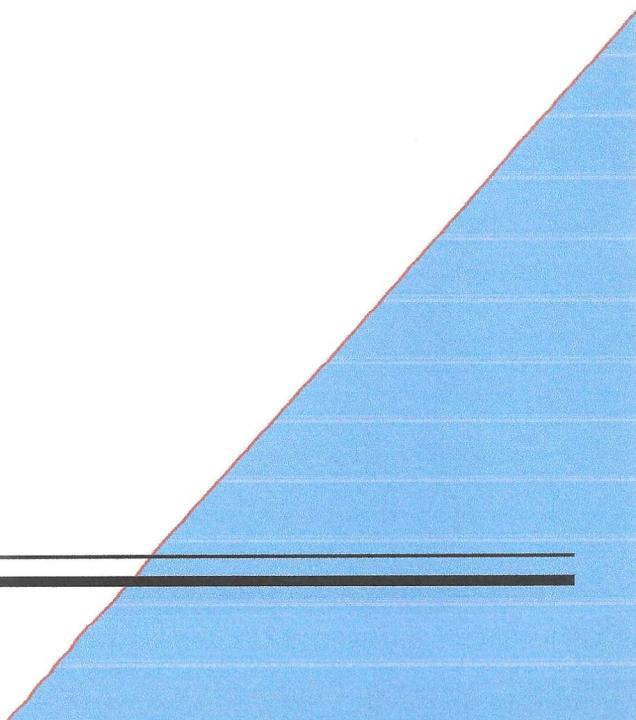
**S.N : 307710-01 (2281B)**  
**25 MVA 11.5/6 kV Dyn11**

**BEFORE REGASKETING**

**[ PT. PETROKIMIA GRESIK ]**

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



**TRAFOINDO POWER**

PT. TRAFOINDO POWER INDONESIA

a Trafoindo and Siemens Energy company

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

**CONTENT**

Content .....	1
Transformer Turn Ratio Primary - Secondary.....	2
Measurement Of Winding Resistance Primary .....	3
Measurement Of Winding Resistance Secondary .....	4
Measurement Of Dissipation Factor (Tan Delta Winding) .....	5
DIRANA Test .....	6
Insulation Resistance & Polarization Index .....	7
Protection Check .....	8
Attachments .....	9

Tested by:	Checked by:	Witnessed by :	
PT. Trafoindo Power Indonesia		PT. Aflah Azaria	PT. Petrokimia Gresik
Silana Mautora S	Syaiful F		

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



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

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

**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	3,4953	0,27 %	3,492	0,18 %	3,4919	0,17 %
2	3,4029	3,4043	0,04 %	3,4046	0,05 %	3,4045	0,05 %
3	3,3198	3,3165	-0,10 %	3,3166	-0,10 %	3,3167	-0,09 %
4	3,2369	3,2288	-0,25 %	3,229	-0,24 %	3,2289	-0,25 %
5	3,1538	3,1589	0,16 %	3,1602	0,20 %	3,1586	0,15 %

Passed Criteria : < 0.5 %

Refference : IEC 60076-1

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Gilang Maulana	Syaiful F		

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**Brand** : AEG

**Connection** : Dyn11

**Serial No.** : 307710-01/2281B

**Transformer** : 25 MVA 11.5/6 kV

**Date of test**  
**25<sup>th</sup> of January, 2024**

**Measurement Of Winding Resistance Primary**

Instrument : CPC 100

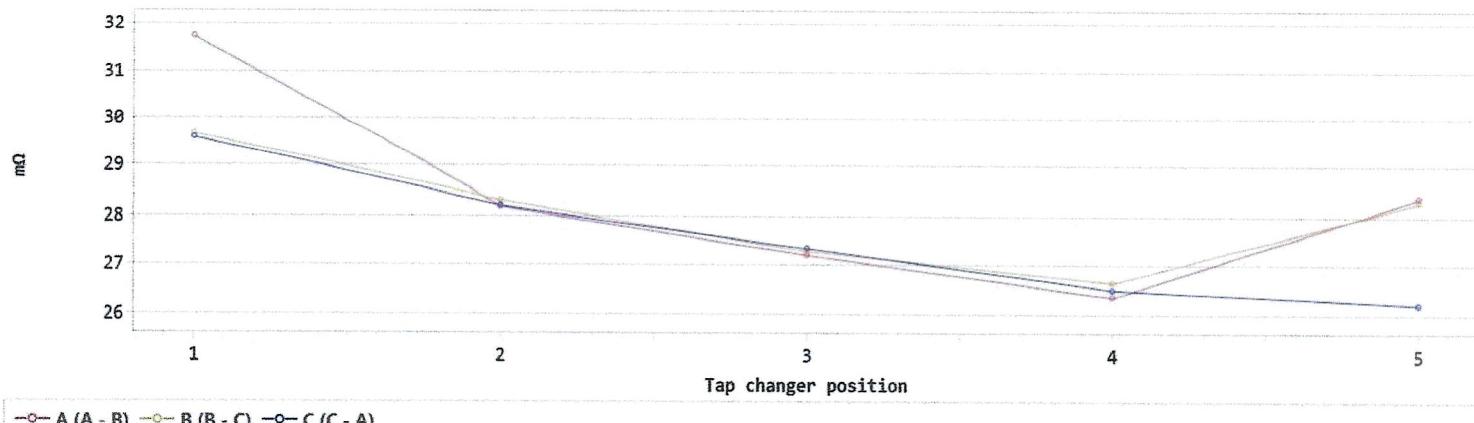
Brand : OMICRON

Serial Number : TD083A

Current Test : 5 A

PHASE R ( R - S )				PHASE S ( S - T )			PHASE T ( T - R )		
Tap	R meas	R dev	R corr	R meas	R dev	R corr	R meas	R dev	R corr
1	27,420 mΩ	0,087 %	31,725 mΩ	25,628 mΩ	0,091 %	29,651 mΩ	25,555 mΩ	0,093 %	29,567 mΩ
2	24,352 mΩ	0,099 %	28,175 mΩ	24,461 mΩ	0,076 %	28,302 mΩ	24,367 mΩ	0,075 %	28,192 mΩ
3	23,502 mΩ	0,070 %	27,192 mΩ	23,571 mΩ	0,068 %	27,272 mΩ	23,619 mΩ	0,083 %	27,327 mΩ
4	22,765 mΩ	0,081 %	26,339 mΩ	23,021 mΩ	0,092 %	26,635 mΩ	22,899 mΩ	0,077 %	26,494 mΩ
5	24,510 mΩ	0,061 %	28,358 mΩ	24,434 mΩ	0,075 %	28,270 mΩ	22,636 mΩ	0,062 %	26,190 mΩ

DC Winding Resistance



Passing Criteria : < 0.5 %

Reference : IEC 60076-1

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

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

**Measurement Of Winding Resistance Secondary**

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

PHASE r ( r - n )				PHASE s ( s - n )			PHASE t ( t - n )		
Tap	R meas	R dev	R corr	R meas	R dev	R corr	R meas	R dev	R corr
	2,032 mΩ	0,098 %	2,032 mΩ	2,742 mΩ	0,096 %	2,742 mΩ	2,044 mΩ	0,084 %	2,044 mΩ

Passed Criteria : < 0.5 %

Reference : IEC 60076-1

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PT. Trafoindo Power Indonesia		
Siliars Maulana	Sfaizul F	

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Brand : AEG	Connection : Dyn11
Serial No. : 307710-01/2281B	Transformer : 25 MVA 11.5/6 kV

Date of test  
25<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	19,72 mA	406,47 mW	0,4123 %	0,3299 %	12548,2 pF
2	ICH	GSTg-A	50,00 Hz	5,00 kV	3,12 mA	45,44 mW	0,2916 %	0,2332 %	1981,2 pF
3	ICHL	UST-A	50,00 Hz	5,00 kV	16,60 mA	357,08 mW	0,4303 %	0,3442 %	10566,1 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	245,20 mW	0,4809 %	0,3847 %	18005,7 pF
5	ICL	GSTg-A	50,00 Hz	3,00 kV	7,01 mA	115,06 mW	0,5468 %	0,4374 %	7439,3 pF
6	ICLH	UST-A	50,00 Hz	3,00 kV	9,96 mA	129,75 mW	0,4343 %	0,3475 %	10564,8 pF

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		PT. Petrokimia Gresik
Silans Maulana	Syaiful f	

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

**DIRANA Test**

Instrumen	: DRA 2
Brand	: OMICRON
Serial Number	: GA646X

Name	CHL
Moisture in cellulose	3,6 %
Moisture category	moderately wet
Moisture saturation	19,5 %
Bubbling inception temperature	131,0 °C
Compens. of aging by-products	yes
Oil conductivity	10,5 fS/m
Oil conductivity @ 20°C	6,2 fS/m
Oil category	very good
Max. stop frequency reached	yes

Channel	CH1
Capacitance @ 50 Hz	10,554 nF
Capacitance @ 60 Hz	10,549 nF
Tan δ / power factor @ 50 Hz	0,43% / 0,43%
Tan δ / power factor @ 60 Hz	0,42% / 0,42%
C (10 mHz) / C (50 Hz)	1,224
Barriers (X)	20 %
Spacers (Y)	10 %
Polarization index	1,612
DAR	1,223

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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Biman Maulana	Saiful f		

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**(Before Regasketing)**



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

**Insulation Resistance & Polarization Index**

Instrument : Resistance Measurement  
 Brand : SANWA  
 Voltage : 5000 VDC

Minute	HV - E	HV - LV	LV - E
1	1.86	1.31	1.91
2	2.10	1.37	2.29
3	2.21	2.27	2.39
4	2.29	2.57	2.49
5	2.36	2.78	2.78
6	2.41	2.95	2.87
7	2.45	3.09	2.97
8	2.49	3.19	3.01
9	2.51	3.27	3.07
10	2.53	3.34	3.12
PI	<b>1.36</b>	<b>2.55</b>	<b>1.63</b>

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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**ATTACHMENTS**



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**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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Bilans Maulana	Syaiful-f		