PT PLN (PERSERO) TRANSMISI JAWA BAGIAN BARAT Cinere 16514 – Jakarta Selatan		Doc. No.	TJBB/01/02/2018/027
		Valid.	FEBRUARI 2018
DAFTAR SETELAN RELAI PROTEKSI GIS 150 KV GANDARIA			

1. Proteksi Utama : Penghantar 150kV arah Gis Pondok Kelapa

Jenis relai	:	Line Current Differential Relay Distance Relay			
Merek/Tipe relai	:	Siemens 7SL87			
Lokasi	:	**GIS GANDARIA**			
Proteksi	:	**ARAH GIS PONDOK KELAPA**			
L1, L2	:	6.6+9.39	,	6	km
L3, L4	:	13.98	,	7.189	km
Penghantar	:	OHL-150kV-DRAKE 2X468.5mm	+	OHL-150kV-ACSR-ZEBRA 2X429mm	
CCC	:	1560 A		1990 A	
Z1	:	0.038	+ j	0.256	Ω/km
Z2	:	0.0411	+ j	0.2812	Ω/km
Z3	:	0.0387	+ j	0.2807	Ω/km
Z4	:	0.0387	+ j	0.4013	Ω/km
Z0	:	0.188	+ j	0.767	Ω/km
CT	:	1600	/	1	Ampere
PT	:	150	KV /	100	Volt

ADD.	PARAMETER	SETTING	ADD.	PARAMETER	SETTING
General					
2311.101	Phase Sequence	ABC	9001.101	Rated Current	1600 A
9001.101	Rated Current	1600 A	9001.102	Rated Voltage	150 kV
9001.102	Rated Voltage	150 kV	9001.114	Line Length	15.99 km
9001.149	Neutral Point	Grounded	9001.108	Line Angle	81.357 deg
9001.112	C1 Per Length Unit	0.01 µF/km	9001.104	Kr	1.311
9001.148	C0 Per Length Unit	0.01 µF/km	9001.105	Kx	0.667
9001.113	X Per Length Unit	4.358 Ω/km	9001:118	K0	0.944
			9001:150	Angle (K0)	-57.296°
Meas. Point I-3Ph 1					
8881.115	CT Connection	3-Ph + IN	8911.101	Rated Primary Voltage	150 kV
8881.101	Rated Primary Current	1600 A	8911.102	Rated Secondary Voltage	100 V
8881.102	Rated Secondary Current	1 A			
87 Line Diff Prot.					
3451.1	Mode I-Diff	**Off**	3481.1	Mode I-Diff Fast	**Off**
21 Distance Prot. 1					
2311.103	3I0>Threshold Value	0.1 A	2311.108	Loop Select with Ph-Ph-G	Block Leading Ph
2311.102	V0>Threshold Value	20 V			
2311.104	3I0 Pickup Stabilization	0.1			
Z1 : Enabled (Quadrilateral)					
3571.1	Mode	On	3571.104	R (Ph-Ph)	0.521 Ω
3571.101	Function Mode	Ph-G & Ph-Ph	3571.110	Operate Delay (1-Phase)	0 s
3571.109	Directional Mode	Forward	3571.112	Operate Delay (Multi-Ph.)	0 s
3571.102	X Reach	3.305 Ω			
3571.103	R (Ph-G)	11.187 Ω			
Z2 : Enabled (Quadrilateral)					
3572.1	Mode	On	3572.104	R (Ph-Ph)	0.689 Ω
3572.101	Function Mode	Ph-G & Ph-Ph	3572.110	Operate Delay (1-Phase)	0.8 s

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Lokasi	:	**GIS GANDARIA**			
Proteksi	:	**ARAH GIS PONDOK KELAPA**			
L1, L2	:	6.6+9.39	,	6	km
L3, L4	:	13.98	,	7.189	km

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3572.102	X Reach	5.23 Ω			
3572.103	R (Ph-G)	22.022 Ω			
Z3 : Enabled (Quadrilateral)					
3573.1	Mode	On	3573.104	R (Ph-Ph)	1.473 Ω
3573.101	Function Mode	Ph-G & Ph-Ph	3573.110	Operate Delay (1-Phase)	1.6 s
3573.109	Directional Mode	Forward	3573.112	Operate Delay (Multi-Ph.)	1.6 s
3573.102	X Reach	10.253 Ω			
3573.103	R (Ph-G)	22.807 Ω			
Z1 : Enabled (Mho)					
8701.1	Mode	On	8701.110	Operate Delay (1-Phase)	0 s
8701.101	Function Mode	Ph-Ph	8701.112	Operate Delay (Multi-Ph.)	0 s
8701.109	Directional Mode	Forward	8701.102	Zr Impedance Reach	3.525 Ω
Z2 : Enabled (Mho)					
8702.1	Mode	On	8702.110	Operate Delay (1-Phase)	0.8 s
8702.101	Function Mode	Ph-Ph	8702.112	Operate Delay (Multi-Ph.)	0.8 s
8702.109	Directional Mode	Forward	8702.102	Zr Impedance Reach	5.288 Ω
Z3 : Enbaled (Mho)					
8703.1	Mode	On	8703.110	Operate Delay (1-Phase)	1.6 s
8703.101	Function Mode	Ph-Ph	8703.112	Operate Delay (Multi-Ph.)	1.6 s
8703.109	Directional Mode	Forward	8703.102	Zr Impedance Reach	10.358 Ω
Z4 : Disabled					
Z5 : Disabled					
25 Synchronization					
5041.119	Sync. Operating Mode	On	5041.124	Max. Angle Diff α2>α1	15°
5041.120	f-Threshold ASYN<->SYN	0.17	5041.125	Max. Angle Diff α2<α1	15°
5041.122	Max. Voltage Diff V2>V1	5 V	5041.121	Delay Close Command	0 s
5041.123	Max. Voltage Diff V2<V1	5 V			
79 Auto. Reclosing					
6601.1	Mode	On	6601.108	Evolving-Fault Detection	With Trip
6601.101	79 Operating Mode	w/ op., w/ act time	6601.109	Response to Evolv. Faults	Block 79
6601.102	CB Ready Check bef. Start	Yes	6601.110	Max. Dead-Time Delay	1 s
6601.103	Reclai. Time aft. succ. cyc.	40 s	6601.111	Max. Dead-Time Ext.	40 s
6601.104	Block Time aft. man. close	1 s	6601.112	Send Delay f. remot. close	∞
6601.105	Start Signal Supervis. Time	0.2 s	6601.114	Voltage Supervision Time	0.1 s
6601.106	CB Ready Superv. Time	3 s	6601.115	Volt. Thres. f. Live Line/Bus	52 V
6601.107	3-Pole Operate by 79	No			

Catatan:
1. Setting ini berlaku saat kondisi gandaria bay miniatur 1 dijumper dengan konduktor miniatur bay pondok kelapa.
2. Pola Proteksi yang digunakan adalah PUTT.