

Lampiran 1.1. Gambar Tabel Impedansi Penghantar

2.1.1 Tabel XIII A - Penghantar AAC

Penampang nominal (mm ²)	Jari-jari (mm)	Urat	GMR (mm)	Impedansi urutan positif (Ω /km)	Impedansi urutan nol (Ω /km)
16	2,2563	7	1,6380	1,8382+j 0,4035	1,9862+j 1,6910
25	2,8203	7	2,0475	1,1765+j 0,3895	1,3245+j 1,6770
35	3,3371	7	2,4227	0,8403+j 0,3791	0,9883+j 1,6666
50	3,9886	7	2,8957	0,5882+j 0,3677	0,7362+j 1,6552
70	4,7193	7	3,4262	0,4202+j 0,3572	0,5682+j 1,6447
95	5,4979	19	4,1674	0,3096+j 0,3464	0,4576+j 1,6339
120	6,1791	19	4,6837	0,2451+j 0,3375	0,3931+j 1,6250
150	6,9084	19	5,2365	0,1961+j 0,3305	0,3441+j 1,6180
185	7,6722	19	5,8155	0,1590+j 0,3239	0,3070+j 1,6114
240	8,7386	19	6,6238	0,1225+j 0,3157	0,2705+ j 1,6032

2.1.2 Tabel XIII B - Penghantar AAAC

Penampang nominal (mm ²)	Jari-jari (mm)	Urat	GMR (mm)	Impedansi urutan positif (Ω /km)	Impedansi urutan nol (Ω /km)
16	2,2563	7	1,6380	2,0161+j 0,4036	2,1641+j 1,6911
25	2,8203	7	2,0475	1,2903+j 0,3895	1,4384+j 1,6770
35	3,3371	7	2,4227	0,9217+j 0,3790	1,0697+j 1,6665
50	3,9886	7	2,8957	0,6452+j 0,3678	0,7932+ j 1,6553
70	4,7193	7	3,4262	0,4608+j 0,3572	0,6088+j 1,6447
95	5,4979	19	4,1674	0,3396+j 0,3449	0,4876+ j 1,6324
120	6,1791	19	4,6837	0,2688+j 0,3376	0,4168+j 1,6251
150	6,9084	19	5,2365	0,2162+j 0,3305	0,3631+j 1,6180
185	7,6722	19	5,8155	0,1744+j 0,3239	0,3224+ j 1,6114
240	8,7386	19	6,6238	0,1344+j 0,3158	0,2824+j 1,6033

Lampiran 2.1. Hasil simulasi ETAP kondisi Eksisting

Branch Losses Summary Report


CKT / Branch ID	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
C BWN1-3	8.300	5.313	-8.296	-5.305	3.5	7.6	102.4	102.4	0.07
C S1- 380	4.969	3.243	-4.858	-3.008	110.6	234.8	102.4	98.5	3.90
C BWN5-2	8.211	5.411	-8.210	-5.409	1.1	2.4	102.4	102.4	0.02
C S1-S52ZF/53	3.763	2.653	-3.533	-2.180	230.1	473.1	102.4	91.9	10.56
C S1-344	-2.267	-1.405	2.289	1.441	22.0	35.9	101.7	103.5	1.71
C S1-352ZF/6	0.000	-0.010	0.000	0.000	0.0	-9.7	91.9	87.5	0.00
C S1-352A	0.000	-0.001	0.000	0.000	0.0	-0.8	98.5	93.8	0.00
C S1- 357	0.000	-0.002	0.000	0.000	0.0	-1.8	98.5	93.8	0.00
C S1-400/2	-0.147	-0.091	0.147	0.065	0.2	-26.4	103.6	103.8	0.20
TD I	-6.257	-3.934	6.261	4.049	3.4	115.3	104.1	100.0	0.91
TD I2	-7.808	-4.821	7.814	5.000	5.2	178.5	103.9	100.0	1.13
TD II	-16.511	-10.724	16.535	11.569	24.8	844.7	102.4	100.0	2.56
C UGN7-4	-7.803	-4.809	7.808	4.821	5.4	11.7	103.8	103.9	0.12
C UGN8-1	6.257	3.934	-6.235	-3.886	22.5	47.2	104.1	103.5	0.64
					428.6	1912.5			

Lampiran 3.1. Hasil simulasi ETAP kondisi Rekonfigurasi ke BWN11

Branch Losses Summary Report

CKT / Branch ID	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
C BWN1-3	8.301	5.315	-8.298	-5.308	3.4	7.5	103.1	103.0	0.07
C S1- 380	4.970	3.246	-4.858	-3.008	112.1	237.5	103.0	99.0	3.98
C BWN5-2	4.446	2.709	-4.446	-2.708	0.3	0.6	103.1	103.1	0.01
C S1-S52ZF/53	0.000	-0.047	0.000	0.000	0.0	-47.4	103.1	98.2	0.06
C BWN11-2	6.054	3.902	-6.053	-3.900	1.0	2.1	104.1	104.1	0.03
C BWN11-50/7	0.147	0.089	-0.147	-0.091	0.0	-2.6	104.1	104.0	0.02
C BWN11-72	5.906	3.814	-5.851	-3.696	55.1	118.4	104.1	102.4	1.67
C BWN11-50/2	0.000	-0.003	0.000	0.000	0.0	-2.7	104.1	99.1	0.00
C S1-352ZF/6	3.584	2.291	-3.533	-2.190	50.4	101.0	102.4	99.9	2.47
C S1-352A	0.000	-0.001	0.000	0.000	0.0	-0.8	99.0	94.3	0.00
C S1- 357	0.000	-0.002	0.000	0.000	0.0	-1.8	99.0	94.3	0.00
TD I	-3.954	-2.449	3.956	2.494	1.3	45.4	104.4	100.0	0.57
TD II	-7.661	-4.729	7.666	4.901	5.0	171.7	103.9	100.0	1.10
TD II	-12.748	-8.024	12.762	8.512	14.3	488.1	103.1	100.0	1.90
TD III	-6.054	-3.902	6.058	4.012	3.2	109.5	104.1	100.0	0.90
C UGN7-4	-7.656	-4.718	7.661	4.729	5.2	11.3	103.8	103.9	0.12
C S1-400/2	0.000	-0.027	0.000	0.000	0.0	-26.9	103.8	98.9	0.02
C UGN8-1	3.954	2.449	-3.946	-2.432	8.8	17.4	104.4	104.0	0.40
C S1-344	0.000	-0.014	0.000	0.000	0.0	-13.7	104.0	99.1	0.00
					260.2	1214.7			

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