APPENDIX

for

CHAPTER 6

(6.3-2)

Appendix 6.3-2 Load and Installed Capacity of Distribution Substations (JICA Study Team Plan, Planning Year = 2001 - 2016)

No	ABB	Substation	Voltage (KV)	Bank configuration	2001 Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	Bank configuration	2006 Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
1	BB	Bangbon	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	64.08	82.90	69.1	3 × 40 ×	120	37.90	48.85	40.7
2	BN	Bangchalong	115-24	2 × 60 ×	120	65.67	84.96	70.8	3 × 60 ×	180	91.60	118.07	65.6
3	BA	Bangkapi	69-12	2 × 40 ×	80	34.49	44.62	55.8	× ×	0	0.00	0.00	0.0
			69-24	1 × 60 ×	60	33.72	43.63	72.7	1 × 40 2 × 60	160	89.99	115.99	72.5
4	KA	Bangkhaen	115-24	2 × 60 ×	120	36.94	47.79	39.8	3 × 60 ×	180	73.30	91.18	52.5
5	BR	Bangkhunprom	69-12	3 × 40 ×	120	56.50	73.10	60.9	3 × 40 ×	120	74.18	95.62	79.7
6	BL	Bangklo	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	41.15	53.24	66.6	2 × 40 ×	80	34.52	44.50	55.6
7	BO	Bangkok noi	69-12	1 × 40 ×	40	18.72	24.22	60.6	× ×	0	0.00	0.00	0.0
			69-24	1 × 60 ×	60	27.60	35.71	59.5	1 × 40 2 × 60	160	63.22	81.19	50.9
8	BC	Bangkrachao	69-12	2 × 10 ×	20	8.93	11.55	57.8	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	1 × 60 ×	60	14.58	18.79	31.3
9	BN	Bangmod	69-12	2 × (40) ×	80	39.53	51.14	63.9	× ×	0	0.00	0.00	0.0
			69-24	1 × 60 ×	60	31.77	41.10	68.5	3 × 60 ×	180	76.79	98.98	55.0
10	BG	Bangna	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	41.27	53.39	66.7	2 × 40 ×	80	40.20	51.82	64.8
11	BJ	Bangnamjued	115-24	1 × 20 2 × 60	140	70.52	91.24	65.2	1 × 20 2 × 60	140	43.67	56.29	40.2
12	BI	Bangping	115-24	2 × 60 ×	120	66.57	86.13	71.8	2 × 60 ×	120	63.88	82.34	68.6
13	BK	Bangplakod	69-12	3 × (40) ×	120	68.51	88.64	73.9	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	3 × 60 ×	180	58.50	75.41	41.9
14	BP	Bangplee	69-24	2 × 60 ×	120	59.25	76.66	63.9	2 × 60 ×	120	53.59	69.08	57.6
			115-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
15	PG	Bangpongpang	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	62.18	80.45	67.0	3 × 60 ×	180	86.57	111.59	62.0
16	BD	Bangpood	69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	48.00	62.10	51.8	3 × 60 ×	180	74.65	96.22	53.5
17	BU	Banppu	115-24	2 × 40 ×	80	45.82	59.28	74.1	3 × 60 ×	180	71.36	91.98	51.1
18	RY	Bangrakyai	115-24	2 × 60 ×	120	42.27	54.69	45.6	2 × 60 ×	120	59.22	76.31	63.6
19	BS	Bangsaotong	115-24	1 × 60 ×	60	32.89	42.55	70.9	2 × 60 ×	120	63.99	82.48	68.7
20	BY	Bangyeekhan	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	40.78	52.76	66.0	2 × 40 ×	80	26.22	33.80	42.3
21	CG	Chalongkrung	115-24	1 × 60 ×	60	33.87	43.82	73.0	2 × 60 ×	120	57.71	74.43	62.0
22	CK	Chankasem	69-12	1 × 40 ×	40	17.60	22.77	56.9	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 1 × 60	100	48.68	62.98	63.0	2 × 40 1 × 60	140	62.70	80.82	57.7
23	CL	Chidlom	230-12	2 × 50 ×	100	54.06	69.94	69.9	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	53.86	69.13	57.9
24	DN	Donmuang	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	51.79	67.00	55.8	3 × 60 ×	180	70.51	90.93	50.5
25	HK	Huaykwang	69-24	3 × 60 ×	180	74.53	96.42	53.6	3 × 60 ×	180	78.71	101.46	56.4
26	KP	Kingpetch	69-12	2 × (40) ×	80	41.94	54.26	67.8	× ×	0	0.00	0.00	0.0
			69-24	1 × 60 ×	60	27.19	35.18	58.6	3 × 60 ×	180	89.56	115.41	64.1
27	KJ	Klongjan	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 2 × 60	160	56.22	72.74	45.5	1 × 40 2 × 60	160	63.20	81.16	50.9
28	KN	Klongsai	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	43.33	56.06	46.7	2 × 60 ×	120	68.96	88.89	74.1
29	SC	Klongsanamchai	69-12	1 × 40 ×	40	16.49	21.33	53.3	× ×	0	0.00	0.00	0.0

No	ABB	Substation	Voltage (KV)	2011 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2016 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
1	BB	Bangbon	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	49.20	63.27	52.7	3 × 40 ×	120	52.19	66.77	55.6
2	BN	Bangchalong	115-24	3 × 60 ×	180	95.25	122.19	68.1	3 × 60 ×	180	100.09	128.06	71.1
3	BA	Bangkapi	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 2 × 60	160	78.93	101.50	63.4	1 × 40 2 × 60	160	91.31	116.83	73.0
4	KA	Bangkhaen	115-24	3 × 60 ×	180	78.47	100.91	56.1	3 × 60 ×	180	89.01	113.88	63.3
5	BR	Bangkhunprom	69-12	3 × 40 ×	120	72.14	92.77	77.3	3 × 40 ×	120	70.87	90.67	75.6
6	BL	Bangklo	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	40.56	52.16	65.2	1 × 40 1 × 60	100	48.08	61.51	61.5
7	BO	Bangkok noi	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 2 × 60	160	62.98	80.99	50.6	1 × 40 2 × 60	160	66.80	85.47	53.4
8	BC	Bangkrachao	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	22.00	28.29	23.6	2 × 60 ×	120	31.24	39.97	33.3
9	BM	Bangmod	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	84.49	108.65	60.4	3 × 60 ×	180	86.78	111.03	61.7
10	BG	Bangna	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	44.86	57.69	72.1	1 × 40 1 × 60	100	50.60	64.74	64.7
11	BJ	Bangnamjued	115-24	1 × 20 2 × 60	140	76.16	97.94	70.0	1 × 20 2 × 60	140	79.01	101.09	72.2
12	BI	Bangping	115-24	3 × 60 ×	180	77.33	99.44	55.3	3 × 60 ×	180	81.01	103.65	57.6
13	BK	Bangplakod	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	69.42	89.27	49.6	3 × 60 ×	180	73.67	94.25	52.4
14	BP	Bangplee	69-24	2 × 60 ×	120	61.43	79.00	65.8	2 × 60 ×	120	66.31	81.84	70.7
			115-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
15	PG	Bangpongpang	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	71.16	91.51	50.8	3 × 60 ×	180	84.34	107.91	60.0
16	BD	Bangpood	69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	99.95	128.53	71.4	3 × 60 ×	180	64.54	82.57	45.9
17	BU	Bangpu	115-24	3 × 60 ×	180	72.13	92.76	51.5	3 × 60 ×	180	75.57	96.69	53.7
18	RY	Bangrakyai	115-24	2 × 60 ×	120	49.69	63.90	53.3	2 × 60 ×	120	65.62	83.96	70.0
19	BS	Bangsaotong	115-24	3 × 60 ×	180	99.72	128.24	71.2	3 × 60 ×	180	81.32	104.04	57.8
20	BY	Bangyeekhan	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	33.39	42.94	53.7	2 × 40 ×	80	40.75	52.13	65.2
21	CG	Chalongkrung	115-24	2 × 60 ×	120	62.16	79.94	66.6	2 × 60 ×	120	61.51	78.70	65.6
22	CK	Chankasem	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 1 × 60	140	68.32	87.86	62.8	2 × 40 1 × 60	140	74.94	95.88	68.5
23	CL	Chidlom	230-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	59.31	76.27	63.6	2 × 60 ×	120	63.72	81.53	67.9
24	DM	Donmuang	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	64.87	83.42	46.3	3 × 60 ×	180	78.73	100.73	56.0
25	HK	Huaykwang	69-24	3 × 60 ×	180	91.67	117.88	65.5	3 × 60 ×	180	106.06	135.69	75.4
26	KP	Kingpetch	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	92.09	118.42	65.8	3 × 60 ×	180	98.94	126.59	70.3
27	KJ	Klongjan	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 2 × 60	160	67.67	87.02	54.4	1 × 40 2 × 60	160	78.32	100.21	62.6
28	KN	Klongmai	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	74.31	95.58	53.1	3 × 60 ×	180	90.18	115.38	64.1
29	SC	Klongsanamchai	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0

No	ABB	Substation	Voltage (KV)	2001 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2006 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
			69-24	1 × 60 ×	60	27.82	35.99	60.0	× ×	0	0.00	0.00	0.0
			115-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	51.13	65.91	54.9
30	KS	Klongsanpasamit	69-12	2 × 20 1 × 40	80	47.65	61.65	77.1	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	1 × 40 1 × 60	100	39.61	51.06	51.1
31	KN	Klongsarn	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	43.86	56.74	70.9	2 × 40 ×	80	45.82	59.06	73.8
32	KT	Klongtoey	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	38.00	49.16	61.5	2 × 40 ×	80	39.96	51.51	64.4
33	KG	Klongvatsing	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	43.20	55.89	46.6	2 × 60 ×	120	56.11	72.71	60.6
34	KU	Krunui	69-12	1 × 40 1 × (40)	80	36.63	47.39	59.2	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	57.19	73.72	61.4
35	LK	Lardplakao	115-24	1 × 60 ×	60	24.69	31.94	53.2	1 × 60 ×	60	23.66	30.50	50.8
36	LP	Lardprao	69-12	2 × (40) ×	80	30.67	39.68	49.6	× ×	0	0.00	0.00	0.0
			69-24	1 × 60 ×	60	18.36	23.75	39.6	3 × 60 ×	180	63.11	81.39	45.2
37	LM	Lumpini	69-12	1 × 40 ×	40	22.38	28.95	72.4	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 1 × 60	140	71.70	92.76	66.3	3 × 40 1 × 60	180	97.01	125.05	69.5
38	MN	Muhaisawan	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 1 × 60	140	62.04	80.27	57.3	2 × 40 1 × 60	140	59.00	76.05	54.3
39	MM	Mahaek	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	73.85	95.54	53.1	3 × 60 ×	180	72.35	93.26	51.8
40	MA	Mai-ad	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	42.71	55.26	69.1	2 × 40 ×	80	42.52	54.81	68.5
41	MS	Makasan	69-12	2 × 40 ×	80	41.99	54.33	67.9	× ×	0	0.00	0.00	0.0
			69-24	1 × 60 ×	60	28.85	37.33	52.2	2 × 40 1 × 60	140	71.90	92.68	66.2
42	MB	Minburi	115-24	2 × 60 ×	120	52.13	67.44	56.2	3 × 60 ×	180	76.21	98.23	54.6
43	MC	Mochit	69-12	2 × 40 1 × (40)	120	65.63	84.91	70.8	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	2 × 40 1 × 60	140	58.64	75.59	54.0
44	MG	Muangmain	115-24	2 × 60 ×	120	57.04	73.80	61.5	2 × 60 ×	120	49.71	64.08	53.1
45	MT	Muangthong 1	115-24	2 × 60 ×	120	67.66	87.53	72.9	2 × 60 ×	120	64.48	83.12	69.3
46	NN	Na-na	69-12	1 × (40) ×	40	16.99	21.98	55.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	28.16	36.43	30.4	× ×	0	0.00	0.00	0.0
			115-24	× ×	0	0.00	0.00	0.0	3 × 60 ×	180	75.85	97.77	54.3
47	NH	Nongkham	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	59.55	77.04	64.2	3 × 60 ×	180	77.53	99.91	55.5
48	NR	Nonthaburi	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	65.05	84.16	70.1	3 × 60 ×	180	73.93	95.30	52.9
49	NK	North Bangkok	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	41.92	54.24	45.2	3 × 40 ×	120	41.96	51.09	45.1
50	PE	Pakkred	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	72.45	93.73	52.1	3 × 60 ×	180	64.97	83.75	46.5
51	PN	Paknam	115-24	2 × 60 ×	120	50.89	65.84	54.9	3 × 60 ×	180	64.13	83.05	46.1
52	PS	Petchkasem	69-12	2 × 22.4 ×	44.8	25.74	33.30	74.3	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 ×	40	16.84	21.79	54.5	1 × 40 1 × 60	100	11.25	37.01	37.0
53	PJ	Phaisingto	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	89.76	116.13	64.5	1 × 60 ×	210	80.21	103.13	43.1

Appendix 6.3-2 Load and Installed Capacity of Distribution Substations (JICA Study Team Plan, Planning Year = 2001 - 2016)

No	ABB	Substation	Voltage (KV)	2011 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2016 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	67.42	86.70	72.3	3 × 60 ×	180	81.74	108.42	60.2
30	KS	Klongsanpasamit	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 1 × 60	100	49.17	63.23	63.2	2 × 60 ×	120	55.21	70.64	58.9
31	KN	Klongsarn	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	54.21	69.71	58.1	2 × 60 ×	120	55.67	71.23	59.4
32	KT	Klongtoey	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	92.15	118.50	65.8	3 × 60 ×	180	85.69	109.63	60.9
33	KG	Klongwatsing	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	76.38	98.22	54.6	3 × 60 ×	180	97.36	124.56	69.2
34	KU	Krunai	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	87.47	112.18	62.5	3 × 60 ×	180	105.60	135.11	75.1
35	LK	Lardplakao	115-24	1 × 60 ×	60	25.17	32.37	54.0	2 × 60 ×	120	35.31	45.21	37.7
36	LP	Lardprao	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	68.69	88.33	49.1	3 × 60 ×	180	75.35	96.40	53.6
37	LN	Lumpini	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 1 × 60	180	103.19	132.70	73.7	3 × 40 1 × 60	180	106.56	136.31	75.7
38	MN	Mahaisawan	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 1 × 60	140	73.36	94.34	67.4	2 × 40 1 × 60	140	75.35	96.40	68.9
39	MM	Mahamek	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	84.46	108.61	60.3	3 × 60 ×	180	100.11	128.08	71.2
40	MA	Mai-ad	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 1 × 60	100	50.14	64.48	64.5	2 × 60 ×	120	56.81	72.68	60.6
41	MS	Makasan	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 1 × 60	140	75.73	97.39	69.6	2 × 40 1 × 60	140	81.37	104.10	74.4
42	NB	Nonburi	115-24	3 × 60 ×	180	95.51	122.82	68.2	3 × 60 ×	180	112.14	143.48	79.7
43	NC	Nochit	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 1 × 60	140	73.06	93.95	67.1	2 × 40 1 × 60	140	80.14	102.53	73.2
44	NG	Nuangnain	115-24	2 × 60 ×	120	56.81	73.06	60.9	2 × 60 ×	120	62.31	79.76	66.5
45	NT	Nuangthong 1	115-24	2 × 60 ×	120	64.61	83.09	69.2	2 × 60 ×	120	65.07	83.25	69.1
46	NN	Na-na	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	86.40	111.11	61.7	3 × 60 ×	180	99.95	127.88	71.0
47	NH	Nongkham	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	81.74	105.12	58.4	3 × 60 ×	180	86.70	110.93	61.6
48	NR	Nonthaburi	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	92.24	118.61	65.9	3 × 60 ×	180	105.52	135.00	75.0
49	NK	North Bangkok	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	62.67	80.59	67.2	3 × 40 ×	120	59.29	75.86	63.2
50	PE	Pakkred	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	88.01	113.18	62.9	3 × 60 ×	180	81.17	101.23	57.9
51	PN	Paknam	115-24	3 × 60 ×	180	71.19	95.41	53.0	3 × 60 ×	180	77.73	99.15	55.3
52	PS	Petchkasem	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 1 × 60	100	50.41	64.82	64.8	2 × 60 ×	120	62.00	79.33	66.1
53	PI	Phaisingto	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	4 × 60 ×	240	87.97	113.13	47.1	4 × 60 ×	240	101.77	130.21	54.3

No	ABB	Substation	Voltage (KV)	2001 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2006 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
54	PJ	Pojao	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	69.15	89.47	74.6	3 × 40 ×	120	58.16	74.97	62.5
55	PC	Prachachuen	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 1 × 60	100	37.63	48.68	48.7	1 × 40 1 × 60	100	39.36	50.73	50.7
56	PK	Prakanong	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	40.19	52.00	65.0	2 × 40 ×	80	35.91	46.29	57.9
57	PK	Prakasa	115-24	2 × 40 1 × 60	140	68.44	88.55	63.3	2 × 40 1 × 60	140	64.71	83.41	59.6
58	PO	Prannok	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	35.64	46.11	57.6	2 × 40 ×	80	35.75	46.08	57.6
59	PD	Prapradaeng	69-12	3 × 40 ×	120	58.09	75.16	62.6	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	3 × 40 ×	120	64.83	83.57	69.6
60	PA	Prasanmit	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	62.83	81.29	67.7	3 × 40 ×	120	51.19	65.98	55.0
61	PN	Prathumwan	69-12	1 × 40 ×	40	23.81	30.81	77.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	45.32	58.63	73.3	3 × 40 ×	120	52.21	67.30	56.1
62	RT	Ramintra	115-24	2 × 60 ×	120	44.02	56.95	47.5	3 × 60 ×	180	73.91	95.27	52.9
63	RH	Rankhamhaeng	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 1 × 60	140	55.19	71.79	51.3	2 × 40 1 × 60	140	50.80	65.48	46.8
64	RN	Rasburana	69-12	3 × 40 ×	120	66.41	85.92	71.6	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	3 × 40 ×	120	49.02	63.19	52.7
65	RK	Ronklao	115-24	2 × 60 ×	120	56.05	72.52	60.4	2 × 60 ×	120	62.35	80.37	67.0
66	RC	Rungpracha	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	75.50	97.68	54.3	3 × 60 ×	180	56.40	72.70	40.4
67	SM	Sallom	69-12	2 × 40 ×	80	45.86	59.34	74.2	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	2 × 40 ×	80	40.54	52.26	65.3
68	SR	Samrong	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	61.91	80.10	44.5	3 × 60 ×	180	78.39	101.04	56.1
69	SN	Samsen	69-12	2 × 40 ×	80	41.21	53.32	66.7	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 ×	40	23.34	30.20	75.5	3 × 40 ×	120	63.79	82.22	68.5
70	SS	Sansab	69-12	1 × 40 ×	40	18.86	24.40	61.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	41.81	54.09	67.6	2 × 40 1 × 60	140	67.90	87.52	62.5
71	SD	Sapandaa	69-12	4 × 40 ×	160	84.58	109.43	68.4	4 × 40 ×	160	93.55	120.58	75.4
72	SP	Sapanmai	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	53.14	68.75	57.3	3 × 60 ×	180	89.92	115.91	64.4
73	SL	Silom	69-12	2 × 40 ×	80	37.10	48.00	60.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	2 × 40 ×	80	43.26	55.76	69.7
74	SY	Sipraya	69-12	1 × 40 ×	40	21.02	27.20	68.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 ×	40	21.19	27.42	68.5	2 × 40 ×	80	35.31	45.51	56.9
75	SV	Soonvijai	69-12	1 × 40 ×	40	22.95	29.69	74.2	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	46.57	60.25	50.2	1 × 40 2 × 60	160	78.29	100.92	63.1
76	SK	South Bangkok	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 60 ×	60	15.02	19.43	32.4	1 × 60 ×	60	14.40	18.56	30.9
77	ST	South Thonburi	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	53.48	69.19	57.7	3 × 60 ×	180	79.82	102.89	57.2
78	YA	Srithanya	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	1 × (40) ×	40	19.12	24.71	61.8	× ×	0	0.00	0.00	0.0
			115-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	60.91	78.51	65.4
79	SO	Suanson	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	55.11	71.30	59.4	2 × 60 ×	120	60.97	78.59	65.5

No	ABB	Substation	Voltage (KV)	2011 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2016 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
54	PJ	Poojao	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	70.24	90.33	75.3	2 × 40 1 × 60	140	79.58	101.81	72.7
55	PC	Prachachuen	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 2 × 60	160	78.55	101.02	63.1	1 × 40 2 × 60	160	96.33	123.25	77.0
56	PK	Prakanong	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	43.94	56.51	70.6	2 × 60 ×	120	50.84	65.04	54.2
57	PR	Prakasa	115-24	2 × 40 1 × 60	140	65.25	83.91	59.9	2 × 40 1 × 60	140	68.37	87.47	62.5
58	PO	Prannok	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	38.17	49.09	61.4	2 × 40 ×	80	46.57	59.58	74.5
59	PD	Prapradaeng	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	62.89	80.87	67.4	3 × 40 ×	120	68.14	87.18	72.7
60	PA	Prasannit	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	58.53	75.27	62.7	3 × 40 ×	120	67.72	86.64	72.2
61	PN	Prathumwan	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	51.76	66.56	55.5	3 × 40 ×	120	55.61	71.15	59.3
62	RT	Ramintra	115-24	3 × 60 ×	180	87.13	112.04	62.3	3 × 60 ×	180	108.74	139.12	77.3
63	RH	Rankhamhaeng	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 1 × 60	140	51.21	65.85	47.0	2 × 40 1 × 60	140	59.28	75.84	54.2
64	RN	Rasburana	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	59.32	76.28	63.6	3 × 40 ×	120	71.61	91.62	76.4
65	RK	Ronklao	115-24	3 × 60 ×	180	75.07	96.54	53.6	3 × 60 ×	180	100.80	128.96	71.6
66	RC	Rungpracha	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	71.20	91.56	50.9	3 × 60 ×	180	86.88	111.15	61.8
67	SM	Saiton	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	41.28	53.09	66.4	1 × 40 1 × 60	100	50.76	64.94	64.9
68	SR	Samrong	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	70.99	91.29	50.7	3 × 60 ×	180	80.43	102.90	57.2
69	SN	Sansen	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 40 ×	120	68.45	88.02	73.4	2 × 40 1 × 60	140	84.16	107.68	76.9
70	SS	Sansab	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 1 × 60	140	76.43	98.29	70.2	1 × 40 2 × 60	160	88.42	113.13	70.7
71	SD	Sapandam	69-12	4 × 40 ×	160	90.71	116.65	72.9	4 × 40 ×	160	99.01	126.67	79.2
72	SP	Sapanmai	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	99.26	127.65	70.9	3 × 60 ×	180	109.68	140.33	78.0
73	SL	Silom	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	44.46	57.17	71.5	1 × 40 1 × 60	100	47.77	61.12	61.1
74	SY	Sipraya	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	38.45	49.45	61.8	2 × 40 ×	80	41.32	52.86	66.1
75	SV	Soonvijai	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 40 2 × 60	160	82.88	106.58	66.6	1 × 40 2 × 60	160	95.89	122.68	76.7
76	SK	South Bangkok	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 60 ×	60	17.73	22.80	38.0	1 × 60 ×	60	20.09	25.70	42.8
77	ST	South Thonburi	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	89.97	115.70	64.3	3 × 60 ×	180	95.43	122.10	67.8
78	YA	Srithanya	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	80.68	103.76	57.6	3 × 60 ×	180	99.19	126.90	70.5
79	SO	Soanson	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	77.30	99.41	55.2	3 × 60 ×	180	87.58	112.05	62.3

Appendix 6.3-2 Load and Installed Capacity of Distribution Substations (JICA Study Team Plan, Planning Year = 2001 - 2016) (7／14)

No	ABB	Substation	Voltage (KV)	2001 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2006 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
80	SU	Surawong	69-12	1 × 40 ×	40	23.51	30.42	76.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	46.20	59.77	49.8	3 × 60 ×	180	61.58	79.38	44.1
81	TS	Taksin	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	37.47	48.48	60.6	2 × 40 ×	80	42.98	51.21	67.8
82	TP	Teparak	69-24	2 × 40 1 × 60	140	70.60	91.34	65.2	2 × 40 1 × 60	140	62.48	80.53	57.5
83	TT	Thanontok	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	47.79	61.83	51.5	2 × 60 ×	120	67.83	87.43	72.9
84	TB	Thonburi	69-12	2 × 40 ×	80	42.45	54.92	68.7	× ×	0	0.00	0.00	0.0
			69-24	1 × 60 ×	60	29.45	38.10	63.5	2 × 40 1 × 60	140	38.61	49.77	35.6
85	TK	Tongkung	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	41.40	53.56	67.0	2 × 40 ×	80	22.50	29.00	36.3
86	WB	Wangpetchaboon	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	83.28	107.75	59.9	3 × 60 ×	180	83.31	107.39	59.7
87	WT	Wangthonglang	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	77.22	99.90	55.5	3 × 60 ×	180	76.38	98.45	54.7
88	WL	Watlieb	69-12	3 × 40 ×	120	66.82	86.45	72.0	3 × 40 ×	120	71.97	92.77	77.3
89	YT	Yothee	69-12	2 × 40 ×	80	44.10	57.05	71.3	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	2 × 40 ×	80	42.16	54.34	67.9
90	BE	Bangkae	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	1 × (40) ×	40	22.52	29.14	72.8	× ×	0	0.00	0.00	0.0
			115-24	1 × 60 ×	60	30.24	39.12	65.2	3 × 60 ×	180	81.04	101.46	58.0
91	BZ	Bangson	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	42.80	55.37	46.1	2 × 60 ×	120	47.51	61.23	51.0
92	BI	Bearing	69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	63.69	82.40	68.7	2 × 60 ×	120	50.52	65.12	54.3
93	EK	Ekamai	69-12	1 × (40) ×	40	19.94	25.80	64.5	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	62.12	80.37	67.0	× ×	0	0.00	0.00	0.0
			115-24	× ×	0	0.00	0.00	0.0	3 × 60 ×	180	83.23	107.29	59.6
94	EB	Ekburi	115-24	2 × 60 ×	120	41.20	53.30	44.4	2 × 60 ×	120	44.97	57.97	48.3
95	HA	Huamak	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 60 ×	60	21.32	27.58	46.0	× ×	0	0.00	0.00	0.0
			115-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	63.50	81.85	68.2
96	IN	Intamara	69-24	2 × 60 ×	120	46.02	59.54	49.6	3 × 60 ×	180	79.20	102.09	56.7
97	JR	Jangron	69-12	1 × (40) ×	40	24.41	31.58	79.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	55.11	71.42	59.5
98	KO	Khotor	115-24	3 × 60 ×	180	74.51	96.40	53.6	3 × 60 ×	180	58.70	75.66	42.0
99	KI	Kingkaew	115-24	2 × 60 ×	120	56.79	73.47	61.2	2 × 60 ×	120	50.15	64.61	53.9
100	KH	Klongsahasawad	115-24	2 × 60 ×	120	51.92	67.17	56.0	2 × 60 ×	120	44.20	56.97	47.5
101	LB	Lardkrabang	115-24	2 × 60 ×	120	49.27	63.74	53.1	2 × 60 ×	120	41.63	53.66	44.7
102	N3	Nuangthong 3	115-24	2 × 60 ×	120	60.74	78.58	65.5	2 × 60 ×	120	69.36	89.10	74.5
103	NS	Nonsee	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	43.04	55.68	46.4	2 × 60 ×	120	65.61	84.57	70.5
104	PP	Pradipat	69-12	1 × (40) ×	40	22.25	28.79	72.0	× ×	0	0.00	0.00	0.0
			69-24	1 × 60 ×	60	31.07	40.20	67.0	2 × 60 ×	120	64.05	82.57	68.8
105	SA	Sainamtip	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	62.29	80.59	44.8	× ×	0	0.00	0.00	0.0
			115-24	× ×	0	0.00	0.00	0.0	3 × 60 ×	180	73.79	95.11	52.8
106	SB	Sanambinnam	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0

No	ABB	Substation	Voltage (KV)	2011 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2016 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
80	SU	Surawong	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	71.64	92.13	51.2	3 × 60 ×	180	76.97	98.18	54.7
81	TS	Taksin	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	42.58	54.76	68.5	2 × 40 ×	80	43.73	55.95	69.9
82	TP	Teparak	69-24	2 × 40 1 × 60	140	59.99	77.15	55.1	2 × 40 1 × 60	140	67.67	86.58	61.8
83	TT	Thanontok	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	76.20	97.99	54.4	3 × 60 ×	180	90.31	115.55	64.2
84	TB	Thonburi	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 1 × 60	140	65.50	84.23	60.2	2 × 40 1 × 60	140	67.27	86.07	61.5
85	TK	Tongkung	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	31.36	40.33	50.4	2 × 40 ×	80	35.52	45.45	56.8
86	WB	Wangpetchaboon	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	102.27	131.51	73.1	3 × 60 ×	180	92.25	118.03	65.6
87	WT	Wangthonglang	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	84.82	109.08	60.6	3 × 60 ×	180	93.03	119.03	66.1
88	YL	Yatlieb	69-12	3 × 40 ×	120	71.13	91.47	76.2	4 × 40 ×	160	77.64	99.34	62.1
89	YT	Yothee	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 40 ×	80	43.27	55.64	69.6	2 × 40 ×	80	46.49	59.18	74.4
90	BE	Bangkae	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	74.61	95.95	53.3	3 × 60 ×	180	91.71	117.34	65.2
91	BZ	Bangson	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	63.58	81.76	68.1	3 × 60 ×	180	78.18	100.02	55.6
92	RI	Bearing	69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	94.60	121.65	67.6	3 × 60 ×	180	106.70	136.52	75.8
93	EK	Ekamai	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	69.82	89.79	49.9	3 × 60 ×	180	80.77	103.34	57.4
94	EB	Ekburi	115-24	2 × 60 ×	120	64.32	82.71	68.9	3 × 60 ×	180	77.50	99.16	55.1
95	HA	Huamak	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	67.55	86.87	72.4	3 × 60 ×	180	78.15	99.99	55.6
96	IN	Intamara	69-24	3 × 60 ×	180	87.41	112.41	62.5	3 × 60 ×	180	95.88	122.67	68.2
97	JR	Jangron	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	85.18	109.54	60.9	3 × 60 ×	180	102.81	131.57	73.1
98	KO	Khotor	115-24	3 × 60 ×	180	71.76	92.28	51.3	3 × 60 ×	180	75.18	96.19	53.1
99	KI	Kingkaew	115-24	2 × 60 ×	120	53.37	68.63	57.2	2 × 60 ×	120	61.11	78.18	65.2
100	KH	Klongchahsawad	115-24	3 × 60 ×	180	98.97	127.28	70.7	3 × 60 ×	180	91.06	116.50	64.7
101	LB	Lardkrabang	115-24	3 × 60 ×	180	78.84	101.39	56.3	3 × 60 ×	180	94.36	120.72	67.1
102	M3	Muangthong 3	115-24	2 × 60 ×	120	69.51	89.39	74.5	3 × 60 ×	180	94.91	121.13	67.5
103	NS	Nonsee	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	87.35	112.33	62.4	3 × 60 ×	180	103.51	132.17	73.6
104	PP	Pradipat	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	87.95	113.10	62.8	3 × 60 ×	180	108.13	138.35	76.9
105	SA	Sainamtip	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	87.10	112.01	62.2	3 × 60 ×	180	100.76	128.92	71.6
106	SB	Sanambinnam	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0

Appendix 6.3-2 Load and Installed Capacity of Distribution Substations (JICA Study Team Plan, Planning Year = 2001 - 2016)

No.	ABB	Substation	Voltage (KV)	2001 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2006 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
			115-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	55.89	72.31	60.3	3 × 60 ×	180	77.91	100.43	55.8
107	RG	Saorahong	115-24	1 × 60 ×	60	25.02	32.37	54.0	2 × 60 ×	120	48.61	62.66	52.2
108	OB	South Bangplee	115-24	2 × 60 ×	120	59.34	76.77	64.0	2 × 60 ×	120	65.67	84.65	70.5
109	SE	Sricium	115-24	3 × 60 ×	180	85.68	110.85	61.6	3 × 60 ×	180	88.12	113.59	63.1
110	SC	Suanluang	69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	56.47	73.06	40.6	3 × 60 ×	180	81.61	105.19	58.4
111	UK	Surasak	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	34.90	45.15	37.6	2 × 60 ×	120	45.94	59.22	49.4
112	TN	Taiban	115-24	2 × 60 ×	120	62.39	80.72	67.3	2 × 60 ×	120	52.67	67.89	56.6
113	TW	Taweewattana	115-24	2 × 60 ×	120	61.26	79.26	66.1	2 × 60 ×	120	45.88	59.11	49.3
114	TR	Thonburirom	69-12	2 × (40) ×	80	43.08	55.74	69.7	× ×	0	0.00	0.00	0.0
			115-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	54.70	70.51	58.8
115	TH	Tungsonghong	69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	41.26	53.38	44.5	2 × 60 ×	120	65.70	84.68	70.6
116	YK	Yenarkart	69-12	× ×	0	0.00		0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	44.81	57.98	48.3	3 × 60 ×	180	86.47	111.16	61.9
117	AB	Bangbor	115-24	2 × 60 ×	120	43.07	55.72	46.4	2 × 60 ×	120	35.54	45.81	38.2
118	JK	Bangjak	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	1 × (40) ×	40	13.02	16.85	42.1	× ×	0	0.00	0.00	0.0
			115-24	1 × 60 ×	60	19.16	24.79	41.3	3 × 60 ×	180	84.59	109.01	60.6
119	KD	Bangkradee	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	35.28	45.64	38.0	2 × 60 ×	120	43.53	56.11	46.8
120	BH	Bangshan	115-24	2 × 60 ×	120	37.78	48.88	40.7	2 × 60 ×	120	52.02	67.06	55.9
121	NI	Banwai	69-24	2 × 60 ×	120	28.39	36.73	30.6	2 × 60 ×	120	44.92	57.90	48.3
122	DD	Dindaeng	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	2 × (40) ×	80	45.40	58.74	73.4	× ×	0	0.00	0.00	0.0
			115-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	62.44	80.18	67.1
123	EC	Ekachai	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	24.35	31.50	26.3	2 × 60 ×	120	45.30	58.39	48.7
124	GK	Ghouklang	69-24	2 × 60 ×	120	48.45	62.68	52.2	× ×	0	0.00	0.00	0.0
			115-24	× ×	0	0.00	0.00	0.0	3 × 60 ×	180	86.50	111.50	61.9
125	JW	Jangwatana	115-24	2 × 60 ×	120	59.52	77.01	64.2	3 × 60 ×	180	98.63	127.13	70.6
126	JJ	Jatujag	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	23.16	29.96	25.0	2 × 60 ×	120	67.19	86.99	72.5
			115-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
127	KE	Kaset	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	51.65	66.82	55.7	2 × 60 ×	120	66.58	85.82	71.5
128	KG	Klongkum	115-24	2 × 60 ×	120	47.15	61.00	50.8	2 × 60 ×	120	52.31	67.13	56.2
129	KL	Klongprapa	115-24	2 × 60 ×	120	32.30	41.79	34.8	2 × 60 ×	120	63.08	81.30	67.8
130	NU	Nitr udom	69-12	1 × 40 ×	40	21.53	27.85	69.6	× ×	0	0.00		0.0
			69-24	× ×	0	0.00		0.0	2 × 60 ×	120	67.90	87.53	72.9
131	M4	Nuangthong 4	115-24	2 × 60 ×	120	59.50	76.98	64.2	2 × 60 ×	120	67.21	86.63	72.2
132	M5	Nuangthong 5	115-24	2 × 60 ×	120	59.19	76.58	63.8	2 × 60 ×	120	66.65	85.91	71.6
133	M6	Nuangthong 6	115-24	2 × 60 ×	120	59.54	77.03	64.2	2 × 60 ×	120	66.31	85.17	71.2
134	M7	Nuangthong 7	115-24	2 × 60 ×	120	63.01	81.52	67.9	2 × 60 ×	120	62.80	80.95	67.5
135	NL	Nanglerng	69-12	2 × 40 ×	80	44.19	57.17	71.5	3 × 40 ×	120	62.60	80.69	67.3
136	TA	Patanakarn	115-24	2 × 60 ×	120	34.80	45.02	37.5	3 × 60 ×	180	103.33	133.19	74.0
137	PL	Plubpla	115-24	2 × 60 ×	120	42.70	55.25	46.0	2 × 60 ×	120	47.67	61.15	51.2

No	ABB	Substation	Voltage (KV)	2011 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2016 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
			115-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	81.92	105.35	58.5	3 × 60 ×	180	110.01	140.79	78.2
107	RC	Saoraihong	115-24	2 × 60 ×	120	66.52	85.54	71.3	2 × 60 ×	120	61.57	78.78	65.7
108	OB	South Bangplee	115-24	2 × 60 ×	120	47.61	61.23	51.0	2 × 60 ×	120	52.24	66.81	55.7
109	SE	Sriciam	115-24	3 × 60 ×	180	99.19	127.56	70.9	3 × 60 ×	180	111.88	143.11	79.5
110	SG	Suanluang	69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	86.36	111.06	61.7	3 × 60 ×	180	99.96	127.89	71.1
111	UK	Surasak	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	2 × 60 ×	120	47.98	61.70	51.4	2 × 60 ×	120	51.55	65.95	55.0
112	TN	Taiban	115-24	2 × 60 ×	120	58.08	74.69	62.2	2 × 60 ×	120	60.85	77.85	64.9
113	TV	Taweesattana	115-24	2 × 60 ×	120	48.01	61.74	51.5	2 × 60 ×	120	18.76	62.38	52.0
114	TR	Thonburirom	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	2 × 60 ×	120	47.30	60.83	50.7	2 × 60 ×	120	51.25	65.57	54.6
115	TH	Tungsonghong	69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	83.62	107.53	59.7	3 × 60 ×	180	112.32	143.71	79.8
116	YK	Yenarkart	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	96.42	123.99	68.9	3 × 60 ×	180	81.65	104.16	58.0
117	AB	Bangbor	115-24	2 × 60 ×	120	67.68	87.03	72.5	2 × 60 ×	120	55.34	70.80	59.0
118	JK	Bangjak	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	92.75	119.27	66.3	3 × 60 ×	180	104.62	133.85	74.4
119	KD	Bangkradee	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	73.29	94.25	52.4	3 × 60 ×	180	92.12	117.86	65.5
120	BH	Bangshan	115-24	3 × 60 ×	180	97.47	125.35	69.6	3 × 60 ×	180	98.80	126.11	70.2
121	MI	Banmai	69-24	2 × 60 ×	120	67.24	86.47	72.1	3 × 60 ×	180	81.61	104.11	58.0
122	DD	Dindaeng	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	70.75	90.98	50.6	3 × 60 ×	180	81.85	104.72	58.2
123	EC	Ekachai	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	84.45	108.60	60.3	3 × 60 ×	180	106.15	135.81	75.5
124	CK	Chaklang	69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	94.66	121.73	67.6	3 × 60 ×	180	109.51	140.11	77.8
125	JV	Jangvatana	115-24	3 × 60 ×	180	98.85	127.12	70.6	3 × 60 ×	180	101.52	129.89	72.2
126	JJ	Jatujag	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24	3 × 60 ×	180	76.58	98.48	54.7	3 × 60 ×	180	81.00	107.17	59.7
127	KE	Kaset	69-12	× ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24	3 × 60 ×	180	91.38	117.51	65.3	3 × 60 ×	180	101.36	133.52	71.2
128	KG	Klongkum	115-24	3 × 60 ×	180	75.09	96.56	53.7	3 × 60 ×	180	111.06	142.09	78.9
129	KL	Klongprapa	115-24	3 × 60 ×	180	80.98	104.14	57.9	3 × 60 ×	180	98.28	125.71	69.9
130	NU	Nitr-udom	69-12	× ×	0	0.00		0.0	× ×	0	0.00		0.0
			69-24	3 × 60 ×	180	86.18	110.82	61.6	3 × 60 ×	180	97.61	121.92	69.4
131	M4	Muangthong 4	115-24	2 × 60 ×	120	67.35	86.61	72.2	3 × 60 ×	180	92.18	118.32	65.7
132	M5	Muangthong 5	115-24	2 × 60 ×	120	66.79	85.89	71.6	2 × 60 ×	120	58.09	71.32	61.9
133	M6	Muangthong 6	115-24	2 × 60 ×	120	66.45	85.45	71.2	2 × 60 ×	120	57.71	73.83	61.5
134	M7	Muangthong 7	115-24	2 × 60 ×	120	62.93	80.93	67.4	3 × 60 ×	180	87.52	111.97	62.2
135	NL	Nanglerng	69-12	3 × 40 ×	120	62.20	79.98	66.7	4 × 40 ×	160	92.75	118.66	74.2
136	TA	Patanakarn	115-24	3 × 60 ×	180	80.89	104.02	57.8	3 × 60 ×	180	93.63	119.79	66.6
137	PL	Plubpla	115-24	2 × 60 ×	120	57.16	73.51	61.3	2 × 60 ×	120	66.13	81.61	70.5

Appendix 6.3-2 Load and Installed Capacity of Distribution Substations (JICA Study Team Plan, Planning Year = 2001 - 2016)

No	ABB	Substation	Voltage	2001 Bank configuration				Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2006 Bank configuration				Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
			(KV)																
138	PW	Prawes	115-24	2	×	60	×	120	43.61	56.42	47.0	2	×	60	×	120	62.54	80.62	67.2
139	RP	Prompong	115-24	2	×	60	×	120	35.75	46.25	38.5	2	×	60	×	120	70.34	90.67	75.6
140	SI	Sainoi	115-24	2	×	60	×	120	22.36	28.93	24.1	2	×	60	×	120	42.71	55.05	45.9
141	YN	Samyarn	115-12	2	×	(40)	×	80	42.50	54.99	68.7		×		×	0	0.00	0.00	0.0
			115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	61.17	79.23	66.0
142	SH	Sutorn	115-24	2	×	60	×	120	53.35	69.02	57.5	2	×	60	×	120	61.32	79.04	65.9
143	HP	Shimplee	115-24	2	×	60	×	120	55.54	71.86	59.9	2	×	60	×	120	44.04	56.77	47.3
144	SM	Sriwiang	69-12	2	×	(40)	×	80	34.88	45.13	56.4		×		×	0	0.00	0.00	0.0
			69-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	45.91	59.22	49.4
145	YI	Suanyai	115-24	2	×	60	×	120	21.36	27.64	23.0	2	×	60	×	120	30.58	39.42	32.9
146	WT	Suwintawong	115-24	2	×	60	×	120	16.36	21.17	17.6	2	×	60	×	120	40.98	52.82	44.0
147	TI	Thu-kwian	69-12	2	×	(40)	×	80	38.95	50.39	63.0		×		×	0	0.00	0.00	0.0
			69-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	54.08	69.71	58.1
148	TC	Trokchan	115-12	2	×	(40)	×	80	34.72	44.92	56.2		×		×	0	0.00	0.00	0.0
			115-24		×		×	0	0.00	0.00	0.0	3	×	60	×	180	79.44	102.40	56.9
149	TY	Tubyao	115-24	2	×	60	×	120	30.36	39.28	32.7	2	×	60	×	120	51.02	65.76	54.8
150	WK	Watkampaeng	69-12		×		×	0	0.00		0.0		×		×	0	0.00		0.0
			69-24	2	×	60	×	120	34.25	44.31	36.9	2	×	60	×	120	52.45	67.61	56.3
151	WR	Wattakart	69-12		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
			69-24	2	×	60	×	120	33.32	43.11	35.9	2	×	60	×	120	44.09	56.83	47.4
152	AK	Asoke	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	64.20	82.75	69.0
153	BT	Bangbuotong	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
154	BS	Banghuusae	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	63.33	81.63	68.0
155	BK	Bangkaew	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	37.02	47.72	39.8
156	PY	Bangpleeyai	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
157	TD	Bangtalard	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	45.32	58.42	48.7
158	JB	Jorakabuo	115-24		×		×	0	0.00	0.00	0.0	3	×	60	×	180	78.22	100.82	56.0
159	KB	Klongbanggpi	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
160	LA	Klongna	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	38.15	49.18	41.0
161	GP	Klongpunc	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
162	KR	Krungtepkreeta	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
163	LH	Land & House	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	69.25	89.26	74.4
164	M8	Muangthong 8	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	61.18	78.86	65.7
165	M9	Muangthong 9	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	54.26	69.91	58.3
166	PL	Praramkao	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	48.99	63.15	52.6
167	RJ	Rajchaprarop	115-24		×		×	0	0.00	0.00	0.0	3	×	60	×	180	69.78	89.95	50.0
168	NP	Sanampao	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	63.80	82.21	68.5
169	ON	Sananikom	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	57.75	74.41	62.0
170	OS	Songsunikom	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	37.63	48.51	40.4
171	SR	Srinakarin	115-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	51.13	65.91	54.9
172	LO	Thonglor	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
173	TU	Tungkru	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
174	WD	Waideedod	69-24		×		×	0	0.00	0.00	0.0	2	×	60	×	120	49.07	63.25	52.7
175	GY	Bangkruay	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
176	GG	Bangpang	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
177	AA	Bangpla	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
178	LD	Klongdan	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
179	GT	Klonggratiam	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0
180	LG	Luangpang	115-24		×		×	0	0.00	0.00	0.0		×		×	0	0.00	0.00	0.0

No	ABB	Substation	Voltage	2011 Bank configuration	Capacity	coincident	non-coinci	utilization	2016 Bank configuration	Capacity	coincident	non-coinci	utilization
			(KV)		(MVA)	(MW)	(MVA)	factor (%)		(MVA)	(MW)	(MVA)	factor (%)
138	PW	Praves	115-24	2 × 60 ×	120	62.49	80.36	67.0	3 × 60 ×	180	99.49	127.29	70.7
139	RP	Prompong	115-24	3 × 60 ×	180	77.28	99.38	55.2	3 × 60 ×	180	89.10	114.38	63.5
140	SI	Sainoi	115-24	2 × 60 ×	120	49.80	64.04	53.4	2 × 60 ×	120	65.77	84.15	70.1
141	YN	Samyarn	115-12 × ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24 3 × 60 ×	180	101.07	129.97	72.2	3 × 60 ×	180	90.96	116.38	64.7
142	SO	Satorn	115-24 3 × 60 ×	180	95.22	122.45	68.0	3 × 60 ×	180	102.31	130.90	72.7
143	HP	Shinglee	115-24 3 × 60 ×	180	84.36	108.48	60.3	3 × 60 ×	180	62.65	80.15	44.5
144	SW	Sriviang	69-12 × ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24 2 × 60 ×	120	47.98	61.70	51.4	2 × 60 ×	120	51.55	65.95	55.0
145	YI	Suanyai	115-24 2 × 60 ×	120	39.06	50.23	41.9	2 × 60 ×	120	52.47	67.13	55.9
146	SW	Surintawong	115-24 2 × 60 ×	120	45.36	58.33	48.6	2 × 60 ×	120	62.85	80.41	67.0
147	TI	Tha-kwian	69-12 × ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24 2 × 60 ×	120	48.59	62.48	52.1	2 × 60 ×	120	52.25	66.85	55.7
148	TC	Trokchan	115-12 × ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			115-24 3 × 60 ×	180	91.72	117.95	65.5	3 × 60 ×	180	108.71	139.09	77.3
149	TY	Tubyao	115-24 2 × 60 ×	120	61.46	79.04	65.9	3 × 60 ×	180	98.78	126.38	70.2
150	WK	Watkampaeng	69-12 × ×	0	0.00		0.0	× ×	0	0.00		0.0
			69-24 3 × 60 ×	180	85.18	109.54	60.9	3 × 60 ×	180	110.43	141.29	78.5
151	WR	Wuttakart	69-12 × ×	0	0.00	0.00	0.0	× ×	0	0.00	0.00	0.0
			69-24 2 × 60 ×	120	50.74	65.25	54.4	2 × 60 ×	120	53.78	68.81	57.3
152	AK	Asoke	115-24 3 × 60 ×	180	76.94	98.94	55.0	3 × 60 ×	180	89.01	113.88	63.3
153	BT	Bangbuotong	115-24 3 × 60 ×	180	89.48	115.07	63.9	3 × 60 ×	180	80.99	103.62	57.6
154	BS	Banghuasae	115-24 3 × 60 ×	180	72.05	92.65	51.5	3 × 60 ×	180	81.62	104.43	58.0
155	BK	Bangkaew	115-24 2 × 60 ×	120	44.20	56.84	47.4	2 × 60 ×	120	49.86	63.79	53.2
156	PY	Banggleeyai	115-24 2 × 60 ×	120	61.76	79.42	66.2	2 × 60 ×	120	54.46	69.68	58.1
157	TD	Bangtalard	115-24 2 × 60 ×	120	58.14	74.77	62.3	2 × 60 ×	120	68.95	88.21	73.5
158	JB	Jorakaboo	115-24 3 × 60 ×	180	110.42	142.00	78.9	3 × 60 ×	180	104.67	133.92	74.4
159	KB	Klongbangpi	115-24 3 × 60 ×	180	70.83	91.09	50.6	3 × 60 ×	180	77.37	98.99	55.0
160	LA	Klongna	115-24 2 × 60 ×	120	47.80	61.47	51.2	2 × 60 ×	120	51.79	66.26	55.2
161	GP	Klongpune	115-24 2 × 60 ×	120	48.87	62.85	52.4	3 × 60 ×	180	90.56	115.87	64.4
162	KR	Krungtepkreeta	115-24 3 × 60 ×	180	89.16	114.66	63.7	3 × 60 ×	180	95.80	122.57	68.1
163	LH	Land & House	115-24 3 × 60 ×	180	82.77	106.44	59.1	3 × 60 ×	180	93.36	119.45	66.4
164	M8	Muangthong 8	115-24 2 × 60 ×	120	61.32	78.86	65.7	2 × 60 ×	120	68.83	88.06	73.3
165	M9	Muangthong 9	115-24 2 × 60 ×	120	54.38	69.93	58.3	2 × 60 ×	120	61.01	78.09	65.1
166	RL	Praramkao	115-24 2 × 60 ×	120	51.72	66.51	55.4	2 × 60 ×	120	59.84	76.56	63.8
167	RJ	Rajchaprarop	115-24 3 × 60 ×	180	88.30	113.55	63.1	3 × 60 ×	180	94.88	121.39	67.4
168	NP	Sanampao	115-24 2 × 60 ×	120	54.13	69.61	58.0	2 × 60 ×	120	66.55	85.15	71.0
169	ON	Sanamikom	115-24 2 × 60 ×	120	66.95	86.10	71.8	3 × 60 ×	180	89.93	115.06	63.9
170	OS	Songsunikom	115-24 2 × 60 ×	120	46.91	60.33	50.3	2 × 60 ×	120	65.00	83.16	69.3
171	IR	Srinakarin	115-24 2 × 60 ×	120	53.26	68.49	57.1	3 × 60 ×	180	80.52	103.02	57.2
172	LO	Thonglor	115-24 2 × 60 ×	120	48.63	62.54	52.1	2 × 60 ×	120	56.26	71.98	60.0
173	TU	Tungkru	115-24 2 × 60 ×	120	61.55	79.15	66.0	2 × 60 ×	120	66.69	85.32	71.1
174	WD	Watdeedod	69-24 2 × 60 ×	120	61.96	79.68	66.4	3 × 60 ×	180	68.38	87.49	48.6
175	GY	Bangkruay	115-24 × ×	0	0.00	0.00	0.0	2 × 60 ×	120	35.21	15.09	37.6
176	GG	Bangpang	115-24 × ×	0	0.00	0.00	0.0	2 × 60 ×	120	64.97	83.12	69.3
177	AA	Bangpla	115-24 × ×	0	0.00	0.00	0.0	2 × 60 ×	120	61.52	78.71	65.6
178	LD	Klongdan	115-24 × ×	0	0.00	0.00	0.0	2 × 60 ×	120	45.38	58.06	48.1
179	GT	Klonggratium	115-24 × ×	0	0.00	0.00	0.0	3 × 60 ×	180	80.89	103.19	57.5
180	LG	Luangpang	115-24 2 × 60 ×	120	54.47	70.05	58.4	2 × 60 ×	120	60.75	77.73	64.8

Appendix 6.3-2 Load and Installed Capacity of Distribution Substations (JICA Study Team Plan, Planning Year = 2001 - 2016)

No	ABB	Substation	Voltage (KV)	Bank configuration		2001 Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	Bank configuration		2006 Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
181	LS	Lumpagshe	115-24	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
182	NI	Nimitmai	115-24	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
183	NY	Nongyai	115-24	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
184	PL	Pinklao	115-24	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
185	PH	Pongpetch	115-24	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
186	PT	Puttamonton	115-24	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
187	RO	Rajchakru	115-24	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
188	RW	Rajdamri	115-24	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
189	AT	Satorntai	115-24	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
190	TL	Talingchan	115-24	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
191	TN	Tiamruammit	115-24	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
192	RN	Trimit	69-12	×	×	0	0.00	0.00	0.0	×	×	0	0.00	0.00	0.0
		Total				17,545	7,664.89	9,916.55	56.5			22,340	9,969.28	12,850.26	57.5

Diversity Factor		1.1825	1.1820
Power Factor		0.9140	0.9170
Number of Bank	a	341	404
Number of Substation	b	151	167
Ratio	a/b	2.2583	2.4192

Appendix 6.3-2 Load and Installed Capacity of Distribution Substations (JICA Study Team Plan, Planning Year = 2001 - 2016)

No	ABB	Substation	Voltage (KV)	Bank configuration	2011 Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	Bank configuration	2016 Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
181	LS	Lumpagshe	115-24	× ×	0	0.00	0.00	0.0	3 × 60 ×	180	107.79	137.91	76.6
182	NI	Nimitmai	115-24	2 × 60 ×	120	46.92	60.34	50.3	2 × 60 ×	120	65.01	83.18	69.3
183	NY	Nongyai	115-24	2 × 60 ×	120	50.23	64.60	53.8	2 × 60 ×	120	51.91	66.41	55.3
184	IL	Pinklao	115-24	3 × 60 ×	180	89.60	115.22	64.0	3 × 60 ×	180	109.32	139.86	77.7
185	PH	Pongpetch	115-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	64.32	82.29	68.6
186	PT	Puttamonton	115-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	57.10	73.05	60.9
187	RO	Rajchakru	115-24	2 × 60 ×	120	55.48	71.35	59.5	2 × 60 ×	120	68.22	87.28	72.7
188	RR	Rajdamri	115-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	52.88	67.66	56.4
189	AT	Satorntai	115-24	3 × 60 ×	180	77.51	99.68	55.4	3 × 60 ×	180	83.28	106.55	59.2
190	TL	Talingchan	115-24	× ×	0	0.00	0.00	0.0	2 × 60 ×	120	57.53	73.60	61.3
191	TN	Tiamruammit	115-24	2 × 60 ×	120	51.35	66.03	55.0	2 × 60 ×	120	59.11	76.01	63.3
192	RM	Trimit	69-12	3 × 40 ×	120	70.97	91.27	76.1	3 × 40 ×	120	60.50	77.10	64.5
		Total			26.700	12.645.85	16.262.11	60.9		29.240	14.873.67	19.029.65	65.1

Diversity Factor		1.1818	1.1818
Power Factor		0.9190	0.9237
Number of Bank	a	476	515
Number of Substation	b	182	192
Ratio	a/b	2.6154	2.6823

APPENDIX

for

CHAPTER 6

(6.3-3)

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	1996 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	1997 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
1	BB	Bangbon	69-12	3 × 40 ×	120	59.67	77.66	64.7	3 × 40 ×	120	46.41	60.27	50.2
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
2	BN	Bangchalong	115-24	1 × 60 ×	60	32.04	41.70	69.5	2 × 60 ×	120	64.63	83.87	69.9
3	BA	Bangkapi	69-12	2 × 40 ×	80	38.41	49.99	62.5	2 × 40 ×	80	28.47	36.95	46.2
			69-24	1 × 60 ×	60	21.93	28.54	47.6	1 × 60 ×	60	22.00	28.55	47.6
4	KA	Bangkhaen	115-24	1 × 60 ×	60	22.38	29.13	48.6	1 × 60 ×	60	27.15	35.23	58.7
5	BR	Bangkhunprom	69-12	3 × 40 ×	120	64.58	84.05	70.1	3 × 40 ×	120	61.47	79.77	66.5
6	BL	Bangklo	69-12	2 × 40 ×	80	38.55	50.18	62.7	1 × 40 ×	40	25.14	32.62	81.6
			69-24	× ×	0		0.00	0.0	1 × 40 ×	40	19.11	24.80	62.0
7	BO	Bangkok noi	69-12	1 × 40 ×	40	18.05	23.49	58.7	1 × 40 ×	40	18.52	24.03	60.1
			69-24	1 × 40 ×	40	19.08	24.83	62.1	1 × 60 ×	60	18.00	23.36	38.9
8	BC	Bangkrachao	69-12	2 × 10 ×	20	6.34	8.25	41.3	2 × 10 ×	20	6.88	8.93	44.6
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
9	BM	Bangmod	69-12	2 × (40) ×	80	39.40	51.28	64.1	2 × (40) ×	80	36.84	47.81	59.8
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
10	BG	Bangna	69-12	1 × 40 ×	40	14.02	18.25	45.6	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	21.04	27.38	68.5	2 × 40 ×	80	40.70	52.82	66.0
11	BJ	Bangnamjued	115-24	1 × 20 2 × 60	140	71.44	92.98	66.4	1 × 20 2 × 60	140	75.21	97.60	69.7
12	BI	Bangping	115-24	2 × 60 ×	120	69.22	90.09	75.1	2 × 60 ×	120	64.11	83.20	69.3
13	BK	Bangplakod	69-12	3 × (40) ×	120	57.74	75.15	62.6	3 × (40) ×	120	62.29	80.83	67.4
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
14	BP	Bangplee	69-24	2 × 60 ×	120	59.52	77.49	64.6	2 × 60 ×	120	51.63	67.00	55.8
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
15	PG	Bangpongpang	69-12	1 × 40 ×	40	22.00	28.63	71.6	1 × 40 ×	40	20.19	26.20	65.5
			69-24	1 × 60 ×	60	20.52	26.71	44.5	1 × 60 ×	60	28.00	36.34	60.6
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
16	BD	Bangpood	69-24	2 × 60 ×	120	52.76	68.67	57.2	× ×	0		0.00	0.0
			115-24	× ×	0		0.00	0.0	2 × 60 ×	120	49.14	63.77	53.1
17	BU	Bangpu	115-24	2 × 40 ×	80	51.05	66.44	83.1	2 × 40 ×	80	46.51	60.36	75.5
18	RY	Bangrakyai	115-24	2 × 60 ×	120	39.35	51.22	42.7	2 × 60 ×	120	42.23	54.80	45.7
19	BS	Bangsaotong	115-24	1 × 60 ×	60	28.69	37.34	62.2	1 × 60 ×	60	31.76	41.22	68.7
20	BY	Bangyeekhan	69-12	2 × 40 ×	80	37.59	48.93	61.2	1 × 40 ×	40	22.13	28.72	71.8
			69-24	× ×	0		0.00	0.0	1 × 40 ×	40	22.00	28.55	71.1
21	CG	Chalongkrung	115-24	1 × 60 ×	60	29.30	38.14	63.6	1 × 60 ×	60	35.29	45.80	76.3
22	CK	Chankasem	69-12	2 × 40 ×	80	38.20	49.72	62.2	2 × 40 ×	80	29.81	38.68	48.4
			69-24	1 × 60 ×	60	15.99	20.81	34.7	1 × 60 ×	60	31.85	41.33	68.9
23	CL	Chidlom	230-12	2 × 50 ×	100	50.33	65.51	65.5	2 × 50 ×	100	59.42	77.11	77.1
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
24	DN	Donmuang	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 40 1 × 60	140	44.80	58.31	41.7	2 × 40 1 × 60	140	45.13	58.57	41.8
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
25	HK	Huaykwang	69-24	2 × 60 ×	120	46.71	60.30	50.7	2 × 60 ×	120	48.73	63.21	52.7
26	KP	Kingpetch	69-12	3 × (40) ×	120	50.61	65.87	54.9	3 × (40) ×	120	53.59	69.54	58.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
27	KJ	Klongjan	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	1 × 40 2 × 60	160	69.29	90.18	56.4	1 × 40 2 × 60	160	63.82	82.82	51.8

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	1998 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	1999 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
1	BB	Bangbon	69-12	3 × 40 ×	120	49.18	63.77	53.1	2 × 40 ×	80	31.15	40.36	50.5
			69-24	× ×	0		0.00	0.0	1 × 40 ×	40	26.35	34.14	85.4
2	BN	Bangchalong	115-24	2 × 60 ×	120	67.21	87.15	72.6	2 × 60 ×	120	61.90	80.21	66.8
3	BA	Bangkapi	69-12	2 × 40 ×	80	29.00	37.61	47.0	2 × 40 ×	80	30.59	39.64	49.6
			69-24	1 × 60 ×	60	23.49	30.46	50.8	1 × 60 ×	60	24.00	31.10	51.8
4	KA	Bangkhuen	115-24	1 × 60 ×	60	28.24	36.62	61.0	2 × 60 ×	120	33.05	42.82	35.7
5	BR	Bangkhunprom	69-12	3 × 40 ×	120	62.70	81.30	67.8	3 × 40 ×	120	64.90	84.09	70.1
6	BL	Bangklo	69-12	1 × 40 ×	40	17.00	22.04	55.1	1 × 40 ×	40	17.00	22.03	55.1
			69-24	1 × 40 ×	40	20.29	26.31	65.8	1 × 40 ×	40	21.78	28.22	70.6
7	BO	Bangkok noi	69-12	1 × 40 ×	40	19.94	25.86	64.6	1 × 40 ×	40	20.17	26.14	65.3
			69-24	1 × 60 ×	60	22.00	28.53	47.6	1 × 60 ×	60	23.66	30.66	51.1
8	BC	Bangkrachao	69-12	2 × 10 ×	20	7.16	9.28	46.4	2 × 10 ×	20	7.45	9.65	48.3
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
9	BM	Bangmod	69-12	2 × (40) ×	80	38.31	49.68	62.1	2 × (40) ×	80	25.85	33.19	41.9
			69-24	× - ×	0		0.00	0.0	1 × 60 ×	60	20.00	25.91	43.2
10	BG	Bangna	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 40 ×	80	43.65	56.60	70.8	2 × 40 ×	80	46.67	60.47	75.6
11	BJ	Bangnamjued	115-24	1 × 20 2 × 60	140	85.61	111.01	79.3	1 × 20 2 × 60	140	85.16	110.31	78.8
12	BI	Bangping	115-24	2 × 60 ×	120	70.87	91.90	76.6	2 × 60 ×	120	73.74	95.55	79.6
13	BK	Bangplakod	69-12	3 × (40) ×	120	57.42	74.46	62.1	3 × (40) ×	120	61.57	79.78	66.5
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
14	BP	Bangplee	69-24	2 × 60 ×	120	53.70	69.63	58.0	2 × 60 ×	120	55.85	72.37	60.3
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
15	PG	Bangpongpang	69-12	1 × 40 ×	40	19.12	24.79	62.0	× ×	0		0.00	0.0
			69-24	1 × 60 ×	60	30.00	38.90	64.8	× ×	0		0.00	0.0
			115-24	× ×	0		0.00	0.0	2 × 60 ×	120	51.12	66.24	55.2
16	BD	Bangpood	69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	2 × 60 ×	120	51.11	66.28	55.2	2 × 60 ×	120	53.15	68.87	57.4
17	BU	Bangpu	115-24	2 × 40 ×	80	48.37	62.72	78.4	2 × 40 ×	80	50.31	65.19	81.5
18	RY	Bangrakyai	115-24	2 × 60 ×	120	44.08	57.16	47.6	2 × 60 ×	120	48.84	63.28	52.7
19	BS	Bangsaotong	115-24	1 × 60 ×	60	33.03	42.83	71.4	1 × 60 ×	60	34.35	44.51	74.2
20	BY	Bangyeekhan	69-12	1 × 40 ×	40	21.70	28.14	70.4	1 × 40 ×	40	21.30	27.60	69.0
			69-24	1 × 40 ×	40	24.00	31.12	77.8	1 × 40 ×	40	27.02	35.01	87.5
21	CG	Chalongkrung	115-24	1 × 60 ×	60	30.70	39.81	66.4	1 × 60 ×	60	31.93	41.37	69.0
22	CK	Chankasem	69-12	2 × 40 ×	80	31.67	41.07	51.3	1 × 40 ×	40	16.59	21.50	53.7
			69-24	1 × 60 ×	60	33.13	42.96	71.6	1 × 60 1 × 40	100	48.80	63.23	63.2
23	CL	Chidlom	230-12	2 × 50 ×	100	61.80	80.14	80.1	2 × 50 ×	100	63.69	82.53	82.5
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
24	DN	Donmuang	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	3 × 60 ×	180	46.94	60.87	33.8	3 × 60 ×	180	48.81	63.21	35.1
25	HK	Huaykwang	69-24	2 × 60 ×	120	51.67	67.00	55.8	2 × 60 ×	120	53.91	69.89	58.2
26	KP	Kingpetch	69-12	3 × (40) ×	120	58.81	76.26	63.6	3 × (40) ×	120	65.16	81.13	70.4
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
27	KJ	Klongjan	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	1 × 40 2 × 60	160	55.91	72.50	45.3	1 × 40 2 × 60	160	52.99	68.66	42.9

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	2000 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2001 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
1	BB	Bangbon	69-12	2 × 40 ×	80	35.32	45.78	57.2	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	25.00	32.40	81.0	3 × 40 ×	120	64.08	82.90	69.1
2	BN	Bangchalong	115-24	2 × 60 ×	120	63.76	82.64	68.9	2 × 60 ×	120	65.67	81.96	70.8
3	BA	Bangkapi	69-12	2 × 40 ×	80	36.22	46.95	58.7	2 × 40 ×	80	34.49	41.62	55.8
			69-24	1 × 60 ×	60	30.00	38.89	64.8	1 × 60 ×	60	33.72	43.63	72.7
4	KA	Bangkhaen	115-24	2 × 60 ×	120	36.98	47.93	39.9	2 × 60 ×	120	36.94	47.79	39.8
5	BR	Bangkhunprom	69-12	3 × 40 ×	120	66.75	86.52	72.1	3 × 40 ×	120	56.50	73.10	60.9
6	BL	Bangklo	69-12	1 × 40 ×	40	17.50	22.68	56.7	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	22.45	29.10	72.8	2 × 40 ×	80	41.15	53.24	66.6
7	BO	Bangkok noi	69-12	1 × 40 ×	40	19.97	25.88	64.7	1 × 40 ×	40	18.72	24.22	60.5
			69-24	1 × 60 ×	60	25.00	32.40	54.0	1 × 60 ×	60	27.60	35.71	59.5
8	BC	Bangkrachao	69-12	2 × 10 ×	20	8.67	11.24	56.2	2 × 10 ×	20	8.93	11.55	57.8
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
9	BM	Bangmod	69-12	2 × (40) ×	80	41.22	53.43	66.8	2 × (40) ×	80	39.53	51.14	63.9
			69-24	1 × 60 ×	60	28.00	36.29	60.5	1 × 60 ×	60	31.77	41.10	68.5
10	BG	Bangna	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 40 ×	80	40.27	52.20	65.3	2 × 40 ×	80	41.27	53.39	66.7
11	BJ	Bangnamjued	115-24	1 × 20 2 × 60	140	75.17	97.43	69.6	1 × 20 2 × 60	140	70.52	91.24	65.2
12	BI	Bangping	115-24	2 × 60 ×	120	63.63	82.48	68.7	2 × 60 ×	120	66.57	86.13	71.8
13	BK	Bangplakod	69-12	3 × (40) ×	120	63.51	82.32	68.6	3 × (40) ×	120	68.51	88.64	73.9
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
14	BP	Bangplee	69-24	2 × 60 ×	120	57.52	74.56	62.1	2 × 60 ×	120	59.25	76.66	63.9
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
15	PG	Bangpongpang	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	2 × 60 ×	120	52.69	68.30	56.9	2 × 60 ×	120	55.30	71.55	59.6
16	BD	Bangpood	69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	2 × 60 ×	120	54.75	70.97	59.1	2 × 60 ×	120	48.00	62.10	51.8
17	BU	Bangpu	115-24	2 × 40 ×	80	47.81	61.97	77.5	2 × 40 ×	80	49.25	63.72	79.7
18	RY	Bangrakyai	115-24	2 × 60 ×	120	50.22	65.09	54.2	2 × 60 ×	120	42.27	51.69	45.6
19	BS	Bangsaotong	115-24	1 × 60 ×	60	31.38	40.67	67.8	1 × 60 ×	60	32.32	41.81	69.7
20	BY	Bangyeekhan	69-12	1 × 40 ×	40	18.00	23.33	58.3	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	29.59	38.35	95.9	2 × 40 ×	80	40.78	52.76	66.0
21	CG	Chalongkrung	115-24	1 × 60 ×	60	32.88	42.62	71.0	1 × 60 ×	60	33.87	43.82	73.0
22	CK	Chankasem	69-12	1 × 40 ×	40	17.09	22.15	55.4	1 × 40 ×	40	17.60	22.77	56.9
			69-24	1 × 60 1 × 40	100	49.33	63.94	63.9	1 × 40 1 × 60	100	53.90	69.73	69.7
23	CL	Chidlom	230-12	2 × 50 ×	100	65.60	85.03	85.0	2 × 50 ×	100	67.57	87.12	87.4
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
24	DN	Donsuang	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	3 × 60 ×	180	50.28	65.17	36.2	3 × 60 ×	180	51.79	67.00	37.2
25	HK	Huaykwang	69-24	2 × 60 ×	120	55.71	72.21	60.2	3 × 60 ×	180	71.53	96.12	53.6
26	KP	Kingpetch	69-12	3 × (40) ×	120	67.12	87.00	72.5	2 × (40) ×	80	41.91	54.26	67.8
			69-24	× ×	0		0.00	0.0	1 × 60 ×	60	27.19	35.18	58.6
27	KJ	Klongjan	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	1 × 40 2 × 60	160	54.58	70.75	44.2	1 × 40 2 × 60	160	56.22	72.71	45.5

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	1996 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	1997 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
28	KN	Klongnai	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	16.69	21.72	54.3	1 × 40 ×	40	18.93	24.57	61.4
29	SC	Klongsanamchai	69-12	1 × 40 ×	40	27.74	36.11	90.3	1 × 40 1 × (40)	80	40.79	52.93	66.2
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
30	KS	Klongsanpasawit	69-12	2 × 20 1 × 40	80	39.95	52.00	65.0	2 × 20 1 × 40	80	49.11	63.73	79.7
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
31	KN	Klongsarn	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 40 ×	80	43.23	56.27	70.3	2 × 40 ×	80	43.61	56.59	70.7
32	KT	Klongtoey	69-12	2 × 40 ×	80	39.29	51.14	63.9	2 × 40 ×	80	31.19	40.18	50.6
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
33	KG	Klongwatsing	69-12	2 × (40) ×	80	29.39	38.25	47.8	2 × (40) ×	80	30.42	39.48	49.4
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
34	KU	Krunai	69-12	1 × 40 1 × (40)	80	39.65	51.61	64.5	1 × 40 1 × (40)	80	31.92	41.42	51.8
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
35	LK	Lardplakao	115-24	1 × 60 ×	60	24.88	32.38	54.0	1 × 60 ×	60	28.15	36.53	60.9
36	LP	Lardprao	69-12	2 × 20 ×	40	26.93	35.05	87.6	2 × (40) ×	80	32.70	42.44	53.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
37	LM	Lumpini	69-12	4 × 40 ×	160	85.39	111.14	69.5	4 × 40 ×	160	87.55	113.61	71.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
38	MN	Mahaisawan	69-12	2 × 40 ×	80	16.00	20.83	26.0	2 × 40 ×	80	17.57	22.80	28.5
			69-24	1 × 60 ×	60	20.14	26.21	43.7	1 × 60 ×	60	23.75	30.82	51.4
39	MM	Mahamek	69-12	2 × 40 1 × (40)	120	54.16	70.49	58.7	2 × 40 1 × (40)	120	64.35	83.51	69.6
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
40	MA	Mai-ad	69-12	2 × 40 ×	80	39.64	51.59	64.5	2 × 40 ×	80	43.11	55.94	69.9
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
41	MS	Makasan	69-12	2 × 40 ×	80	53.14	69.16	86.5	2 × 40 1 × (40)	120	67.22	87.23	72.7
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
42	NB	Ninburi	115-24	2 × 60 ×	120	52.90	68.85	57.4	2 × 60 ×	120	50.76	65.87	54.9
43	NC	Nochit	69-12	2 × 40 1 × (40)	120	44.52	57.95	48.3	2 × 40 1 × (40)	120	45.22	58.68	48.9
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
44	NG	Nuangnain	115-24	2 × 60 ×	120	59.63	77.61	64.7	2 × 60 ×	120	55.31	71.78	59.8
45	NI	Nuangthong 1	115-24	1 × 60 ×	60	41.64	54.20	90.3	2 × 60 ×	120	50.67	65.75	54.8
46	NN	Na-na	69-12	1 × (40) ×	40	14.79	19.25	48.1	1 × (40) ×	40	16.00	20.76	51.9
			69-24	2 × 60 ×	120	17.18	22.36	18.6	2 × 60 ×	120	23.35	30.30	25.3
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
47	NU	Nongkham	69-12	1 × 40 ×	40	22.00	28.63	71.6	1 × 40 ×	40	24.05	31.21	78.0
			69-24	1 × 60 ×	60	24.24	31.55	52.6	1 × 60 ×	60	25.00	32.44	54.1
48	NR	Nonthaburi	69-12	2 × 20 1 × 40	80	48.81	63.53	79.4	2 × 20 1 × 40	80	40.32	52.32	65.4
			115-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
49	NK	North Bangkok	69-12	2 × 20 ×	40	13.70	17.83	44.6	× ×	0		0.00	0.0
			69-24	3 × 40 ×	120	17.11	22.27	18.6	3 × 40 ×	120	32.94	42.75	35.6
50	PE	Pakkred	69-12	2 × 40 ×	80	38.36	49.93	62.4	× ×	0		0.00	0.0
			69-24	1 × 60 ×	60	35.60	46.34	77.2	× ×	0		0.00	0.0
			115-12	× ×	0		0.00	0.0	1 × 40 ×	40	23.00	29.85	74.6

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	Bank configuration	1998 Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	Bank configuration	1999 Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
28	KM	Klongmai	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	22.69	29.42	73.6	1 × 40 ×	40	23.60	30.58	76.5
29	SC	Klongsamanchai	69-12	1 × 40 1 × (40)	80	42.42	55.01	68.8	1 × 40 ×	40	15.55	20.15	50.1
			69-24	× ×	0		0.00	0.0	1 × 60 ×	60	26.22	33.97	56.6
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
30	KS	Klongsanpasamit	69-12	2 × 20 1 × 40	80	52.07	67.52	84.4	2 × 20 1 × 40	80	44.91	58.19	72.7
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
31	KN	Klongsarn	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 40 ×	80	45.36	58.82	73.5	2 × 40 ×	80	47.17	61.12	76.4
32	KT	Klongtoey	69-12	1 × 40 ×	40	14.44	18.72	46.8	1 × 40 ×	40	15.00	19.44	48.6
			69-24	1 × 40 ×	40	20.00	25.93	64.8	1 × 40 ×	40	20.82	26.98	67.4
33	KG	Klongwatsing	69-12	2 × (40) ×	80	32.63	42.31	52.9	2 × (40) ×	80	41.06	53.20	66.5
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
34	KU	Krunai	69-12	1 × 40 1 × (40)	80	33.20	43.05	53.8	1 × 40 1 × (40)	80	34.53	44.74	55.9
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
35	LK	Lardplakao	115-24	1 × 60 ×	60	25.08	32.52	54.2	1 × 60 ×	60	35.04	45.40	75.7
36	LP	Lardprao	69-12	2 × (40) ×	80	33.56	43.52	54.4	1 × (40) ×	40	11.90	19.31	48.3
			69-24	× ×	0		0.00	0.0	1 × 60 ×	60	20.00	25.91	43.2
37	LN	Lumpini	69-12	4 × 40 ×	160	91.04	118.05	73.8	4 × 40 ×	160	94.68	122.68	76.7
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
38	MN	Mahaisawan	69-12	2 × 40 ×	80	18.07	23.43	29.3	2 × 40 ×	80	18.60	24.10	30.1
			69-24	1 × 60 ×	60	24.70	32.03	53.4	1 × 60 ×	60	25.69	33.29	55.5
39	MM	Mahamek	69-12	2 × 40 1 × (40)	120	66.93	86.79	72.3	2 × 40 1 × (40)	120	69.61	90.20	75.2
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
40	MA	Mai-ad	69-12	2 × 40 ×	80	38.71	50.20	62.8	2 × 40 ×	80	40.26	52.17	65.2
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
41	MS	Makasan	69-12	2 × 40 1 × (40)	120	69.91	90.65	75.5	2 × 40 1 × (40)	120	72.71	94.21	78.5
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
42	NB	Nimburi	115-24	2 × 60 ×	120	39.96	51.82	43.2	2 × 60 ×	120	40.71	52.75	44.0
43	NC	Nochit	69-12	2 × 40 1 × (40)	120	45.41	58.88	49.1	2 × 40 1 × (40)	120	47.52	61.57	51.3
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
44	NG	Nuangnain	115-24	2 × 60 ×	120	51.69	67.03	55.9	2 × 60 ×	120	53.76	69.66	58.1
45	NT	Nuangthong 1	115-24	2 × 60 ×	120	56.86	73.73	61.4	2 × 60 ×	120	57.13	71.03	61.7
46	NN	Na-na	69-12	1 × (40) ×	40	16.35	21.20	53.0	1 × (40) ×	40	16.56	21.46	53.6
			69-24	2 × 60 ×	120	24.57	31.86	26.6	2 × 60 ×	120	26.00	33.69	28.1
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
47	NH	Nongkham	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 60 ×	120	47.99	62.23	51.9	2 × 60 ×	120	49.71	64.41	53.7
48	NR	Nonthaburi	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-12	1 × 40 ×	40	21.58	27.98	70.0	1 × 40 ×	40	22.44	29.08	72.7
			115-24	1 × 60 ×	60	20.36	26.40	44.0	1 × 60 ×	60	29.17	37.80	63.0
49	NK	North Bangkok	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	3 × 40 ×	120	34.26	44.43	37.0	3 × 40 ×	120	35.63	16.17	38.5
50	PE	Pakkred	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-12	1 × 40 ×	40	20.60	26.71	66.8	1 × 40 ×	40	21.29	27.59	69.0

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	2000 Bank configuration	2000 Capacity (MVA)	2000 coincident (MW)	2000 non-coinci (MVA)	2000 utilization factor (%)	2001 Bank configuration	2001 Capacity (MVA)	2001 coincident (MW)	2001 non-coinci (MVA)	2001 utilization factor (%)
28	KM	Klongmai	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 60 ×	120	34.30	44.46	37.1	2 × 60 ×	120	43.33	56.06	46.7
29	SC	Klongsanamchai	69-12	1 × 40 ×	40	16.02	20.77	51.9	1 × 40 ×	40	16.49	21.33	53.3
			69-24	1 × 60 ×	60	27.00	35.00	58.3	1 × 60 ×	60	27.82	35.99	60.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
30	KS	Klongsanpasamit	69-12	2 × 20 1 × 40	80	46.26	59.96	75.0	2 × 20 1 × 40	80	47.85	61.65	77.1
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
31	KN	Klongsarn	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 40 ×	80	42.59	55.20	69.0	2 × 40 ×	80	43.86	56.74	70.9
32	KT	Klongtoey	69-12	1 × 40 ×	40	14.89	19.30	48.3	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	22.00	28.52	71.3	2 × 40 ×	80	38.00	49.16	61.5
33	WG	Klongwatsing	69-12	2 × (40) ×	80	43.94	56.95	71.2	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	2 × 60 ×	120	43.20	55.89	46.6
34	KU	Krunai	69-12	1 × 40 1 × (40)	80	35.57	46.10	57.6	1 × 40 1 × (40)	80	36.63	47.39	59.2
			69-24	× – ×	0		0.00	0.0	× ×	0		0.00	0.0
35	LK	Lardplakao	115-24	1 × 60 ×	60	35.85	46.47	77.5	1 × 60 ×	60	21.69	31.94	53.2
36	LP	Lardprao	69-12	1 × (40) ×	40	15.45	20.03	50.1	2 × (40) ×	80	30.67	39.68	49.6
			69-24	1 × 60 ×	60	20.50	26.57	44.3	1 × 60 ×	60	18.36	23.75	39.6
37	LN	Lumpini	69-12	4 × 40 ×	160	97.52	126.40	79.0	1 × 40 ×	40	22.38	28.95	72.4
			69-24	× ×	0		0.00	0.0	2 × 40 1 × 60	140	71.70	92.76	66.3
38	MN	Mahaisawan	69-12	1 × 40 ×	40	14.47	18.76	46.9	× ×	0		0.00	0.0
			69-24	1 × 60 1 × 40	100	36.82	47.73	47.7	2 × 40 1 × 60	140	62.04	80.27	57.3
39	MM	Mahamek	69-12	2 × 40 1 × (40)	120	71.70	92.94	77.5	× ×	0		0.00	0.0
			115-24	× ×	0		0.00	0.0	3 × 60 ×	180	73.85	95.51	53.1
40	MA	Mai-ad	69-12	2 × 40 ×	80	41.47	53.75	67.2	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	2 × 40 ×	80	42.71	55.26	69.1
41	MS	Makasan	69-12	2 × 40 1 × (40)	120	64.09	83.07	69.2	2 × 40 ×	80	41.99	54.33	67.9
			69-24	× ×	0		0.00	0.0	1 × 60 ×	60	28.85	37.33	62.2
42	MB	Minburi	115-24	2 × 60 ×	120	40.08	51.95	43.3	2 × 60 ×	120	52.13	67.44	56.2
43	MC	Mochit	69-12	2 × 40 1 × (40)	120	50.50	65.46	54.6	2 × 40 1 × (40)	120	63.31	81.95	68.3
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
44	MG	Muangmain	115-24	2 × 60 ×	120	55.37	71.77	59.8	2 × 60 ×	120	57.04	73.80	61.5
45	MT	Muangthong 1	115-24	2 × 60 ×	120	60.85	78.87	65.7	2 × 60 ×	120	59.31	76.73	63.9
46	NN	Na-na	69-12	1 × (40) ×	40	17.00	22.04	55.1	1 × (40) ×	40	16.99	21.98	55.0
			69-24	2 × 60 ×	120	26.84	34.79	29.0	2 × 60 ×	120	28.16	36.43	30.4
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
47	NK	Nongkham	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 60 ×	120	52.05	67.47	56.2	2 × 60 ×	120	59.55	77.01	64.2
48	NR	Nonthaburi	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-12	1 × 40 ×	40	19.11	24.77	61.9	× ×	0		0.00	0.0
			115-24	1 × 60 ×	60	45.05	58.39	97.3	2 × 60 ×	120	65.05	81.16	70.1
49	NK	North Bangkok	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	3 × 40 ×	120	40.70	52.75	44.0	3 × 40 ×	120	11.92	51.21	15.2
50	PK	Pakkred	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	1996 Bank configuration	1996 Capacity (MVA)	1996 coincident (MW)	1996 non-coinci (MVA)	1996 utilization factor (%)	1997 Bank configuration	1997 Capacity (MVA)	1997 coincident (MW)	1997 non-coinci (MVA)	1997 utilization factor (%)
			115-24	× ×	0		0.00	0.0	2 × 60 ×	120	40.14	52.09	43.4
51	PN	Paknam	115-24	2 × 40 ×	80	48.81	63.53	79.4	2 × 40 ×	80	52.91	68.70	85.9
52	PS	Petchkasem	69-12	1 × 40 2 × 22.4	84.8	44.76	58.26	68.7	1 × 40 2 × 22.4	84.8	49.67	61.46	76.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
53	PI	Phaisingto	69-12	1 × 40 ×	40	20.86	27.15	67.9	1 × 40 ×	40	18.43	23.92	59.8
			69-24	2 × 60 ×	120	48.00	62.47	52.1	2 × 60 ×	120	59.79	77.59	64.7
54	PJ	Poojao	69-12	3 × 40 ×	120	63.12	82.15	68.5	3 × 40 ×	120	59.77	77.56	64.6
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
55	PC	Prachachuen	69-12	2 × 40 ×	80	38.35	49.91	62.4	2 × 40 ×	80	40.20	52.17	65.2
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
56	PK	Prakanong	69-12	2 × 40 ×	80	42.86	55.78	69.7	2 × 40 ×	80	43.11	55.94	69.9
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
57	PR	Prakasa	115-24	2 × 40 1 × 60	140	67.15	87.40	62.4	2 × 40 1 × 60	140	59.64	77.39	55.3
58	PO	Prannok	69-12	2 × 40 ×	80	41.09	53.48	66.9	2 × 40 ×	80	45.73	59.34	74.2
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
59	PD	Prapradaeng	69-12	3 × 40 ×	120	58.20	75.75	63.1	3 × 40 ×	120	50.74	65.85	54.9
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
60	PA	Prasanmit	69-12	3 × 40 ×	120	61.15	79.59	66.3	3 × 40 ×	120	50.45	65.47	54.6
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
61	PN	Prathumwan	69-12	3 × 40 ×	120	65.10	84.73	70.6	3 × 40 ×	120	65.71	85.27	71.1
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
62	RT	Ramintra	115-24	2 × 60 ×	120	40.57	52.80	44.0	2 × 60 ×	120	43.54	56.50	47.1
63	RK	Rankhamhaeng	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 40 1 × 60	140	52.12	67.84	48.5	2 × 40 1 × 60	140	55.06	71.45	51.0
64	RN	Rasburana	69-12	3 × 40 ×	120	60.12	78.25	65.2	3 × 40 ×	120	64.85	84.16	70.1
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
65	RK	Roaklao	115-24	2 × 60 ×	120	55.73	72.54	60.5	2 × 60 ×	120	57.60	74.75	62.3
66	RC	Rungpracha	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	3 × 60 ×	180	65.00	84.60	47.0	3 × 60 ×	180	71.40	92.66	51.5
67	SN	Sailom	69-12	2 × 40 ×	80	45.29	58.95	73.7	2 × 40 ×	80	38.96	50.56	63.2
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
68	SR	Samrong	69-12	2 × 40 ×	80	20.00	26.03	32.5	2 × 40 ×	80	19.15	24.85	31.1
			69-24	1 × 60 ×	60	19.19	24.98	41.6	1 × 60 ×	60	20.00	25.95	43.3
69	SN	Samsen	69-12	3 × 40 ×	120	59.22	77.08	64.2	3 × 40 ×	120	62.36	80.92	67.4
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
70	SS	Sansab	69-12	1 × 40 ×	40	16.44	21.40	53.5	1 × 40 ×	40	19.92	25.85	64.6
			69-24	2 × 40 ×	80	38.95	50.70	63.4	2 × 40 ×	80	45.69	59.29	74.1
71	SD	Sapandam	69-12	4 × 40 ×	160	85.96	111.88	69.9	4 × 40 ×	160	88.59	114.96	71.9
72	SP	Sapannai	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 60 ×	120	51.70	67.29	56.1	2 × 60 ×	120	46.31	60.10	50.1
73	SL	Silom	69-12	2 × 40 ×	80	42.44	55.24	69.1	2 × 40 ×	80	50.30	65.27	81.6
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
74	SY	Sipraya	69-12	2 × 40 ×	80	41.06	53.44	66.8	2 × 40 ×	80	41.35	53.66	67.1
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
75	SV	Soonvijai	69-12	1 × 40 ×	40	16.95	22.06	55.2	1 × 40 ×	40	22.56	29.28	73.2
			69-24	2 × 60 ×	120	43.43	56.53	47.1	2 × 60 ×	120	45.39	58.90	49.1

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	1998 Bank configuration					Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	1999 Bank configuration					Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
			115-24	2	×	60	×		120	44.66	57.91	48.3	2	×	60	×		120	47.00	60.90	50.8
51	PN	Paknam	115-24	2	×	40	×		80	54.86	71.14	88.9	2	×	40	×		80	54.85	71.07	88.8
52	PS	Petchkasem	69-12	1	×	40	2 ×	22.4	84.8	51.66	66.99	79.0	1	×	40	2 ×	22.4	84.8	53.72	69.61	82.1
			69-24		×		×		0		0.00	0.0		×		×		0		0.00	0.0
53	PI	Phaisingto	69-12	1	×	40	×		40	19.17	24.86	62.2	1	×	40	×		40	19.94	25.84	64.6
			69-24	2	×	60	×		120	52.18	67.66	56.4	2	×	60	×		120	54.67	70.84	59.0
54	PJ	Poojao	69-12	3	×	40	×		120	62.16	80.60	67.2	3	×	40	×		120	64.65	83.77	69.8
			69-24		×		×		0		0.00	0.0		×		×		0		0.00	0.0
55	PC	Prachachuen	69-12	2	×	40	×		80	34.11	44.23	55.3	2	×	40	×		80	35.46	45.95	57.4
			69-24		×		×		0		0.00	0.0		×		×		0		0.00	0.0
56	PK	Prakanong	69-12	1	×	40	×		40	25.00	32.42	81.1	1	×	40	×		40	28.77	37.28	93.2
			69-24	1	×	40	×		40	25.26	32.76	81.9	1	×	40	×		40	29.50	38.22	95.6
57	PR	Prakasa	115-24	2	×	40	1 ×	60	140	61.03	79.14	56.5	2	×	40	1 ×	60	140	63.51	82.29	58.8
58	PO	Prannok	69-12	2	×	40	×		80	47.56	61.67	77.1	2	×	40	×		80	49.46	64.09	80.1
			69-24		×		×		0		0.00	0.0		×		×		0		0.00	0.0
59	PD	Prapradaeng	69-12	3	×	40	×		120	55.01	71.33	59.4	3	×	40	×		120	49.76	64.48	53.7
			69-24		×		×		0		0.00	0.0		×		×		0		0.00	0.0
60	PA	Prasanait	69-12	2	×	40	×		80	41.79	54.19	67.7	2	×	40	×		80	41.00	53.13	66.4
			69-24	1	×	40	×		40	21.08	27.34	68.3	1	×	40	×		40	24.38	31.59	79.0
61	PN	Prathuwan	69-12	3	×	40	×		120	54.58	70.77	59.0	3	×	40	×		120	65.16	84.43	70.4
			69-24		×		×		0		0.00	0.0		×		×		0		0.00	0.0
62	RT	Ramintra	115-24	2	×	60	×		120	45.36	58.82	49.0	2	×	60	×		120	46.26	59.94	50.0
63	RH	Rankhamhaeng	69-12		×		×		0		0.00	0.0		×		×		0		0.00	0.0
			69-24	2	×	40	1 ×	60	140	55.14	71.50	51.1	2	×	40	1 ×	60	140	57.30	74.25	53.0
64	RN	Rasburana	69-12	3	×	40	×		120	69.52	90.15	75.1	3	×	40	×		120	72.30	93.68	78.1
			69-24		×		×		0		0.00	0.0		×		×		0		0.00	0.0
65	RK	Rosklao	115-24	2	×	60	×		120	59.43	77.06	64.2	2	×	60	×		120	62.36	80.80	67.3
66	RC	Rungpracha	69-12		×		×		0		0.00	0.0		×		×		0		0.00	0.0
			69-24	3	×	60	×		180	72.33	93.79	52.1	3	×	60	×		180	74.47	96.19	53.6
67	SM	Sailom	69-12	2	×	40	×		80	38.71	50.20	62.8	2	×	40	×		80	40.54	52.53	65.7
			69-24		×		×		0		0.00	0.0		×		×		0		0.00	0.0
68	SR	Samrong	69-12	2	×	40	×		80	22.52	29.20	36.5	1	×	40	×		40	12.00	15.55	38.9
			69-24	1	×	60	×		60	11.00	14.26	23.8	2	×	60	×		120	29.82	38.64	32.2
69	SN	Sansen	69-12	3	×	40	×		120	65.05	84.35	70.3	3	×	40	×		120	67.87	87.94	73.3
			69-24		×		×		0		0.00	0.0		×		×		0		0.00	0.0
70	SS	Sansab	69-12	1	×	40	×		40	20.71	26.86	67.1	1	×	40	×		40	21.54	27.91	69.8
			69-24	2	×	40	×		80	41.52	53.84	67.3	2	×	40	×		80	43.18	55.95	69.9
71	SD	Supandam	69-12	4	×	40	×		160	93.52	121.27	75.8	4	×	40	×		160	96.72	125.32	78.3
72	SP	Supanmai	69-12		×		×		0		0.00	0.0		×		×		0		0.00	0.0
			69-24	2	×	60	×		120	48.16	62.45	52.0	2	×	60	×		120	50.09	64.90	54.1
73	SL	Silom	69-12	2	×	40	×		80	47.31	61.35	76.7	2	×	40	×		80	46.40	60.12	75.2
			69-24		×		×		0		0.00	0.0		×		×		0		0.00	0.0
74	SY	Sipraya	69-12	2	×	40	×		80	42.21	54.73	68.4	2	×	40	×		80	39.79	51.56	64.5
			69-24		×		×		0		0.00	0.0		×		×		0		0.00	0.0
75	SV	Soonvijai	69-12	1	×	40	×		40	23.47	30.43	76.1	1	×	40	×		40	25.40	32.91	82.3
			69-24	2	×	60	×		120	47.21	61.22	51.0	2	×	60	×		120	52.10	67.51	56.3

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	2000 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2001 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
			115-24	3 × 60 ×	180	70.34	91.17	50.7	3 × 60 ×	180	72.45	93.73	52.1
51	PN	Paknam	115-24	2 × 40 ×	80	56.35	73.04	91.3	3 × 60 ×	180	50.89	65.84	36.6
52	PS	Petchkasem	69-12	1 × 40 2 × 22.4	84.8	41.34	53.58	63.2	2 × 22.4 ×	44.8	25.74	33.30	74.3
			69-24	× ×	0		0.00	0.0	1 × 40 ×	40	16.84	21.79	54.5
53	PI	Phaisingto	69-12	1 × 40 ×	40	17.15	22.23	55.6	× ×	0		0.00	0.0
			69-24	2 × 60 ×	120	70.00	90.73	75.6	3 × 60 ×	180	89.76	116.13	64.5
54	PJ	Poojao	69-12	3 × 40 ×	120	69.59	90.20	75.2	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	3 × 40 ×	120	76.82	99.39	82.8
55	PC	Prachachuen	69-12	2 × 40 ×	80	36.54	47.36	59.2	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	1 × 40 1 × 60	100	37.63	48.68	48.7
56	PK	Prakanong	69-12	1 × 40 ×	40	28.68	37.17	92.9	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	27.34	35.44	88.6	2 × 40 ×	80	40.19	52.00	65.0
57	PR	Prakasa	115-24	2 × 40 1 × 60	140	65.44	84.82	60.6	2 × 40 1 × 60	140	68.41	88.55	63.3
58	PO	Prannok	69-12	1 × 40 ×	40	22.59	29.28	73.2	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	12.01	15.57	38.9	2 × 40 ×	80	35.64	46.11	57.6
59	PD	Prapradaeng	69-12	3 × 40 ×	120	51.40	66.62	55.5	3 × 40 ×	120	58.09	75.16	62.6
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
60	PA	Prasanmit	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	3 × 40 ×	120	61.00	79.07	65.9	3 × 40 ×	120	62.83	81.29	67.7
61	PN	Prathumwan	69-12	3 × 40 ×	120	67.12	87.00	72.5	1 × 40 ×	40	23.81	30.81	77.0
			69-24	× ×	0		0.00	0.0	2 × 40 ×	80	45.32	58.63	73.3
62	RT	Ramintra	115-24	2 × 60 ×	120	49.74	64.47	53.7	2 × 60 ×	120	44.02	56.95	47.5
63	RH	Rankhamhaeng	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 40 1 × 60	140	58.87	76.31	54.5	2 × 40 1 × 60	140	55.49	71.79	51.3
64	RN	Rasburana	69-12	3 × 40 ×	120	64.47	83.56	69.6	3 × 40 ×	120	66.41	85.92	71.6
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
65	RK	Ronklao	115-24	2 × 60 ×	120	55.65	72.13	60.1	2 × 60 ×	120	56.05	72.52	60.4
66	RC	Rungprucha	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	3 × 60 ×	180	78.43	101.66	56.5	3 × 60 ×	180	75.50	97.68	54.3
67	SM	Sailom	69-12	2 × 40 ×	80	42.97	55.70	69.6	2 × 40 ×	80	50.44	65.26	81.6
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
68	SR	Samrong	69-12	1 × 40 ×	40	12.82	16.62	41.5	× ×	0		0.00	0.0
			69-24	2 × 60 ×	120	38.25	49.58	41.3	3 × 60 ×	180	61.91	80.10	44.5
69	SN	Samsen	69-12	3 × 40 ×	120	57.67	74.75	62.3	2 × 40 ×	80	41.21	53.32	66.7
			69-24	× ×	0		0.00	0.0	1 × 40 ×	40	23.31	30.20	75.5
70	SS	Sansab	69-12	1 × 40 ×	40	20.00	25.92	64.8	1 × 40 ×	40	18.86	24.40	61.0
			69-24	2 × 40 ×	80	46.66	60.48	75.6	2 × 40 ×	80	41.81	54.09	67.6
71	SD	Sapandam	69-12	4 × 40 ×	160	98.12	127.18	79.5	4 × 40 ×	160	84.58	109.43	68.4
72	SP	Sapanmai	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 60 ×	120	51.59	66.87	55.7	2 × 60 ×	120	53.14	68.75	57.3
73	SL	Silom	69-12	2 × 40 ×	80	43.03	55.77	69.7	2 × 40 ×	80	49.47	64.00	80.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
74	SY	Sipraya	69-12	2 × 40 ×	80	40.98	53.12	66.4	1 × 40 ×	40	21.02	27.20	68.0
			69-24	× ×	0		0.00	0.0	1 × 40 ×	40	21.19	27.42	68.5
75	SV	Soonvijai	69-12	1 × 40 ×	40	23.76	30.80	77.0	1 × 40 ×	40	22.95	29.69	74.2
			69-24	2 × 60 ×	120	60.00	77.77	64.8	2 × 60 ×	120	54.73	70.81	59.0

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	1996 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	1997 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
76	SK	South Bangkok	69-12	2 × 20 ×	40	11.51	14.98	37.5	2 × 20 ×	40	12.16	15.78	39.5
			69-24	×	0		0.00	0.0	×	0		0.00	0.0
77	ST	South Thonburi	69-12	2 × (40) ×	80	39.98	52.04	65.1	2 × (40) ×	80	42.79	55.53	69.4
			69-24	×	0		0.00	0.0	×	0		0.00	0.0
78	YA	Srithanya	69-12	1 × (40) ×	40	20.61	26.83	67.1	1 × (40) ×	40	27.21	35.31	88.3
			115-12	×	0		0.00	0.0	×	0		0.00	0.0
			115-24	×	0		0.00	0.0	×	0		0.00	0.0
79	SO	Suanson	69-12	2 × 40 ×	80	38.04	49.51	61.9	2 × 40 ×	80	46.29	60.07	75.1
			69-24	×	0		0.00	0.0	×	0		0.00	0.0
80	SU	Surasong	69-12	3 × 40 ×	120	60.74	79.06	65.9	3 × 40 ×	120	67.42	87.19	72.9
			69-24	×	0		0.00	0.0	×	0		0.00	0.0
81	TS	Taksin	69-12	1 × 40 ×	40	18.68	24.31	60.8	1 × 40 ×	40	20.63	26.77	66.9
			69-24	1 × 40 ×	40	16.00	20.83	52.1	1 × 40 ×	40	19.00	24.66	61.6
82	TP	Teparak	69-24	2 × 40 1 × 60	140	77.54	100.92	72.1	2 × 40 1 × 60	140	68.71	89.16	63.7
83	TT	Thanontok	69-12	1 × 40 ×	40	28.61	37.24	93.1	1 × 40 ×	40	27.55	35.75	89.4
			69-24	×	0		0.00	0.0	×	0		0.00	0.0
84	TB	Thonburi	69-12	2 × 40 ×	80	44.00	57.27	71.6	2 × 40 ×	80	38.09	49.43	61.8
			69-24	1 × 60 ×	60	20.04	26.08	43.5	1 × 60 ×	60	17.72	23.00	38.3
85	TK	Tongkung	69-12	2 × 40 ×	80	41.63	54.18	67.7	2 × 40 ×	80	43.26	56.14	70.2
			69-24	×	0		0.00	0.0	×	0		0.00	0.0
86	YB	Yangpetchaboon	69-12	2 × 40 ×	80	56.60	73.67	92.1	2 × 40 ×	80	49.71	64.51	80.6
			69-24	×	0		0.00	0.0	×	0		0.00	0.0
87	YT	Yangthonglang	69-12	×	0		0.00	0.0	×	0		0.00	0.0
			69-24	3 × 60 ×	180	64.73	84.25	46.8	3 × 60 ×	180	70.72	91.77	51.0
88	YL	Yatlieb	69-12	3 × 40 ×	120	64.34	83.74	69.8	3 × 40 ×	120	69.63	90.36	75.3
89	YT	Yothee	69-12	2 × 40 ×	80	34.63	45.07	56.3	2 × 40 ×	80	39.92	51.80	64.8
			69-24	×	0		0.00	0.0	×	0		0.00	0.0
90	BE	Bangkae	69-12	1 × 40 ×	40	22.49	29.27	73.2	1 × 40 ×	40	28.44	36.91	92.3
			115-12	×	0		0.00	0.0	×	0		0.00	0.0
			115-24	×	0		0.00	0.0	×	0		0.00	0.0
91	BZ	Bangson	69-12	1 × (40) ×	40	32.00	41.65	104.1	2 × (40) ×	80	33.04	42.88	53.6
			69-24	×	0		0.00	0.0	×	0		0.00	0.0
92	BI	Bearing	69-24	1 × 60 ×	60	44.05	57.33	95.6	×	0		0.00	0.0
			115-24	×	0		0.00	0.0	2 × 60 ×	120	50.51	65.55	54.6
93	EM	Ekamai	69-12	1 × (40) ×	40	30.31	39.45	98.6	2 × (40) ×	80	40.97	53.17	66.5
			69-24	×	0		0.00	0.0	1 × 60 ×	60	32.67	42.10	70.7
			115-24	×	0		0.00	0.0	×	0		0.00	0.0
94	EB	Ekburi	115-24	1 × 60 ×	60	16.00	20.83	34.7	1 × 60 ×	60	18.00	23.36	38.9
95	HA	Huamak	69-12	1 × 40 ×	40	19.51	25.39	63.5	×	0		0.00	0.0
			69-24	×	0		0.00	0.0	1 × 40 ×	40	22.28	28.98	72.3
			115-24	×	0		0.00	0.0	×	0		0.00	0.0
96	IN	Intamara	69-24	2 × 60 ×	120	36.03	46.90	39.1	2 × 60 ×	120	40.10	52.04	43.4
97	JR	Jangron	69-12	1 × (40) ×	40	16.33	21.25	53.1	1 × (40) ×	40	17.68	22.94	57.4
			69-24	×	0		0.00	0.0	×	0		0.00	0.0
98	KO	Khotor	115-24	1 × 60 ×	60	40.46	52.66	87.8	2 × 60 ×	120	45.99	59.68	49.7
99	KI	Kingkaew	115-24	2 × 60 ×	120	40.47	52.67	43.9	2 × 60 ×	120	41.83	51.28	45.2

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No.	ABB	Substation	Voltage (KV)	1998 Bank configuration	1998 Capacity (MVA)	1998 coincident (MW)	1998 non-coinci (MVA)	1998 utilization factor (%)	1999 Bank configuration	1999 Capacity (MVA)	1999 coincident (MW)	1999 non-coinci (MVA)	1999 utilization factor (%)
76	SK	South Bangkok	69-12	2 × 20 ×	40	12.65	16.40	41.0	2 × 20 ×	40	14.15	18.33	45.8
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
77	ST	South Thonburi	69-12	2 × (40) ×	80	44.30	57.44	71.8	1 × (40) ×	40	21.78	28.22	70.6
			69-24	× ×	0		0.00	0.0	1 × 60 ×	60	26.09	33.81	56.3
78	YA	Srithanya	69-12	1 × (40) ×	40	28.09	36.42	91.1	× ×	0		0.00	0.0
			115-12	× ×	0		0.00	0.0	1 × (40) ×	40	20.38	26.11	66.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
79	SO	Suanson	69-12	2 × 40 ×	80	48.44	62.81	78.5	2 × 40 ×	80	50.06	64.86	81.1
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
80	SU	Surawong	69-12	3 × 40 ×	120	69.30	89.86	74.9	3 × 40 ×	120	65.71	85.14	71.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
81	TS	Taksin	69-12	1 × 40 ×	40	19.21	24.91	62.3	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	22.00	28.53	71.3	2 × 40 ×	80	42.86	55.54	69.4
82	TP	Teparak	69-24	2 × 40 1 × 60	140	71.46	92.66	66.2	2 × 40 1 × 60	140	74.32	96.30	68.8
83	TT	Thanontok	69-12	1 × 40 1 × (40)	80	43.31	56.16	70.2	1 × 40 1 × (40)	80	45.14	58.19	73.1
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
84	TB	Thonburi	69-12	2 × 40 ×	80	35.01	45.40	56.8	2 × 40 ×	80	18.01	23.34	29.2
			69-24	1 × 60 ×	60	23.23	30.12	50.2	1 × 60 ×	60	42.76	55.11	92.3
85	TK	Tongkung	69-12	2 × 40 ×	80	44.99	58.34	72.9	2 × 40 ×	80	46.90	60.77	76.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
86	YB	Yungpetchaboon	69-12	2 × 40 ×	80	51.70	67.04	83.8	2 × 40 ×	80	63.70	82.54	103.2
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
87	YT	Yangthonglang	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	3 × 60 ×	180	74.56	96.68	53.7	3 × 60 ×	180	67.86	87.93	48.9
88	YL	Yatlieb	69-12	3 × 40 ×	120	72.26	93.70	78.1	3 × 40 ×	120	75.98	98.45	82.0
89	YT	Yothee	69-12	2 × 40 ×	80	41.52	53.84	67.3	2 × 40 ×	80	43.18	55.95	69.9
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
90	BE	Bangkae	69-12	1 × 40 ×	40	30.42	39.45	98.6	× ×	0		0.00	0.0
			115-12	× ×	0		0.00	0.0	2 × (40) ×	80	41.64	53.95	67.4
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
91	BZ	Bangson	69-12	2 × (40) ×	80	37.16	48.19	60.2	1 × (40) ×	40	21.37	31.58	78.9
			69-24	× ×	0		0.00	0.0	1 × 60 ×	60	23.92	30.99	51.7
92	BI	Bearing	69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	2 × 60 ×	120	52.73	68.38	57.0	2 × 60 ×	120	55.01	71.32	59.1
93	EN	Ekamai	69-12	1 × (40) ×	40	21.81	28.28	70.7	1 × (40) ×	40	22.68	29.39	73.5
			69-24	2 × 60 ×	120	54.77	71.02	59.2	2 × 60 ×	120	56.97	73.82	61.5
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
94	EB	Ekburi	115-24	1 × 60 ×	60	20.54	26.63	44.4	1 × 60 ×	60	21.36	27.68	46.1
95	HA	Huamak	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	23.17	30.05	75.1	1 × 40 ×	40	20.10	26.04	65.1
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
96	IN	Intamara	69-24	2 × 60 ×	120	41.71	54.09	45.1	2 × 60 ×	120	43.37	56.20	46.8
97	JR	Jangron	69-12	1 × (40) ×	40	18.39	23.85	59.6	1 × (40) ×	40	19.13	24.79	62.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
98	KO	Khotor	115-24	2 × 60 ×	120	48.03	62.28	51.9	2 × 60 ×	120	50.15	64.98	54.2
99	KI	Kingkaew	115-24	2 × 60 ×	120	42.50	55.11	45.9	2 × 60 ×	120	50.24	65.10	54.3

No.	ABB	Substation	Voltage (KV)	2000 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2001 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
76	SK	South Bangkok	69-12	2 × 20 ×	40	14.58	18.90	47.3	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	1 × 40 ×	40	15.02	19.13	48.6
77	ST	South Thonburi	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 60 ×	120	54.16	70.20	58.5	2 × 60 ×	120	53.18	69.19	57.7
78	YA	Srithanya	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-12	1 × (40) ×	40	30.41	39.42	98.5	1 × (40) ×	40	19.12	21.74	61.8
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
79	SO	Suanson	69-12	2 × 40 ×	80	51.57	66.84	83.6	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	2 × 60 ×	120	55.11	71.30	59.4
80	SU	Surawong	69-12	3 × 40 ×	120	67.68	87.72	73.1	1 × 40 ×	40	23.51	30.42	76.0
			69-24	× ×	0		0.00	0.0	2 × 60 ×	120	46.20	59.77	49.8
81	TS	Taksin	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 40 ×	80	44.15	57.23	71.5	2 × 40 ×	80	37.47	48.18	60.6
82	TP	Tepurak	69-24	2 × 40 1 × 60	140	68.55	88.85	63.5	2 × 40 1 × 60	140	70.60	91.34	65.2
83	TT	Thanontok	69-12	1 × 40 1 × (40)	80	46.39	60.13	75.2	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	2 × 60 ×	120	47.79	61.83	51.5
84	TB	Thonburi	69-12	2 × 40 ×	80	19.21	24.90	31.1	2 × 40 ×	80	42.45	51.92	68.7
			69-24	1 × 60 ×	60	48.59	62.98	105.0	1 × 60 ×	60	29.45	38.10	63.5
85	TK	Tongkung	69-12	2 × 40 ×	80	40.19	52.09	65.1	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	2 × 40 ×	80	41.40	53.56	67.0
86	TB	Tungpetchaboon	69-12	2 × 40 1 × (40)	120	65.74	85.21	71.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	3 × 60 ×	180	69.77	90.27	50.2
87	TT	Tungthonglang	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	3 × 60 ×	180	69.90	90.60	50.3	3 × 60 ×	180	72.00	93.15	51.8
88	WL	Watlieb	69-12	3 × 40 ×	120	79.87	103.52	86.3	3 × 40 ×	120	66.82	86.45	72.0
89	YT	Yothee	69-12	2 × 40 ×	80	44.48	57.65	72.1	2 × 40 ×	80	41.81	54.09	67.6
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
90	BE	Bangkae	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-12	2 × (40) ×	80	51.22	66.39	83.0	1 × (40) ×	40	22.52	29.11	72.8
			115-24	× ×	0		0.00	0.0	1 × 60 ×	60	30.21	39.12	65.2
91	BZ	Bangson	69-12	1 × (40) ×	40	26.80	34.74	86.8	× ×	0		0.00	0.0
			69-24	1 × 60 ×	60	28.64	37.12	61.9	2 × 60 ×	120	42.80	55.37	46.1
92	BI	Bearing	69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	2 × 60 ×	120	56.84	73.67	61.4	2 × 60 ×	120	63.69	82.10	68.7
93	EN	Ekamai	69-12	1 × (40) ×	40	21.67	28.09	70.2	1 × (40) ×	40	19.91	25.80	64.5
			69-24	2 × 60 ×	120	58.00	75.18	62.7	2 × 60 ×	120	62.12	80.37	67.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
94	EB	Ekburi	115-24	2 × 60 ×	120	30.00	38.89	32.4	2 × 60 ×	120	41.20	53.30	44.4
95	HA	Huamak	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	1 × 40 ×	40	20.70	26.83	67.1	1 × 40 ×	40	21.32	27.58	69.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
96	IN	Intamara	69-24	2 × 60 ×	120	44.68	57.91	48.3	2 × 60 ×	120	46.02	59.51	49.6
97	JR	Jangroo	69-12	1 × (40) ×	40	23.70	30.72	76.8	1 × (40) ×	40	24.41	31.58	79.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
98	KO	Khotor	115-24	2 × 60 ×	120	51.08	66.21	55.2	3 × 60 ×	180	74.51	96.40	53.6
99	KI	Kingkaew	115-24	2 × 60 ×	120	52.84	68.49	57.1	2 × 60 ×	120	56.79	73.17	61.2

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	1996 Bank configuration	1996 Capacity (MVA)	1996 coincident (MW)	1996 non-coinci (MVA)	1996 utilization factor (%)	1997 Bank configuration	1997 Capacity (MVA)	1997 coincident (MW)	1997 non-coinci (MVA)	1997 utilization factor (%)
100	KH	Klongmahasawad	115-24	2 × 60 ×	120	41.20	53.62	44.7	2 × 60 ×	120	44.99	58.38	48.7
101	LB	Lardkrabang	115-24	2 × 60 ×	120	31.98	41.62	34.7	2 × 60 ×	120	40.65	52.75	44.0
102	N3	Nuangthong 3	115-24	1 × 60 ×	60	34.00	44.25	73.8	2 × 60 ×	120	42.06	54.58	45.5
103	NS	Nonsee	69-12	2 × (40) ×	80	30.69	39.94	49.9	2 × (40) ×	80	33.67	43.69	54.6
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
104	PP	Pradipat	69-12	2 × (40) ×	80	37.76	49.15	61.4	2 × (40) ×	80	37.88	49.16	61.5
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
105	SA	Sainamtip	69-12	× ×	0	-	0.00	0.0	1 × (40) ×	40	18.23	23.66	59.1
			69-24	1 × 60 ×	60	36.54	47.56	79.3	1 × 60 ×	60	22.00	28.55	47.6
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
106	SB	Sanambinnam	69-12	1 × (40) ×	40	20.22	26.32	65.8	× ×	0		0.00	0.0
			69-24	1 × 60 ×	60	18.00	23.43	39.1	× ×	0		0.00	0.0
			115-12	× ×	0		0.00	0.0	1 × (40) ×	40	25.01	32.46	81.1
			115-24	× ×	0		0.00	0.0	1 × 60 ×	60	20.00	25.95	43.3
107	RG	Saorahong	115-24	1 × 60 ×	60	23.16	30.14	50.2	1 × 60 ×	60	25.06	32.52	54.2
108	OB	South Bangplee	115-24	1 × 60 ×	60	36.22	47.14	78.6	2 × 60 ×	120	40.63	52.73	43.9
109	SE	Sriciam	115-24	2 × 60 ×	120	42.13	54.83	45.7	2 × 60 ×	120	60.69	78.76	65.6
110	SG	Sunluang	69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	3 × 60 ×	180	78.55	102.24	56.8	3 × 60 ×	180	65.04	84.40	46.9
111	UK	Surasak	69-12	1 × (40) ×	40	24.34	31.68	79.2	2 × (40) ×	80	37.86	49.13	61.4
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
112	TN	Taiban	115-24	× ×	0		0.00	0.0	1 × 60 ×	60	22.28	28.91	48.2
113	TW	Taweewattana	115-24	1 × 60 ×	60	20.44	26.60	44.3	1 × 60 ×	60	22.28	28.91	48.2
114	TR	Thonburirom	69-12	1 × (40) ×	40	21.00	27.33	68.3	1 × (40) ×	40	28.08	36.44	91.1
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
115	TH	Tungsonghong	69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	2 × 60 ×	120	34.20	44.51	37.1	2 × 60 ×	120	43.95	57.03	47.5
116	YK	Yenarkart	69-12	2 × (40) ×	80	45.60	59.35	74.2	2 × (40) ×	80	44.55	57.81	72.3
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
117	AB	Bangbor	115-24	1 × 60 ×	60	16.10	20.96	34.9	2 × 60 ×	120	20.00	25.95	21.6
118	JK	Bangjak	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-12	1 × (40) ×	40	16.32	21.24	53.1	1 × (40) ×	40	13.00	16.87	42.2
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
119	KD	Bangkradee	69-12	1 × (40) ×	40	12.10	15.75	39.4	1 × (40) ×	40	11.50	11.92	37.3
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
120	BH	Bangshan	115-24	1 × 60 ×	60	17.18	22.36	37.3	1 × 60 ×	60	17.82	23.13	38.5
121	MI	Bamnai	69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
122	DD	Dindaeng	69-12	× ×	0		0.00	0.0	1 × (40) ×	40	17.36	22.53	56.3
			115-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
123	EC	Ekachai	69-12	1 × (40) ×	40	10.40	13.54	33.8	1 × (40) ×	40	11.00	11.28	35.7
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
124	GK	Ghouklang	69-24	1 × 60 ×	60	16.00	20.83	34.7	2 × 60 ×	120	17.00	22.06	18.4
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
125	JW	Jangwatana	115-24	1 × 60 ×	60	42.97	55.93	93.2	2 × 60 ×	120	46.36	60.16	50.1
126	JJ	Jatujak	69-12	× ×	0		0.00	0.0	2 × (40) ×	80	20.00	25.95	32.4

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	1998 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	1999 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
100	KH	Klongmahasawad	115-24	2 × 60 ×	120	50.90	66.00	55.0	2 × 60 ×	120	52.82	68.41	57.0
101	LB	Lardkrabang	115-24	2 × 60 ×	120	48.28	62.61	52.2	2 × 60 ×	120	43.21	55.99	46.7
102	N3	Nuangthong 3	115-24	2 × 60 ×	120	54.14	70.20	58.5	2 × 60 ×	120	56.31	72.96	60.8
103	NS	Nonsee	69-12	1 × (40) ×	40	15.79	20.48	51.2	1 × (40) ×	40	11.23	14.55	36.4
			69-24	1 × 60 ×	60	20.10	26.06	43.4	1 × 60 ×	60	26.10	33.82	56.4
104	PP	Pradipat	69-12	2 × (40) ×	80	38.59	50.04	62.6	2 × (40) ×	80	42.17	54.61	68.3
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
105	SA	Sainamtip	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 60 ×	120	41.84	54.25	45.2	2 × 60 ×	120	43.52	56.39	47.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
106	SB	Sanambinnam	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-12	1 × (40) ×	40	20.49	26.57	66.4	1 × (40) ×	40	23.05	29.87	74.7
			115-24	1 × 60 ×	60	26.32	34.13	56.9	1 × 60 ×	60	29.63	38.39	64.0
107	RC	Saorahong	115-24	1 × 60 ×	60	26.30	34.10	56.8	1 × 60 ×	60	31.36	40.63	67.7
108	OB	South Bangplee	115-24	2 × 60 ×	120	42.46	55.06	45.9	2 × 60 ×	120	44.35	57.47	47.9
109	SE	Sriciam	115-24	2 × 60 ×	120	68.32	88.59	73.8	2 × 60 ×	120	71.05	92.06	76.7
110	SG	Suanluang	69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	3 × 60 ×	180	63.44	82.26	45.7	3 × 60 ×	180	61.58	79.79	44.3
111	UK	Surasak	69-12	2 × (40) ×	80	40.77	52.87	66.1	2 × (40) ×	80	43.00	55.72	69.7
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
112	TN	Taiban	115-24	1 × 60 ×	60	26.17	33.94	56.6	1 × 60 ×	60	33.22	43.04	71.7
113	TV	Taweewattana	115-24	2 × 60 ×	120	42.52	55.14	46.0	2 × 60 ×	120	50.34	65.23	54.4
114	TR	Thonburirom	69-12	2 × (40) ×	80	35.20	45.64	57.1	2 × (40) ×	80	40.61	52.62	65.8
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
115	TH	Tungsonghong	69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	2 × 60 ×	120	37.39	48.48	40.4	2 × 60 ×	120	38.89	50.39	42.0
116	YK	Yenarkart	69-12	2 × (40) ×	80	47.34	61.39	76.7	2 × (40) ×	80	49.20	63.75	79.7
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
117	AB	Bangbor	115-24	2 × 60 ×	120	22.23	28.83	24.0	2 × 60 ×	120	23.12	29.96	25.0
118	JK	Bangjak	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-12	1 × (40) ×	40	12.36	16.03	40.1	1 × (40) ×	40	12.85	16.65	41.6
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
119	KD	Bangkradee	69-12	1 × (40) ×	40	12.00	15.56	38.9	× ×	0		0.00	0.0
			115-24	× ×	0		0.00	0.0	2 × 60 ×	120	17.35	22.18	18.7
120	BH	Bangshan	115-24	2 × 60 ×	120	26.35	34.17	28.5	2 × 60 ×	120	35.61	46.11	38.5
121	MT	Banmai	69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
122	DD	Dindaeng	69-12	1 × (40) ×	40	18.85	24.44	61.1	1 × (40) ×	40	19.61	25.11	63.5
			115-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
123	EC	Ekachai	69-12	1 × (40) ×	40	13.00	16.86	42.1	× ×	0		0.00	0.0
			115-24	× ×	0		0.00	0.0	1 × 60 ×	60	15.00	19.11	32.4
124	GK	Ghouklang	69-24	2 × 60 ×	120	18.71	24.26	20.2	2 × 60 ×	120	31.36	41.52	37.1
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
125	JW	Jangwatana	115-24	2 × 60 ×	120	59.49	77.14	64.3	2 × 60 ×	120	59.87	77.58	64.7
126	JJ	Jatujag	69-12	2 × (40) ×	80	25.00	32.42	40.5	2 × (40) ×	80	29.00	37.58	47.0

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	2000 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2001 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
100	KH	Klongmahasuwad	115-24	2 × 60 ×	120	50.41	65.34	54.5	2 × 60 ×	120	51.92	67.17	56.0
101	LB	Lardkrabang	115-24	2 × 60 ×	120	46.72	60.56	50.5	2 × 60 ×	120	49.27	63.71	53.1
102	NG	Nuangthong 3	115-24	2 × 60 ×	120	58.00	75.18	62.7	2 × 60 ×	120	60.71	78.58	65.5
103	NS	Nonsee	69-12	1 × (40) ×	40	11.56	14.98	37.5	×	0		0.00	0.0
			69-24	1 × 60 ×	60	26.88	34.84	58.1	2 × 60 ×	120	39.60	51.23	42.7
104	PP	Pradipat	69-12	2 × (40) ×	80	60.25	78.09	97.6	1 × (40) ×	40	22.25	28.79	72.0
			69-24	×	0		0.00	0.0	1 × 60 ×	60	31.07	40.20	67.0
105	SA	Sainamtip	69-12	×	0		0.00	0.0	×	0		0.00	0.0
			69-24	2 × 60 ×	120	48.82	63.28	52.7	3 × 60 ×	180	62.29	80.59	44.8
			115-24	×	0		0.00	0.0	×	0		0.00	0.0
106	SB	Sanambinnam	69-12	×	0		0.00	0.0	×	0		0.00	0.0
			69-24	×	0		0.00	0.0	×	0		0.00	0.0
			115-12	1 × (40) ×	40	23.75	30.78	77.0	×	0		0.00	0.0
			115-24	1 × 60 ×	60	30.51	39.55	65.9	2 × 60 ×	120	55.89	72.31	60.3
107	RG	Suorabong	115-24	1 × 60 ×	60	24.30	31.50	52.5	1 × 60 ×	60	25.02	32.37	54.0
108	OB	South Bangplee	115-24	2 × 60 ×	120	49.83	64.59	53.8	2 × 60 ×	120	56.48	73.07	60.9
109	SE	Srieiam	115-24	2 × 60 ×	120	83.18	107.82	89.9	3 × 60 ×	180	85.68	110.85	61.6
110	SG	Suanluang	69-24	×	0		0.00	0.0	×	0		0.00	0.0
			115-24	3 × 60 ×	180	59.82	77.54	43.1	3 × 60 ×	180	56.47	73.06	40.6
111	UK	Surasak	69-12	2 × (40) ×	80	47.75	61.89	77.4	×	0		0.00	0.0
			69-24	×	0		0.00	0.0	2 × 60 ×	120	31.90	45.15	37.6
112	TN	Taiban	115-24	2 × 60 ×	120	60.57	78.51	65.4	2 × 60 ×	120	62.39	80.72	67.3
113	TW	Taweewattana	115-24	2 × 60 ×	120	54.47	70.60	58.8	2 × 60 ×	120	61.26	79.26	66.1
114	TR	Thonburirom	69-12	2 × (40) ×	80	41.82	54.21	67.8	2 × (40) ×	80	43.08	55.74	69.7
			115-24	×	0		0.00	0.0	×	0		0.00	0.0
115	TH	Tungsonghong	69-24	×	0		0.00	0.0	×	0		0.00	0.0
			115-24	2 × 60 ×	120	40.05	51.91	43.3	2 × 60 ×	120	41.26	53.38	44.5
116	YK	Yenarkart	69-12	2 × (40) ×	80	50.64	65.64	82.1	×	0		0.00	0.0
			69-24	×	0		0.00	0.0	2 × 60 ×	120	55.13	71.33	59.4
117	AB	Bangbor	115-24	2 × 60 ×	120	41.81	54.19	45.2	2 × 60 ×	120	43.07	55.72	46.4
118	JK	Bangjak	69-12	×	0		0.00	0.0	×	0		0.00	0.0
			115-12	1 × (40) ×	40	12.64	16.38	41.0	1 × (40) ×	40	13.02	16.85	42.1
			115-24	1 × 60 ×	60	18.60	24.11	40.2	1 × 60 ×	60	19.16	24.79	41.3
119	KD	Bangkradee	69-12	×	0		0.00	0.0	×	0		0.00	0.0
			115-24	2 × 60 ×	120	22.72	29.45	24.5	2 × 60 ×	120	35.28	15.61	38.0
120	BH	Bangshan	115-24	2 × 60 ×	120	36.68	47.54	39.6	2 × 60 ×	120	37.78	48.88	40.7
121	MI	Banmai	69-24	×	0		0.00	0.0	2 × 60 ×	120	28.39	36.73	30.6
122	DD	Dindaeng	69-12	×	0		0.00	0.0	×	0		0.00	0.0
			115-12	2 × (40) ×	80	40.20	52.11	65.1	2 × (40) ×	80	45.40	58.74	73.4
			115-24	×	0		0.00	0.0	×	0		0.00	0.0
123	EC	Ekachai	69-12	×	0		0.00	0.0	×	0		0.00	0.0
			115-24	1 × 60 ×	60	17.00	22.04	36.7	2 × 60 ×	120	24.35	31.50	26.3
124	GK	Ghouklang	69-24	2 × 60 ×	120	35.39	45.87	38.2	2 × 60 ×	120	48.15	62.68	52.2
			115-24	×	0		0.00	0.0	×	0		0.00	0.0
125	JW	Jungwatana	115-24	2 × 60 ×	120	61.67	79.93	66.6	2 × 60 ×	120	59.52	77.01	64.2
126	JJ	Jatujak	69-12	2 × (40) ×	80	34.00	44.07	55.1	×	0		0.00	0.0

No	ABB	Substation	Voltage (KV)	1996 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	1997 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
127	KE	Kaset	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
128	KG	Klongkum	115-24	× ×	0		0.00	0.0	1 × 60 ×	60	22.00	28.53	47.6
129	KL	Kloongprapa	115-24	1 × 60 ×	60	8.24	10.73	17.9	1 × 60 ×	60	12.00	15.57	26.0
130	MU	Mitr-udom	69-12	1 × 40 ×	40	26.16	34.05	85.1	1 × 40 ×	40	10.00	12.98	32.4
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
131	N4	Nuangthong 4	115-24	× ×	0		0.00	0.0	1 × 60 ×	60	28.56	37.06	61.8
132	N5	Nuangthong 5	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
133	N6	Nuangthong 6	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
134	N7	Nuangthong 7	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
135	NL	Nanglerng	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
136	TA	Patanakarn	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
137	PL	Plubpla	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
138	PW	Prawes	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
139	RP	Prompong	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
140	SI	Sainoi	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
141	YN	Sunyarn	115-12	× ×	0		0.00	0.0	1 × (40) ×	40	20.00	25.95	61.9
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
142	SN	Satorn	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
143	HP	Shimplee	115-24	× ×	0		0.00	0.0	1 × 60 ×	60	16.35	21.22	35.4
144	SW	Sriwiang	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
145	YI	Sunyai	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
146	WW	Suwintawong	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
147	TI	Tha-kwian	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
148	TC	Trokchan	115-12	× ×	0		0.00	0.0	1 × (40) ×	40	6.00	7.79	19.5
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
149	TY	Tubyao	115-24	× ×	0		0.00	0.0	1 × 60 ×	60	13.00	16.87	28.1
150	WK	Watkaopaeng	69-12	× ×	0		0.00	0.0	1 × 40 ×	40	12.00	15.57	38.9
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
151	WR	Wattakart	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
152	AK	Asoke	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
153	BT	Bangbootong	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
154	HS	Banghuasae	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
155	BK	Bangkaew	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
156	PY	Bangpleeyai	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
157	TD	Bangtalard	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
158	JB	Jorakaboo	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
159	KB	Klongbungpi	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
160	LA	Klongna	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
161	CP	Klongpuee	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
162	KR	Krungtepkreeta	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	1998 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	1999 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
127	KE	Kaset	69-12	1 × (40) ×	40	16.77	21.75	54.4	× ×	0		0.00	0.0
			69-24	1 × 60 ×	60	26.19	33.96	56.6	2 × 60 ×	120	18.69	63.09	52.6
128	KG	Klongkum	115-24	1 × 60 ×	60	33.12	42.95	71.6	2 × 60 ×	120	44.44	57.58	48.0
129	KL	Klongprapa	115-24	1 × 60 ×	60	16.48	21.37	35.6	1 × 60 ×	60	19.11	21.80	41.3
130	NU	Nitr-udom	69-12	1 × 40 ×	40	12.36	16.03	40.1	1 × 40 ×	40	12.85	16.65	41.6
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
131	N4	Nuangthong 4	115-24	2 × 60 ×	120	60.00	77.80	64.8	2 × 60 ×	120	59.10	76.97	64.1
132	N5	Nuangthong 5	115-24	× ×	0		0.00	0.0	2 × 60 ×	120	57.00	73.86	61.6
133	N6	Nuangthong 6	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
134	N7	Nuangthong 7	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
135	NL	Nanglerng	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
136	TA	Patanakarn	115-24	1 × 60 ×	60	12.26	15.90	26.5	1 × 60 ×	60	14.36	18.61	31.0
137	PL	Plubpla	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
138	PY	Prawes	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
139	RP	Prospong	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
140	SI	Sainoi	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
141	YN	Sanyarn	115-12	1 × (40) ×	40	25.00	32.42	81.1	2 × (40) ×	80	40.07	51.92	64.9
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
142	SH	Satorn	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
143	HP	Shimplee	115-24	1 × 60 ×	60	22.00	28.53	47.6	1 × 60 ×	60	22.88	29.65	49.4
144	SW	Sriviang	69-12	2 × (40) ×	80	20.00	25.93	32.4	2 × (40) ×	80	23.00	29.80	37.3
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
145	YI	Suanyai	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
146	SV	Suvintawong	115-24	2 × 60 ×	120	10.00	12.97	10.8	2 × 60 ×	120	12.00	15.55	13.0
147	TI	Tha-kwian	69-12	2 × (40) ×	80	20.72	26.87	33.6	2 × (40) ×	80	36.71	47.57	59.5
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
148	TC	Trokchan	115-12	1 × (40) ×	40	16.08	20.85	52.1	2 × (40) ×	80	32.72	42.10	53.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
149	TY	Tubyao	115-24	1 × 60 ×	60	15.00	19.45	32.4	1 × 60 ×	60	17.00	22.03	36.7
150	VK	Vutkampaeng	69-12	1 × 40 ×	40	16.32	21.16	52.9	1 × 40 ×	40	20.97	27.17	67.9
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
151	VR	Vuttakart	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
152	AK	Asoke	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
153	BT	Bangbuatong	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
154	BS	Banghuasae	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
155	BK	Bangkaew	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
156	PY	Bangpleeyai	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
157	TD	Bangtalard	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
158	JB	Jorakabuo	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
159	KB	Klongbangpi	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
160	LA	Klongsu	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
161	GP	Klongpuac	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
162	KR	Krungtepkreeta	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0

No	ABB	Substation	Voltage (KV)	2000 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	2001 Bank configuration	Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
			69-24	× ×	0		0.00	0.0	2 × 60 ×	120	23.16	29.96	25.0
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
127	KE	Kaset	69-12	× ×	0		0.00	0.0	× ×	0		0.00	0.0
			69-24	2 × 60 ×	120	50.14	64.99	54.2	2 × 60 ×	120	51.65	66.82	55.7
128	KG	Klongkum	115-24	2 × 60 ×	120	45.78	59.34	49.5	2 × 60 ×	120	47.15	61.00	50.8
129	KL	Klongprapa	115-24	1 × 60 ×	60	19.71	25.55	42.6	2 × 60 ×	120	32.30	41.79	34.8
130	NU	Nitr-udom	69-12	1 × 40 ×	40	13.46	17.45	43.6	1 × 40 ×	40	13.86	17.93	44.8
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
131	N4	Nuangthong 4	115-24	2 × 60 ×	120	55.82	72.35	60.3	2 × 60 ×	120	59.50	76.98	64.2
132	N5	Nuangthong 5	115-24	2 × 60 ×	120	61.35	79.52	66.3	2 × 60 ×	120	59.19	76.58	63.8
133	N6	Nuangthong 6	115-24	2 × 60 ×	120	60.72	78.70	65.6	2 × 60 ×	120	59.54	77.03	64.2
134	N7	Nuangthong 7	115-24	× ×	0		0.00	0.0	2 × 60 ×	120	71.36	92.32	76.9
135	NL	Nanglerng	69-12	× ×	0		0.00	0.0	2 × 40 ×	80	44.19	57.17	71.5
136	TA	Patanakarn	115-24	1 × 60 ×	60	18.25	23.66	39.4	2 × 60 ×	120	34.80	45.02	37.5
137	PL	Piubpla	115-24	× ×	0		0.00	0.0	2 × 60 ×	120	34.54	44.69	37.2
138	PW	Prawes	115-24	2 × 60 ×	120	32.63	42.29	35.3	2 × 60 ×	120	43.61	56.42	47.0
139	PP	Prompong	115-24	2 × 60 ×	120	34.71	44.99	37.5	2 × 60 ×	120	35.75	46.25	38.5
140	SI	Sainoi	115-24	× ×	0		0.00	0.0	2 × 60 ×	120	22.36	28.93	24.1
141	YN	Samyarn	115-12	2 × (40) ×	80	41.57	53.88	67.4	2 × (40) ×	80	53.12	68.73	85.9
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
142	SH	Satorn	115-24	× ×	0		0.00	0.0	2 × 60 ×	120	30.36	39.28	32.7
143	HP	Shimplee	115-24	2 × 60 ×	120	48.92	63.41	52.8	2 × 60 ×	120	55.54	71.86	59.9
144	SW	Sriwiang	69-12	2 × (40) ×	80	25.00	32.40	40.5	2 × (40) ×	80	34.88	45.13	56.4
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
145	YI	Suanyai	115-24	× ×	0		0.00	0.0	2 × 60 ×	120	21.36	27.64	23.0
146	SY	Surintawong	115-24	2 × 60 ×	120	14.00	18.15	15.1	2 × 60 ×	120	16.36	21.17	17.6
147	TI	Tha-kwian	69-12	2 × (40) ×	80	37.81	49.01	61.3	2 × (40) ×	80	38.95	50.39	63.0
			69-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
148	TC	Trokchan	115-12	2 × (40) ×	80	33.70	43.68	54.6	2 × (40) ×	80	34.72	44.92	56.2
			115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
149	TY	Tubyao	115-24	1 × 60 ×	60	20.00	25.92	43.2	2 × 60 ×	120	30.36	39.28	32.7
150	WK	Watkumpaeng	69-12	1 × 40 ×	40	21.60	28.00	70.0	× ×	0		0.00	0.0
			69-24	× ×	0		0.00	0.0	2 × 60 ×	120	34.25	44.31	36.9
151	WR	Wuttakart	69-12	1 × (40) ×	40	17.00	22.04	55.1	× ×	0		0.00	0.0
			69-24	1 × 60 ×	60	15.35	19.90	33.2	2 × 60 ×	120	33.32	43.14	35.9
152	AK	Asoke	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
153	BT	Bangbuotong	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
154	BS	Banghuasao	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
155	BK	Bangkaew	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
156	PY	Bangpleeyai	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
157	TD	Bangtalard	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
158	JB	Jorakubuo	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
159	KB	Klongbangpi	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
160	LA	Klongna	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
161	GP	Klongpune	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0
162	KR	Krungtepkreetu	115-24	× ×	0		0.00	0.0	× ×	0		0.00	0.0

No.	ABB	Substation	Voltage (KV)	1996 Bank configuration		Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	1997 Bank configuration		Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
163	LH	Land & House	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
164	NB	Nuangthong 8	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
165	NG	Nuangthong 9	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
166	RL	Praramkao	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
167	RJ	Rajchaprarop	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
168	NP	Sanampao	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
169	SN	Sananikom	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
170	SS	Songsunikom	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
171	SR	Srinakarin	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
172	LO	Thonglor	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
173	TU	Tungkru	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
174	WD	Watdeedod	69-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
175	GY	Bangkruay	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
176	GC	Bangpang	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
177	AA	Bangpla	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
178	LD	Klongdan	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
179	GT	Klonggratiam	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
180	LG	Luangpang	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
181	LS	Lumpongshe	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
182	NI	Nimitmai	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
183	NY	Nongyai	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
184	IL	Pinklao	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
185	PH	Pongpetch	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
186	PT	Puttamonton	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
187	RO	Rajchakru	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
188	RR	Rujdamri	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
189	AT	Satorntai	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
190	TL	Talingchan	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
191	TM	Tiamruammit	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
192	RN	Trimit	69-12	×	×	0		0.00	0.0	×	×	0		0.00	0.0
		Total				11,645	5,267.77	6,856.23	58.9			13,065	5,745.71	7,456.16	57.1

Diversity Factor	1.1805	1.1809
Power Factor	0.9070	0.9100
Number of Bank a	257	282
Number of Substation b	124	134
Ratio a/b	2.0726	2.1015

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	1998 Bank configuration		Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	1999 Bank configuration		Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
163	LH	Land & House	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
164	NS	Nuangthong 8	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
165	NG	Nuangthong 9	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
166	RL	Praramkao	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
167	RJ	Rajchaprarop	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
168	NP	Sanampao	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
169	ON	Sananikom	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
170	OS	Songsunikom	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
171	IR	Srinakarin	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
172	LO	Thonglor	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
173	TU	Tungkru	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
174	WD	Watdeedod	69-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
175	GY	Bangkruay	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
176	GG	Bangpang	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
177	AA	Bangpla	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
178	LD	Klongdan	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
179	GT	Klonggratiam	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
180	LG	Luangpang	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
181	LS	Lumpagshe	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
182	NT	Nimitmai	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
183	NY	Nongyai	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
184	PL	Pinklao	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
185	PH	Pongpetch	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
186	PT	Puttamonton	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
187	RO	Rajchakru	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
188	RR	Rajdamri	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
189	AT	Satorntai	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
190	TL	Talingchan	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
191	TM	Tiamruammit	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
192	RM	Trimit	69-12	×	×	0		0.00	0.0	×	×	0		0.00	0.0
		Total				13,905	6,171.44	8,002.55	57.6			14,565	6,626.57	8,586.20	59.0

Diversity Factor	1.1813	1.1817
Power Factor	0.9110	0.9120
Number of Bank a	295	304
Number of Substation b	139	140
Ratio a/b	2.1223	2.1714

Appendix 6.3-3 Load and Installed Capacity of Distribution Substations (MEA Original Plan, Planning Year = 1997 - 2001)

No	ABB	Substation	Voltage (KV)	Bank configuration		2000 Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)	Bank configuration		2001 Capacity (MVA)	coincident (MW)	non-coinci (MVA)	utilization factor (%)
163	LH	Land & House	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
164	NB	Nuangthong 8	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
165	NG	Nuangthong 9	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
166	RL	Praramkao	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
167	RJ	Rajchaprarop	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
168	NP	Sanampao	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
169	SN	Sananikom	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
170	SS	Songsunikom	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
171	SR	Srinakarin	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
172	TO	Thonglor	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
173	TU	Tungkru	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
174	WD	Watdeedod	69-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
175	GY	Bangkruay	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
176	GG	Bangpang	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
177	AA	Bangpla	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
178	LD	Klongdan	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
179	GT	Klonggratiam	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
180	LG	Luanggpang	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
181	LS	Lumpagshe	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
182	NI	Nimitmai	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
183	NY	Noongyai	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
184	PL	Pinklao	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
185	PH	Pongpetch	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
186	PT	Puttamonton	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
187	RO	Rajchakru	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
188	RR	Rajdamri	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
189	AT	Satorntai	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
190	TL	Talingchan	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
191	TN	Tiamruammit	115-24	×	×	0		0.00	0.0	×	×	0		0.00	0.0
192	RM	Trimit	69-12	×	×	0		0.00	0.0	×	×	0		0.00	0.0
		Total				15,465	7,131.06	9,243.01	59.8			17,625	7,664.89	9,916.55	56.3

Diversity Factor	1.1821	1.1825
Power Factor	0.9120	0.9110
Number of Bank a	319	343
Number of Substation b	144	151
Ratio a/b	2.2153	2.2715