

表 6.5.1 - 3 2010年迄に実施すべき拡張・整備計画

Augmentation and Extension of GSS	Re- marks	Proposed Commiss. Year
(1) Power Transmission Facilities Related to Trincomalee Coal-Fired Thermal Plant		
(1-1) Construction of Trincomalee - Veyangoda 220kV Line a) Trincomalee P/S - Habarana 220kV line (2cct, 95km, 4xZebra) b) Habarana - Wariyapola 220kV line (2cct, 80km, 4xZebra) c) Wariyapola - Veyangoda 220kV line (2cct, 65km, 4xZebra) d) Veyangoda (two 220kV T/L bays for Wariyapola line)		2007
(1-2) Construction of 220kV Habarana Switching Substation a) Habarana 220kV Switching Station b) Double pi-connection of Kotmale - New Anuradhapura 220kV line (2x2cct, 0.5km, Zebra)	a	2007
(1-3) Construction of 220kV Wariyapola Switching Station a) Wariyapola 220kV Switching Station	a	2007
(1-4) Construction of 220kV Matale Substation a) Matale (2x150MVA (220/132kV)) b) Double pi-connection of Kotmale - Habarana 220kV line (2x2cct, 0.5km, Zebra) c) Double pi-connection of Ukuwela - Habarana 132kV line (2x2cct, 2.0km, Lynx)	b	2009
(1-5) Construction of Trincomalee P/S Substation a) Trincomalee P/S (2x150MVA (220/132kV)) b) Trincomalee P/S - Trincomalee 132kV line (2cct, 10km, 2xZebra) c) Trincomalee (two 132kV T/L bays for Trincomalee P/S line)		2007
(1-6) Construction of Victoria - Padukka 220kV Line a) Victoria - New Polpitiya 220kV line (2cct, 40km, 2xZebra) b) New Polpitiya - Padukka 220kV line (2cct, 60km, 2xZebra) c) Victoria power station (two T/L bays for Padukka line)	c	2009
(1-7) Construction of 220kV Padukka Switching Substation a) Padukka switching station	a	2007
(1-8) Construction of 220kV New Polpitiya Substation a) New Polpitiya (2x150MVA (220/132kV)) b) Double pi-connection of Polpitiya - Avissawella 132kV line (2x2cct, 2.0km, Lynx&2xZebra) c) Reconductoring of Polpitiya - New Polpitiya section (2cct, 4.0km, 2xZebra)		2009
(1-9) Construction of Veyangoda - Padukka 220kV Line a) Veyangoda - Padukka line (2cct, 37km, 4xZebra) b) Veyangoda (two 220kV T/L bays for Padukka line)		2007
(1-10) Construction of Padukka - Pannipitiya 220kV Line a) Padukka - Pannipitiya line (2cct, 18km, 4xZebra) b) Pannipitiya (two T/L bays for 220kV Padukka line)		2007
(2) Construction of Pannala Substation a) Veyangoda - Pannala 132kV line (2cct, 20km, Zebra) b) Pannala (2 x 31.5MVA)		2010

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Augmentation and Extension of GSS	Re- marks	Proposed Commiss. Year
<p>(3) Construction of Eheliyagoda 132kV Substation</p> <ul style="list-style-type: none"> a) Avissawella - Eheliyagoda 132kV line (2cct, 17km, Bear) b) Eheliyagoda - Ratnapura 132kV line (2cct, 25km, Bear) c) Eheliyagoda (2 x 31.5MVA) d) Avissawella (four 132kV T/L bays for Eheliyagoda line & double pi arrangement) e) Ratunapura (two 132kV T/L bays for Eheliyagoda line) f) Double pi-connection for Avisawella (2cct, 0.3km, Lynx) 		2010
<p>(4) Construction of Imbulgoda 132kV Substation</p> <ul style="list-style-type: none"> a) Biyagama - Imbulgoda 132kV line (2cct, 12km, Zebra) b) Imbulgoda (3x31.5MVA) c) Biyagama (two 132kV T/L bays for Imbulgoda line) 		2008
<p>(5) Construction of Angoda 132kV Substation</p> <ul style="list-style-type: none"> a) Angoda (3 x 31.5MVA) b) Double pi-connection for Angoda (2x2cct, 0.1km, Lynx) 		2009
<p>(6) Construction of Aguruwella 132kV Substation</p> <ul style="list-style-type: none"> a) Aguruwella (2 x 31.5MVA) b) Connection of Polpitiya 132kV line (1x2cct, 0.2km, Lynx) c) Connection of Thulhiriya 132kV line (1x2cct, 0.2km, Lynx) d) Connection of Kolonnawa 132kV line (1x2cct, 0.2km, Lynx) 		2007
<p>(7) Construction of Kesbewa 132kV Substation</p> <ul style="list-style-type: none"> a) Kesbewa (2 x 31.5MVA) b) Double pi-connection for Kesbewa (2x2cct, 1.0km, Lynx) 		2006
<p>(8) Construction of Sub-B 132kV Substation (GIS)</p> <ul style="list-style-type: none"> a) Kelanittissa - Sub-B underground cables (1cct, 3.5km, Cu800sq.mm,CV Cables) b) Sub-B (2 x 63MVA (Final : 3 x 63MVA)) c) Single pi-connection of Kelanittissa - Fort UGC (2x1cct, 0.2km, Cu500, OF Cables) d) Kelanittissa (one 132kV T/L bay for Sub-B line) 		2007
<p>(9) Power Transmission Facilities Related to Boossa Thermal Plant</p> <p>(9-1) Construction of Boossa - Pannipitiya 220kV Line</p> <ul style="list-style-type: none"> a) Boossa - Matugama 220kV line (2cct, 54km, 2xZebra) b) Matugama - Pannipitiya 220kV line (2cct, 45km, 2xZebra) c) Pannipitiya (two 220kV T/L bays for Boossa line) 		2008
<p>(9-2) Construction of Boossa Substation</p> <ul style="list-style-type: none"> a) Boossa (2x150MVA (220/132kV), 2x31.5MVA (132/33kV)) 		2008
<p>(9-3) Construction of Boossa - New Galle 132kV Line</p> <ul style="list-style-type: none"> a) Boossa - New Galle 132kV line (2cct, 12km, 2xZebra) b) New Galle (two 132kV T/L bays for Boossa line) 		2008
<p>(9-4) Construction of Matugama 220kV Substation</p> <ul style="list-style-type: none"> a) Matugama (2x150MVA (220/132kV)) b) Connection to existing 132kV Matugama substayion 	d	2008

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Augmentation and Extension of GSS	Re- marks	Proposed Commiss. Year
(10) Construction of Trincomalee - Kilinochchi 132kV Line a) Trincomalee - Kilinochchi Line (2cct, 140km, Lynx) b) Trincomalee (two 132kV T/L bays for Kilinochchi line) c) Kilinochchi (two 132kV T/L bays for Trincomalee line)		2007
(11) Construction of Pulmoddai 132kV Substation a) Pulmoddai (1 x 10MVA) b) Single pi-connection line for Pulmoddai (2cct, 8km, Lynx)	e	2007
(12) Construction of Mannar 132kV Substation a) Vavuniya - Mannar 132kV line (1st cct of 2cct construction, 80km, Lynx) b) Mannar (1 x 10MVA) c) Vavunia (one 132kV T/L bays for Mannar line)	e,f	2006
(13) Construction of Galenbindunuwewa 132kV Substation a) Galenbindunuwewa (1x10MVA) b) Single pi-connection line for Galenbindunuwewa (2cct, 1.0km, Lynx)	e	2006
(14) Construction of Daladagama 132kV Substation a) Kuliypitiya - Daladagama 132kV line (1st cct of 2cct construction, 50km, Bear) b) Daladagama (1 x 10MVA) c) Kuliypitiya (one 132kV T/L bays for Daladagama line)	e,f	2006
(15) Construction of Batticaloa 132kV Substation a) Batticalloa (1 x 10MVA) b) Single pi-connection line for Batticaloa (2cct, 5km, Lynx)	e	2008
(16) Construction of Girandurukotre 132kV Substation a) Rantembe - Girandurukotre 132kV line (1st cct of 2cct construction, 40km, Lynx) b) Girandurukotre (1 x 10MVA) c) Rantembe (one 132kV T/L bays for Girandurukotre line)	e,f	2008
(17) Construction of Wellawaya 132kV Substation a) Badulla - Wellawaya 132kV line (1st cct of 2cct construction, 40km, Lynx) b) Wellawaya (1 x 10MVA) c) Badulla (one T/L bays for 132kV Wellawaya line)	e,f	2008
(18) Construction of Tissamaharama 132kV Substation a) Hambantota - Tissamaharama 132kV line (1st cct of 2cct construction, 30km, Lynx) b) Embilipitiya - Hambantota 132kV line (2nd cct of 2cct construction, 24.0km, Bear) c) Tissamaharama (1 x 10MVA) d) Embilipitiya (one 132kV T/L bay for Hambantota line) e) Hambantota (two 132kV T/L bays for Embilipitiya & Tissamaharama line)	e,f	2006
(19) Addition of Transformers (19-1) Chilaw (132/33kV, 1x31.5MVA, total 3x31.5MVA) (19-2) Kuliypitiya (132/33kV, 1x31.5MVA, total 3x31.5MVA) (19-3) Aniyakanda (132/33kV, 1x31.5MVA, total 3x31.5MVA) (19-4) Kelaniya (132/33kV, 1x63MVA, total 3x63MVA)		2007 2007 2010 2009

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Augmentation and Extension of GSS	Re- marks	Proposed Commiss. Year
(19-5) Gonawala (132/33kV, 1x31.5MVA, total 4x31.5MVA)		2010
(19-6) Katana (132/33kV, 1x31.5MVA, total 3x31.5MVA)		2009
(19-7) Panadura (1x31.5MVA, total 3x31.5MVA)		2007
(19-8) Dehiwala (132/33kV, 1x63MVA, total 3x63MVA)		2009
(19-9) Matara (132/33kV, 1x31.5MVA, total 3x31.5MVA)		2008
(19-10) Ratnapura (132/33kV, 1x31.5MVA, total 3x31.5MVA)		2009
(19-11) Kegalle (132/33kV, 1x31.5MVA, total 3x31.5MVA)		2009
(19-12) Athurugiriya (132/33kV, 1x31.5MVA, total 3x31.5MVA)		2007
(19-13) Vavunia (132/33kV, 1x10MVA, total 2x10MVA)		2007
(19-14) Kesbewa (132/33kV, 1x31.5MVA, total 3x31.5MVA)		2009
(19-15) Imbulgoda (132/33kV, 1x31.5MVA, total 4x31.5MVA)		2009
(20) Replace of Transformers		
(21-1) Chunnakam (only 1x10MVA to 1x31.5MVA, total 91.5MVA)		2007
(21-2) Deniyaya (only 1x15MVA to 1x31.5MVA, total 46.5MVA)		2010
New Subprojects Proposed by Power System Analysis		
(21) Addition of 220/132kV Tie Transformers		
(21-1) Pannipitiya (1x250MVA, total 3x250MVA)		2007
(21-2) Veyangoda (1x150MVA, total 3x150MVA)		2007
(21-3) Kotugoda (1x250MVA, total 3x250MVA)		2008
(21-4) New Chilaw (1x150MVA, total 3x150MVA)		2008
(21-5) Biyagama (1x250MVA, total 3x250MVA)		2008
(22) Static Capacitor		
(22-1) Ampara (10MVA)		2009
(22-2) Biyagama (60MVA)		2008
(22-3) Chunnakam (20MVA, total 40MVA)		2007
(22-4) Dehiwala (60MVA)		2009
(22-5) Inginiyagara (10MVA)		2008
(22-6) Kegalle (20MVA)		2009
(22-7) Kelaniya (60MVA)		2009
(22-8) Kolonnawa (120MVA)		2007
(22-9) Kotugoda (30MVA, total 60MVA)		2008
(22-10) Matugama (80MVA)		2008
(22-11) Thuthiriya (40MVA)		2008
(22-12) Valaichchenai (10MVA)		2009
(23) Replacement of 132kV Circuit Breakers		
(23-1) Anuradhapura (11kA to 31.5kA, 6sets)		2007
(23-2) Kollupitiya (25kA to 40kA, 6sets)		2007
(23-3) Trincomalee (12.5kA to 31.5kA, 2sets)		2007

Remarks :

- (a) Land space for future extension of 132kV switchgear shall be considered.
- (b) Space for installation of distribution transformer(s) in future shall be considered.
- (c) Right of way of the abolished 66kV line may be used for the proposed 220kV line.
- (d) Land space adjoining to the existing 132kV Matugama substation is available for the 220kV substation.
- (e) One unit only is proposed to be provided for cost saving, since no high demand is expected.
- (f) A circuit breaker is proposed not to be provided for cost saving.

表 6.6.1 - 1 2015年地点における整備計画前及び計画後の変電所の設備利用率

Provinces	Grid Substations	Voltage Ratio (kV)	Before Reinforcement				After Reinforcement				Countermeasures
			Trans. Cap. (MVA)	Peak Load (MW)	Peak Cap. (MVA)	Load (%)	Trans. Cap. (MVA)	Peak Load (MW)	Peak Cap. (MVA)	Load (%)	
North Centraal	(1) Anuradhapura	132/33	63	62.8	69.8	111	94.5	62.8	69.8	74	Addition of trans.
	(2) Habarana	132/33	63	41.8	46.4	74	63	41.9	46.6	74	Replace of trans.
	(3) Polonnaruwa	132/33	32	34.7	38.6	120	63	34.7	38.6	61	
Northern	(4) Chunnakam	132/33	91.5	86.1	95.7	105	94.5	86.1	95.7	101	Replace of trans.
	(5) Kilinochchi	132/33	20	17.8	19.8	99	30	17.9	19.9	66	Addition of trans.
	(6) Vavunia	132/33	20	14.5	16.1	81	20	14.5	16.1	81	Addition of trans.
Central	(7) Kiribothkumbura	132/33	94.5	62.6	69.6	74	94.5	62.6	69.6	74	
	(8) Ukuwela	132/33	63	70.7	78.6	125	94.5	70.8	78.7	83	
	(9) Rantembe	-/132/33	20	14.0	15.6	78	20	14.0	15.6	78	
	(10) Nuwara Eliya	132/33	63	48.9	54.3	86	63	49.0	54.4	86	
	(11) Wimalasurendra	132/33	63	27.9	31.0	49	63	28.1	31.2	50	
	(12) Palekelle	132/33	63	45.1	50.1	80	63	45.1	50.1	80	
North Western	(13) Kurunegala	132/33	63	63.8	70.9	113	94.5	63.9	71.0	75	Addition of trans.
	(14) Puttalam	132/33	63	76.0	84.4	134	94.5	76.1	84.6	89	Addition of trans.
	(15) Bolawatta	132/33	91.5	96.5	107.2	117	123	96.6	107.3	87	Addition of trans.
	(16) Chilaw	132/33	94.5	113.2	125.8	133	126	99.4	110.4	88	Addition of trans.
	(17) Kuliyaipitiya	132/33	94.5	107.3	119.2	126	126	94.5	105.0	83	Addition of trans.
	(18) Pannala	132/33	63	64.4	71.6	114	126	92.4	102.7	81	Addition of trans.
Western-North	(19) Kotugoda	-/132/33	120	112.5	132.4	110	120	90.4	106.4	89	Addition of trans.
	(20) Sapugaskanda	132/33	121.5	152.6	179.5	148	121.5	152.7	179.6	148	
	(21) Biyagama	-/132/33	120	150.1	176.6	147	120	150.3	176.8	147	Addition of trans.
	(22) Veyangoda	132/33	63	49.2	57.9	92	94.5	49.2	57.9	61	
	(23) Aniyakanda	132/33	94.5	74.5	87.6	93	126	89.9	105.8	84	Addition of trans.
	(24) Kelaniya	132/33	189	207.6	244.2	129	189	207.8	244.5	129	Addition of trans.
	(25) Muthuragawella	220/33	126	143.2	168.5	134	189	143.3	168.6	89	
	(26) Gonawala	132/33	126	141.6	166.6	132	126	141.7	166.7	132	Addition of trans.
	(27) Katana	132/33	94.5	73.7	86.7	92	126	81.2	90.2	72	
	(28) Imbulgoda	132/33	126	153.1	180.1	143	126	153.2	170.2	135	
(29) Trincomalee	132/33	63	43.1	47.9	76	63	43.1	47.9	76		
Eastern	(30) Inginiyagara	132/33	30	3.6	4.0	13	30	3.6	4.0	13	Addition of trans.
	(31) Valaichchenai	132/33	63	21.1	23.4	37	63	21.1	23.4	37	
	(32) Arnpara	132/33	63	26.6	29.6	47	63	26.6	29.6	47	
	(33) Ratmalana	132/33	123	145.5	171.2	139	123	145.6	171.3	139	
Western-South	(34) Pannipitiya	132/33	123	138.7	163.2	133	123	138.8	163.3	133	Addition of trans.
	(35) O.D.S. S(Kolonnawa)	132/33	157.5	180.5	212.4	135	157.5	162.0	190.6	121	
	(36) Matugama	132/33	94.5	17.4	20.5	22	94.5	34.3	40.4	43	Addition of trans.
	(37) Avissawella	132/33	63	68.4	80.5	128	94.5	71.2	83.8	89	
	(38) Panadura	132/33	94.5	110.7	130.2	138	126	99.8	117.4	93	Addition of trans.
	(39) Sithawaka	132/33	63	42.8	50.4	80	63	42.8	50.4	80	Addition of trans.
	(40) Athurugiriya	132/33	94.5	97.1	114.2	121	126	97.2	114.4	91	
	(41) Sri Jayapura	132/33	126	118.4	139.3	111	189	118.6	139.5	74	Addition of trans.
	(42) Dehiwala	132/33	189	153.3	180.4	95	189	153.4	180.5	95	Addition of trans.
	(43) Horana	132/33	63	47.5	55.9	89	63	47.5	55.9	89	
	(44) Kesbawa	132/33	94.5	106.3	125.1	132	126	106.4	125.2	99	Addition of trans.
	(45) Angoda	132/33	94.5	94.8	111.5	118	126	94.8	111.5	89	
	(46) Galle	132/33	91.5	101.3	112.6	123	91.5	98.3	109.2	119	
Southern	(47) Deniyaya	132/33	46.5	35.2	39.1	84	46.5	35.2	39.1	84	Addition of trans.
	(48) Matara	132/33	94.5	80.6	89.6	95	126	80.6	89.6	71	
	(49) New Galle	132/33	94.5	101.3	112.6	119	94.5	98.3	109.2	116	Addition of trans.
	(50) Ambalangoda	132/33	63	29.4	32.7	52	63	29.4	32.7	52	
	(51) Hambantota	132/33	20	16.0	17.8	89	30	16.5	18.3	61	Addition of trans.
	(52) Boossa	132/33	63	70.8	78.7	125	94.5	67.8	75.3	80	Addition of trans.
Uva	(53) Badulla	132/33	94.5	50.6	56.2	59	94.5	50.7	56.3	60	Addition of trans.
	(54) Medagama	132/33	10	5.6	6.2	62	10	5.7	6.3	63	
Sabaragamuwa	(55) Balangoda	132/33	63	21.1	23.4	37	63	20.5	22.8	36	Addition of trans.
	(56) Thulhiriya	132/33	94.5	100.1	111.2	118	126	100.2	111.3	88	
	(57) Embilipitiya	132/33	63	11.4	12.7	20	63	11.4	12.7	20	Addition of trans.
	(58) Rainapura	132/33	94.5	112.8	125.3	133	126	112.9	125.4	100	
	(59) Kegalle	132/33	94.5	95.3	105.9	112	126	95.3	105.9	84	Addition of trans.
	(60) Aguruwella	132/33	63	74.8	83.1	132	94.5	74.8	83.1	88	Addition of trans.
(61) Eheliyagoda	132/33	63	56.4	62.7	99	94.5	56.4	62.7	66	Addition of trans.	
Colombo	(62) Kelanitissa(KTS)	132/33	120	79.8	93.9	78	120	87.8	103.3	86	Addition of trans.
	(63) Sub-E(Kollipitiya)	132/11	90	51.8	93.8	104	90	34.6	62.6	70	
	(64) Sub-F(Fort)	132/11	90	43.9	103.3	115	90	29.3	68.9	77	Addition of trans.
	(65) Town Hall	132/11	126	39.9	93.9	75	126	53.2	96.3	76	
	(66) Sub-B	132/11	126	43.9	103.3	82	189	67.4	158.6	84	
TOTAL			5570	4944	5862	105	6569	4943	5832	89	

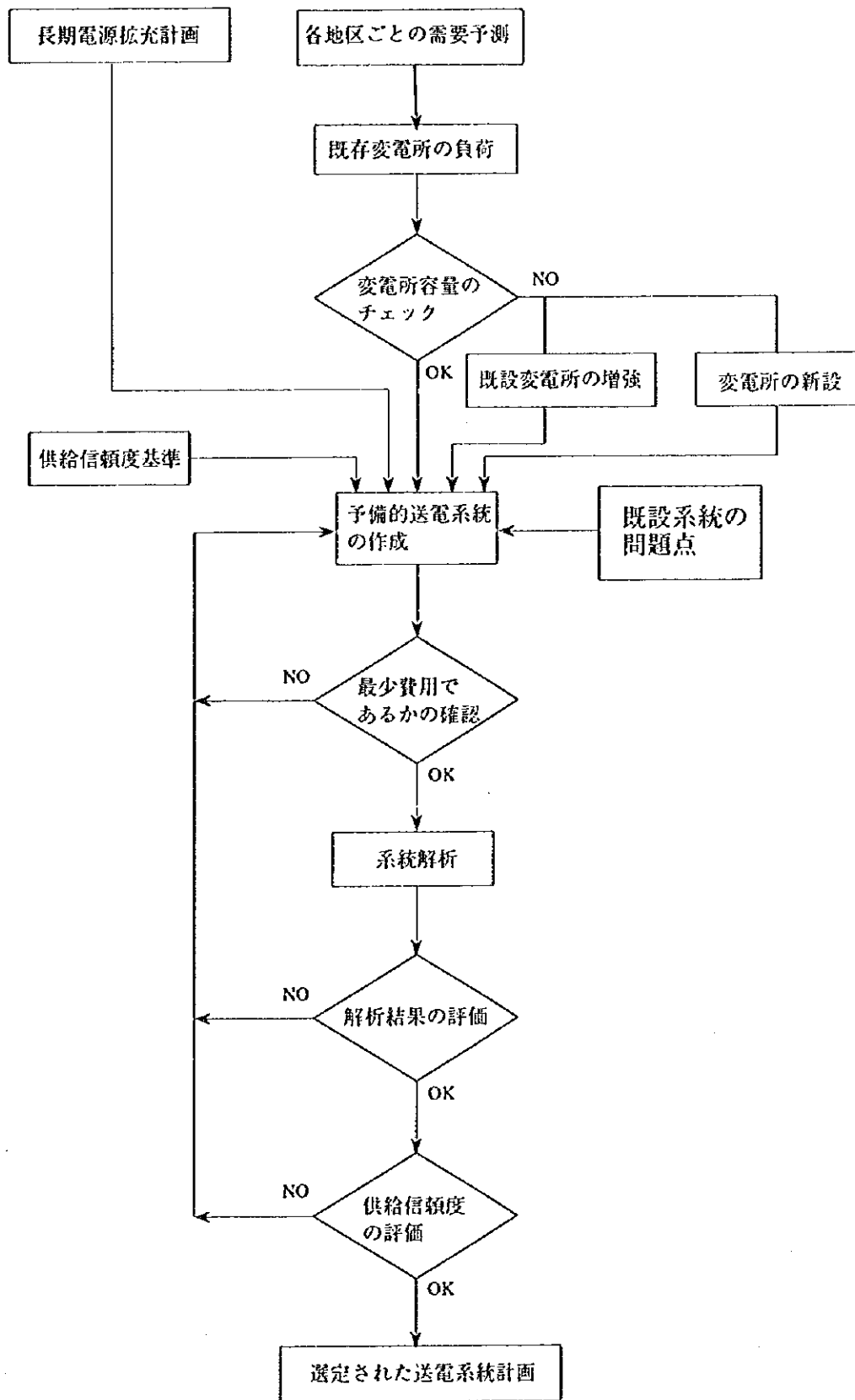
- Remarks:
- Load factor for calculation of peak load in MVA is assumed as 85% for Western-North, Western-South and Colombo and 90% for other areas.
 - Peak load in MVA of Kollipitiya and Fort grid substations is calculated in the basis of day-time peak, i.e. 0.65 for Kollipitiya and 0.5 for Fort.
 - Only rearrangement of 33kV feeders and transformer addition are considered.

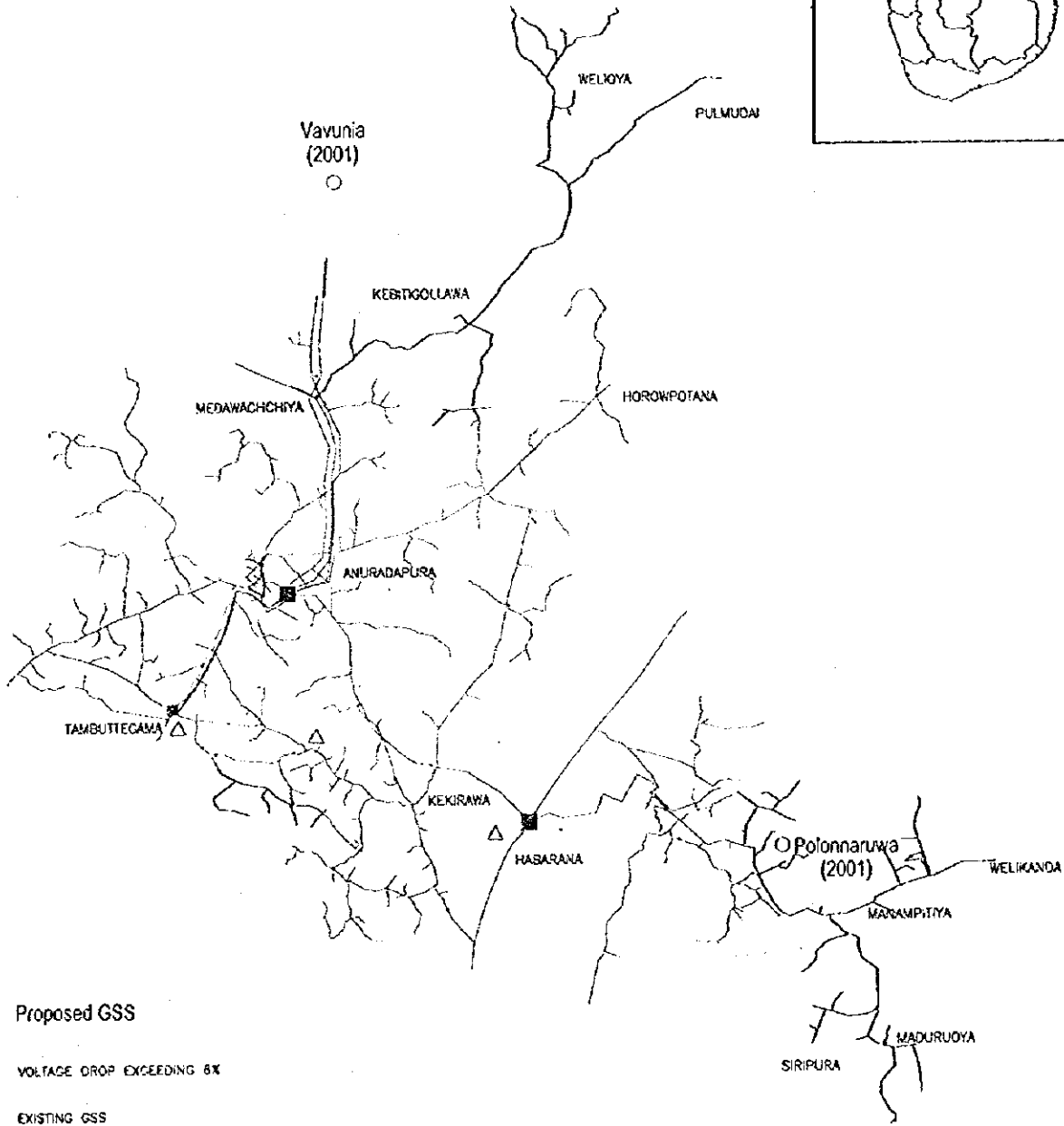
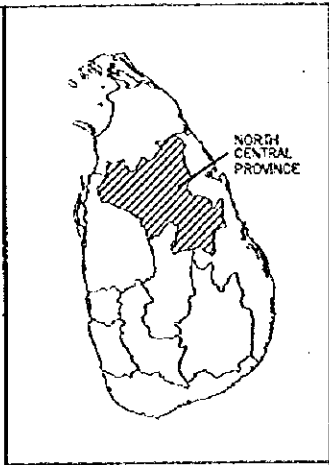
表 6.6.1 - 2 2015年迄に実施すべき拡張・整備計画

Sub-projects for Augmentation and Extension	Re- marks	Proposed Commiss. Year
(1) Power Transmission Facilities Related to Mawella Coal-fired Thermal Plant (1-1) Construction of Mawella - Padukka 220kV Line a) Mawella - Kahawatta Line (2cct, 100km, 4xZebra) b) Kahawatta - Padukka Line (2cct, 90km, 4xZebra) c) Padukka (two T/L bays for Kahawatta line)		2013
(1-2) Construction of Khawatta Switching Station		2013
(1-3) Construction of Mawella - Boossa Line a) Mawella - Boossa line (2cct, 70km, 2xZebra) b) Boossa (two T/L bays for Kahawatta line)		2013
(2) Construction of Mullaitivu 132kV Substation a) Single pi-connection of Trincomalee - Kilinochchi line (2cct, 3km, Lynx) b) Mullaitivu (1x10MVA)		2012
(3) Construction of Palattadichchenai 132kV Substation a) Trincomalee P/S - Palattadichchenai line (1st cct on 2cct, 35km, Lynx) b) Palattadichchenai (1x10MVA) c) Trincomalee (one T/L bay for Palattadichchenai line)		2011
(4) Construction of Maha Oya 132kV Substation a) Rantembe - Maha Oya line (1st cct on 2cct, 70km, Lynx) b) Maha Oya (1x10MVA) c) Rantembe (one T/L bay for Maha Oya line)		2012
(5) Construction of Pottuvil 132 kV Substation a) Sigle T-branch line for Pottuvil (1st cct on 2cct, 40km, Lynx) b) Pottuvil (1x10MVA)		2011
(6) Construction of Substations (6-1) North - A (2x31.5MVA, TL 1x2cct, 10km, Bear) (6-2) North Western - A (2x31.5MVA, TL 1x2cct, 10km, Bear) (6-3) North Western - B (2x31.5MVA, TL 1x2cct, 10km, Bear) (6-4) Western North - A (3x31.5MVA, TL 1x2cct, 10km, Zebra) (6-5) Western North - B (3x31.5MVA, TL 1x2cct, 10km, Zebra) (6-6) Western North - C (3x31.5MVA, TL 1x2cct, 10km, Zebra) (6-7) Western North - D (3x31.5MVA, TL 1x2cct, 10km, Zebra) (6-8) Western North - E (3x31.5MVA, TL 1x2cct, 10km, Zebra) (6-9) Western North - F (3x31.5MVA, TL 1x2cct, 10km, Zebra) (6-10) Western South - A (3x31.5MVA, TL 1x2cct, 10km, Zebra) (6-11) Western South - B (3x31.5MVA, TL 1x2cct, 10km, Zebra) (6-12) Western South - C (3x31.5MVA, TL 1x2cct, 10km, Zebra) (6-13) Western South - D (3x31.5MVA, TL 1x2cct, 10km, Zebra) (6-14) Sabaragamuwa - A (2x31.5MVA, TL 1x2cct, 10km, Bear) (6-15) Sabaragamuwa - B (2x31.5MVA, TL 1x2cct, 10km, Bear) (6-16) South - A (2x31.5MVA, TL 1x2cct, 10km, Bear)		
(7) Addition of Transformers (7-1) Anuradhapura (132/33kV, 2x31.5MVA, total 4x31.5MVA) (7-2) Kilinochchi (132/33kV, 1x10MVA, total 3x10MVA) (7-3) Ukuwela (132/33kV, 1x31.5MVA, total 3x31.5MVA)		

表 6.6.1 - 2 2015年迄に実施すべき拡張・整備計画

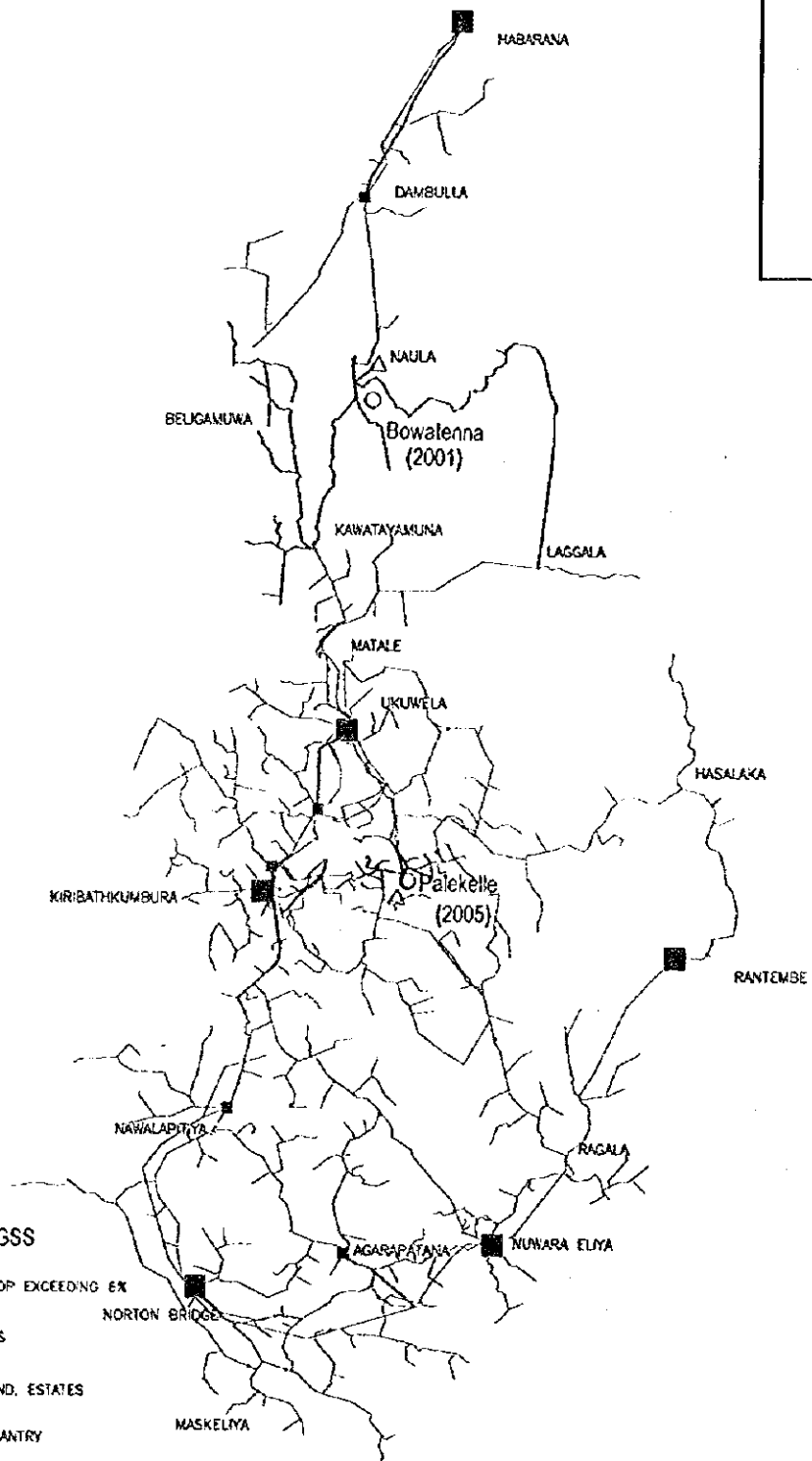
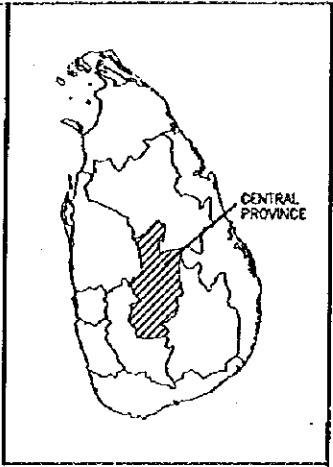
Sub-projects for Augmentation and Extension	Re- marks	Proposed Commiss. Year
<p>(7-4) Kurunegara (132/33kV, 1x31.5MVA, total 3x31.5MVA) (7-5) Putallam (132/33kV, 1x31.5MVA, total 3x31.5MVA) (7-6) Bolawatta (132/33kV, 1x31.5MVA, total 123MVA) (7-7) Chilaw (132/33kV, 1x31.5MVA, total 4x31.5MVA) (7-8) Kuliypitiya (132/33kV, 1x31.5MVA, total 4x31.5MVA) (7-9) Pannala (132/33kV, 2x31.5MVA, total 4x31.5MVA) (7-10) Veyangoda (132/33kV, 1x31.5MVA, total 3x31.5MVA) (7-11) Aniyakanda (132/33kV, 1x31.5MVA, total 4x31.5MVA) (7-12) Muthuragawella (220/33kV, 1x63MVA, total 3x63MVA) (7-13) Katana (132/33kV, 1x31.5MVA, total 4x31.5MVA) (7-14) Avissawella (132/33kV, 1x31.5MVA, total 3x31.5MVA) (7-15) Panadura (132/33kV, 1x31.5MVA, total 4x31.5MVA) (7-16) Athurugiriya (132/33kV, 1x31.5MVA, total 4x31.5MVA) (7-17) Kesbewa (132/33kV, 1x31.5MVA, total 4x31.5MVA) (7-18) Angoda (132/33kV, 1x31.5MVA, total 4x31.5MVA) (7-19) Hambantota (132/33kV, 1x10MVA, total 3x10MVA) (7-20) Boossa (132/33kV, 1x31.5MVA, total 3x31.5MVA) (7-21) Thulhiriya (132/33kV, 1x31.5MVA, total 4x31.5MVA) (7-22) Ratnapura (132/33kV, 1x31.5MVA, total 4x31.5MVA) (7-23) Kegalle (132/33kV, 1x31.5MVA, total 4x31.5MVA) (7-24) Aguruwella (132/33kV, 1x31.5MVA, total 3x31.5MVA) (7-25) Eheliyagoda (132/33kV, 1x31.5MVA, total 3x31.5MVA)</p>		
<p>(8) Replacement of Transformers (8-1) Polonnaruwa (132/33kV, 2x16MVA to 2x31.5MVA)</p>		
<p>New Subprojects Proposed by Power System Analysis</p>		
<p>(9) Addition of 220/132kV Tie Transformers (9-1) Boossa (1x150MVA, total 3x150MVA) (9-2) Kolonnawa (1x250MVA, total 3x250MVA) (9-3) Matale (1x150MVA, total 3x150MVA) (9-4) Trincomalee (1x150MVA, total 3x150MVA) (9-5) Biyagama (1x250MVA, total 4x250MVA) (9-6) Pannipitiya (1x250MVA, total 4x250MVA) (9-7) New Chilaw (1x150MVA, total 4x150MVA) (9-8) Veyangoda (1x150MVA, total 4x150MVA)</p>		<p>2011 2013 2013 2013 2013 2013 2014 2014</p>
<p>(10) Static Capacitor Addition 700MVA in total in the system</p>		





- Proposed GSS
- VOLTAGE DROP EXCEEDING 6%
- EXISTING GSS
- △ PROPOSED IND. ESTATES
- PROPOSED GANTRY
- EXISTING LINES
- PROPOSED EXPRESS LINE

CEYLON ELECTRICITY BOARD	JAPAN INTERNATIONAL COOPERATION AGENCY	MASTER PLAN STUDY FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM OF THE CEYLON ELECTRICITY BOARD IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	TITLE 図 6.1.5 - 1
	NIPPON KOEI CO., LTD. Consulting Engineer		中部北州の高圧配電系統

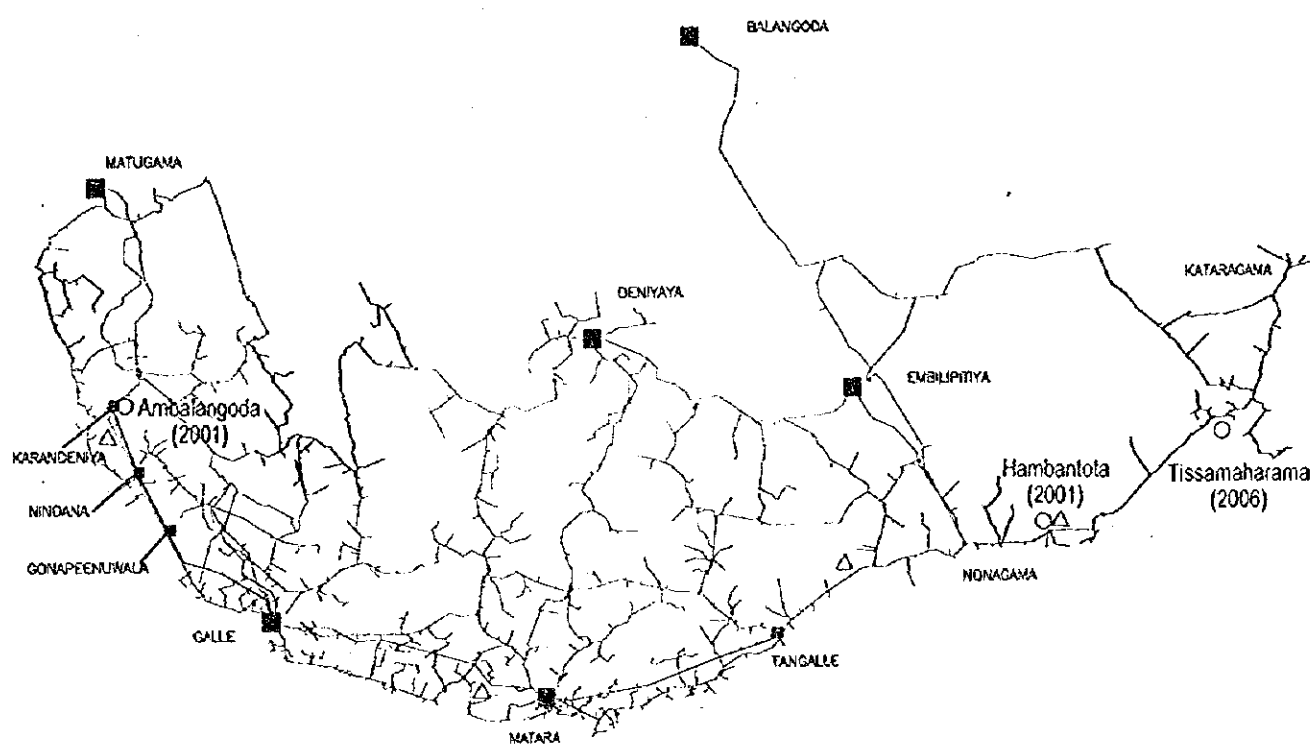
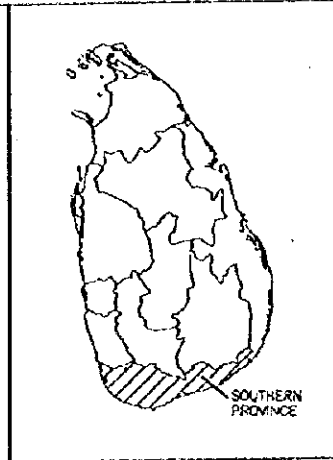


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**MASTER PLAN STUDY
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OF THE CEYLON ELECTRICITY BOARD
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA**

TITLE 図 6.1.5 - 2
中部州の高圧配電系統



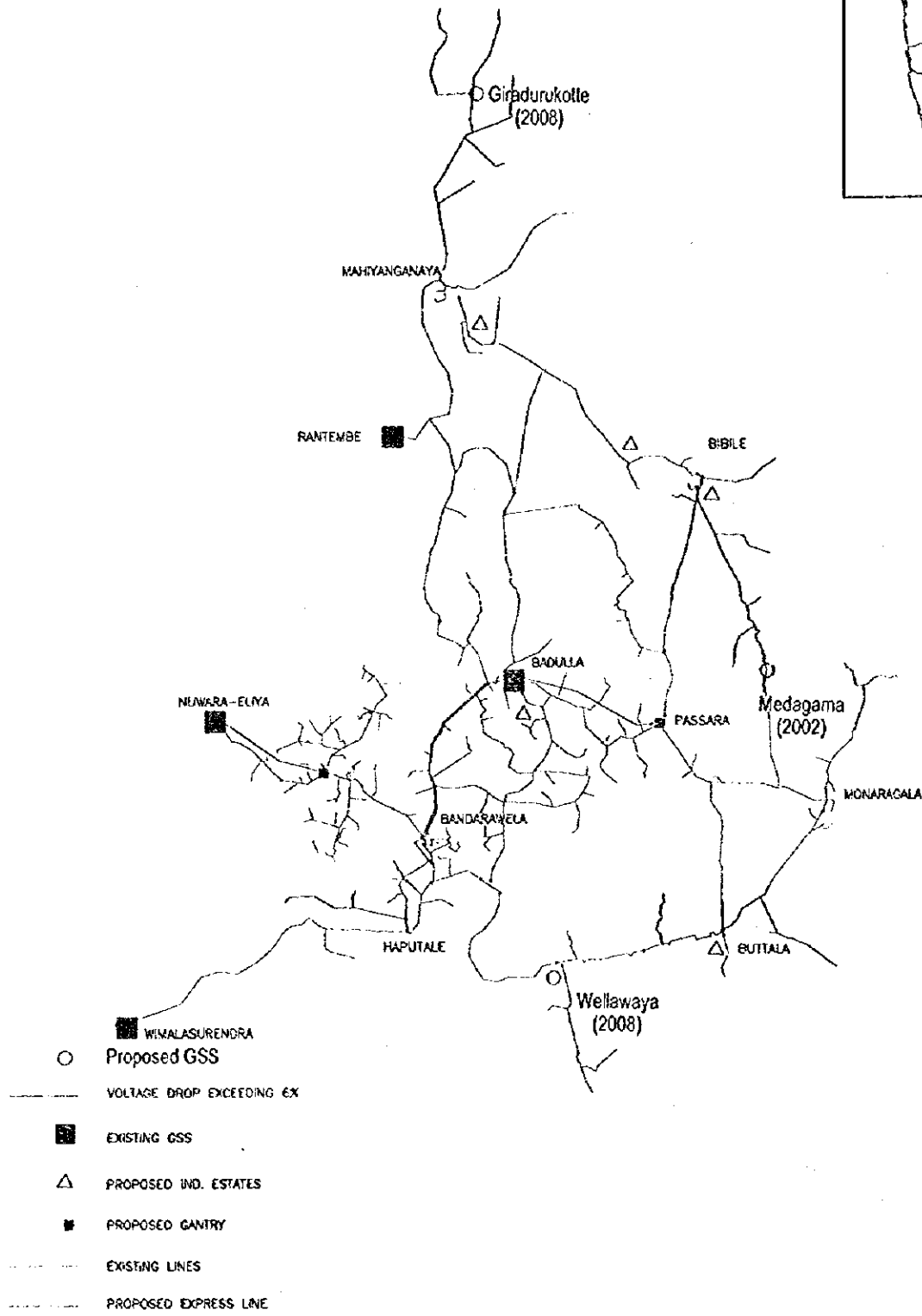
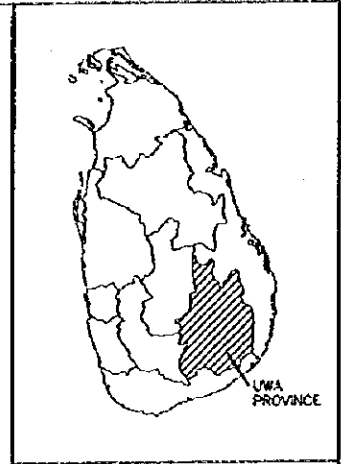
- Proposed GSS
- VOLTAGE DROP EXCEEDING 6%
- EXISTING GSS
- △ PROPOSED IND. ESTATES
- PROPOSED GANTRY
- EXISTING LINES
- PROPOSED EXPRESS LINE

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FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
OF THE CEYLON ELECTRICITY BOARD
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA**

TITLE 図 6.1.5 - 3
南部州の高圧配電系統



CEYLON ELECTRICITY BOARD	JAPAN INTERNATIONAL COOPERATION AGENCY	MASTER PLAN STUDY FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM OF THE CEYLON ELECTRICITY BOARD IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	TITLE
	NIPPON KOEI CO., LTD. Consulting Engineer		図 6.1.5 - 4 ウバ州の高圧配電系統

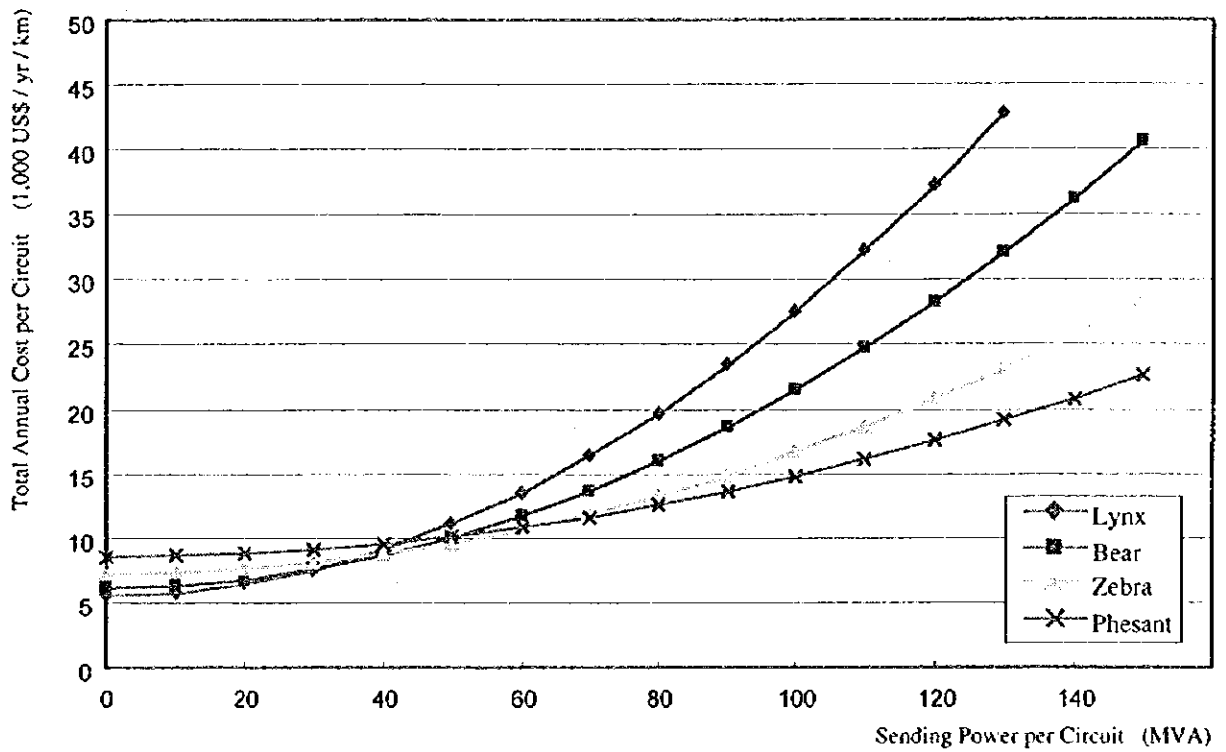


図 6.1.6 - 1 132kV架空送電線の電線サイズ別送電容量と年間費用

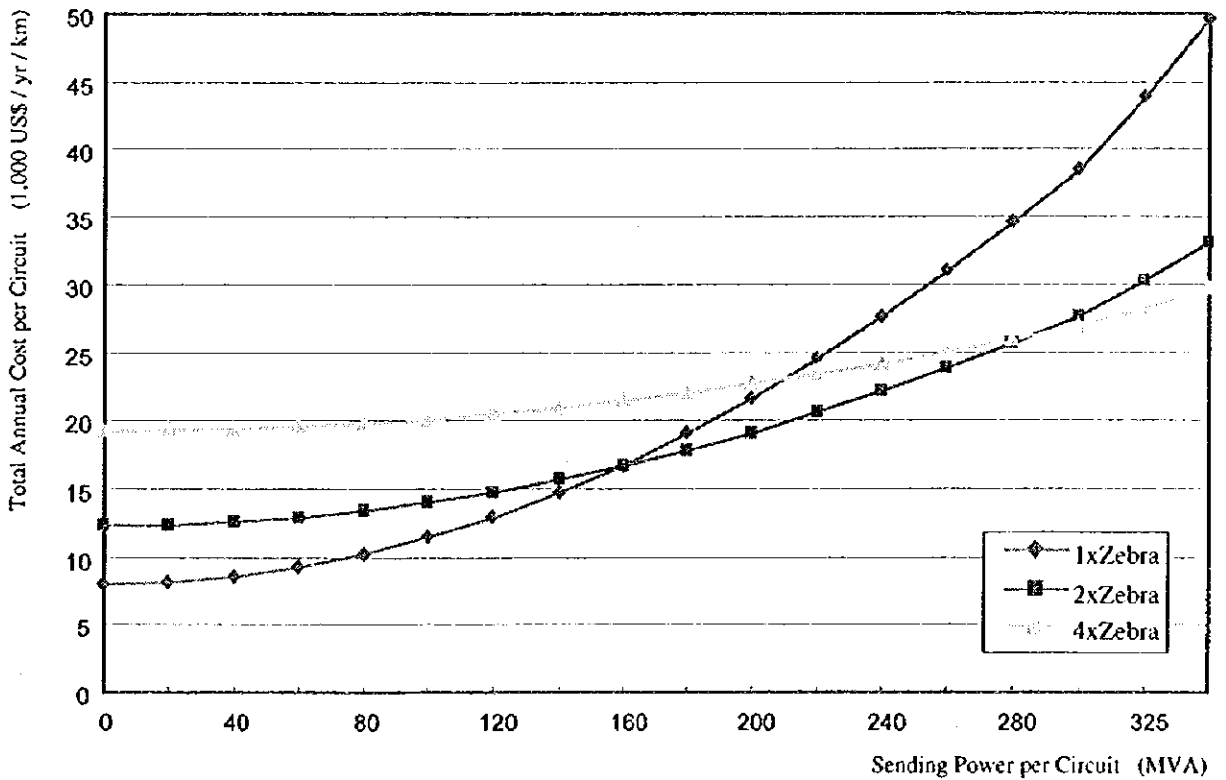
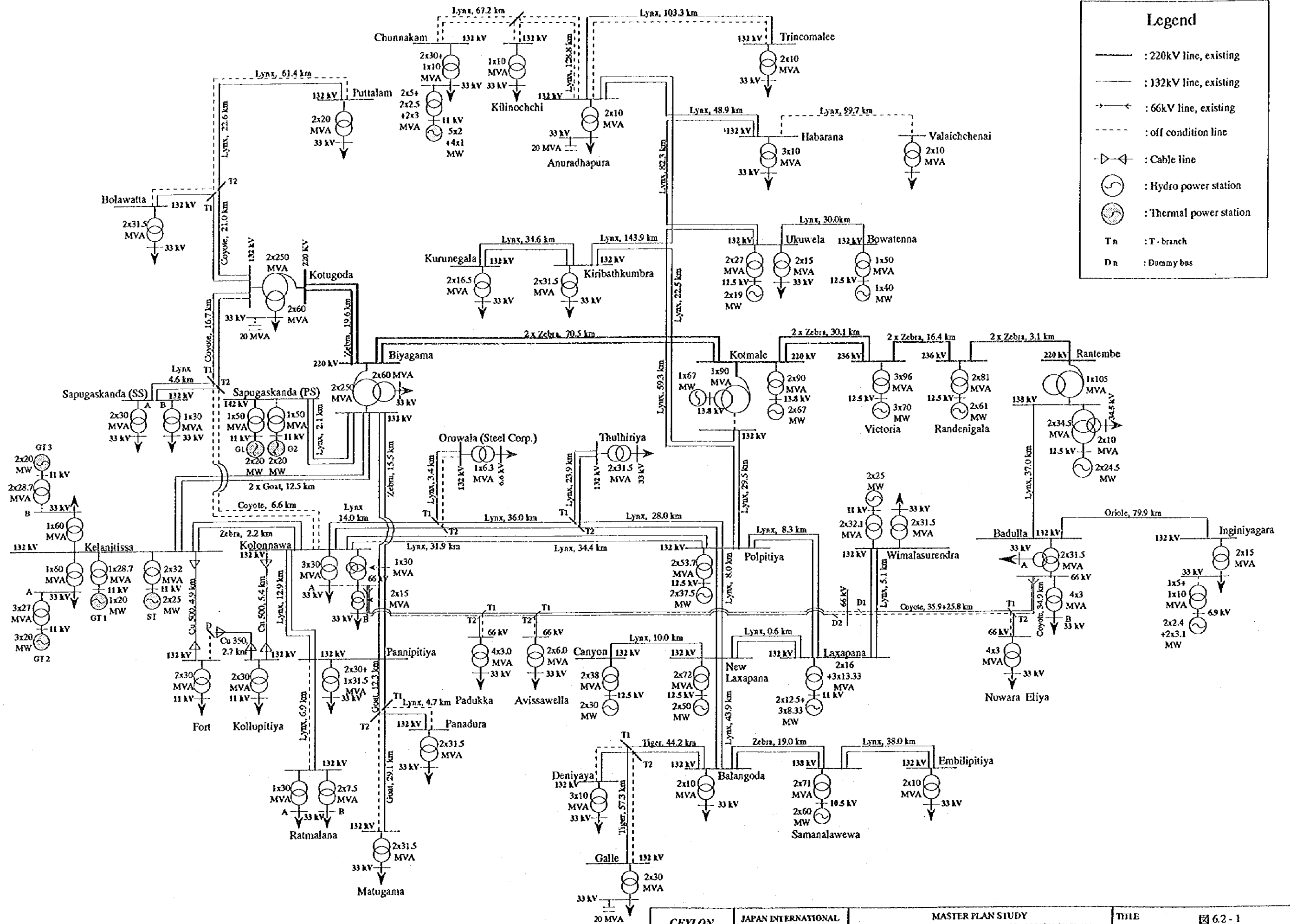


図 6.1.6 - 2 220kV架空送電線の電線サイズ別送電容量と年間費用

Note : Assumed annual load factor is 60%.

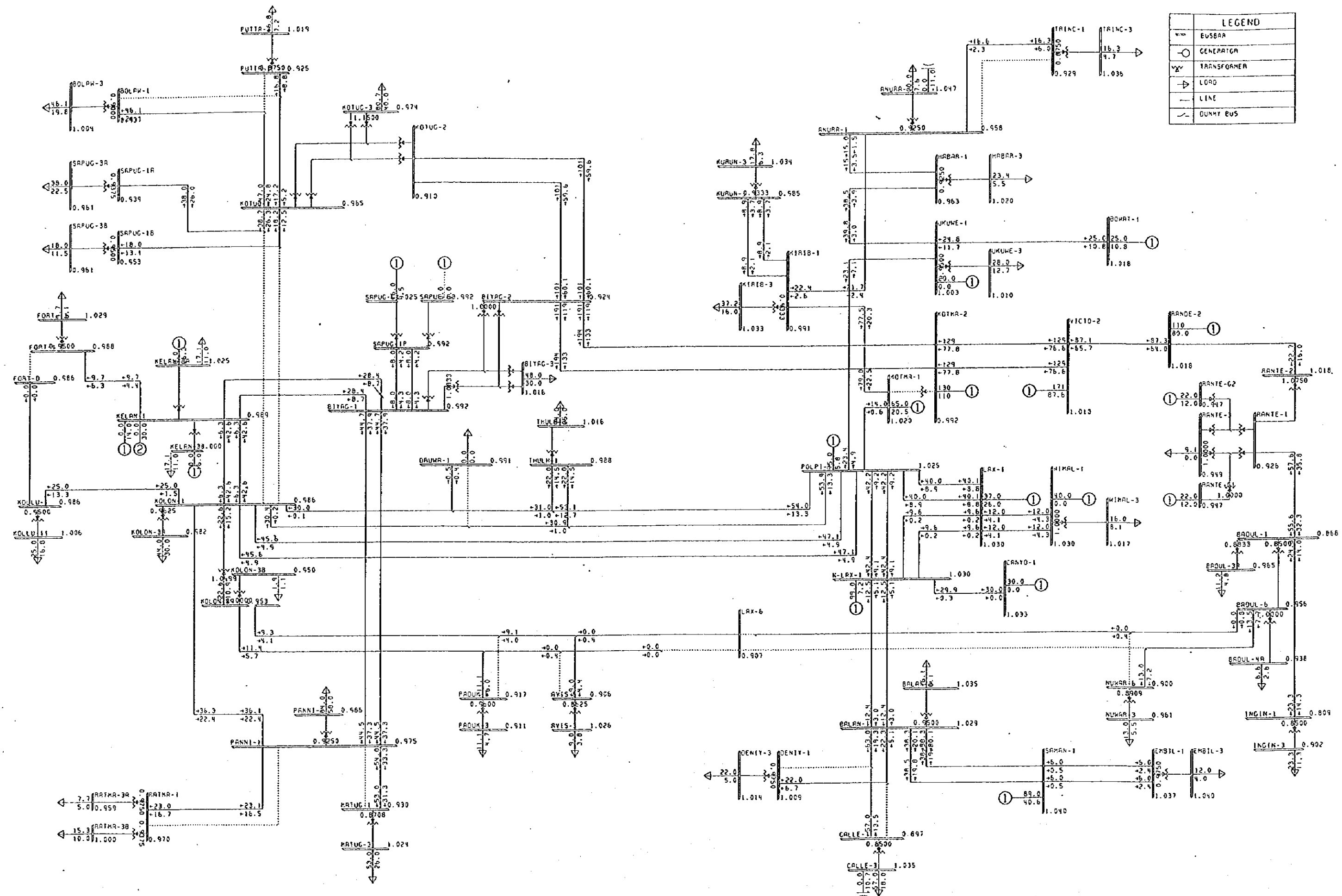
CEYLON ELECTRICITY BOARD	JAPAN INTERNATIONAL COOPERATION AGENCY	MASTER PLAN STUDY FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM OF THE CEYLON ELECTRICITY BOARD IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	TITLE
	NIPPON KOEI CO., LTD. Consulting Engineer		



Legend

- : 220kV line, existing
- : 132kV line, existing
- : 66kV line, existing
- - - : off condition line
- ▷—▷—▷ : Cable line
- ⊙ : Hydro power station
- ⊙ : Thermal power station
- T n : T-branch
- D n : Dummy bus

LEGEND	
⊖	EUSBA
⊙	GENERATOR
⊕	TRANSFORMER
→	LOAD
—	LINE
—	DUMMY BUS



PRESENT SYSTEM ANALYSIS
 28 NOVEMBER 1995 NIGHT PEAK
 95WIA1.SAY, 95WIA1.DRW THU, OCT 10 1996 13:33

50 % RATEB
 0.9500V 1.0500V
 BUS - VOLTAGE (PU)
 BRANCH - MW/MVAR
 EQUIPMENT - MW/MVAR

CEYLON
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JAPAN INTERNATIONAL
 COOPERATION AGENCY
 NIPPON KOEI CO., LTD.
 Consulting Engineer

MASTER PLAN STUDY
 FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
 OF THE CEYLON ELECTRICITY BOARD
 IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

TITLE 圖 6.2-2
 1995年潮流計算結果

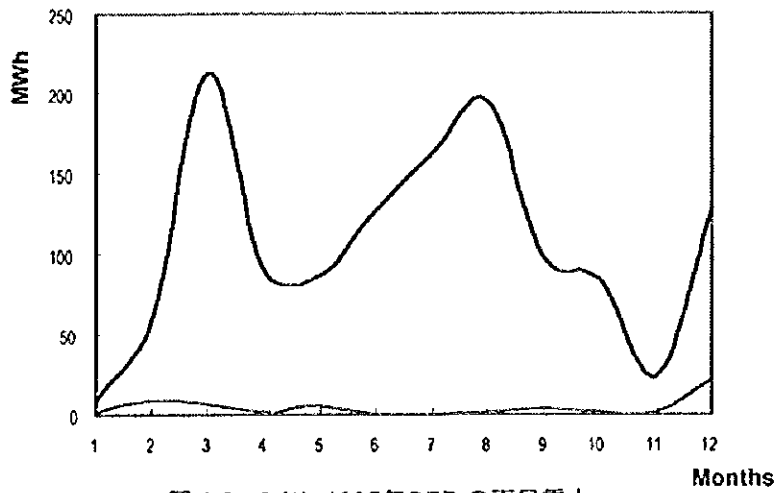


図 6.2 - 3 (1) 1995年CEB の不足電力

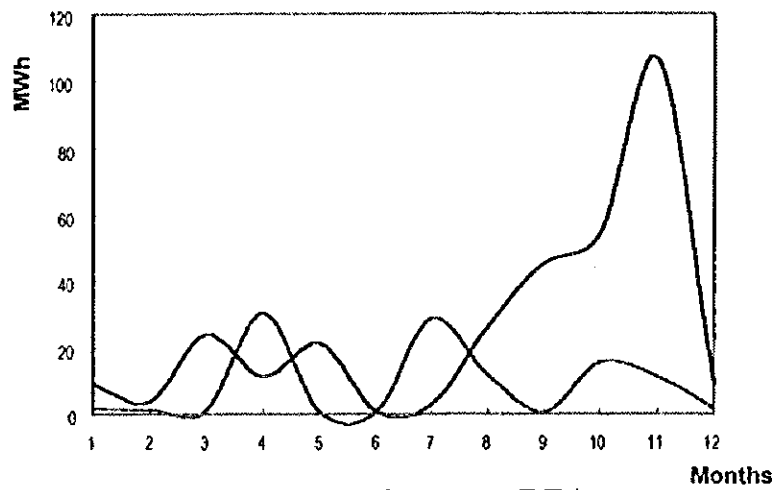


図 6.2 - 3 (2) 1994年CEB の不足電力

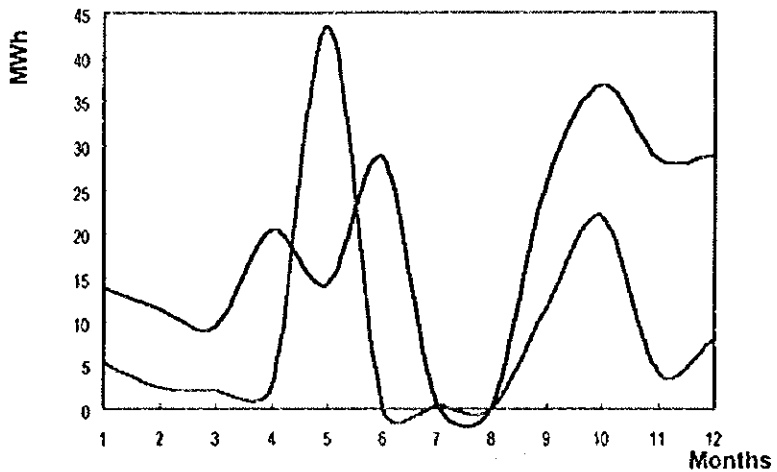
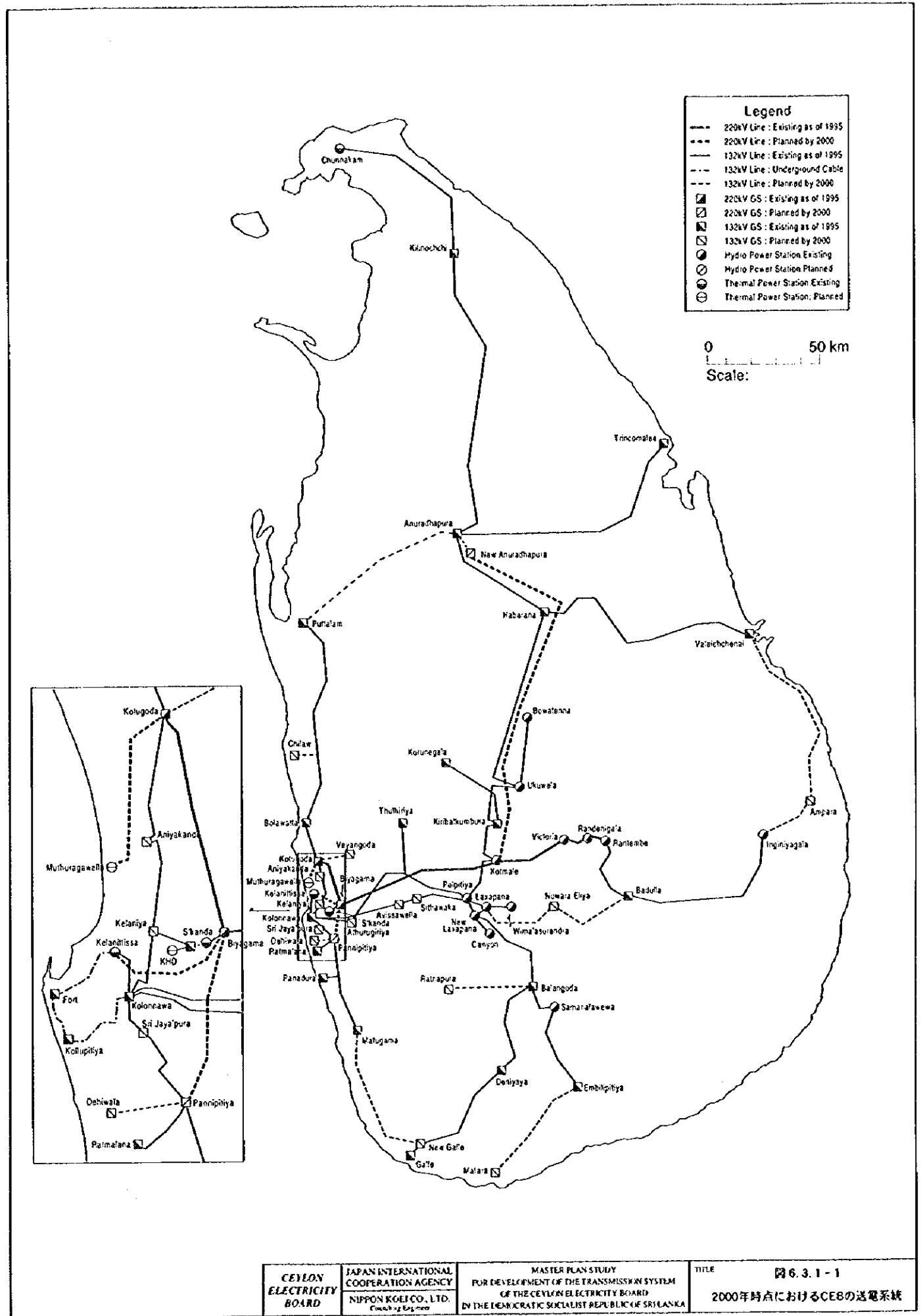


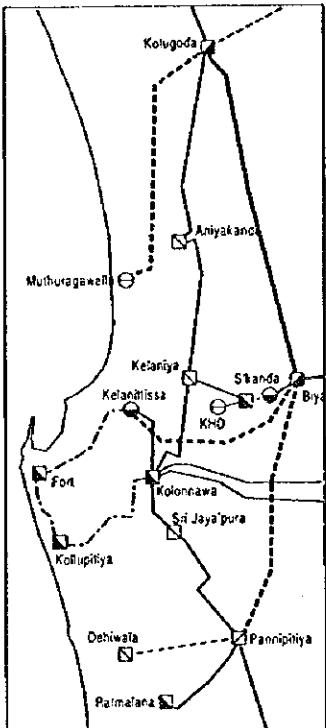
図 6.2 - 3 (3) 1993年CEB の不足電力

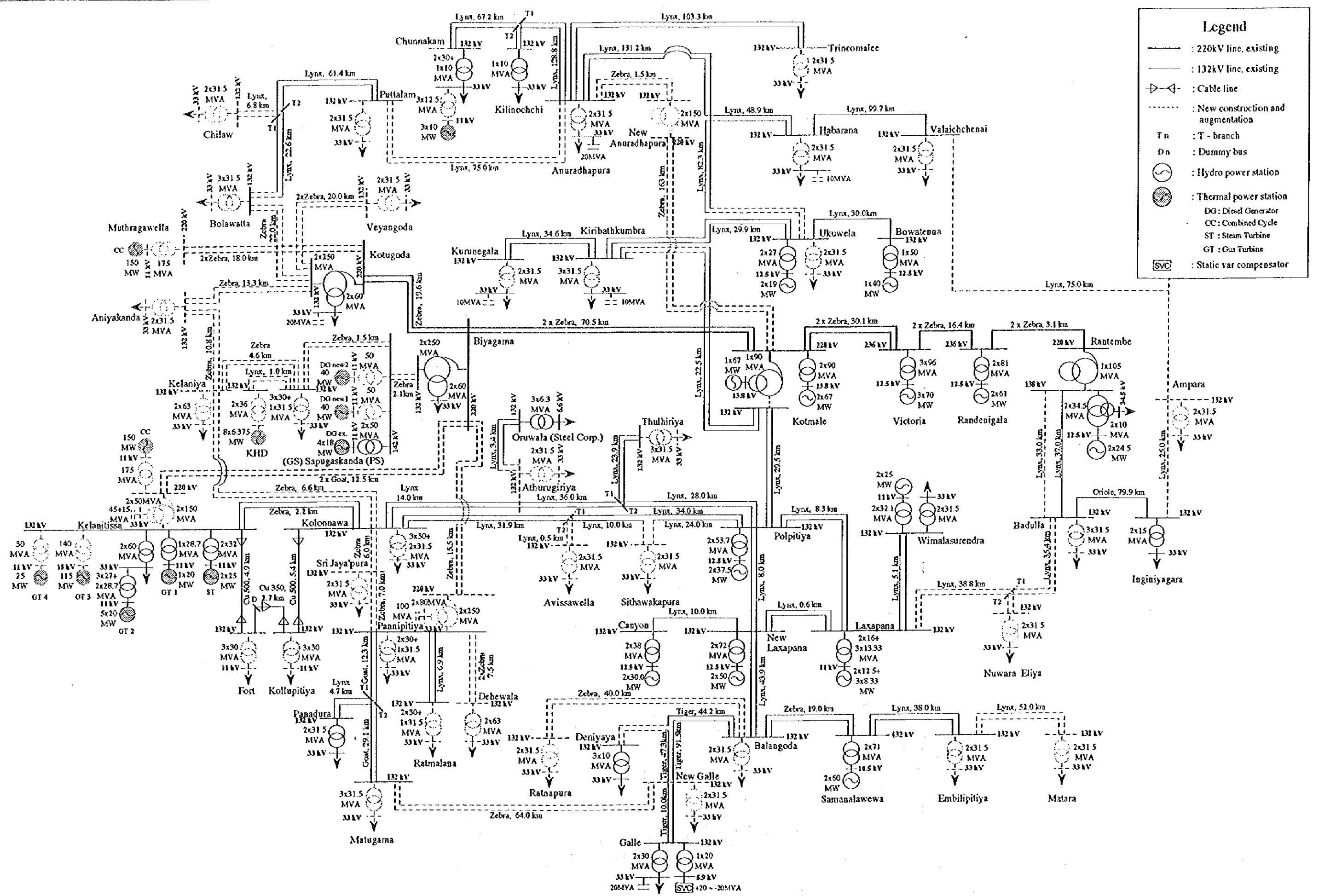
CEYLON ELECTRICITY BOARD	JAPAN INTERNATIONAL COOPERATION AGENCY	MASTER PLAN STUDY FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM OF THE CEYLON ELECTRICITY BOARD IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	TITLE
	NIPPON KOEI CO., LTD. Consulting Engineer		



- Legend**
- 220kV Line : Existing as of 1995
 - - - 220kV Line : Planned by 2000
 - 132kV Line : Existing as of 1995
 - - - 132kV Line : Undergrround Cable
 - - - 132kV Line : Planned by 2000
 - 220kV GS : Existing as of 1995
 - 220kV GS : Planned by 2000
 - ⊗ 132kV GS : Existing as of 1995
 - ⊠ 132kV GS : Planned by 2000
 - ⊙ Hydro Power Station Existing
 - ⊕ Hydro Power Station Planned
 - ⊗ Thermal Power Station Existing
 - ⊠ Thermal Power Station Planned

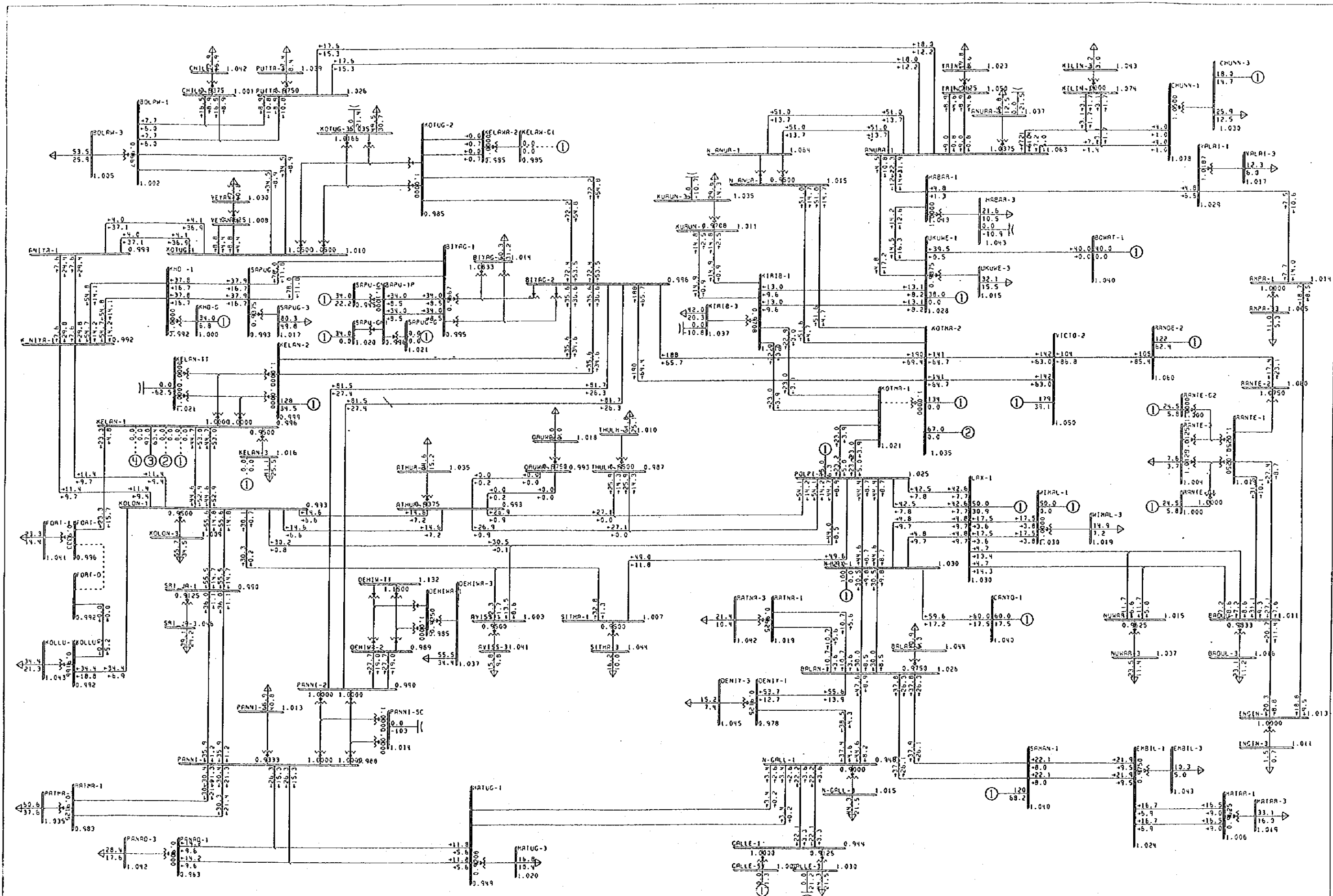
0 50 km
Scale:





Legend

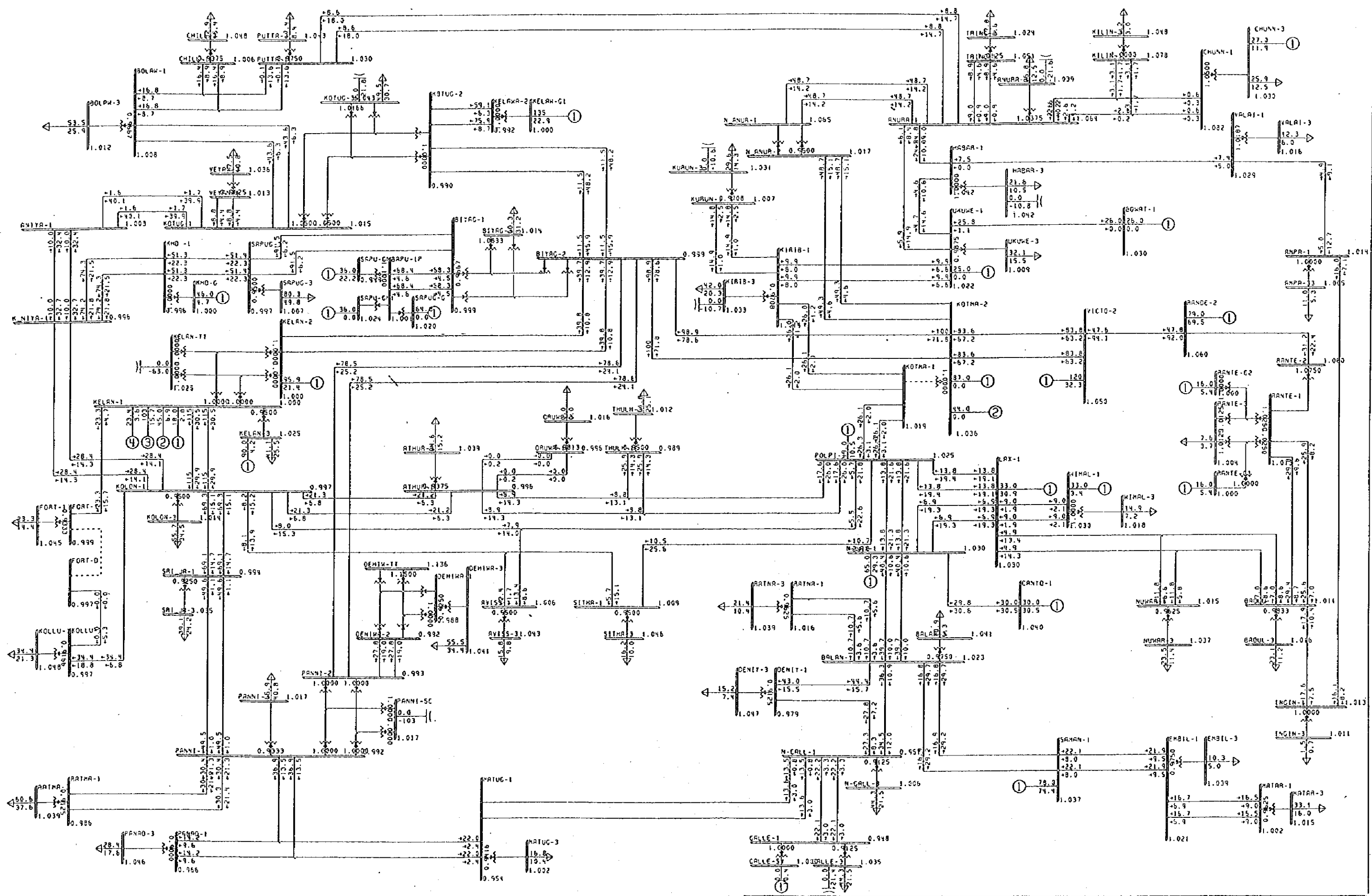
- : 220kV line, existing
- : 132kV line, existing
- : Cable line
- : New construction and augmentation
- : T - branch
- : Dummy bus
- : Hydro power station
- : Thermal power station
- : DG: Diesel Generator
- : CC: Combined Cycle
- : ST: Steam Turbine
- : GT: Gas Turbine
- : SVC: Static var compensator



POWER SYSTEM ANALYSIS FOR YEAR 2000
 PEAK CONDITIONS / RAINY SEASON
 00X3A3.SAV.00W3A3.DAW THU, OCT 10 1996 14:02

50 % RATED
 0.9524V 1.0500V
 MV: 600 .4120 .4200
 BUS - VOLTAGE (PU)
 BRANCH - MV/MVAR
 EQUIPMEN: - MV/MVAR

CEYLON ELECTRICITY BOARD	JAPAN INTERNATIONAL COOPERATION AGENCY	MASTER PLAN STUDY FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM OF THE CEYLON ELECTRICITY BOARD	TITLE 圖 6.3.2-2
	NIPPON KOEI CO., LTD. Consulting Engineer	IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA	潮流計算結果: 2000年雨季



POWER SYSTEM ANALYSIS FOR YEAR 2000
 PEAK CONDITIONS / DAY SEASON
 00H303.SAV.00H3R3.0RW THU, OCT 10 1996 14:19

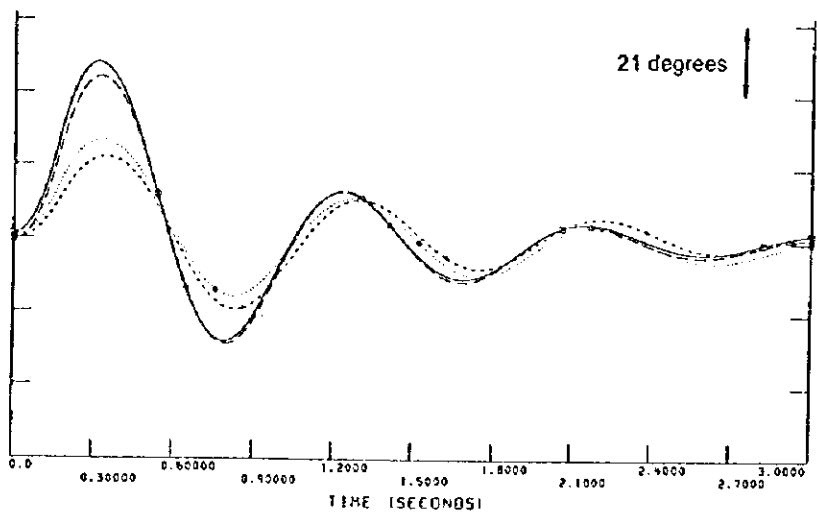
SO. Z. RAJEB
 0.9500V 1.0500V
 NY.460 .5120 .#200
 BUS - VOLTAGE (PU)
 BRANCH - MW/MVAR
 EQUIPMENT - MW/MVAR

**CEYLON
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 COOPERATION AGENCY
 NIPPON KOKI CO., LTD.
 Consulting Engineer

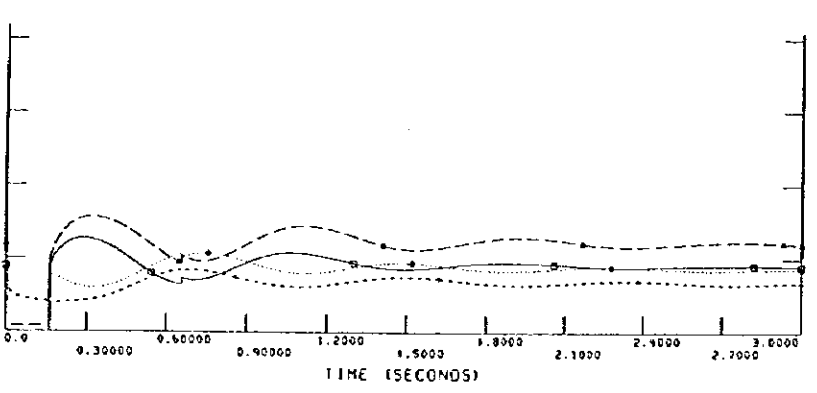
MASTER PLAN STUDY
 FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
 OF THE CEYLON ELECTRICITY BOARD
 IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

TITLE 633-3
 潮流計算結果: 2000年乾季



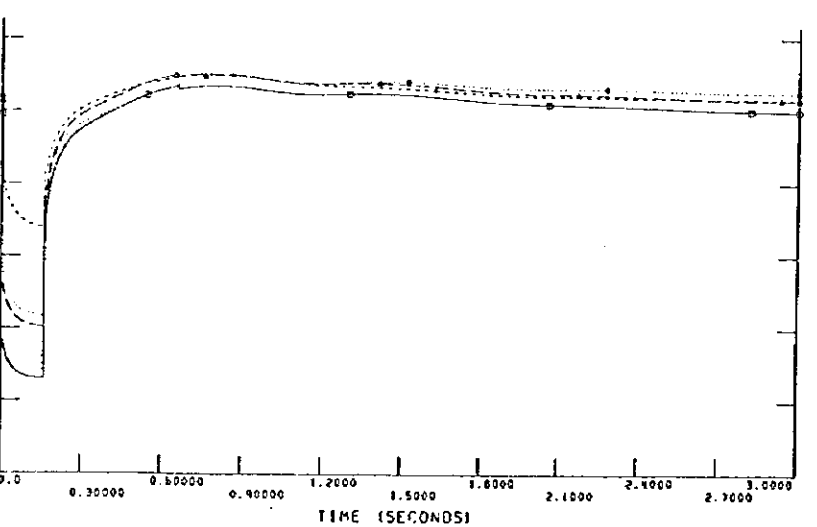
(K-1RX-1 132.00) MC 13 (ANGL 3730 (COMMUN-3 33.000))
 (KELAN-2 220.00) MC 13 (ANGL 3730 (COMMUN-3 33.000))
 (VIC10-2 220.00) MC 13 (ANGL 3730 (COMMUN-3 33.000))
 (KOTIMA-2 220.00) MC 13 (ANGL 3730 (COMMUN-3 33.000))

ROTOR ANGLE



(pu)
 6.0
 3.0
 0.0
 (K-1RX-1 132.00) MC 13
 (KELAN-2 220.00) MC 13
 (VIC10-2 220.00) MC 13
 (KOTIMA-2 220.00) MC 13

POWER OUTPUT
 (1.0 pu = 100 MW)



(pu)
 1.2
 1.0
 0.8
 0.6
 0.4
 0.2
 0.0
 (K-1RX-1 132.00) MC 13
 (KELAN-2 220.00) MC 13
 (VIC10-2 220.00) MC 13
 (KOTIMA-2 220.00) MC 13

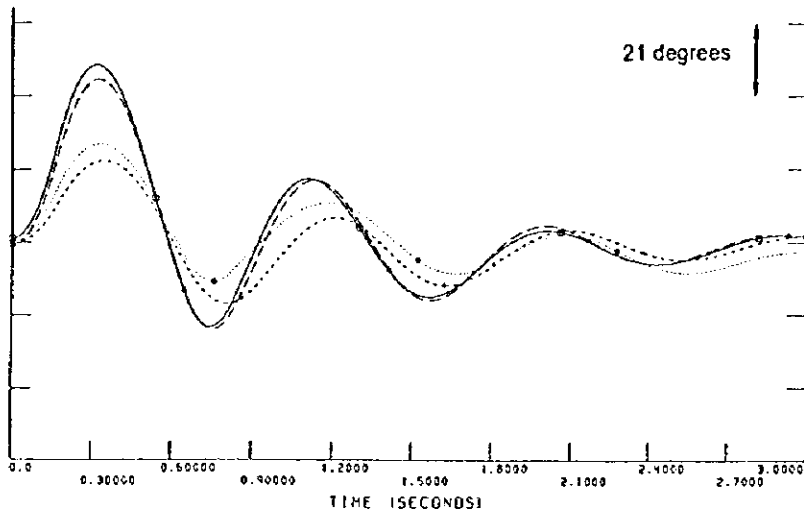
TERMINAL VOLTAGE

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COOPERATION AGENCY
NIPPON KOEI CO., LTD.
Consulting Engineer

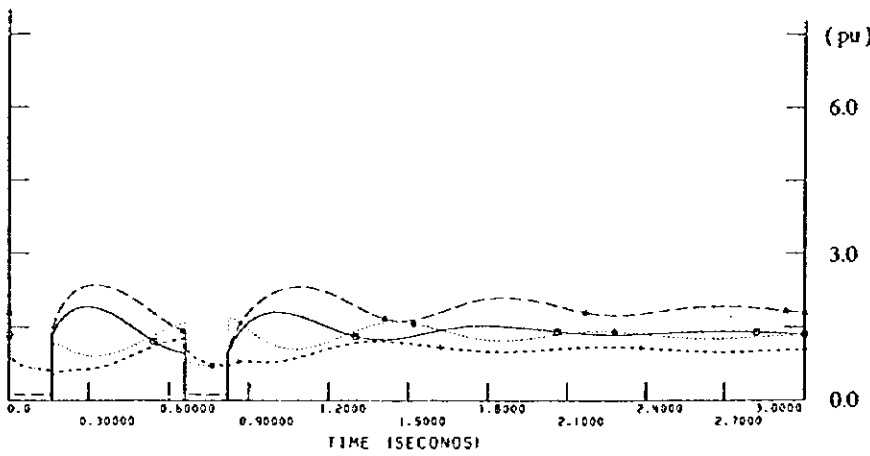
MASTER PLAN STUDY
FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
OF THE CEYLON ELECTRICITY BOARD
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

TITLE 図 6.3.2 - 4
 過渡安定度計算結果: 2000年雨期
 (717V-2'18'7.22KV線再開路成功)



EN-LAX-1 132.003 MC 13 (ANGL 3130 (COMMUN-3 33.000))
 KEELAN-2 220.003 MC 13 (ANGL 3130 (COMMUN-3 33.000))
 VICTO-2 220.003 MC 13 (ANGL 3130 (COMMUN-3 33.000))
 KOTHA-2 220.003 MC 13 (ANGL 3130 (COMMUN-3 33.000))

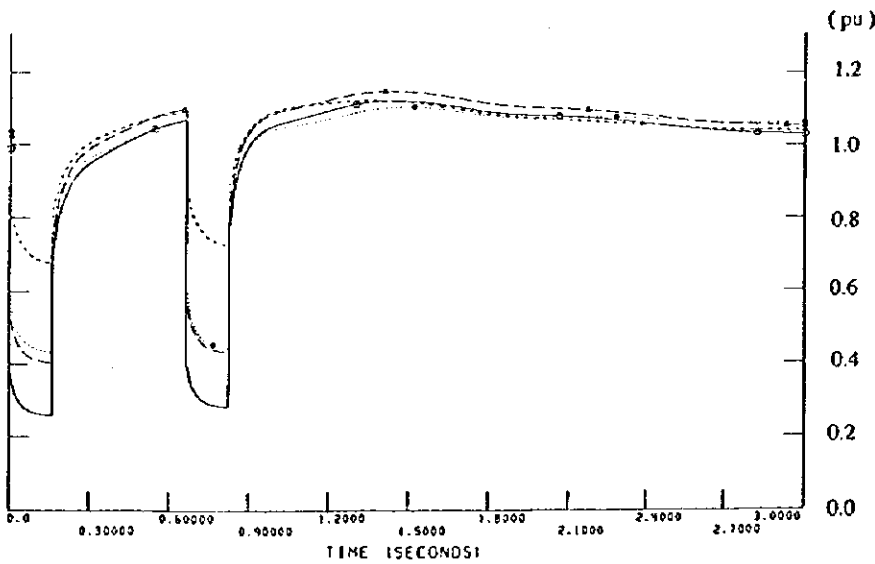
ROTOR ANGLE



EN-LAX-1 132.003 MC 13
 KEELAN-2 220.003 MC 13
 VICTO-2 220.003 MC 13
 KOTHA-2 220.003 MC 13

POWER OUTPUT

(1.0 pu = 100 MW)



EN-LAX-1 132.003 MC 13
 KEELAN-2 220.003 MC 13
 VICTO-2 220.003 MC 13
 KOTHA-2 220.003 MC 13

TERMINAL VOLTAGE

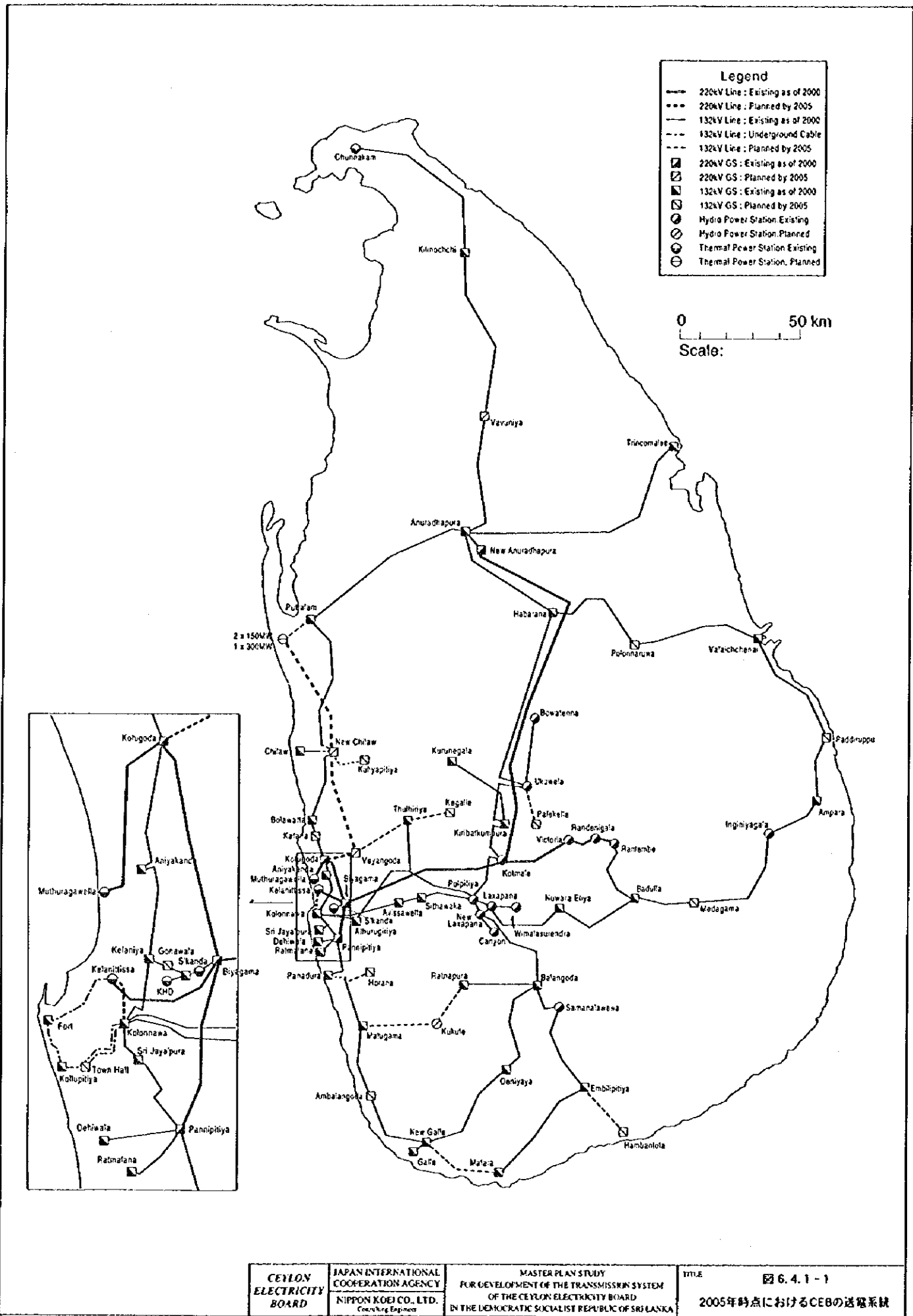
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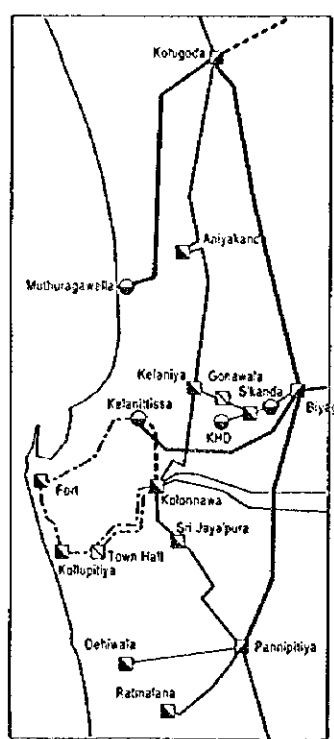
MASTER PLAN STUDY
FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
OF THE CEYLON ELECTRICITY BOARD
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

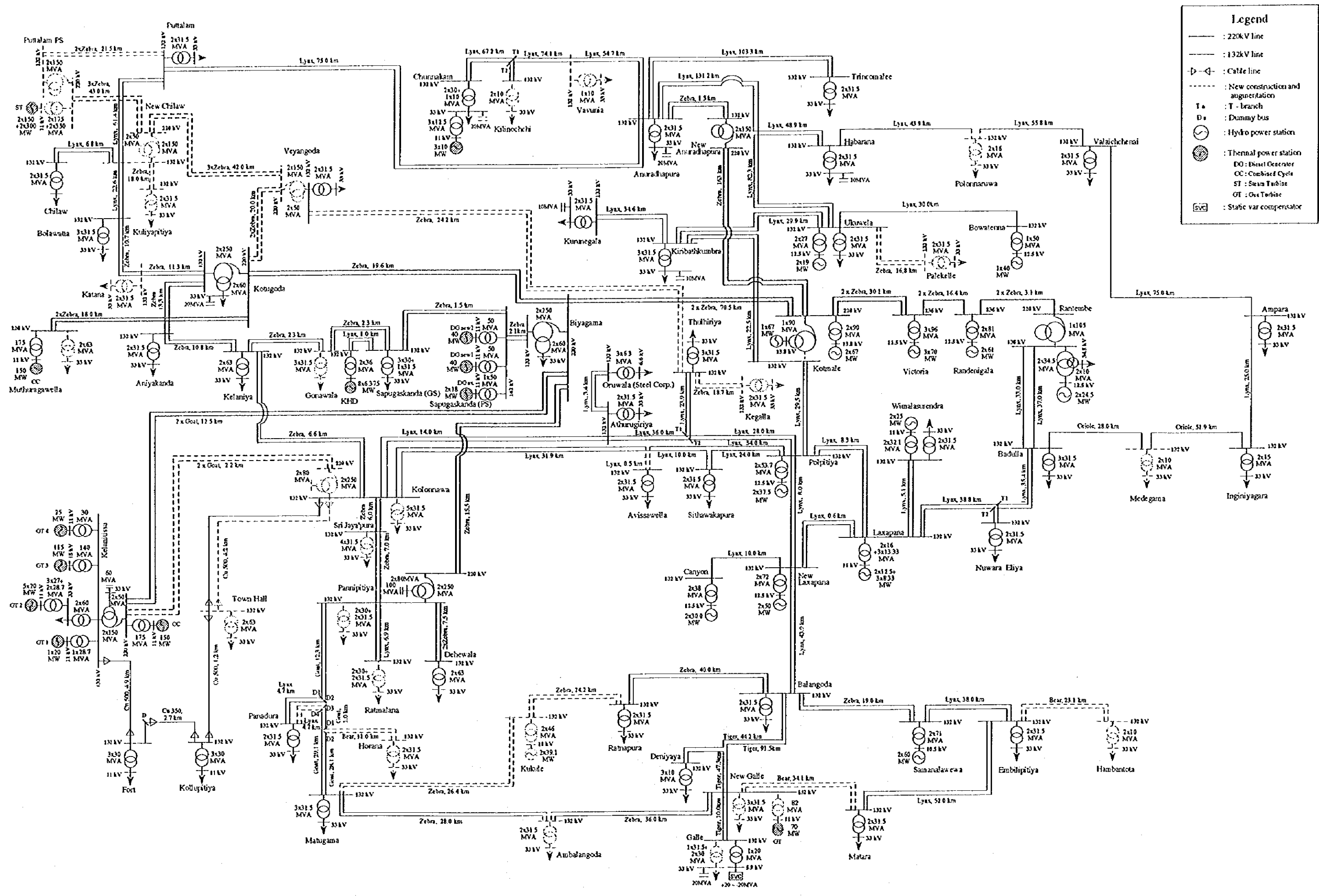
TITLE 図 6.3.2-5
過渡安定度計算結果: 2000年雨期
(27kV-27kV 220kV線再開路失敗)



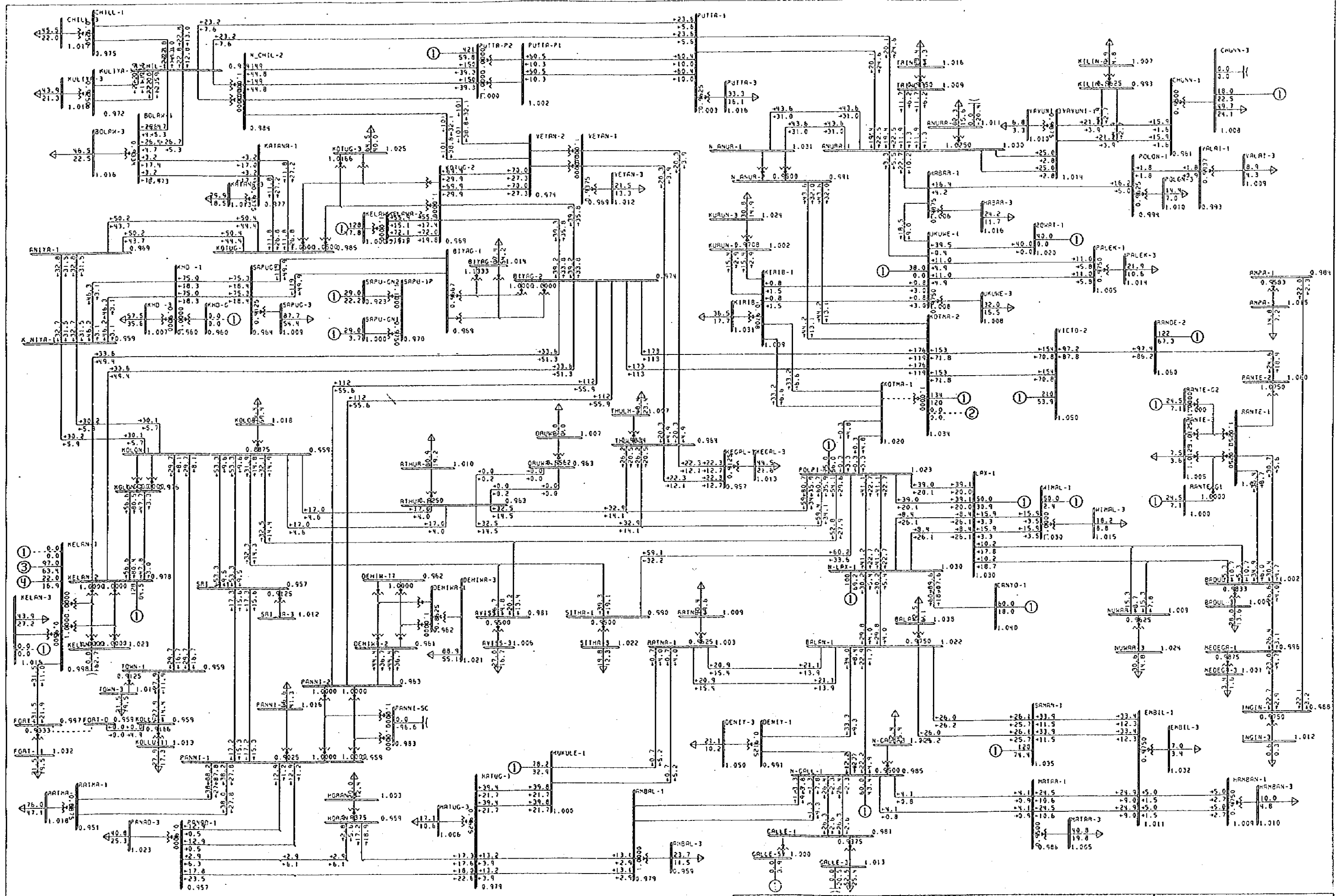
- Legend**
- 220kV Line : Existing as of 2000
 - - - 220kV Line : Planned by 2005
 - 132kV Line : Existing as of 2000
 - - - 132kV Line : Undergrnd Cable
 - - - 132kV Line : Planned by 2005
 - ◻ 220kV GS : Existing as of 2000
 - ◻ 220kV GS : Planned by 2005
 - ◻ 132kV GS : Existing as of 2000
 - ◻ 132kV GS : Planned by 2005
 - ⊙ Hydro Power Station Existing
 - ⊙ Hydro Power Station Planned
 - ⊙ Thermal Power Station Existing
 - ⊙ Thermal Power Station Planned

0 50 km
Scale:





- Legend**
- : 220kV line
 - - - : 132kV line
 - ⊕ ⊖ : Cable line
 - - - - : New construction and augmentation
 - T : T - branch
 - D : Dummy bus
 - ⊙ : Hydro power station
 - ⊙ : Thermal power station
 - DO : Diesel Operator
 - CC : Combined Cycle
 - ST : Steam Turbine
 - GT : Gas Turbine
 - [SVC] : Static var compensator



POWER SYSTEM ANALYSIS FOR YEAR 2005
 PEAK CONDITIONS / RAINY SEASON
 Q5H2R2.SAV, 2005.DRW THU, OCT 10 1996 14:35

50.2 KAIBR
 0.9500V 1.0500V
 KV: 110, 1120, 1200

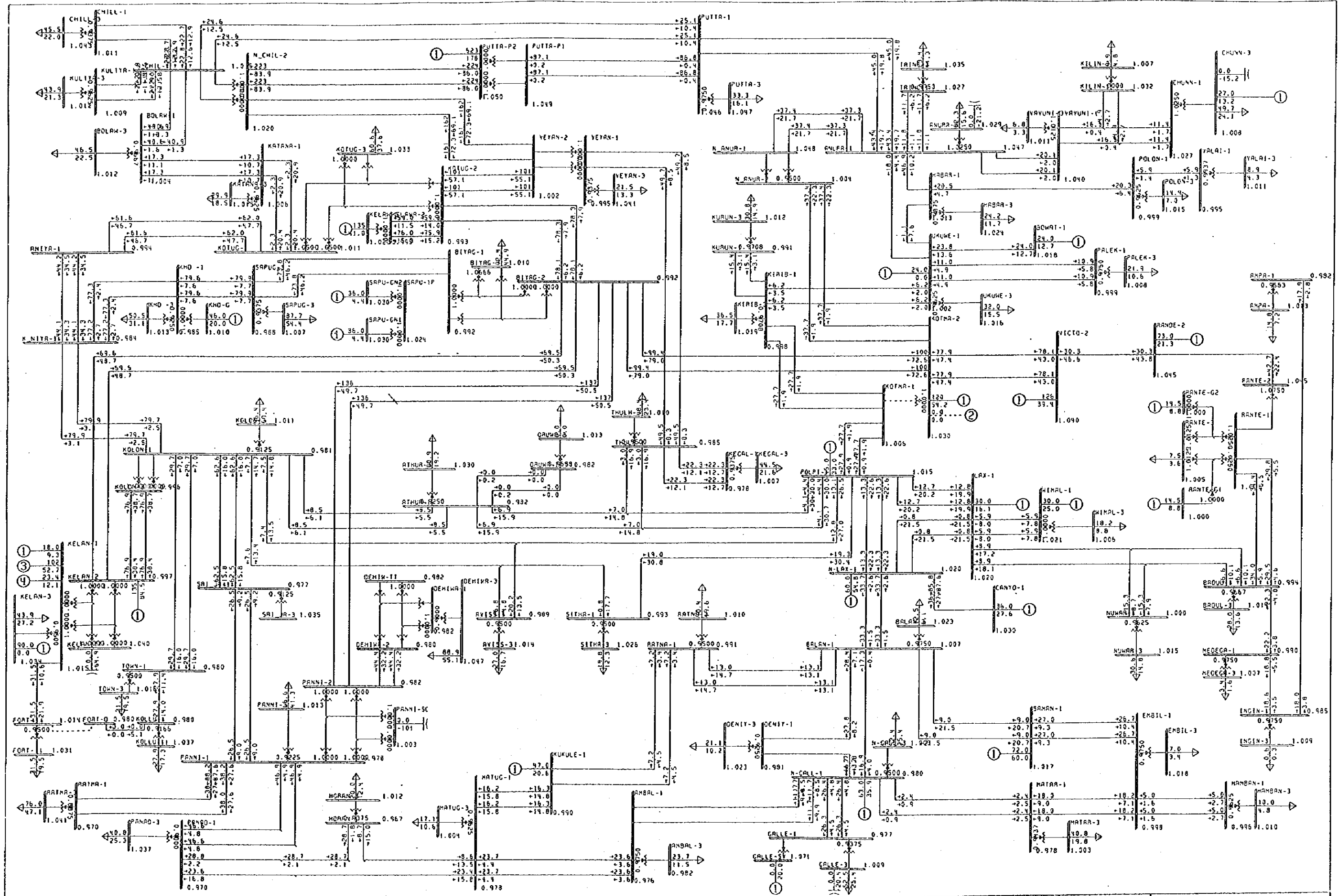
BUS - VOLTAGE (PU)
 BRANCH - MW/MVAR
 EQUIPMENT - MW/MVAR

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JAPAN INTERNATIONAL
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 Consulting Engineers

MASTER PLAN STUDY
 FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
 OF THE CEYLON ELECTRICITY BOARD
 IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

TITLE 圖 6.4.2-2
 潮流計算結果: 2005年雨季



POWER SYSTEM ANALYSIS FOR YEAR 2005
 PEAK CONDITIONS / DRI SEASON
 05H201.SAV, 2005.DAW THU, OCT 10 1996 14:38

50 % RATED
 0.9500V 1.0500V
 41.500 1.0200 1.0200

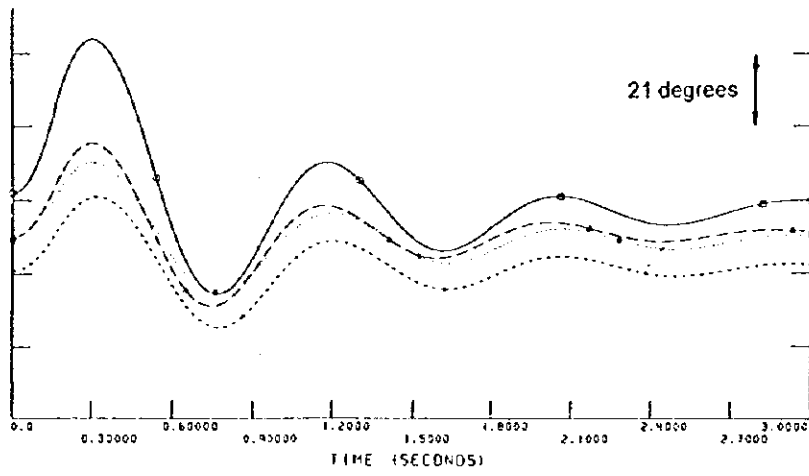
BUS - VOLTAGE (PU)
 BRANCH - MW/MVAR
 EQUIPMENT - MW/MVAR

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JAPAN INTERNATIONAL
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 NIPPON KOEI CO., LTD.
 Consulting Engineer

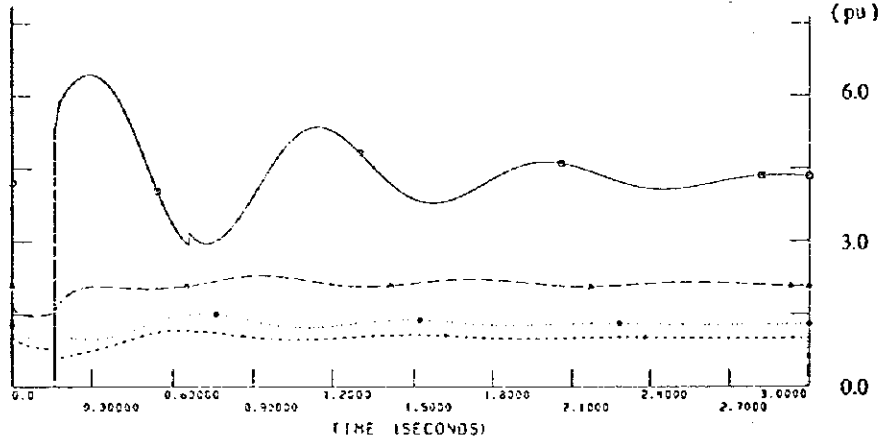
MASTER PLAN STUDY
 FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
 OF THE CEYLON ELECTRICITY BOARD
 IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

TITLE 642-3
 05H201.SAV, 2005.DAW THU, OCT 10 1996 14:38



EN-LAX-1 132.003 MC 13-ENGL 3730 (CHUNK-1 33.000)
 ENELAN-2 220.003 MC 13-ENGL 3730 (CHUNK-1 33.000)
 CVICTO-2 220.003 MC 13-ENGL 3730 (CHUNK-1 33.000)
 CPUIA-P2220.003 MC 13-ENGL 3730 (CHUNK-1 33.000)

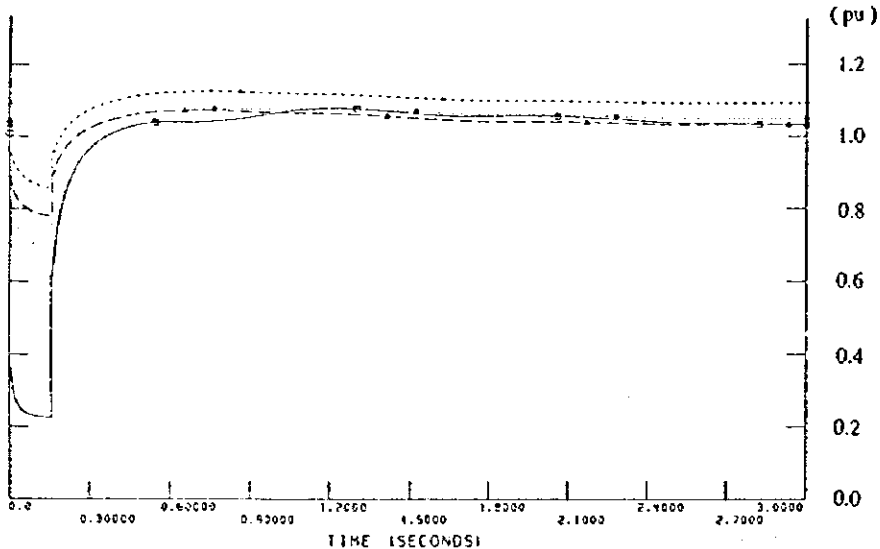
ROTOR ANGLE



EN-LAX-1 132.003 MC 13
 ENELAN-2 220.003 MC 13
 CVICTO-2 220.003 MC 13
 CPUIA-P2220.003 MC 13

POWER OUTPUT

(1.0 pu = 100 MW)



EN-LAX-1 132.003 MC 13
 ENELAN-2 220.003 MC 13
 CVICTO-2 220.003 MC 13
 CPUIA-P2220.003 MC 13

TERMINAL VOLTAGE

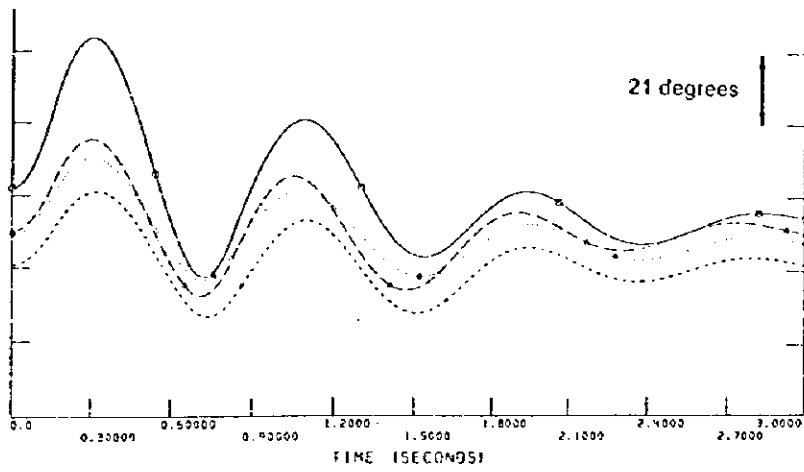
**CEYLON
ELECTRICITY
BOARD**

**JAPAN INTERNATIONAL
COOPERATION AGENCY**

NIPPON KOEI CO., LTD.
Consulting Engineer

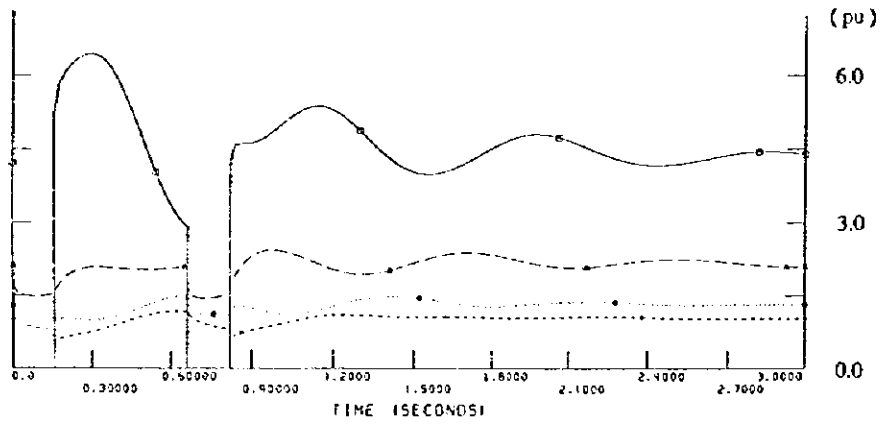
MASTER PLAN STUDY
FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
OF THE CEYLON ELECTRICITY BOARD
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

TITLE 図 6.4.2 - 4
過渡安定度計算結果: 2005年雨期
(コラ-ル・117マ220KV線再開路成功)



EN-LR4-1 132.003 MC 13-ENGL 3730 COMMUN-3 33.0000
 EKELAN-2 220.003 MC 13-ENGL 3730 COMMUN-3 33.0000
 EVIC10-2 220.003 MC 13-ENGL 3730 COMMUN-3 33.0000
 CPU11A-P2220.003 MC 13-ENGL 3730 COMMUN-3 33.0000

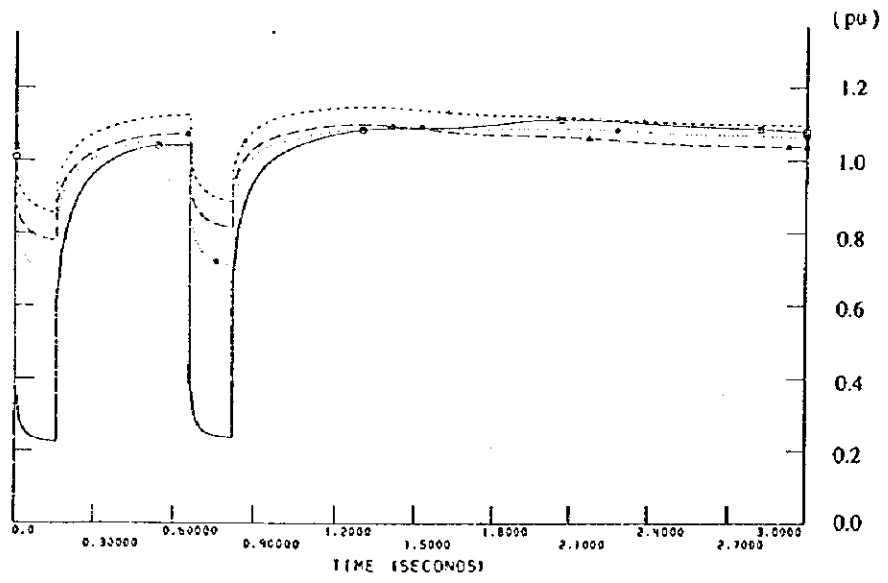
ROTOR ANGLE



EN-LR4-1 132.003 MC 13
 EKELAN-2 220.003 MC 13
 EVIC10-2 220.003 MC 13
 CPU11A-P2220.003 MC 13

POWER OUTPUT

(1.0 pu = 100 MW)



EN-LR4-1 132.003 MC 13
 EKELAN-2 220.003 MC 13
 EVIC10-2 220.003 MC 13
 CPU11A-P2220.003 MC 13

TERMINAL VOLTAGE

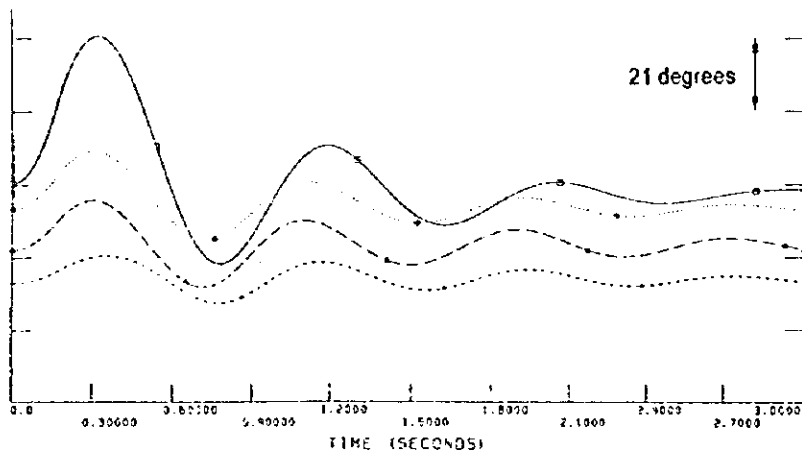
**CEYLON
ELECTRICITY
BOARD**

**JAPAN INTERNATIONAL
COOPERATION AGENCY**

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 Consulting Engineer

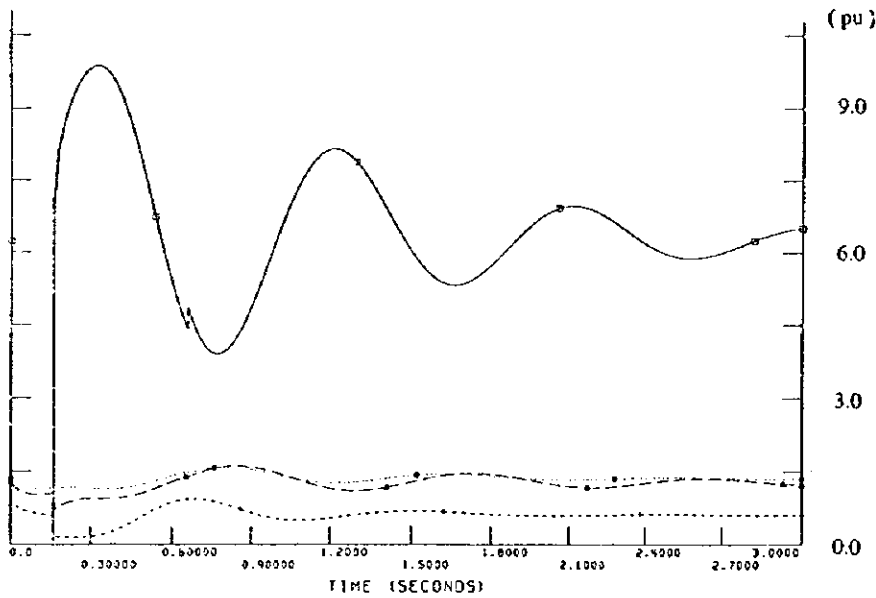
**MASTER PLAN STUDY
FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
OF THE CEYLON ELECTRICITY BOARD
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA**

TITLE 図 6.4.2 - 5
 過渡安定度計算結果：2005年雨期
 (カラ-ビ'11'7 220KV線再開路失敗)



EN-LAX-1 132.003 MC 13-ENGL 3733 EQUAN-3 33.0000
 KEELAN-2 220.003 MC 13-ENGL 3733 EQUAN-3 33.0000
 VICTO-2 220.003 MC 13-ENGL 3733 EQUAN-3 33.0000
 PUTTA-P2220.003 MC 13-ENGL 3733 EQUAN-3 33.0000

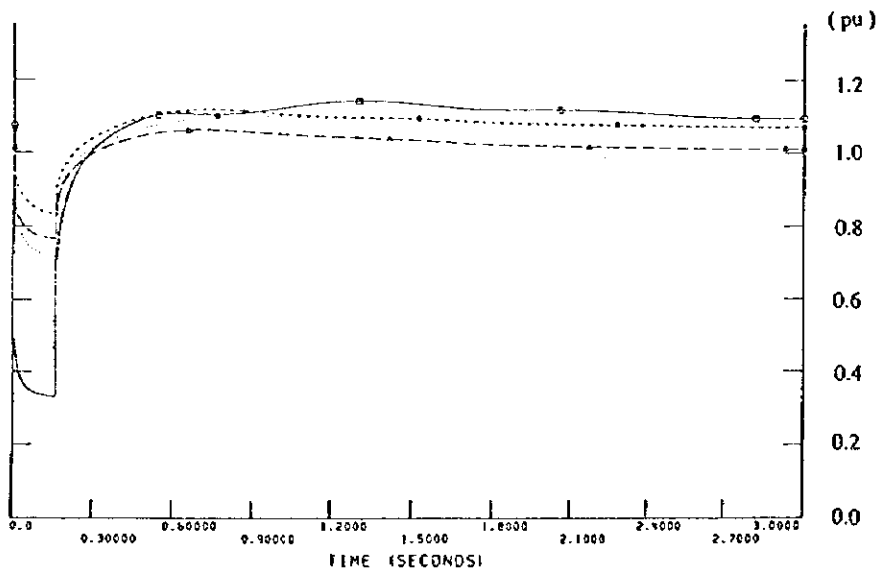
ROTOR ANGLE



EN-LAX-1 132.003 MC 13
 KEELAN-2 220.003 MC 13
 VICTO-2 220.003 MC 13
 PUTTA-P2220.003 MC 13

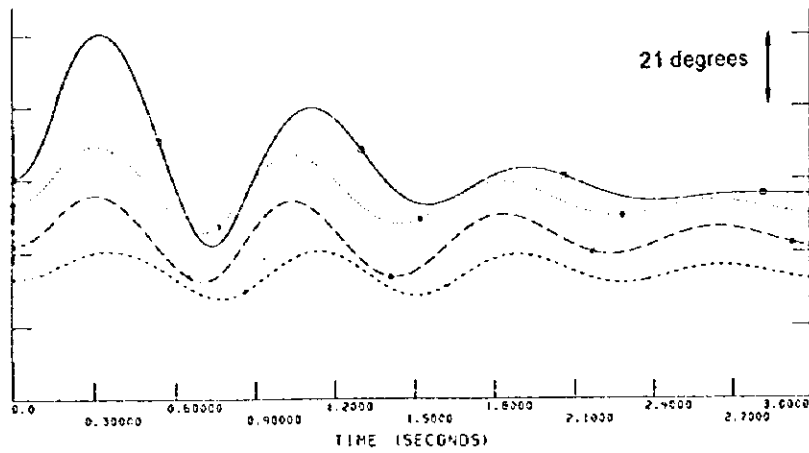
POWER OUTPUT

(1.0 pu = 100 MW)



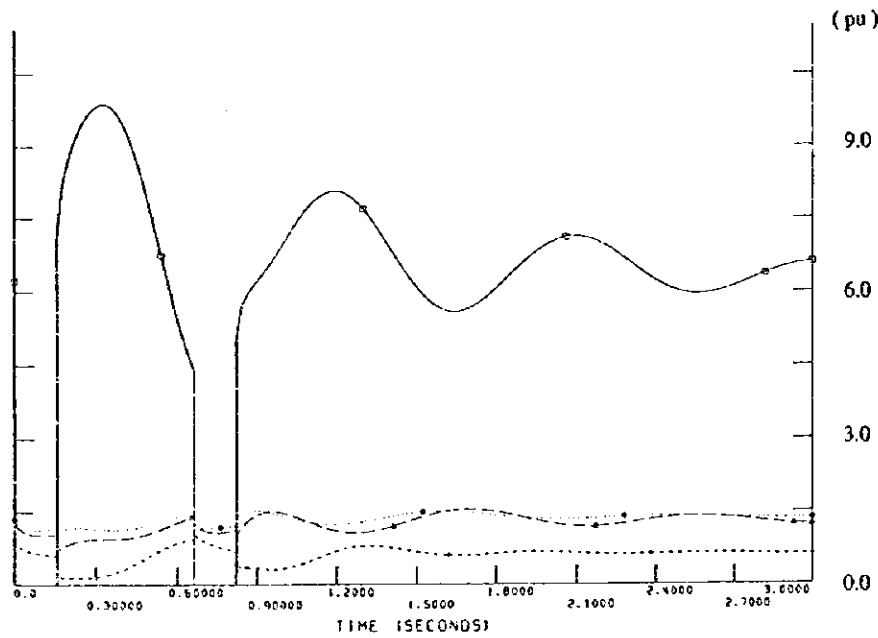
EN-LAX-1 132.003 MC 13
 KEELAN-2 220.003 MC 13
 VICTO-2 220.003 MC 13
 PUTTA-P2220.003 MC 13

TERMINAL VOLTAGE



N-LR1-1 132.003 MC 13-ENGL 3333 (CMVAV-3 33.0003)
 EKLAN-2 220.003 MC 13-ENGL 3333 (CMVAV-3 33.0003)
 VIC10-2 220.003 MC 13-ENGL 3333 (CMVAV-3 33.0003)
 PPU11A-P2220.003 MC 13-ENGL 3333 (CMVAV-3 33.0003)

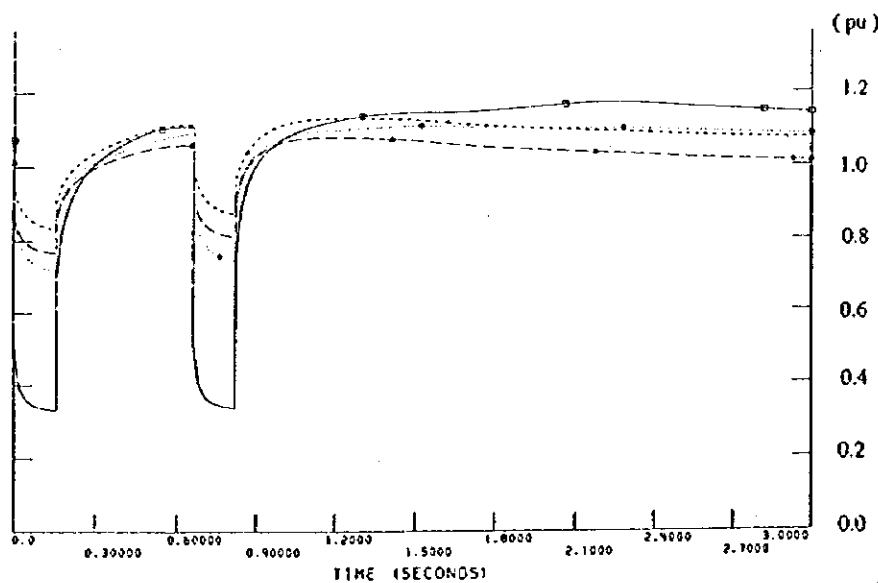
ROTOR ANGLE



N-LR1-1 132.003 MC 13
 EKLAN-2 220.003 MC 13
 VIC10-2 220.003 MC 13
 PPU11A-P2220.003 MC 13

POWER OUTPUT

(1.0 pu = 100 MW)



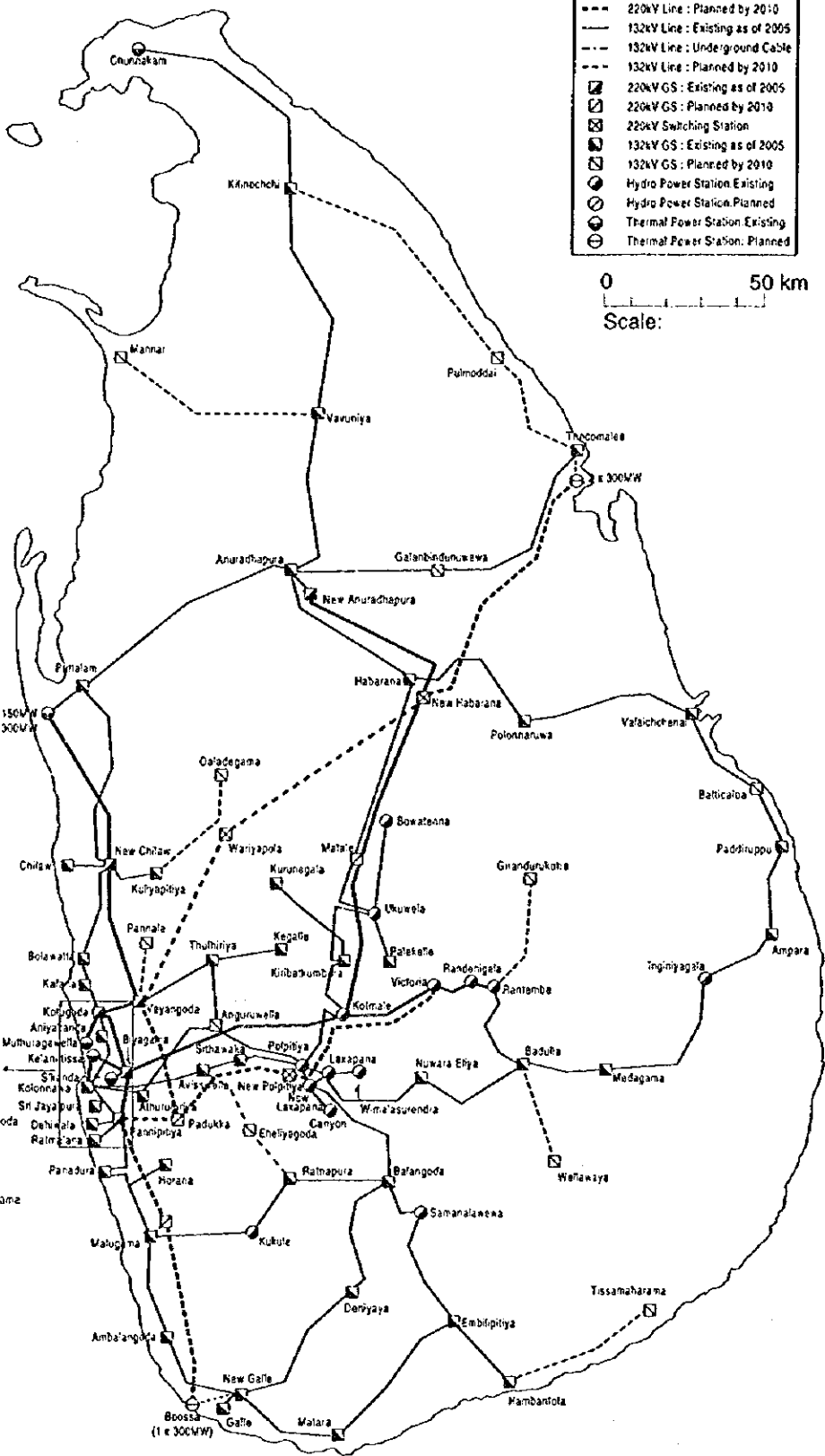
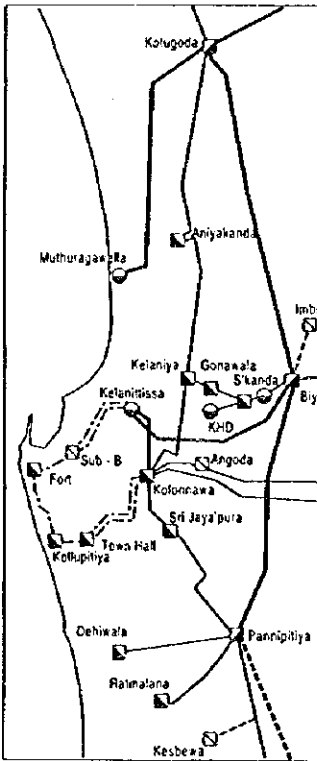
N-LR1-1 132.003 MC 13
 EKLAN-2 220.003 MC 13
 VIC10-2 220.003 MC 13
 PPU11A-P2220.003 MC 13

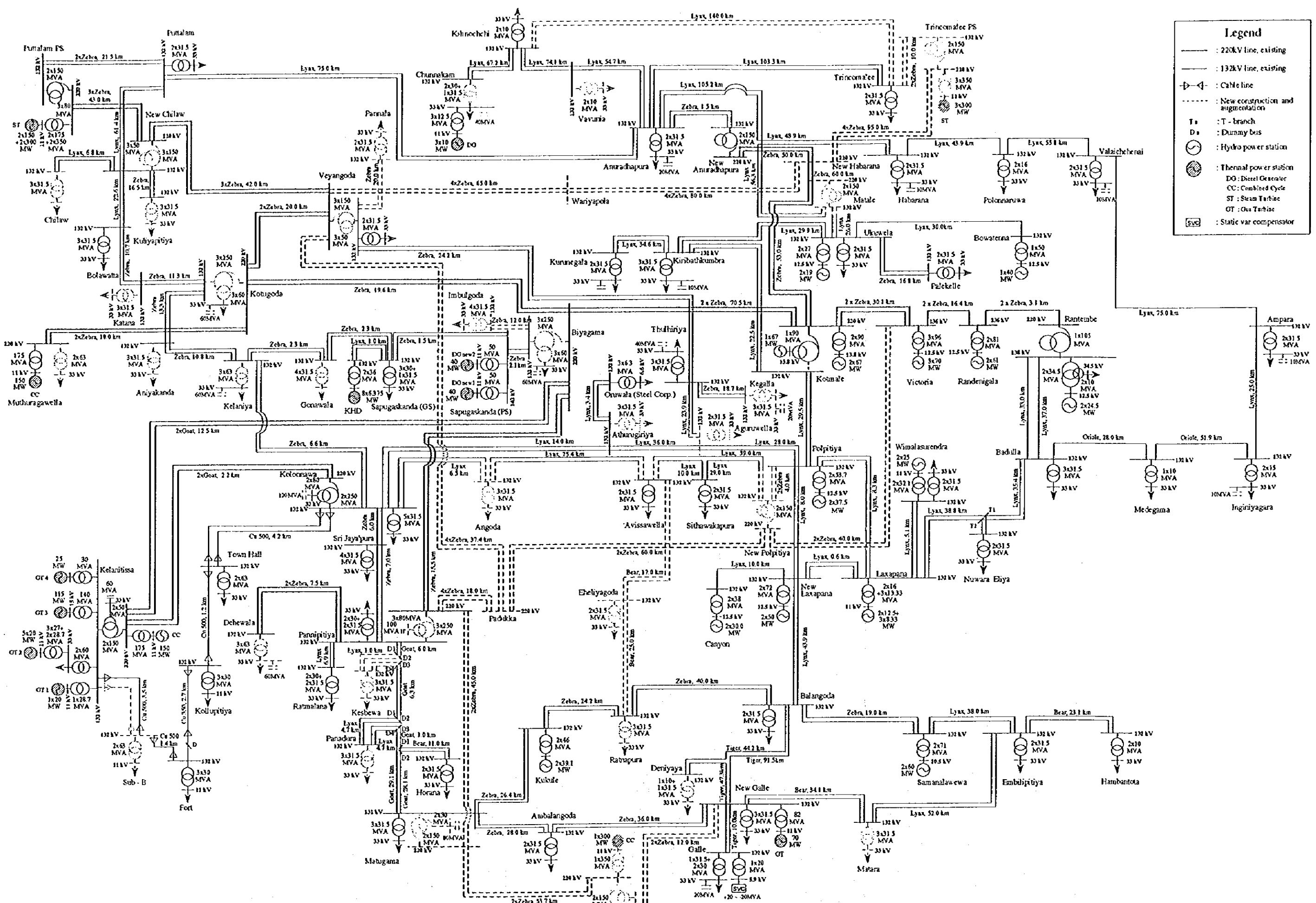
TERMINAL VOLTAGE

Legend

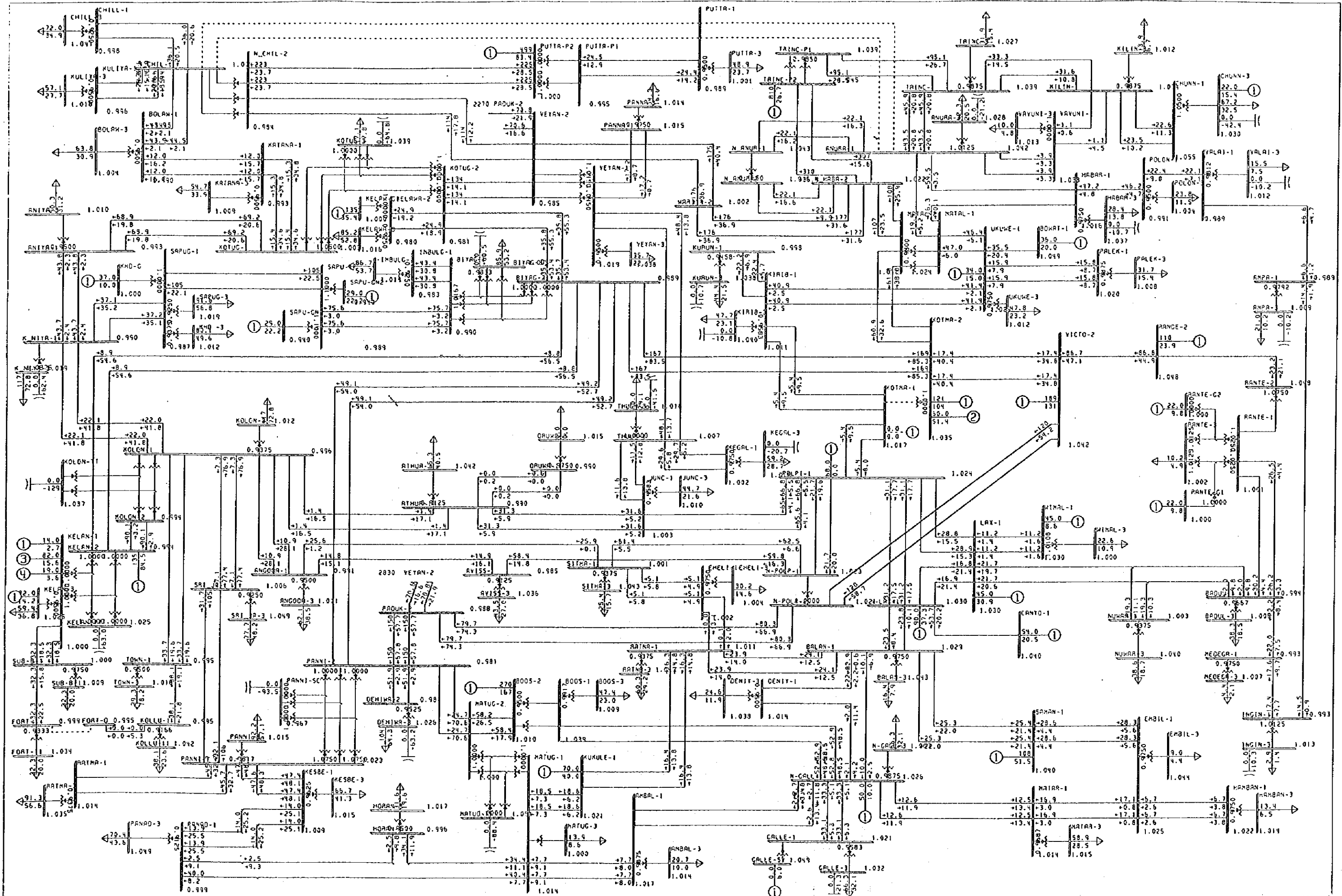
- 220kV Line : Existing as of 2005
- - - 220kV Line : Planned by 2010
- 132kV Line : Existing as of 2005
- - - 132kV Line : Underground Cable
- - - 132kV Line : Planned by 2010
- 220kV GS : Existing as of 2005
- 220kV GS : Planned by 2010
- ⊠ 220kV Switching Station
- 132kV GS : Existing as of 2005
- 132kV GS : Planned by 2010
- ⊙ Hydro Power Station Existing
- ⊖ Hydro Power Station Planned
- ⊕ Thermal Power Station Existing
- ⊖ Thermal Power Station Planned

0 50 km
Scale:





- Legend**
- : 220kV line, existing
 - : 132kV line, existing
 - : Cable line
 - - - : New construction and augmentation
 - T : T-branch
 - D : Dummy bus
 - ☉ : Hydro power station
 - ☼ : Thermal power station
 - DO : Direct Generator
 - CC : Combined Cycle
 - ST : Steam Turbine
 - GT : Gas Turbine
 - ⊞ : Static var compensator



POWER SYSTEM ANALYSIS FOR YEAR 2010
 PEAK CONDITIONS
 10M2A3.SAV, 2010.DRW THU, OCT 10 1996 14:48

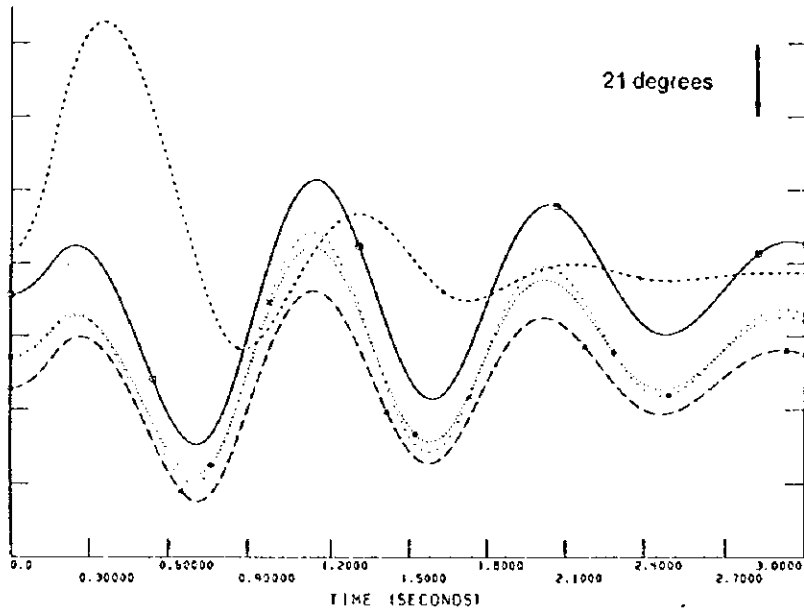
50 % RATED
 0.350V 1.050V
 MVA 1.000 1.000 1.000
 BUS - VOLTAGE (PU)
 BRANCH - MW/MVAR
 EQUIPMENT - MW/MVAR

CEYLON
 ELECTRICITY
 BOARD

JAPAN INTERNATIONAL
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 NIPPON KOEI CO., LTD.
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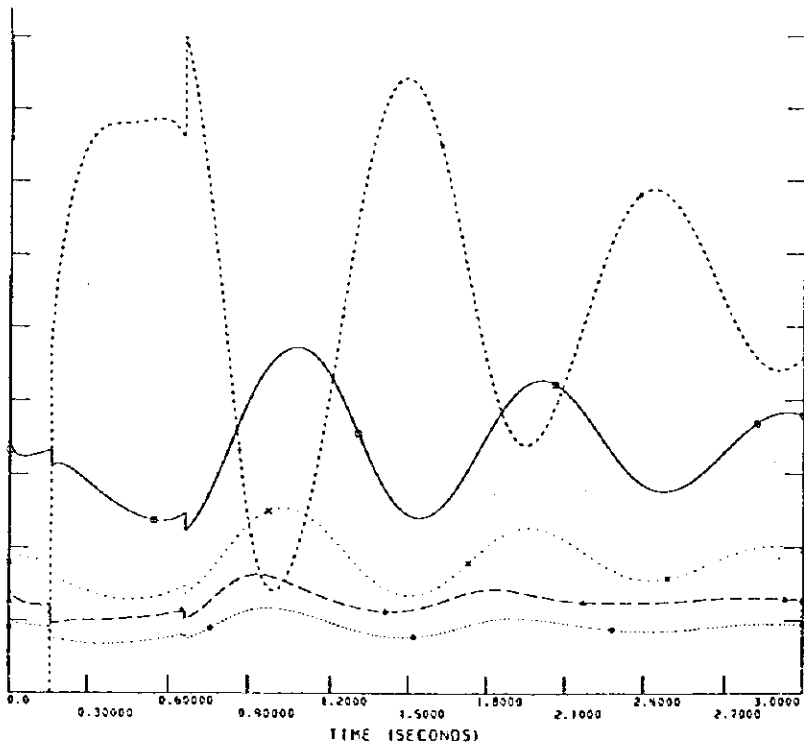
MASTER PLAN STUDY
 FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
 OF THE CEYLON ELECTRICITY BOARD
 IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

TITLE 圖 652-2
 潮流計算結果: 2010年



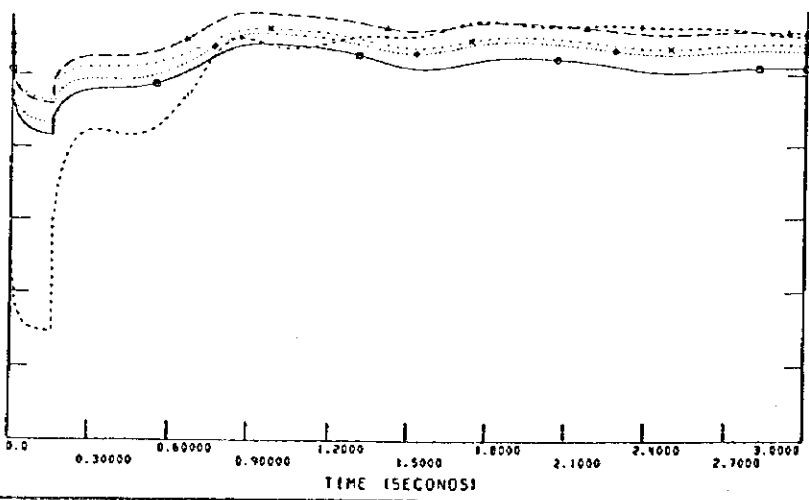
(B005-2 220.00) MC 13-CANCL 3730 (CPUNN-3 33.000)
 (B111C-P2220.00) MC 13-CANCL 3730 (CPUNN-3 33.000)
 (B111E-2 220.00) MC 13-CANCL 3730 (CPUNN-3 33.000)
 (B111F-2 220.00) MC 13-CANCL 3730 (CPUNN-3 33.000)
 (B111A-P2220.00) MC 13-CANCL 3730 (CPUNN-3 33.000)

ROTOR ANGLE



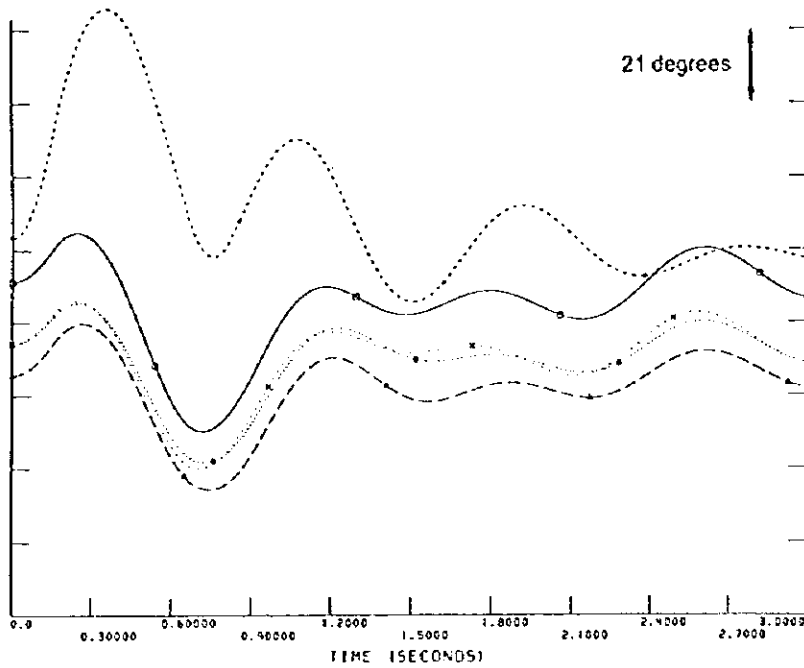
(B005-2 220.00) MC 13
 (B111C-P2220.00) MC 13
 (B111E-2 220.00) MC 13
 (B111F-2 220.00) MC 13
 (B111A-P2220.00) MC 13

POWER OUTPUT
(10 pu = 100 MW)



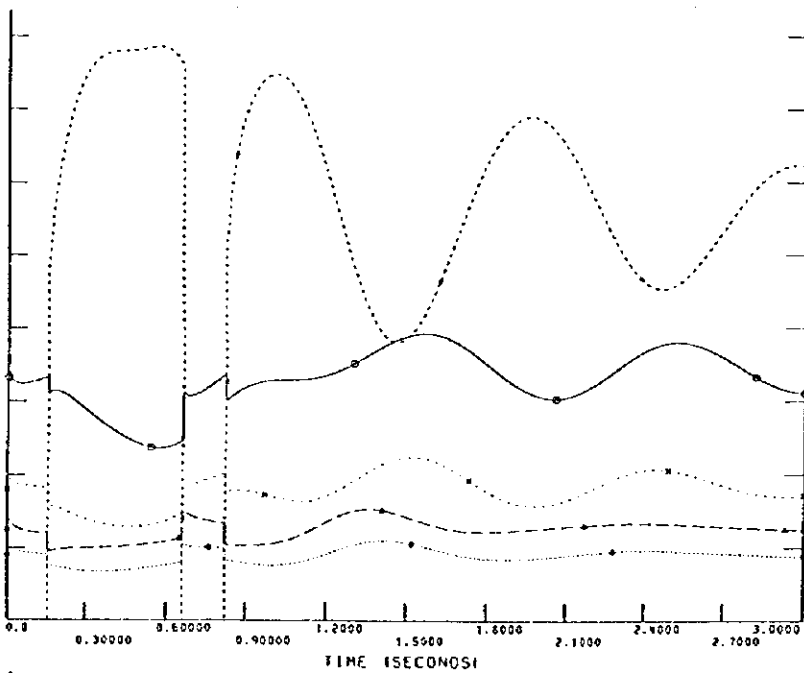
(B005-2 220.00) MC 13
 (B111C-P2220.00) MC 13
 (B111E-2 220.00) MC 13
 (B111F-2 220.00) MC 13
 (B111A-P2220.00) MC 13

TERMINAL VOLTAGE



C0005-2 220.003 MC 13 (RANGL 3730 ECHUNN-3 33.0003)
 C1A1NC-P2220.003 MC 13 (RANGL 3730 ECHUNN-3 33.0003)
 CKELAN-2 220.003 MC 13 (RANGL 3730 ECHUNN-3 33.0003)
 CVIC10-2 220.003 MC 13 (RANGL 3730 ECHUNN-3 33.0003)
 CPUTIA-P2220.003 MC 13 (RANGL 3730 ECHUNN-3 33.0003)

ROTOR ANGLE

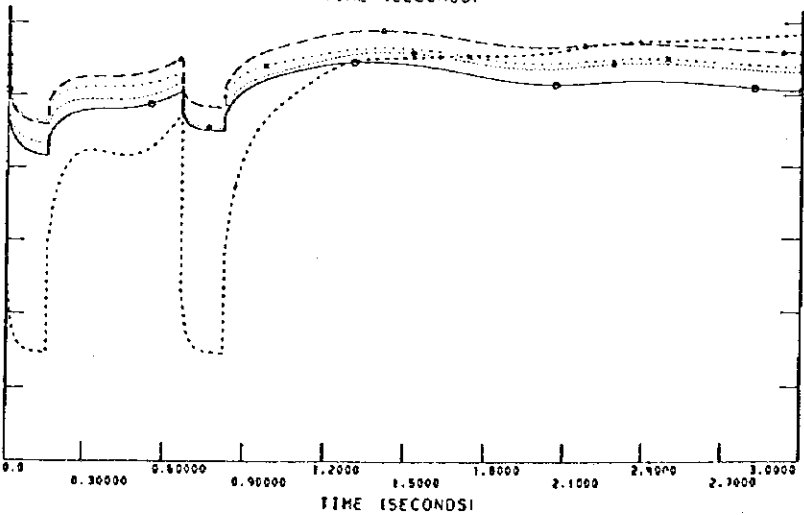


(pu)
12.0
9.0
6.0
3.0
0.0

POWER OUTPUT

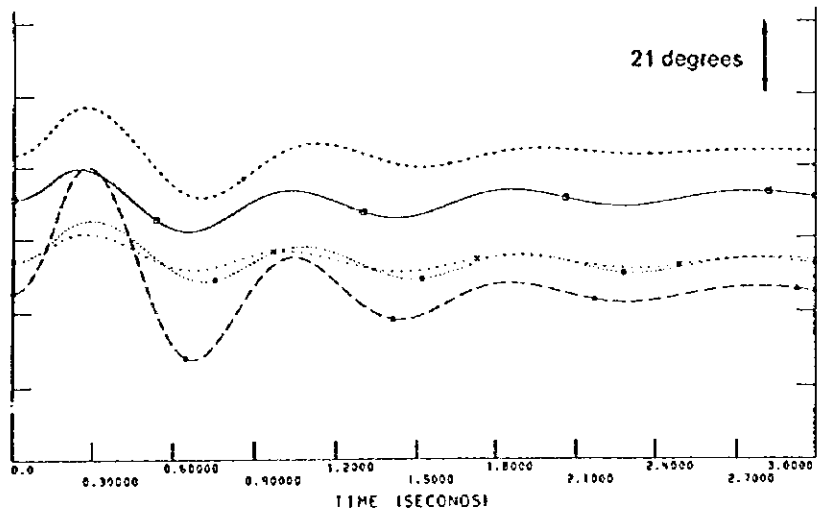
(1.0 pu = 100 MW)

TERMINAL VOLTAGE



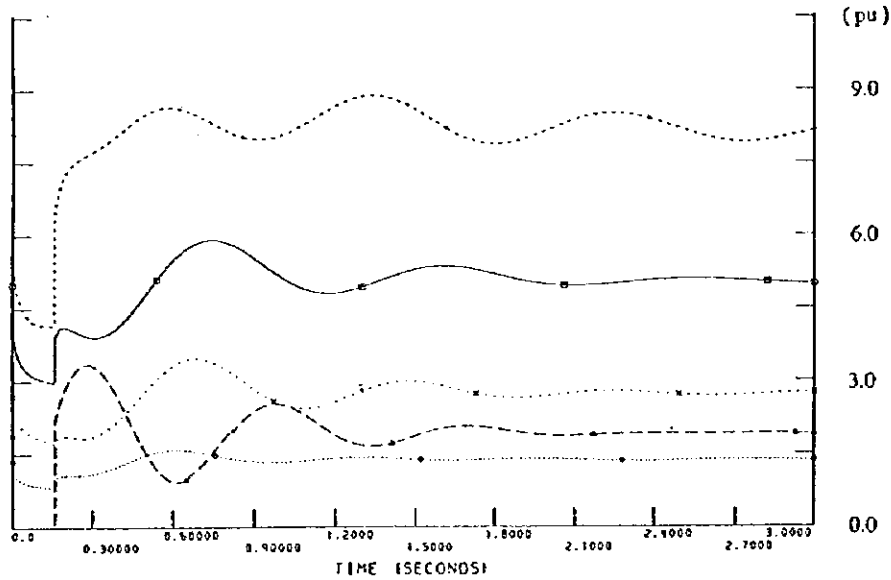
(pu)
1.0
0.8
0.6
0.4
0.2
0.0

C0005-2 220.003 MC 13
 C1A1NC-P2220.003 MC 13
 CKELAN-2 220.003 MC 13
 CVIC10-2 220.003 MC 13
 CPUTIA-P2220.003 MC 13



E0005-2 220.003 MC 13-CAVGL 3730 (COLUMN-3 33.0000)
 ETRINC-P2220.003 MC 13-CAVGL 3730 (COLUMN-3 33.0000)
 KEELAN-2 220.003 MC 13-CAVGL 3730 (COLUMN-3 33.0000)
 EVIC10-2 220.003 MC 13-CAVGL 3730 (COLUMN-3 33.0000)
 CPU11A-P2220.003 MC 13-CAVGL 3730 (COLUMN-3 33.0000)

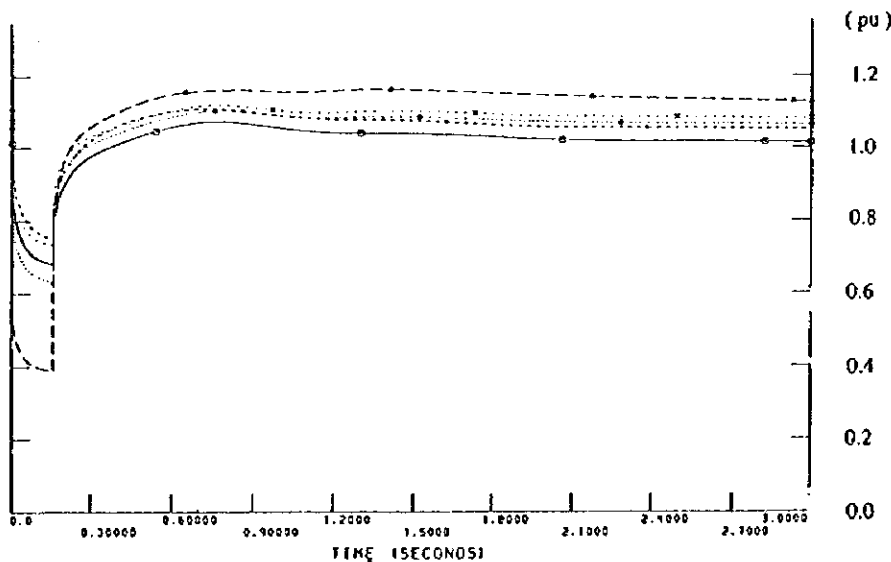
ROTOR ANGLE



E0005-2 220.003 MC 13
 ETRINC-P2220.003 MC 13
 KEELAN-2 220.003 MC 13
 EVIC10-2 220.003 MC 13
 CPU11A-P2220.003 MC 13

POWER OUTPUT

(1.0 pu = 100 MW)



E0005-2 220.003 MC 13
 ETRINC-P2220.003 MC 13
 KEELAN-2 220.003 MC 13
 EVIC10-2 220.003 MC 13
 CPU11A-P2220.003 MC 13

TERMINAL VOLTAGE

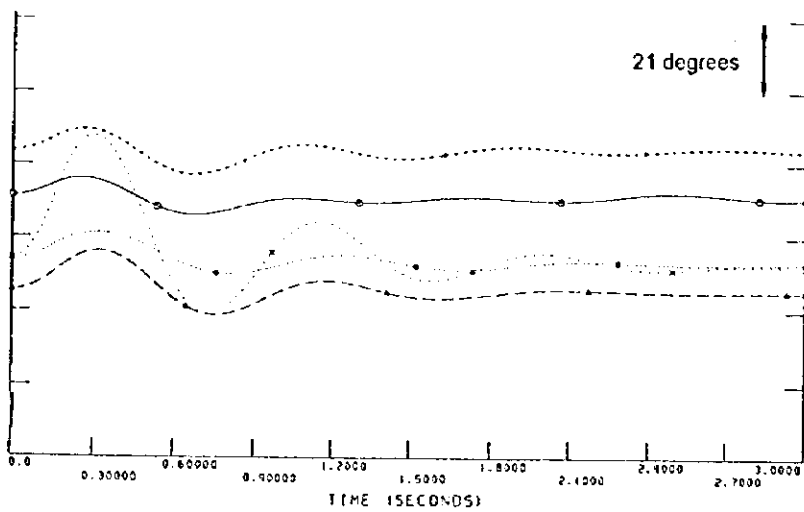
**CEYLON
ELECTRICITY
BOARD**

JAPAN INTERNATIONAL
COOPERATION AGENCY

NIPPON KOEI CO., LTD.
Consulting Engineer

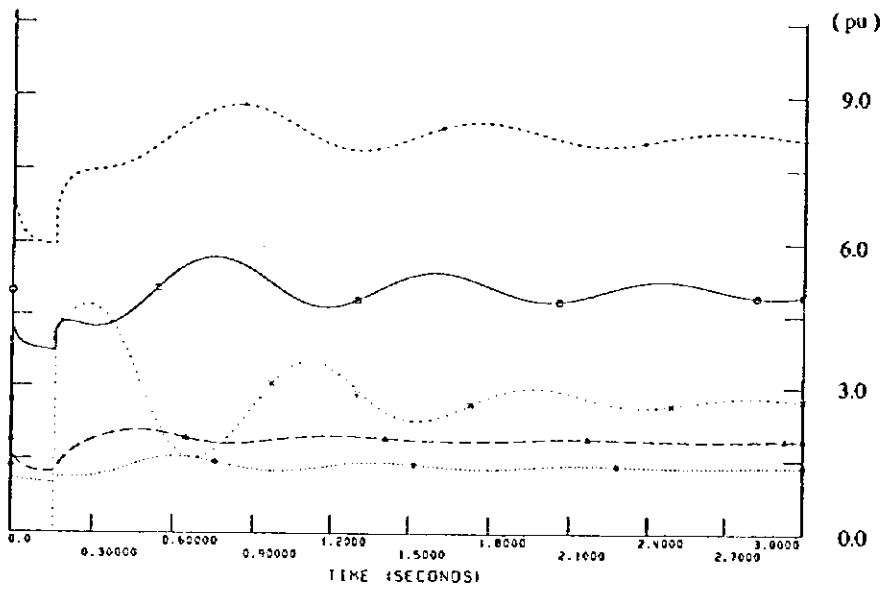
MASTER PLAN STUDY
FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
OF THE CEYLON ELECTRICITY BOARD
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

TITLE 圖 6.5.2-6
過渡安定度計算結果：2010年
(比*1)17-新*4*1代 220kV線再開路失敗)



E0005-2 220.003 MC 13-CRANGL 3730 ECHUNN-3 33.0003
 E1A1N-2 2220.003 MC 13-CRANGL 3730 ECHUNN-3 33.0003
 E0004-2 220.003 MC 13-CRANGL 3730 ECHUNN-3 33.0003
 E1C10-2 220.003 MC 13-CRANGL 3730 ECHUNN-3 33.0003
 E001A-2 2220.003 MC 13-CRANGL 3730 ECHUNN-3 33.0003

ROTOR ANGLE

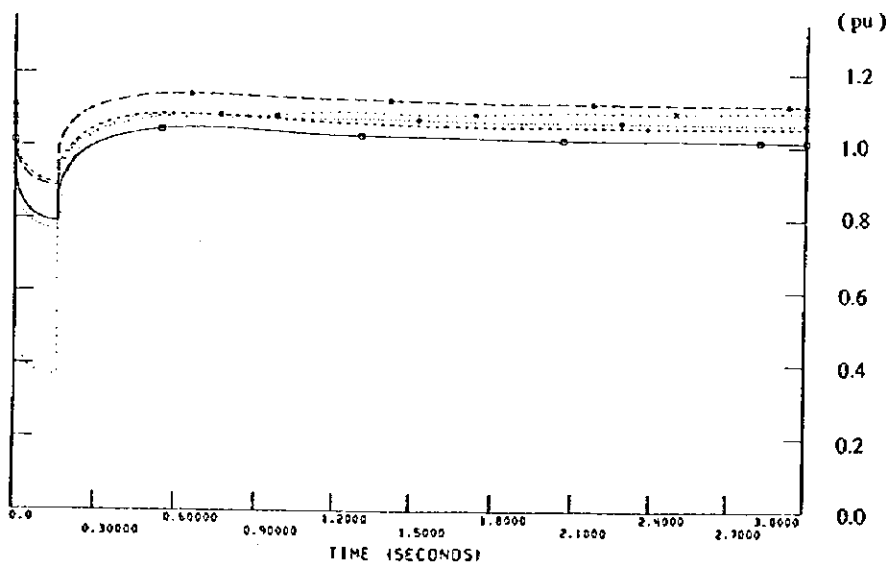


(pu)

E0005-2 220.003 MC 13
 E1A1N-2 2220.003 MC 13
 E0004-2 220.003 MC 13
 E1C10-2 220.003 MC 13
 E001A-2 2220.003 MC 13

POWER OUTPUT

(1.0 pu = 100 MW)



(pu)

E0005-2 220.003 MC 13
 E1A1N-2 2220.003 MC 13
 E0004-2 220.003 MC 13
 E1C10-2 220.003 MC 13
 E001A-2 2220.003 MC 13

TERMINAL VOLTAGE

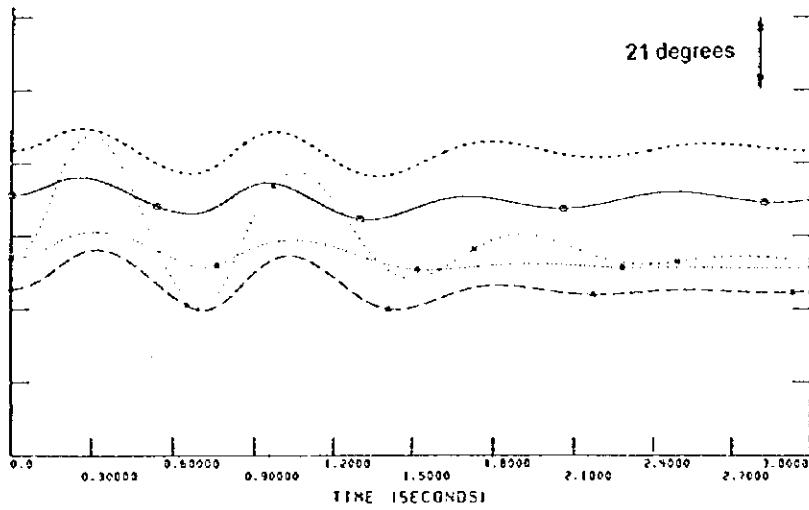
CEYLON
ELECTRICITY
BOARD

JAPAN INTERNATIONAL
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MASTER PLAN STUDY
FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
OF THE CEYLON ELECTRICITY BOARD
IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

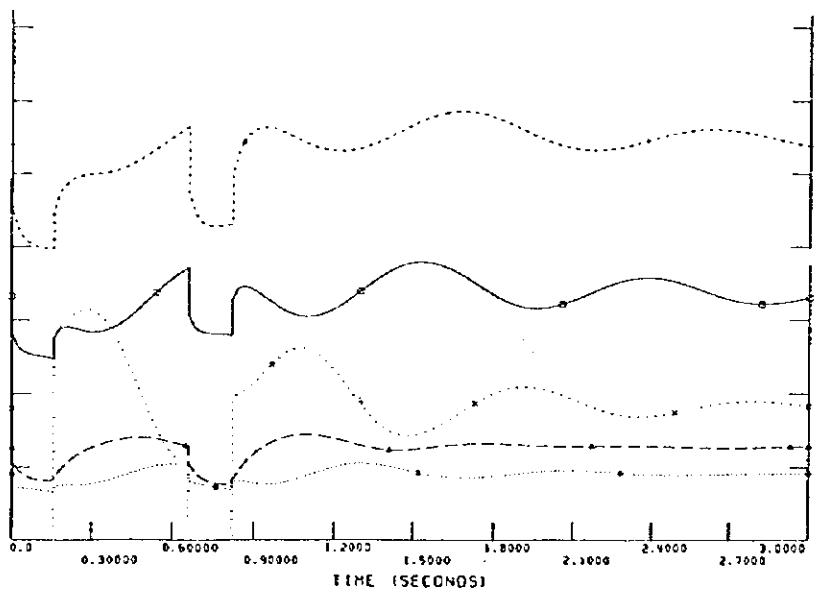
TITLE 図 6.5.2 - 7

過渡安定度計算結果: 2010年
(7-9-77) 7220kV線再開路成功)



EB005-2 220.003 MC 13-(RANGL 3733 (CHUNN-3 33.000)
 ETRINC-P2220.003 MC 13-(RANGL 3733 (CHUNN-3 33.000)
 EKELRN-2 220.003 MC 13-(RANGL 3733 (CHUNN-3 33.000)
 CVIC10-2 220.003 MC 13-(RANGL 3733 (CHUNN-3 33.000)
 EPULLA-P2220.003 MC 13-(RANGL 3733 (CHUNN-3 33.000)

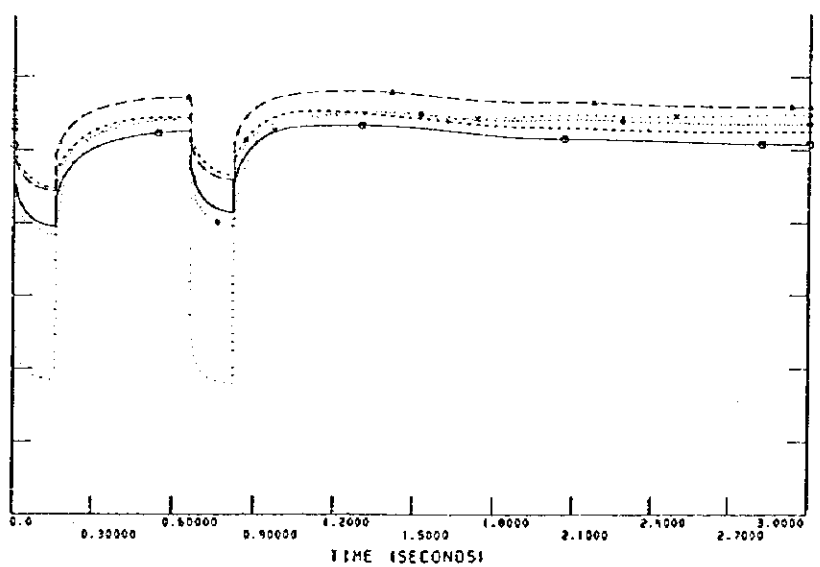
ROTOR ANGLE



(pu)
 9.0
 6.0
 3.0
 0.0
 EB005-2 220.003 MC 13
 ETRINC-P2220.003 MC 13
 EKELRN-2 220.003 MC 13
 CVIC10-2 220.003 MC 13
 EPULLA-P2220.003 MC 13

POWER OUTPUT

(1.0 pu = 100 MW)



(pu)
 1.2
 1.0
 0.8
 0.6
 0.4
 0.2
 0.0
 EB005-2 220.003 MC 13
 ETRINC-P2220.003 MC 13
 EKELRN-2 220.003 MC 13
 CVIC10-2 220.003 MC 13
 EPULLA-P2220.003 MC 13

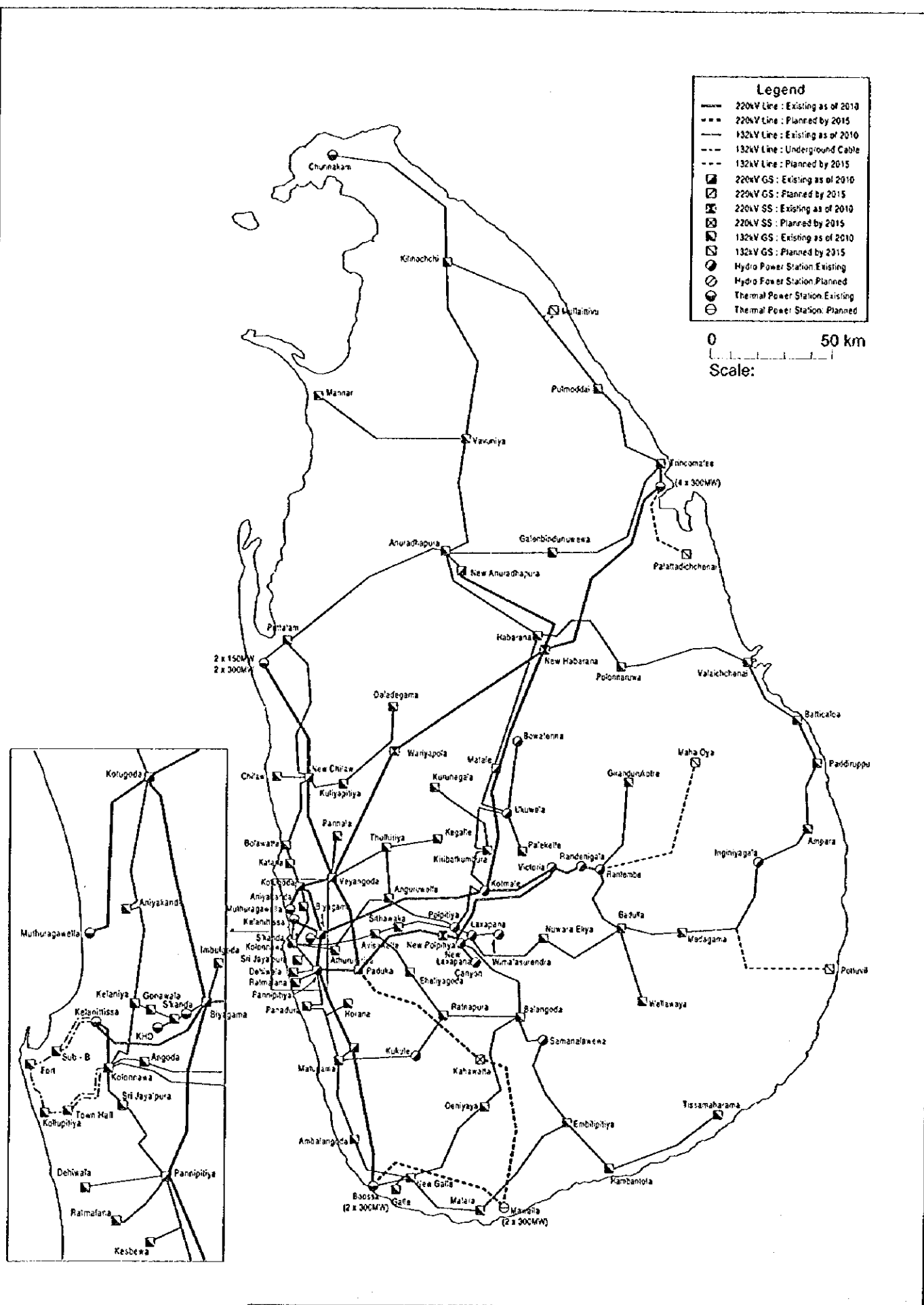
TERMINAL VOLTAGE

**CEYLON
ELECTRICITY
BOARD**

**JAPAN INTERNATIONAL
COOPERATION AGENCY**
NIPPON KOEI CO., LTD.
 Consulting Engineer

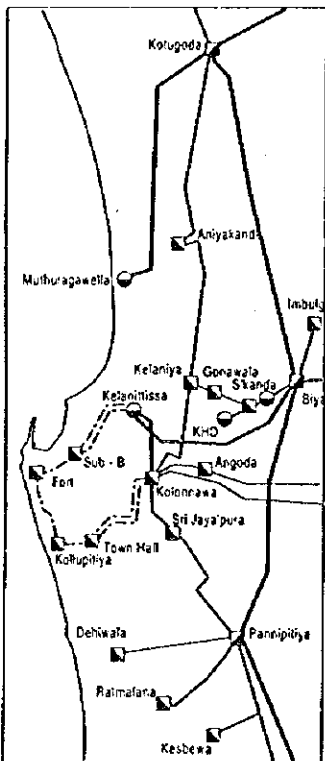
MASTER PLAN STUDY
 FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
 OF THE CEYLON ELECTRICITY BOARD
 IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

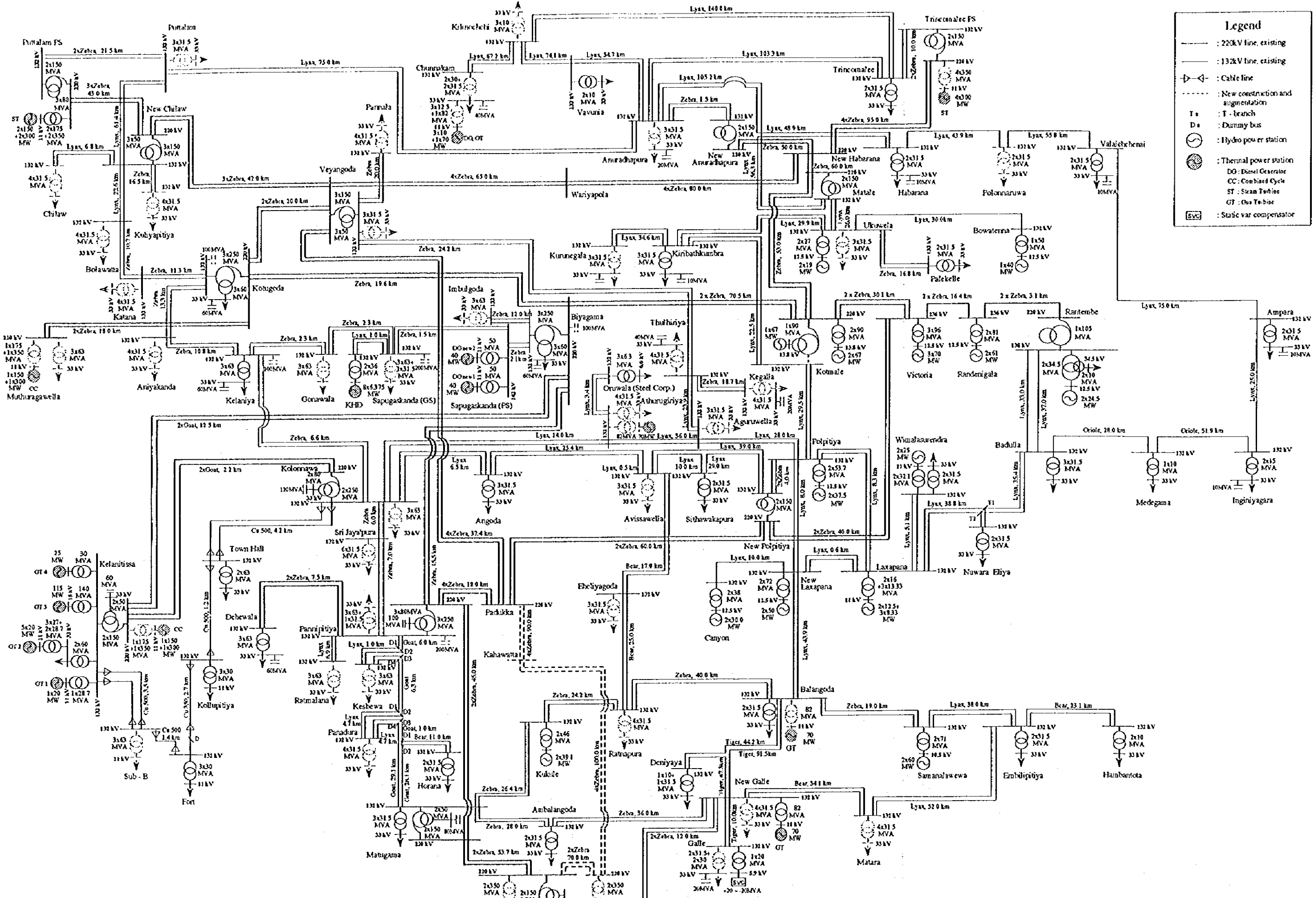
TITLE 図 6.5.2-8
 過渡安定度計算結果: 2010年
 (ブーチマ)マ 220kV 線再閉路失敗)



- Legend**
- 220kV Line : Existing as of 2010
 - - - 220kV Line : Planned by 2015
 - 132kV Line : Existing as of 2010
 - - - 132kV Line : Underground Cable
 - - - 132kV Line : Planned by 2015
 - 220kV GS : Existing as of 2010
 - 220kV GS : Planned by 2015
 - ⊗ 220kV SS : Existing as of 2010
 - ⊗ 220kV SS : Planned by 2015
 - 132kV GS : Existing as of 2010
 - 132kV GS : Planned by 2015
 - ⊙ Hydro Power Station Existing
 - ⊙ Hydro Power Station Planned
 - ⊙ Thermal Power Station Existing
 - ⊙ Thermal Power Station Planned

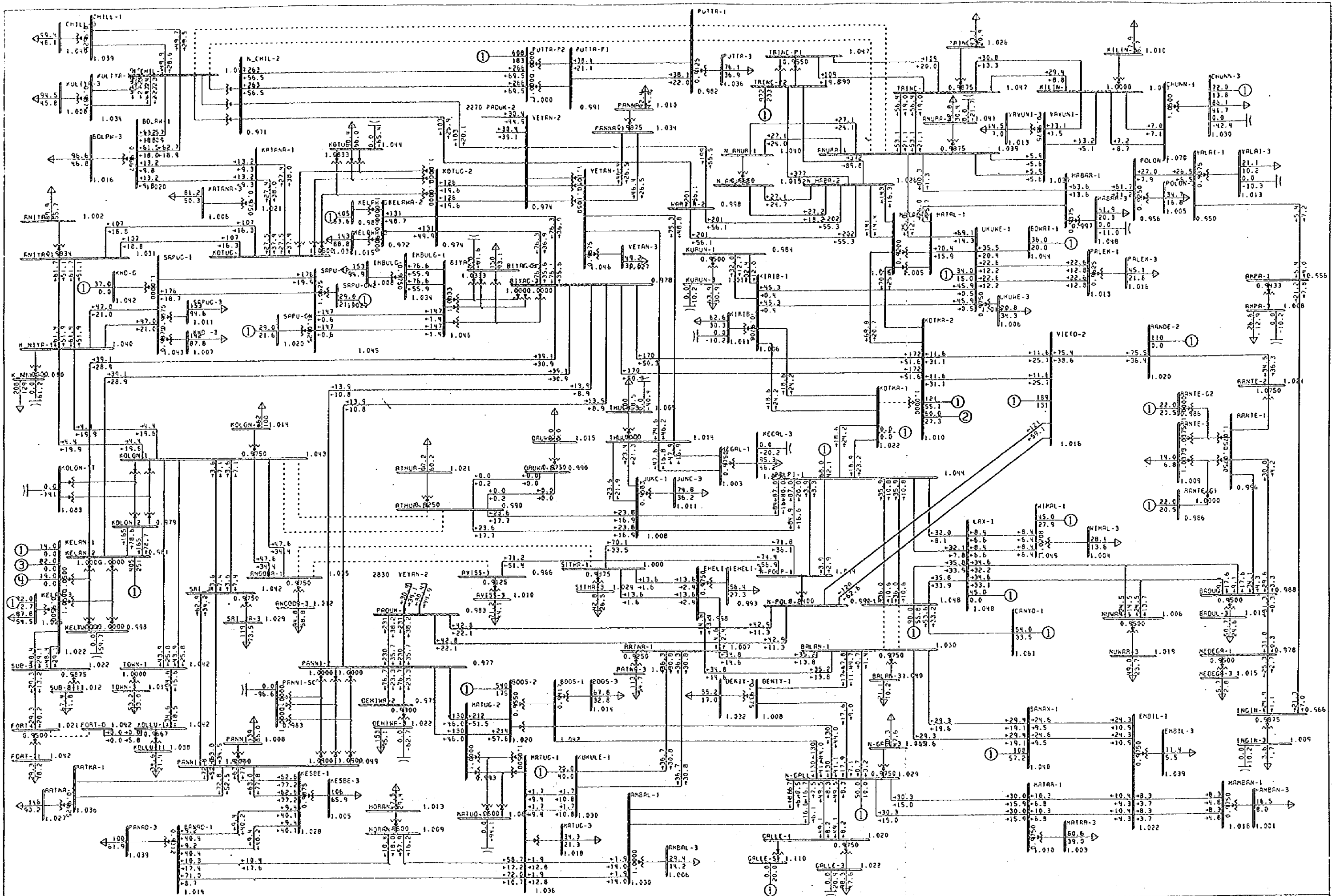
0 50 km
Scale:





Legend

- : 220kV line, existing
- : 132kV line, existing
- : Cable line
- - - : New construction and augmentation
- T : T-branch
- D : Dummy bus
- ⊙ : Hydro power station
- ⊙ : Thermal power station
- DO : Diesel Generator
- CC : Combined Cycle
- ST : Steam Turbine
- OT : Gas Turbine
- SVC : Static var compensator



POWER SYSTEM ANALYSIS FOR YEAR 2015
 PEAK CONDITIONS
 15W22.SAV, 2015.DRW T.F.U. OCT 10 1996 14:51

50 % RATED
 0.9500V 1.0500V
 MV: 150 . 1120 . 2200
 BUS - VOLTAGE (PU)
 BRANCH - MW/MVAR
 EQUIPMENT - MW/MVAR

**CEYLON
 ELECTRICITY
 BOARD**

**JAPAN INTERNATIONAL
 COOPERATION AGENCY**
 NIPPON KOEI CO., LTD.
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**MASTER PLAN STUDY
 FOR DEVELOPMENT OF THE TRANSMISSION SYSTEM
 OF THE CEYLON ELECTRICITY BOARD
 IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA**

TITLE 圖 6.6.2-2
 潮流計算結果: 2015年