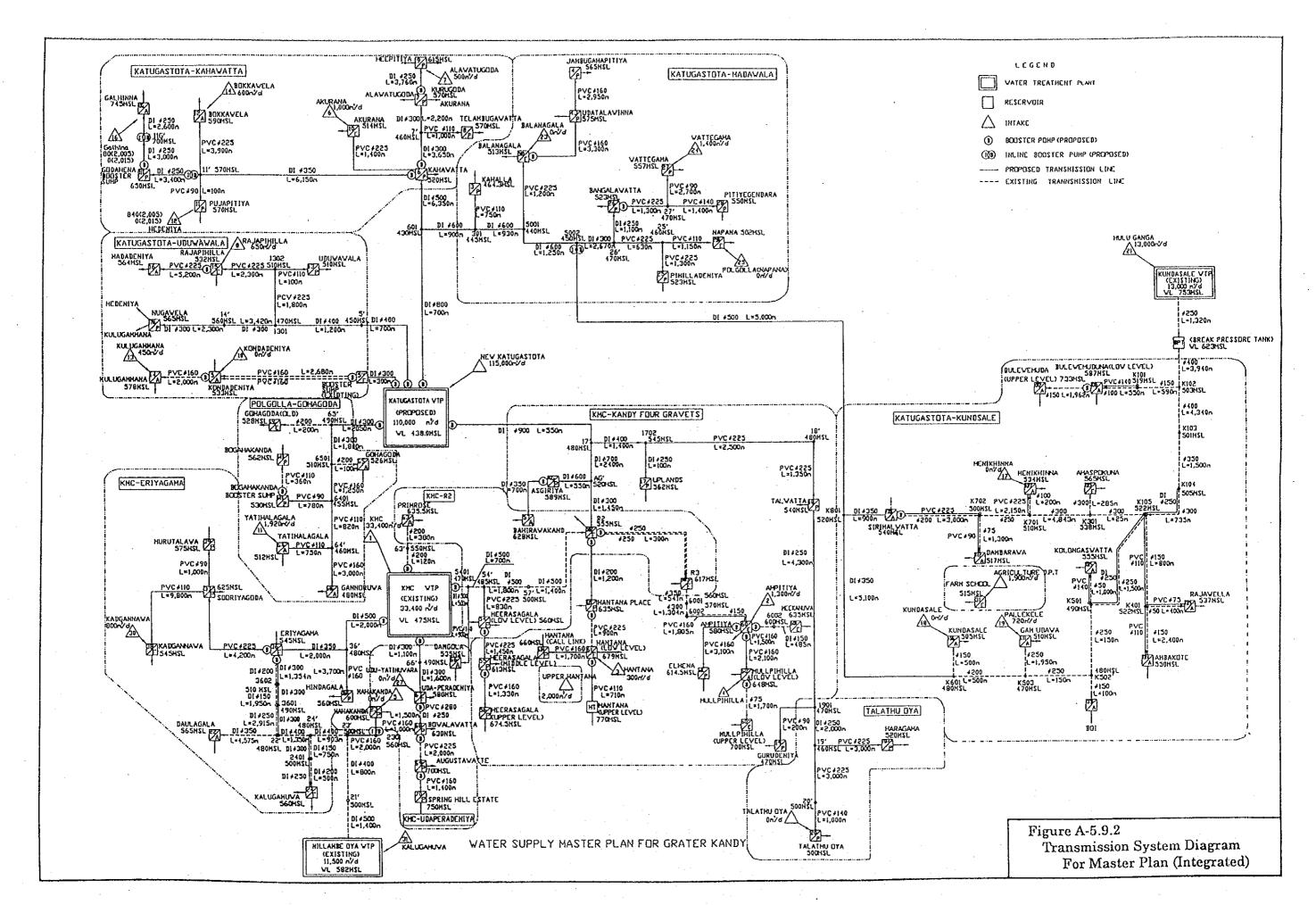
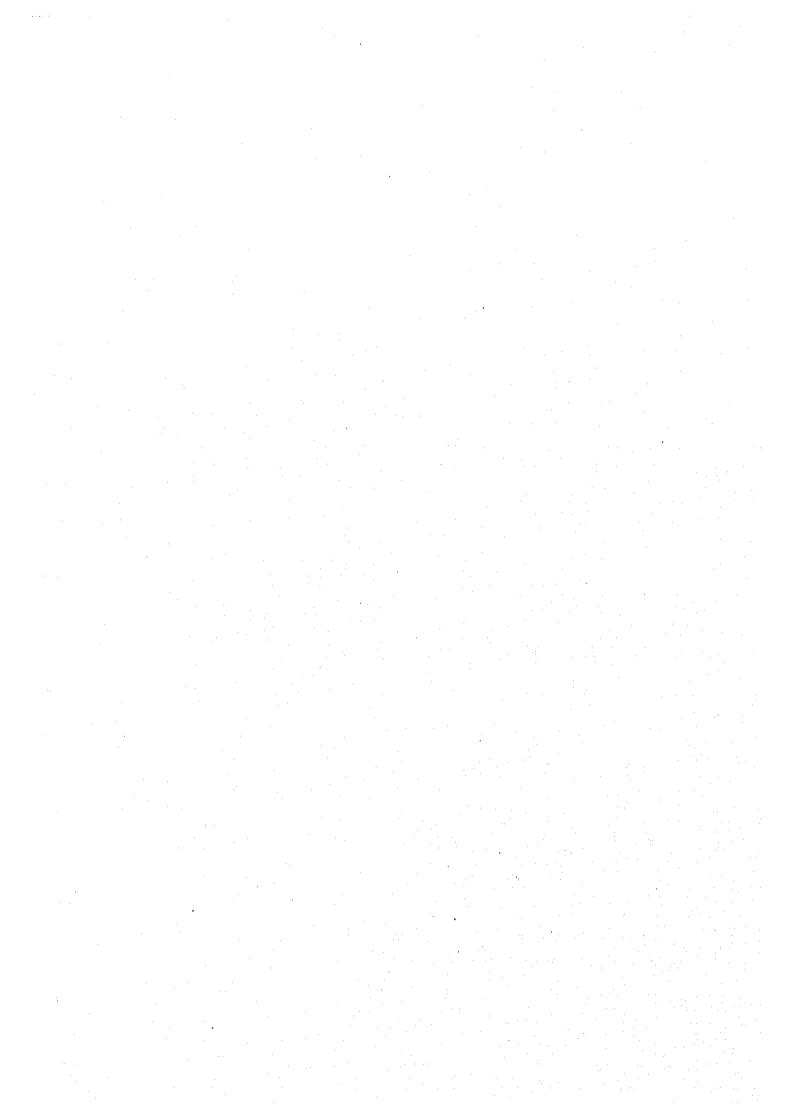


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Appendix 5.10.xlsKandyTra.Pipe (Separated)

Appendix 5.10 Hydraulic Calculation for Transmission Pipeline (Separate)

Year 2015

Remark Exist Pipe \$450 Exist Pipe \$150 32.4 Exist Pipe \$200 Exist Pipe \$200 Exist Pipe \$250 Exist Pipe \$350 ₫400 Exist Pipe \$500 Exist Pipe \$400 Exist Pipe 20.4 95.7 40.7 set Output Ixeluding (kw/set) Stand-by B 167.1 108.0 55.2 B 100.1 Oynumic Pressure Pump He(m) Type 49.932 48.884 107.960 100.016 99.630 9.584 96.743 5.000 81.053 5.000 100.016 30.679 55.205 99.630 5.000 0.000 8.634 0.000 0.00079.448 167.065 85,543 100,110 586.743 490.000 579.630 480.000 570.000 565.000 593.884 545.000 582.000 582.000 609.932 560.000 582.960 475.000 580.016 480.000 560.000 600.205 545.000 480.000 630,000 625,000 625.000 625.000 581.053 500.000 475.000 640.500 635.500 480.000 545,000 595.543 510.000 480.000 545.000 625.000 583.634 575.000 579.448 500.000 560.000 580.016 Dynamic Pressure Hd(MSL) 642.065 579.630 625.000 569.584 565,000 575.679 579.565 645.110 1.565 2.944 15.016 8.800 7.112 9.630 0.065 1.605 9.864 4.337 4.662 0.947 3.598 15.110 41.366 41.366 Loss h(m.) 1.472 4.058 2.1684.513 3,130 2.440 3.443 0.677 2.1050.048 2.006 4.932 Velocity v(m/sec) 0.931 1.110 0.863 0.808 0.994 0.782 0.789 1.653 0.829 0.7370.677 0.531 2,000 1,950 2,915 4,575 1,350 1,000 Length L(m) 200 1,354 4,200 2,0001,400 2,000 8 336 Atten 318 Atten 360 Atten Mixed Dia 1 320 200 450 200 400 62 198 400 200 140 Dia. 200 450 300 300 200 350 198 79 400 8 140 300 400 140 2,000 200 12,8007,600 7,600 6,500 9,000 9,000 000, 7,600 2,100 700 906 ,200 (8) (8) (B) 3601 (8) 63 F KMC-Ellyagama 39 - 38 38 N.J.Pambe 0ya 3602 KMC-Primrose 36H 36, [33] 21, 2301 63 36 223 22 24, 38 KW 21, 2301 3 36H 3602 3601 22, 38 2 22 38 36 22 88 34 3 33 37 36,

(Separate)
Pipeline
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Head set Out	605.000 600.000 5.000 l 40.3 1 7.8	579,448 500.000 79.448	480 000 97.992	Exist Pipe	000.000	560.000	608.170 475.000 133.170 B 133.2 1 23.3	1-1-		580.000 33.314		222.22	635.801 580.000 55.801 8 55.8 1 32.5 Exist Pipe 4280, 4250		700 700 700 800 5.000 81.6 2 5.00 EXIST TAPE WELLS	200	761.905 700.000 61.905 8 61.9 1 12.0		0000	583 042 485.000 98.042 B 119.6 5 235.5 EALSU FIPE WOOD	000 000	200.000	<u>560.000</u> 555.000 5.000		823 000 628 000 5.000 5.000	495 000	400.000	560.000	622.766 560.000 62.766
Loss Prami h(m) Ho	4.932		1,457	4,723	4.453		7 484	201.1	18.705		18.314		1000	0.001	6.574		506.9	++		11.605	15.103	7.939	1		2.226		5.084		
Hyd. Grd I (%)	4.932		1.613	6.298	8.905		050	4.000	62.351		11.446		0.00	0.034	3.287		4 932	700		9.671	8,391	5.670			2.226		6.125		
Velocity v(m/sec)	0.752		0.737	1.330	1.533		2000	0.0()	2.349		0.940		000	0.370	0.752		0 759	101.0		2.234	2.069	1.674			0.806		1.053		
Length L(m)	1,000		903	750	200		00,	1,100	300		1,600			1,500	2,000		1 400	1,400		1,200	1,800	1.400	13.10		1,000		830		
Dia. Mixed Dia Exist. D(mm) Dm(mm)	140		400 K	318 Atten	296 Atten			140	97 K		76		1-4	346 K	198 K		44.	140		500 K	500 K	SOR K	\sqcup		350		861		
	140		400	300	250			140	97		97			346	198		1	140		200	200	EUU	-1-1		350		361	1 133	
B/G Flow Rate Q(m3/d)	1,000		8,000	9,100	01.0	22.62		900	1,500		909			3,000	2,000		,	1,000		37,900	35,100		70,400		6,700		0.800		
B/G	23 IB		24' (6)	2401 (6)	1) 		86° B	66 (B)		66° B			88 B	69 B		H	170 B		54' B	57' (B)	1 1	(4) 780		57 IB		(a)	17 👸	
Node Node	2301 - 2	67	23,		2401	24	KMC KMC	- e	╁┼	99		,99	67		+	69	69	102	KMC-KFG	╁┤	- 54,	24,	582	2.2	\mathbb{H}	57	54,		35

Appendix 5.10.xlsKandyTra.Pipe (Separated)

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Year 2015

76.2 Exist Pipe Ø250×2 24.1 Exist Pipe Ø160 Exist Pipe ¢300 Exist Pipe Ø150 Exist Pipe Ø350 Ø75 Exist Pipe Ø225 Pipe Exist 10.6 10.6 19.3 29.3 4.2 Head set Output H(m) Excluding (kW/set) 12.2 2 67 Stand-by 65.4 78.4 54.8 B 65.9 99.5 73.1 94.4 69.5 52.5 62.8 Dynamic Pressure Fump He(m) Type 7.992 54.789 78.354 12.101 55.741 65.922 65.449 41.267 99.502 5.000 5.000 5,000 52.529 0.000 40.894 94.410 5.000 5.000 0.000 69.505 73.059 5.000 641.267 600.000 560.000 580.000 614.500 580.000 648.000 580.000 713.922 648.000 700.000 679.000 610.894 570.000 587.992 580.000 613.000 674.500 555.000 635.000 635.000 672.101 660.000 778.502 679.000 775.000 770.000 617.000 555.000 679.000 617.000 613.000 G. 615.741 653.000 705.000 645.449 634.789 658.354 640.000 679.500 687.529 686.059 618.000 624.505 649.410 617.000 Dynamic Pressure Hd(MSL) 622.000 684.000 679.000 1.2594.182 5.354 4.848 8.922 22.901 15.289 6.899 3.502 9.410 3.529 4.766 6.559 2,505 B/G Flow Rate Dia. Mired Dia Exist. Length Velocity Hyd. Grd Loss G. B. (B.) D. (B.) D 2.788 2.288 4.848 4.932 2.549 5.248 15.268 8.352 7.842 4.058 4.932 3.921 4.932 3.287 0.526 0.524 0.771 0.752 0.818 1.895 1.573 0.677 1,113 0.752 0.752 1.203 0.8271,700 1,500 3,100 2,100 550 1,000 1,500 1,450 1,700 300 006 1,330 1,200 269 Atten 230 Atten 350 23 198 140 140 300 140 198 149 140 325 138 198 350 198 140 140 75 220 140 140 300 198 198 325 149 3,800 2,000 1,000 200 1.000 6,800 700 3,200 900 6,800 6,800 2,200 1,000 11,300 6002 B 9 В <u>|</u>~ 6001 60, - 56 56 XMC-R2, KFG 582 61H 6002 618 60E 9 583 Ħ 60, 61 33 26 Node-Node 6002 615 6001 600<u>2</u> - 60 90 - BOE 60, 09 583 23 9 ' 9 1 282 6 ß 32 583 4002 618 6001 69 582 8 582

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+==	Tacluding	10-11-10-1-10-1-10-1-10-1-10-1-10-1-10										-			35				_
L	Type H(m)				-		-					-		-			-		-
	Oynamic Pressure Pump He(m) Type		5.000		0.000	152.473	136.469	152.473	126.914	39 121		99,121	31.328	22.063					
Ì	d T9	+	635.000		635.000	470.000	470.000	470 000	4R0 000	550 000	200.000	460.000	500,000	500 000				-	
	Oynamic Pressure Hd(MSL)		640.000		635.000	622.473	606.469	C 00 A 72	A10 88	250 191	177:00	559.121	531.328	599 OR3	200-370				
1	Loss h(m)		1.267			12.527	16.004		35,559	27.793			27.793	9.264					
	Hyd. Grd I (%)		2.613			6.959	80.022		17.779	9.264			9.264	9.264					
	Velocity v(m/sec)		0.751			1.128	2.361		1.504	0.974			0.974	0.974					
	Length		485			1,800	200		2,000	3,000	200000000000000000000000000000000000000		3,000	1,000					
200	Kixed Dia Exist.	<u> </u>	273 Atten	000000000000000000000000000000000000000		198	79		140	123	000000000000000000000000000000000000000		123	123				1	
AT THE THE	Dia. K		250	- K		198	79	- 3	140	123			123	123					
	Flow Rate	(A) (AIII.)	3,800	000000000000000000000000000000000000000		3,000	1,000		2,000	1.000			1,000	1,000					
appendia o.ro	B/6 F	+	(B)			(3)	(Đ)		(g)	(9)	+		(6)	(9)					1
App		Node	H09)		0M - 1901	10		- 19	19° 19H	H61	Talathuoya	9.	20,	$\vdash \vdash$	[ota]		-	-
	Node	Node-Node	6002	¥09		60M	1901 - 1	19	1901 -	+		2	19 19	20,	20	Sub Tota			
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Appendix 5.10 Hydraulic Calculation for Transmission Pipeline (Separate)

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Output	KW/Set)			7.707			-		1	-				3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	-				23.6						10.8	-														
set	Stand-by		-	7																					2	- Indiana														
np Head				2.001															B 03 4						B 65.5															
13 13 15 15	He(m) Type		106.538	112 161	707.011	96.536	99.171		60.678	2 000	000.0	96.536		5.650	99.171		18.821	VVV 60	+	5.000	000.0	017	6,4.2	65.458		115.294	2 000	200	115.294	11 101	11.164	60.678		69.462	5.277		69.462	100 05	18.00(113,161
GI. D			438.000	430 000	000.00	445.000	440.000		470.000	593 000	000.620	445,000		500.000	440.000		513.000	000	000-010	575.000	575.000	000	565.000	523.000		470.000	257 000	2000	470.000	000	000.000	470.000		460.000	523,000	202.000	460.000	000	202.000	430.000
Dynamic Pressure	Hd(MSL)		544.538	549 163	777.0	541.536	539.171		530.678	000 863	070.000	541.536		505.650	539, 171		531.821	000	000	580,000	575.000	200	567.479	588.458		585.294	000 683	200	585.294	E21 194	901.106	530.678		529.462	528 277	17:070	529.462	290 063	100.026	543.161
ross	1			1.377	1.624	2000	Cas - 7	8.493	6	8,0.7			35.887		-	7.351			111 36			7.521	- 2		3.164		23.294			24.170			1.216	bo -	1.133			9.394		
Hyd, Grd	%			1.968	1,805	0	2.543	2.167	10,	CP 5.7			47.849			6.125			010	0.010		2.549		-	2.433		8.628			17.265			1.930	610	0.916			8.169		
	v(m/sec)			1.060	0.783	200	0,300	0.720		0.084			2.036			1.053			220	, 16.0		0.526			0.639		0.708			1.364			0.564	000	0.376			0.783		
1. Length	- +			700	006	000	330	3,920		1,100			750			1,200			006 6	33,000		2,950			1,300		2,700			1,400			630	0	1,300			1,150		
Wixed Dia Exist.	Da(mm)			009	400	S. S.	000	300		720			97			198			04.	04.1		140			198		79			123			198		188			97		
Dia.	(1			009	400	-	320	300	_	7290			- 97			198	Ш		4	2	-	140			198		2		H	123			198		88.	-		97		
B/G Flow Rate	⊘(≡ 3/q)	7. S.		25,900	8,500		7,200	4,400	Ц	2,900			1,300			2.800			-	1,000		100	-		1,700		9 9 9			1,400			1,500		1,000			200		מררס
B/6		ata-Mariew		601 B	301 (B)	1	5001 (B)	26' (B)		(8) 92			3 (B)	:		500 (B)	††		+	G P		4			277 B	\vdash	27 (B)			28 (B)			25 (B)	\Box	25 (B)			25N (B)	-to-To-	C La Banta
Node	Node-Node	Katheast	PG	9	+		5001	-	.92	+	97	301		က	2001	╁	500		000	4.1	4.7	ı	4	26	╁┈	273	┪	17	277	-	83	98,	-		1 36	63	25,	╁╼┼	Vatage et	601
	Z		1 1	2	601		301	2001		26,			301	300000000		A 2001	-5.	<u> </u> 10	.5	ane	_	47		100 K S 60	26		2.2			27,	20000000		26,		52			25,		X

Appendix 5.10 Hydraulic Calculation for Transmission Pipeline (Separate)

Remark																																					
Output kw/set)						63.9							23.9			7 2 7	49.4			25.3			40.0							17.4	2007 2012 1010		254.6				
set Output Excluding (kw/set)	Stang-by					2							-			c	7			ş(2					-		2			П				
Dynamic Pressure Pump Head He(m) 7yge H(m) 2		8.614	0.000	4.950	108 222	B 106.2	44.371	5.000	17.5 77	11001	34.826	, ct , c	31.704 IB 47.4				5.000	222.5	1	IB 50.2	5.000	73.618	B 73.6	121.263	5.000	121.263		3.094	59.747	B 59.7	2.000	149.111	B 149.1	135,764	113.455	15.410	
79		- 1-4	220.000	514.000	⊬⊢	4	270.000	590.000	-	+-	5 570.000	+	000-026	000.090	2	8 650.000	700 000		700.000		745.000	520.000	-	460.000	570.000	460.000	╁╌┤	1 570.000	570.000	₽	000.519	438.000	 -	450.000	470.000	260 000	
Dynamic Pressure Hd(MSL)		528.614	520.000	518.950	666 368	050.500	614.371	595.000	140 140	110 4410	604.826		001.704	655,000		710.968	000 502	-	755.172		750.000	593.618	200	581.263	575.000	581.263		573.094	629.747		620.000	587.111	1	585.764	583.455	575.410	2
Loss h(m)	14.547		000	1.050		11.862	10 271	10.01		9.545			6.764			000	208.0			5.172			12,355	6 263			8.189			9.747			1.347	2,309	,,,,	8.045	
Hyd. Grd I (%)	2,291		0 260	00.0		1.929	7.90 1	7.00		95, 453			1 980				1.989			1.989			3.385	2 847			8,169	-		2.592	000000000000000000000000000000000000000		1.924	1,924		2.352	
Velocity v(m/sec)	1.026		000	0.338		0.746	000	0.0		2 597			0.613	21010			0.613			0.613			0.917	0 835			0.783			0.707			0.811	0.811		0.753	
L(m)	6,350		,	1,400		6,150	000 6	0000		100			3 400	202.6		0 0 0	3,000			2,600		000000000000000000000000000000000000000	3,650	9 200	î		1,000			3,760			700	1,200	2246	3,420	
Mixed Dia Bxist.	200		9	861		350	001	061		- 62	× -		950	200			250		000000000000000000000000000000000000000	250			300	300			97			250			400	700) 	300	-
Dia. D(mm)	200			861		350	00.	130		70	2		250	204			250			250		200000000000000000000000000000000000000	300	300	3		97			250			400	400) P	300	
B/6 Flow Bate Q(m3/d)	17,400			006		6,200	0 500	000.5		1 100	70161		9 RAD	22005			2,600	200000000000000000000000000000000000000		2,600			2,600	7 100	201		500			3,000		1818	8,800	008.8	20060	4,600	
B/6	(B)		ŀ	5		æ	(d)	(g)		(8)	(2)		r r	+			9	\$10000 PM	-	1.18		_	80	-[6			(B)			200		-udime.	В	(8)	+	(B)	_
Node - Node	601 - 6	9	9	10 10		6 - 11	11, 11,	12		11, 11	11		11, 11,	115		118	115 - 116	D11	116	116 - 116	116	9		7 7 7	7	i.	7, - 8	8	2	6 - 2	o	Ratugastola-ddinamata.	PG - 5'		1301	1301 - 14	

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Output	(set)												7			4.2		3. 	110 0 1F3				14.8			312.9								-						
ğ	Excluding (KW/Set)	- n			-								2			1			-	-		-	4	×		4	- -								-					
-		21200-03			- -	-							8.	2002		5.5			4			-	63.8			-	-								-	3				
	Type H(m)	-			-			90.00	000000000000000000000000000000000000000				8 48.3	. 0		B 5			D 145 A	4-		-	E 23	-		3 164.1	-	-							<u></u>					
Dynamic Pressure Funp	He(m) 7		5.000		113.455	50.111	10 092	19.630	50.111		38.491	48.312		2.000	5.520		5.000		145.415	5.000		63.821	000	2000	164.117		121.540	76.778		5.000	121.540		34.825	3.4 A.R.	24.0	15.005	34.825		94.796	26.601
Dynamic	He (_						_		-					
13			565,000		470.000	510,000	000	532.000	510,000		510.000	532,000		564.000	438,000		438.000		438.000	533,000		533,000	000	210.000	438.000		480.000	520,000		589,000	480.000		545.000	000	222.040	562.000	545,000		480.000	540.000
ressure	(T)	+	570.000		583,455	560.111	H	551.835	560,111		548.491	580 312		569.000	443 520		443.000		583.415	538,000		596.821	000	583.000	602,117		601.540	596 778		594.000	601 540		579.825	70 005	0.3.670	577,005	579 825		574.796	566.601
Dynamic P	Hd(MSL)		57		28	26	ì	ń	26		25	100		26			4		2	Ġ		2	1	ā	9		9	L.) (C		2		-		. ju.			
8807	h(m)	5 410	011.0			23.344	8.274			11.619			11.312			0.520			1 1 1	45.415			13.821			0.577		4.762	2.778			21.715	-		2,820	740.04		5.029	9 105	2
Hwd Grd	(%) 1-(%)	9 959	300.1			12.969	3.598			116,194			2.175	333000000000000000000000000000000000000		1.733			0, 4	16.346			6.910			1.048		1.984	186			8.686			28 199	221.00		3.353	080 6	
A+1.00	v(m/sec)	634 0	0. (35)			1.579	0.789			3.289			0.601			6.639				1.731			0.902			0.905		0.888	0 888	200		1.972			2 570	7.0.0		1.179	1 100	901.1
' [L(m) v	006 6	4,300			1,800	2,300			100			5,200			300				2,680			2,000			550		2,400	1 400	7,400		2,500			100	DAT .		1,500	0000	6, (30
	1131,		-										-			-			·	×			м					1	1						1					
9	Da(m)	6	300			198	198			26			198			300				182			140			800		450	450	00#		450			050	VC4		450	47.	400
	D(EE	000	300			198	198			26			198		grania	300	200			182			140			800		450	750	00#		450			020	nez		450	Ш.	420
01.0	G(m3/d)		4,600			4,200	2,100			2 100			1.600		Katugastota-Kondadeniya, Kulugamana	2 800	0,500			3,900			1,200			39,300	200	12,200	10 900	12,200		27,100			000 00	10,800		16,200	300	15, 200
vinnaddu	2)/2		(B)			(B)	(B)			(2)					Kondade	_	α				- 000		8	-	KFG, #2	na		(B)	((8)	·†-		Ţ,	<u>@</u>		<u> </u>		(8)
~ F	306		1.7N	20000000	1	1302	12	-		6	2		9		gastota	i.	1			23			14		Katugastota-KFE, #2	12	+	γĊ	+	NA C		1709			+			78	╌┤	8 KKS
	Node Node		14,	W/T	1301	1301	1302	15		1302	13		15	1 '	Katu		r'u Ca	<u>}</u>	5,1	53,	n	u	2 -	14	Katu	2 ·		13	+	- Ye		17,	1702	21.	1702	1702 -		1702		18° - KB8

A-5.10.7

Appendix 5.10 Hydraulic Calculation for Transmission Pipeline (Separate)

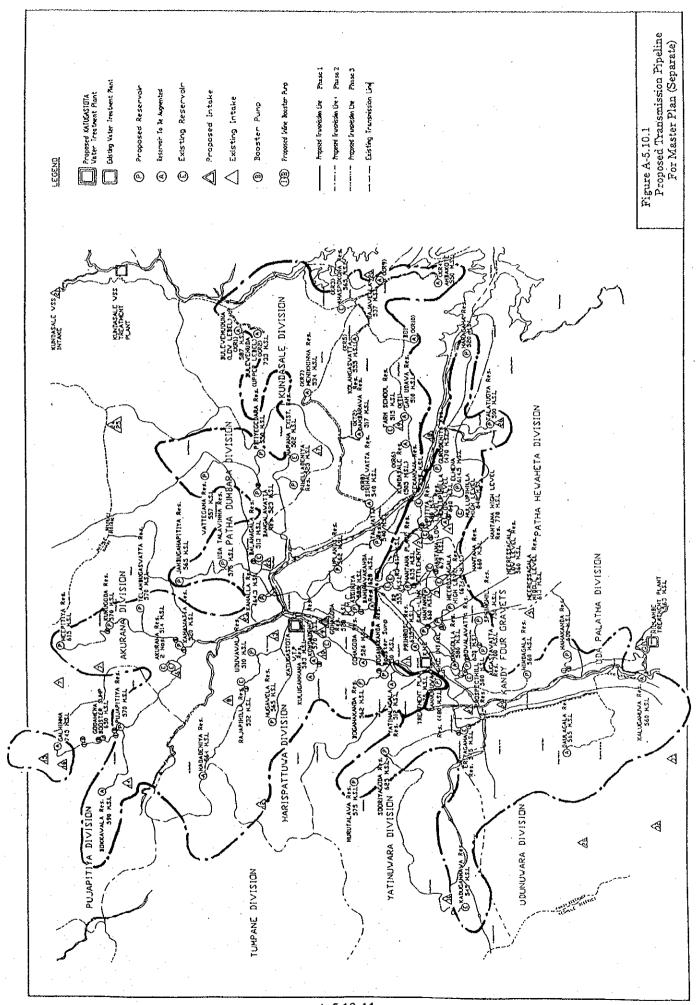
Output Remark KW/set)					90,2 Exist Pipe \$200	Exist Pipe \$250		Exist Pipe Ø300	Exist Pipe $\phi 300$			Exist Pipe Ø75			Exist Pipe Ø100			Exist Pipe Ø300			Exist Pipe 6400	Exist Pipe \$400		EXIST Fibe @ 350	Exist Pipe Ø300	Exist Pipe Ø250		Exist Pipe Ø50		Exist Pipe Ø150		Exist Pipe $\phi 100$		Rylet Dine A150	7777 7777
	318nd-by				2.	_		-											(3000000)			+		-		-						1			
Head H(m) lx	ر ا				78.8			~								300 300						-						-							
Pump					m							1			-							<u> </u>										_			
Dynamic Pressure He(m)	COL FO	QA . 45	28.138	78.785	260 711	114.630	98.131	52.076		68.000	114.236	308 34	046.04	98.131		J01-86	80-076		25.061	0.000		104.335	93.778	81.422	R/ 987	00.00	85.982	6.357	206 101	104.330	80.900	5.027	170.0	60.867	52.323
<u>1</u> 9	000	480.000	540.000	540.000	790 90	200.000	510.000	538.000		522.000	500.000	517 000	200.12	510.000	000	534.000	510.000		565.000	623.000	000	203.800	501,000	505,000	200 000	000.000	490.000	555.000	000	202.000	519.000	587 000	200	522.000	522.000
Dynamic Pressure Hd(MSL)	0 C L	374,796	568.138	618.785	711 000	014.630	608.131	590.076		590.000	614.236	265 395	000.000	608.131	40.	593.107	590.076		590.061	623.000	000	607.396	594.778	586, 422	582 887	100.400	575.982	561.357	900 009	060 100	599,900	592, 027	70.700	582.867	574.323
Loss h(m)		6.658			4.548	6.106		18.054	0.076			50.910			15.024	300000000000000000000000000000000000000		0.015			15.604	12.618	610	Q	3.554	6.885	200	14.625		7.496		7.873		8 544	
Hyd. Grd I (%)		4.932			1.516	2.840		3.728	3.057			39.162			75.118			0.054			3.960	2.907	-	1,0.0	4.836	4.590	200	14.625		12.706		14.315		10.680	
Velocity v(m/sec)		0.752			0.789	0.999		0.966	0.868			1.761			3.370			0.098			1.197	1.013	000	1.363	1.249	1.295		1.274		1.310		1.376		1 274	
L(m)		1.350			3,000	2,150		4,843	25			1,300			200	G 2012 2017 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		285			3,940	4,340	401	0006.1	735	1,500		1,000		230		220	-	900	
Zxist.					470 Atten	399 Atten		×:	Ж			91 Atten			146 Atten	000000000		×			×	×			360 Atten	399 Atten		IZ/ Atten		×		146 Atten		167 Atten	
Nixed Die Txist. Dm(mm)		140			470	399		300	300	300.00000000000000000000000000000000000	200000000000000000000000000000000000000	- 3 1			146	200000000000000000000000000000000000000		300			400	400	i c	nes	3960	399		124		150		146		167	
Dia.		140			450	350	1-1	300	300	X 0000		92			123			300			400	400	2	25 C8	250	350		123		150		123		40	
B/C Flow Rate Q(m3/d)		1.000		sale	11,800	10.800	200	5,900	5,300		X (1,000			4,900	Contract Con		009			13,000	11,000		11,000	11,000	14,000		1,400		2.000		2,000		2 400	
B/6		(8)	, ,	-Kunda	2 3	(B)	+	(B)	5 (8)		1	(B)	: 30	Н	(B)	2000		(B)			5	(9)		3	(9)	(9)	-	(9)		(9)	1-1	9		9	
Node-Node		18	18	Katugastota-Kundasale KBA	- X702	702 - K701	K701	K301	- K105	K105	K702	- KT2	177	K701	- KR7	KR7	K301	KB3	KB3	BPT	- K102	K10Z - K103	60	K104 K104	K105	- K501	┝╂	KR5 KR5	- C	A104	K101	- KB1		K105	K401
Node		~~ &c	\Box	Ka K	KE8	K702	╌┼╌┤	K701	K301	X	-	K702	4	1-1	K701	¥	×	K301	K	- P	BPT	K102	! !	KIU3	K104	K105	×	K501 K	*4	X102	1-1	K101 K21	1	K105 -	

Appendix 5.10 Hydraulic Calculation for Transmission Pipeline (Separate)

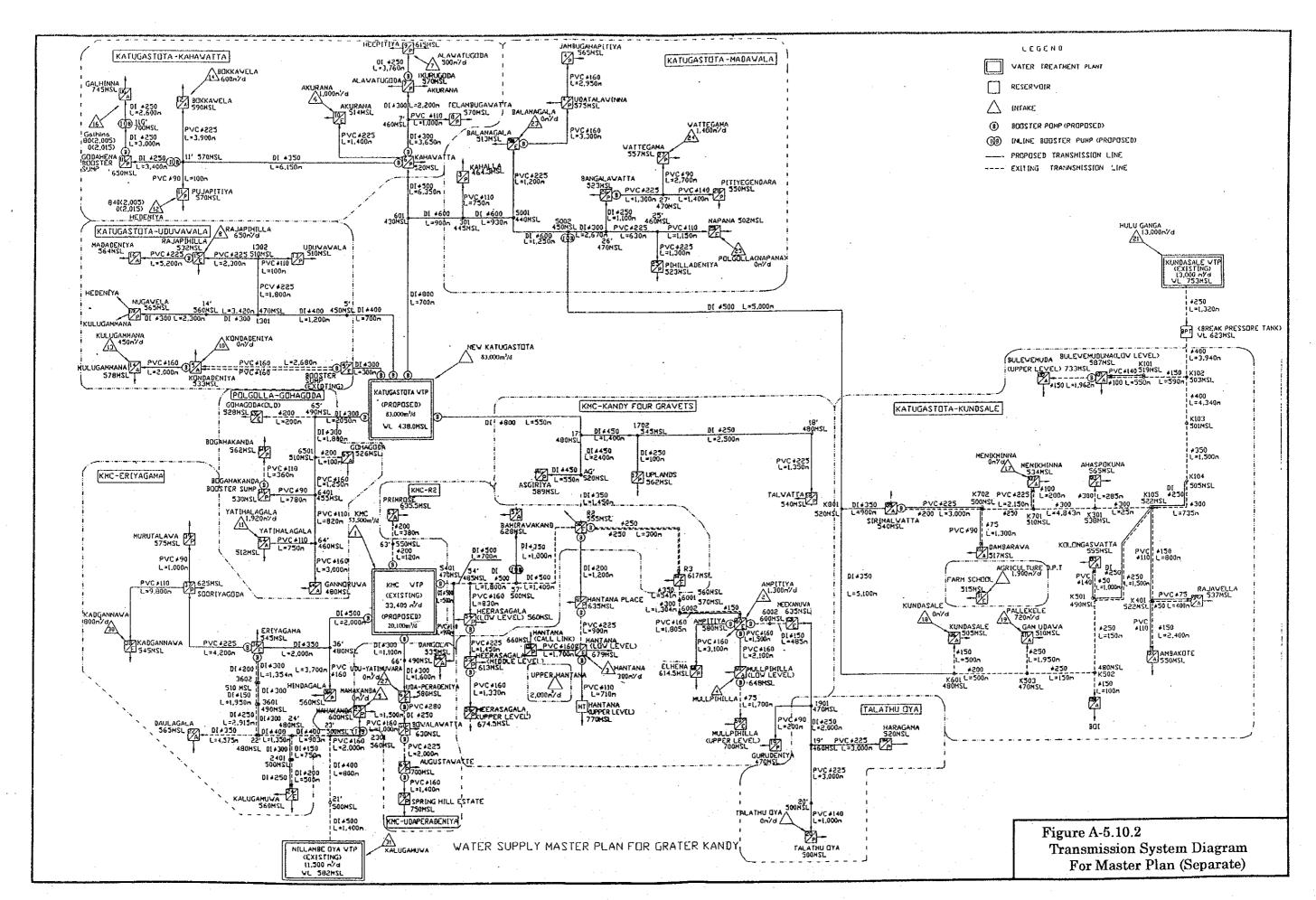
set Output Remark	Exist Pipe Ø150			Exist Pipe &50		Exist Pipe \$250	Exist Pipe \$250	Svist Pine 6250				Exist Pipe Ø150			1 1	既設質無視 Ø160×2条	既設管無視 ゆ225	1 1	TOTAL STATE OF THE		Exist Pipe \$200		D.: at Dian 4000	מאדאר בי גד של מארים		成設管無視 φ160		既設管無視 Ø160, Ø110		既設管無視 ゆ225	
Oyeanic Pressure Pump Head Set He(m) 1792 H(m) Ixcludin	Xc-pusts	9.269	52.323		000 000	20.302	90.452	99.524	59.086	99.524			37.286	113.364	55.528 8 113.4		32.258	83.178	5.000		-	17.321	32.258	15.511						0 45.873	0 8.225
Loss Dygamic Pressure GL h(m) Hd(MSL)	15 054	559.269 550.000	574 323 522.000	╀	- 🔛	5.531 575.982 490.000	570.452 480.000	569.524 470.000	0.438 569.086 510.000	569 594 470 000	╀		542.286 505.000	551.364 438.000		4-1	542.258 510.000	538.178 455.000	3.178 535 000 530 000		0.207 545.528 490.000	545.321 528.000	542.258 510.000	541.511 526.000		 	- 200	-	-	17 649 505.873 460.000	488.225 480.000
Length Velocity Hyd.Grd	0 0E8 8 973	0.17		400 1.536 37.882		150 9 071 36 871	716.7		1,950 0.189 0.225		500 1.437 10.767	500 2.554 43.708			2,050 0.835 2.847	1.800 0.655 1.816			780 0.472 4.075		900 0 405 1 038	201-20		100 1.179 7.467		820 0.940 11.446		750 0.783 8.169	8		3,000
B/G Flow Bate Dia. Wised Dia Ixist. Length		1,800 97 Left Atten		600 65 76 Atten		000	062 062	4,800 250 250 K	800 250 Z50 K		3,900 200 200 K	2 000 150 K	201		5,100 300 300		45,000	800 140 140	200 79 79		000	1,100 200 200 A		3,200 200 200 K		76 97 97		500 97 97			1,100 140 140
		K401 - KR4 (G)	A14	K401 - KB9 (G)	KR9	K501	K501 - K502 (G)	K502 - K503 (G)	K503 - KT1 (6)	N.1.	K503 - K601 (G)	K601 V86	A KBO1 - AKO (U)	9	PG	92,	6501	6501 - 6401 (B)	6401 - 64S (B)	645	657	65' - 65G (B)	1020	6501 - 65 (8)	65	6401 - 64' (B)	642	64 64	1	<u> </u>	64 - 646 (8)

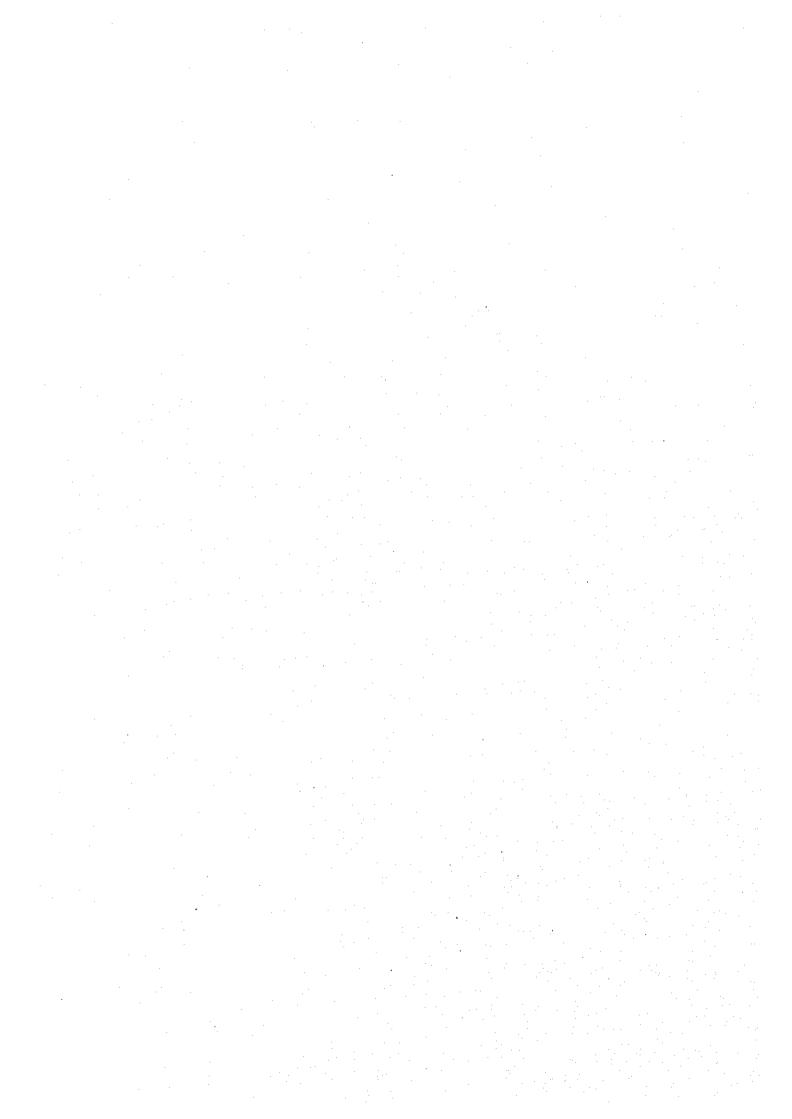
	Вепа		110				
			1.5 Exist Pipe Ø110			4800	
			ist P				
	et)		.5 Ex		8,	55	+
	set Output Excluding (kw/set)				30 1,339.8	65 2,215.5	
	Set	0.0			000 000	65	
							+
Year 2015	Dynamic Pressure Pump Head He(m) Type H(m)		37.5				
Year	Pump		m				
	ressure 1)	37,540	5.006				
	He(m)	<i>د</i> ,					
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	75 01	530 000	562 000				
for Transmission Pipeline (Separate)	92		2 9	2			\vdash
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peli			540				
ı Pij			0.540				
Sion	Velocity Hyd. Grd v(m/sec) I(%)		1.500				
SELIS	Hyd I (
Tran	Velocity v(m/sec)		0.313				
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[rau]	, K		97	- 133 55 57			+
H	e Di		\perp				
97.	/m3/d		200				
Appendix 5.10 Hydraulic Calculation	B/G Flow Rate Dia. Mixed Die Exist.						+
репо	B/		64B B				
Apl	ا ا				ts-	otal	
	Node Node		645	648	Sub Total	Grand Total	
			648			69	

A-5.10.10



A-5.10-11





Appendix 5.11 Hydraulic Calculation for Transmission Pipeline (2005Year)

Remark		Print Dine 4900			Exist Pipe $\phi500$	Exist Pipe &500		Exist Fibe would	Exist Pipe Ø500														Dyiot Dine Aprox	DAISU TIPE WESUNG				Rwict Dine April		Exist Pipe Ø300	Exist Pipe Ø150	1 1.			
Output (kw/set)		2 46	200		207,7			P 10 4 10 10 10 10 10 10 10 10 10 10 10 10 10										20,3		,	11,0		0 77			12	2							7,7	
Set Excluding		6	a		89																1		¢	7	, i	-								-	
Head H(m)		4 201	1001		107,8												i	61,0		á	70,8		000	- 1		7 78								49,6	
Dynamic Pressure Pump He(m) Type		166,659	5,000	107 929	100 CO	99,652	90,631	66,839	1	5,000	99,652	31, 105	22.62	90,631	11.808		61,529	9 000 5		70,841	B 000	000,'c	67,979	5.000		85,690	5,000	0,000	56,711	76 000	40,630	18,451	40.618	E 20,010	5,000
15		475,000	635,500	745 000	410,000	480,000	485,000	500,000		555,000	480,000	535,000	2000	485,000	560,000		560,000	813 000	2001	613,000	007 800	0.4,000	555,000	617.000		555,000	635,000	617,000	560,000	000	000,000	580,000	580 000	22,522	614,500
Dynamic Pressure Hd(MSL)		641,659	640,500		+	579,652	575,631	566,839	200 500	260,000	579,652	566, 105	2016	575,631	571 808		621,529	818 000		683,841	000 000	0.0,000	622,979	622,000		640,690	640,000	617,000	616,711	000 = 10	010,633	598,451	690 618	⊥ і.	619,500
Loss h(m)		021	20161		3,099	4 021	770 (2	8, 792	6,839			13,547			3,823			3,529			4,341		020 0	6,478		0 800	2,25	006 0	0,003	1,478	16,781			10,118	
Hyd. Grd I (%)			4,017		6,198	5 745	2.	4,885	4,885			15,053			4,606			2,433			3, 264		700 6	3, 704		0 575	200	360	0,000	1,133	9,297			3,264	
Velocity v(m/sec)		000	0,020		1,757	1,686	23.67	1,544	1,544			1,266			0,902			0,639			0,601		0.040	0,340		206 0	25.00	040	0,0,0	0,508	1,280			0,601	
L(m)		COL	nne		200	200	2	1.800	1.400			006	\$ 000 000 000 000 000 000 000 000 000 0		830			1.450			1.330		900	200		1 900	200		241	1.304	1,805	200000000000000000000000000000000000000		3.100	
Mixed Dia Bxist. Dm(mm)		-	V 007		500 K	7 005	-	500 K	500 K			123			198			198			140		Ц.	A SES		006	202	4 030	9000	300 K	189 Atten			140	
Dia.	4.000	\sqcup	2002		200		4-4	200	200			123		-	198			198		Н	140		11	C25		UVG			- -	300	140			140	
B/G Flow Rate Q(m3/d)	000000000000000000000000000000000000000	400	77.106		29.800			26.200	26.200			1.300			2.400		000000000000000000000000000000000000000	1.700			800		000	0.800		000	000	•	3.100	3.100	3.100			800	
B/6	rose	1	63 6		5401 B	(0)	1-1	57, (3)	582 (B)		11	66 (B)			54 (B)		H	55			56 B	92		283 B		Q 010	-	+	1000	6002 (G)	(9) (9			60E B	
Node-Node	KMC-Princese	KNC	- 63	KNC-KFG	- 5	5401	54,	573	+	582	5401	1 4	00	54,	\vdash	5	54	1 12	3	55	+	NAC-P2.K		583	8	582	618	583	0001	1-1	7009	\vdash	ୁ	-	90E
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Appendix 5.11 Hydraulic Calculation for Transmission Pipeline (2005Year)

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Output	(kw/set																		35					
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set	Exc.uding	Stand-by	e Z																					
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Head	H(m)		2.27		77,0				62,9				64, 7											
Pump	Type				8				8				8									-		
Dynamic Pressure Pump				77,025		5,000		65,922		5,000		64,708		884		5,000								
97.6	He(m)		88 W	77,		က်		65,		က်		64,		40,884		ູນ								
yazni	æ																							
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79				580,000		648,000		648,000		700,000		580,000		600,000		635,000								
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Oynamic Pressure	(1			657,025		653,000		713,922		705,000		644,708		640,884		640,000								
ic Fr	TSM)PH			657		653		713		705		2		640		640								
Dynaz																								
SS	(a)			Γ	4,025				8,922				3,824		0,884							Γ		
Loss	h(в)				4,				∞				ω,		°,									
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Velocity	v(m/sec)				0,451				0,524				0,526		0,458					ľ				·
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Length	L(m)				2.100				200				1.500		485									
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Flow Rate	Q (m3/d)				009				8				700		700									
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Node	Node-Node			99	-	9		99	'	60,		8	1	6002	-	₩09			Sub Tota					
	Ž		87.00		09				60,			_	90		6002				ី					
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Appendix 5.11 Hydraulic Calculation for Transmission Pipeline (2005Year)

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Output	(kw/set)			218,1										-											-					39.1							3,4		
	*	51224-09		T			-		-																					-							1		
Head	H(n)			103,1													 													75.2				-			B 5,4		
ynamic Pressure Pum	He(m) Type	2.00	103,097	110 010	110,013	95,758	100,722		86,985	59,003	000	9,000	95,758		50,112	100,722	05 044	756, C7	59,003	000	68,623	4,838		110,819	18,330	200	0,000	5.504		797, c)	120,951	000	000,00	120,951	5,545	6000		5,000	
0 79			438,000	000 007	430,000	445,000	440.000		450,000	470,000	000	523,000	445,000		464,300	440,000	000	513,000	470,000		460,000	523,000		430,000	520,000	200	520,000	514,000		520,000	460,000	000	010,000	460,000	570,000	222 2212	438,000	438,000	
Dynamic Pressure	Hd(MSL)		541.097	0.00	540,819	540,758	240 799	77.	536,985	529,003		528,000	540,758		514,412	540,722		538, 844	529.003		528, 623	527,838		540,819	538 330	000	520,000	519.504	2000	595,262	580,951	000	0/0° C	580,951	575,545	222627	443, 382	443,000	
	h(m)			0,278	0.061	1000	0,036	3,737	600 2	1,306	1,003			26,346			1,778			0,380	704	0, 0		007	2,489			0,496			14,011	5,951		0,0	5,406		0.382		
Hvd. Grd	1(%)			0,397	0.089	200.60	0,039	2,989	000	7,363	0,912	000000000000000000000000000000000000000		35, 128			1,481			0,603	000	0,003		000	0,392			0,354		,00	3, 921	2,705			5,406		1.272		
Valueity	V(m/sec)			0,446	0 179	3 7 60	0,127	0,714	4	0,74	0,376			1,723	2 3000000000000000000000000000000000000		0,489			0,301	200	0,301			0,395			0,226		200	0,827	0,677			0,626		0.540	****	
Langth	+	:		2007	000	200	930	1.250	0	2.670	1.100	000000000000000000000000000000000000000		750			1.200			630	000	1.300			6.350			1.400	800000000000000000000000000000000000000		3.650	2.200			1.000		300	225	
Miles Die Tried	012 54131.			900	000	20	009	198		198	198	100000		97			90			80		x 0			900			198			198	198			97		300	200	
Dia Missa	-1-	2.005		9 009		200	009	198		198	198			26			198 198			198 198		198			200			198			198	198			97	3 11 3118	300	200	
Tlan Doto		Т		0.00	\vdash	4.200	3,100	1.900	++	1.900	1.000			1.100			1.300			008		800	8		6.700			009			2.200	1.800	-		400	8 Katugastota-Kondadeniya, Kulugamana	3 300	9.000	
	5/4 r10	_	Radewe la	20		(g)	(B)	(8)		(B)				(8)			(B)			(£)		(B)	-Kahawatt		(B)			<u>ت</u>			m	(B)	-		(B)	-Kondader	P	Δ .	
	le Vode		Katugastota-Hadawala	601	\vdash †	301	5001	5009	1	. 26,	26			<u>ر</u>	1 - 100	-	500	0	,	25,	\forall	72	Katherstota-Kahawatta	1	9		9	- 10	10	9	- 12	7 -			80	8 tugastota	PG	n n	
	Node-Node		Kati	34	9	601	301 -	5001	5002	5002 -	26,	97	106	301	1	5001	1009		600	26,		25' -	7 7 7	109	601	9		φ	1		မှ	٤			-	Ks	1 1	94	

Appendix 5.11 Hydraulic Calculation for Transmission Pipeline (2005Year)

nit et)		85,4 Exist Pipe Ø160×2			10,1 Exist Pipe ¢160		5						49,9									0 32	0.00	A CONTRACT OF THE CONTRACT OF									495,8	X 0 X 0			
t Output		1 85			1 10		2 278.9						1 48									1	7					200 Oct 6000 000			-		9 49	VQ 00	4-		
Set Set (Š	3					-	-					2			-							0	-	X002XXX			700000000000000000000000000000000000000									
Pumpi Head Type H(m)		B 133,3			3 58,1		R 157.1	+			8		B 45,2	-					+			000	200					-				ļ		- 100			
Dynamic Pressure P		133,341	2,000	58,117	5 000		157,067	114,798	74.281		2,000	45.156		5,000	11.7 708	1 22 620	47,206	000 27	47,206	27,460		99,803	44.580		23,000	44.580		6,437	43,000	7 455	4,400						
GL.		438,000	533,000	533,000	578,000		438,000	480,000	520 000	200	589,000	589.000	200	628,000	1000 004	400,000	545,000	000	545,000	562,000		438,000	440,000		510,000	490,000		528,000	490,000	000 000	200,000						
Oynemic Pressure Hd(MSL)		571,341	538,000	591,117	583 000		595,067	594,798	594 261	62.70	594,000	634 156	207 (200	633,000	204 700	034,130	592,206	200 200	592,206	589,460		537,803	534 580	200,120	533,000	534,580		534,437	533,000	200 455	546,455						
Loss h(m)		33.341	723		8,117		036.0	0,00	0,537	0,261			1,156			9 502	20067		0 716	7, 140		000	3, 223	1,580			0,143			0,545							
Hyd. 6rd I (%)		12, 441			4,058		007	0,403	0,224	0.474			1,651			1 037	75067		007 400	26,450			1,572.	0,878			0,714			5,453							
Velocity v(m/sec)		1.465	200		0,677		1	0,000	0,361	0.491			0.686			Cou	000 (0		000	2,308			0,606	0,442			0,332			0,995							
Length L(m)		9 680	200		2,000		Š.	nee	2.400	550			700			000	7.200			100			2.050	1.800			200			100						- 12 (2.0)	
Nixed Dia Exist, Dm(mm)		71.92	\prod		140 K			90),	700	600			350			007	400			198	-		300	300			200 K	-		200 K							
Dia. Wi	con .	603	i		140	-		002	700	600	2		350	200			400			198			300	300			200			200	-						
Flow Bate Q(m3/d)	1	000 0	3.000		006		ा	18.300	12.000	19 000	2000		5 700	000			6.300			6.300	*		3.700	2.700			900			2.700							
B/G			٥		æ	64 34X-0	A 10. 03 au	m	(B)	(2)	7		a	╁		-+	(8)		H	(3)	P-Gobago		.c	(R)	+-		65G (B)	╁		(B)							
Node Node		$\left \cdot \right $	ر ا	, ,	c - 14	Vaturanthati	PG	17	1, - AG	AG'	+		AG E7	57		17	1702	71.7	1702	17	a Tries sto!	PG	- 65,	5, 6501	6501		- CO	999	6501	- 65	65		Sub Total		Grand Total		
× v		Î	n		വ	1		PG	177	5	AG .		01	D.			2.1			1702	1		PG	, L	†		22			6501			Š		Græ		

Appendix 5.11 Hydraulic Calculation for Transmission Pipeline (2005Year)

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4.44.0	2000	(KW/Set)			
+00	726	Excluding	Citabanho		
Bood	reap Hear	Type H(m)	_		
	Uynamic Fressure	He(B)			
10	namic Pressure UL	Hd(MSL)			
	LOSS)(a)		+	
* 1 33	Velocity Hyd. Grd	(%) 1 (3es/m) A	, , , , , , , , , , , , , , , , , , ,		_
	Length	(E) L			
	T. Mixed Dis Sxist.	in) Da(ma)		05	
	9 Flow Eate Dia	D(#3/4) D(m	10/0m/2	2.00	
	York 3/	Vode	Mode-Mode		

Appendix 5.12 Hydraulic Calculation for Transmission Pipeline (2010Year)

9,000 0 200 200 K 500 0.3 9,000 0 500 500 2,000 0.3 9,000 0 350 350 2,000 0.3 6,200 0 300 366 Atten 1,354 0.3 6,200 0 350 350 K 4,575 0.3 6,200 0 300 366 Atten 1,354 0.3 6,200 0 500 500 K 1,350 0.3 18,600 0 500 500 K 1,400 1.3 18,600 0 500 500 K 1,400 0 1.3 18,600 0 500 500 K 1,400 1.3 18,600 0 500 500 K 1,400 0 1.3 18,600 0 500 500 0 1.2 1,400 123 0 123 0 123 990 1.3 1,800 198 0 198 0 1.450 0	Set Output Remark	38 7	60.000	0 00 0 Evict Dine #200	באופר נולם		3 53.2			Exist Pipe Ø450			- 1 - 1	Brist Pipe Ø150	Exist Pipe Ø250	ひょうへ ひきゃん みかおり	ביים ביים ביים ביים ביים ביים ביים ביים	Exist Pipe 6400			3 141.8 Exist Pipe Ø500	4×30	EXIST TIDE GOOD	Exist Pipe Ø500	Exist Pipe $\phi 500$								2 10.8			
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Appendix 9.12 Humani Carlo	000 to 4: # 4:00	He(m)					-			-																										
Applicax 3.12 Hydracia Cartesia Car				-	┝-┼-	- 123	-	-11		-		4-	 	4-+	- -		+	1	L	1000		-		 -	+	1-4	4				+	% -	\vdash	-	24 1	
March Marc	'	- † - †			1-1			-		\downarrow	\perp		$\perp \downarrow$		\sqcup	4	\sqcup		_		Ц		- -	$\perp \downarrow$				╌┼╴		\sqcup			$\perp \downarrow$			
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Node		+	1-1					_														1			\downarrow			\sqcup			\perp					
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Node B/G Flow Bate Code-Node Q(m3/d) Code-Node Code-No		Dia. Dia.	2,005 2,010		_			-					_	- -		\vdash			-			╁╌┼╴						123			198		198			
Node	J. 16	3/6 Flow Rate	(m/cm) b										_				_						H		\perp								-			
1 (Mark 1991 1 1994 1 1994 1 1994 1 1994 1 1994 1 1994 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	waddy			KMC-Primrose	XMC 63	63	KMC-tilyagana KMC	- 36,	36.	36,	36	8		3602	3601	- 22,	99	909			KMC-K#G	A L	5401	54,	+	-		- 5401	99	54,	+	42	+	+	55	

Appendix 5.9and12and13.xlsNewKandyTra.Pipe (PS2010)

Appendix 5.12 Hydraulic Calculation for Transmission Pipeline (2010Year)

Set Output Remark Sind-by 12.6 1 12.6 C C C C En 2 Evist Ding A950x2	Exist Pipe	1 17.3 Exist Pipe \$350 Exist Pipe \$300 Exist Pipe \$150	1 9.1 1 9.0 1 2.6 Exist Pipe #75	1 8.8 Exist Pipe #5160 Exist Pipe #5150
Head (Hm) 71.9	5.000 B 68.2 92.952 B 93.0 5.000 B 52.0 5.000 B 52.0	98.82 88.9 5.000 0.000 0.000	52.081 B 52.1 5.000 B 77.0 5.000 B 77.0 5.000 B 65.92	
Loss Dynamie Pressure GL h(m) Hd(MSL) 5.398 679.500 674.500 623.203 555.000		6.899 672.101 660.000 2.882 775.000 770.000 0.362 616.638 560.000 1.850 614.788 570.000	41.005 593.782 580.000 12.581 632.081 580.000 12.581 619.500 614.500 4.025 657.025 580.000 653.000 648.000 8.922 700.000	3.824 644.708 580.000 0.884 640.000 635.000
Velocity Hyd.Grd io V(m/Sec) I(%s) h(0.677 4.058 5.	1.058 4.009 1. 1.105 6.627 7 0.752 3.287 2	4.058	0.677 4.058 1 0.451 1.917	0.526 2.549
	325 325 K 300 0 200 1,200 138 X 900		0 189 Atten 1,805 0 140 3,100 0 140 2,100 75 75 K 1,700	150 K
B/G Flow Rate Dia. Q(a3/d) D(mn) Q (a3/d) D(mn) B 900 140	B 7,600 00 B 3,000 200 B 2,000 0	HT B 900 0 600 0 600 0 6001 6 3,500 0 6002 (G) 3,500 0	60 (6) 3,500 140 60E B 900 140 60' B 600 140	B 700 (B) 700
Node Node Node 55 56 56 56 57 58 58 58 58 58 58 58		A-5.12.2		60. 60. 60. 60. 60. 60. 60. 60.

Appendix 5.12 Hydraulic Calculation for Transmission Pipeline (2010Year)

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+1111411	מתרמתר	(kw/set)			. 4.7	7.777	_		
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0.T	UL Dynamic ?	He(1			The second secon	3			
-	Dynamic Pressure	HQ(MSE)							
	7 - 1088) H		_	1				
	Hyd. Gr	5	3						
	Velocity	(m/cer)					discount of the latest of the		
	Length	(E				30			
	Mixed Dis Exist	E E	/ m / m /						
-		1) (mm) () (mm	プリンピング	0.005 19 010	43 COO (45 CTO				_
	B/6 Fiow 32	7/8"/0	V (CE) &	_					
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Appendix 5.12 Hydraulic Calculation for Transmission Pipeline (2010Year)

Remark														· · · · · · · · · · · · · · · · · · ·			***************************************								VATIN														in the Apparent	
Output	1136/11		2 000	2000									-	-			-			9.0											<u></u> .					-		-	34.1	
set Output	Stand-by		c	9																2																-		000000000000000000000000000000000000000		{
Head	/m \u		-	8.771													 			57.8	┼╌┧																	4-	76.5	
Dynamic Pressure Pump	7 Iype		122.774	129.587	119 994	\$ (%	117.954	105 781		59.745	5.000		113.734	63 487		117.954		42.915	57 830	an	108.002		10.000	108,002		3.832	59, 745		090 69	5.085		129.587	37 390	7.06.1	0.000	5.504	± 20.00	76.488	120.951	
Oynthic Pr	n lau		122	129	611	7	117	101		22	4		113		S	117		4.) L		108			ĵ			ŭ.		9			12	č	3				-	12	
19			438,000	430,000	445 000	445.000	440.000	450 000	200	470.000	523,000		445.000	464 300	201:02	440.000	400	513.000	599 000	200	470.000	400	557.000	470 000	200.	550.000	470 000		460.000	523,000		430.000	590 000	270,000	520.000	514,000	773.000	520.000	460.000	Area in Territoria
Dynamic Pressure	HQ(H3L)		560.774	559,587	200 201	558. (34	557.954	555 791	1011000	529.745	528.000		558.734	597 787	0.170	557.954		555.915	280 830	200	578.002		567.000	578 002	2000	553.832	570 745		529.060	528.085		559,587	557 990	301.44	520.000	519,504	F00.610	596.488	580,951	
ross	D(B)			1.188	0.853	0.780	9	2.173	26.036	1 7AE	1. (30			30.947			2.039			2 928	200	11.002			24.170			0.685	0.00	0.873			2.266		007	0.496			15.538	
Hyd, Grd	1(%)			1.697	0.947	0 830	2000	1.738	9.751	1 597	1,00			41.263			1.699	200000000000000000000000000000000000000		9 175	2	4.075			17.265			1.088	0	0.750			0.357		700 0	0.354			4.257	
Velocity	v(m/sec)			1.060	0.774	264 0	0.1	0.901	1.353	003 0	0.033			1.879			0.526			0 601	200.0	0.472			1.364			0.413	000	0.338			0.407		000	0.226			0.865	
	(<u>a</u>)			700	900	020	200	1,250	2,670	901	7,100			750			1,200			1 300	4,000	2,700	-		1,400			630	000	1,300			6,350			1,400			3,650	
Mixed Dia Exist.	(BB)			900	009	000	000	516	198	950	QC7			97			198			109	720	79	000000000000000000000000000000000000000		123			198		198			200			198	-		198	
Dia. Wix	D(10 D	770 5		0	0		3	200	0	5	7.0			0			0			001	730	79			123			0		0			0	-		0			0	
Dia.		1300		009	009	1	000	198	198	9	261			97.			198			-		0	2		0			198		198			200			198			198	-
B/G Flow Rate	Q(m3/d)	1.0	172	25,900	18,900	000	17,700	16,300	3.600	002	2, 700			1,200	000000000000000000000000000000000000000		1,400			1 600	7,000	200			1.400			1,100		006	itts		006*9			009			2,300	
B/6		Marken	Trong and	a	(B)		a	a	8					(3)			(B)			F		(B)			(8)	П		(3)	Ħ	e	A-Kahaw		(B)			Ð	_		<u>~</u>	-
- L	lode	Votrocotnia-Radens	2000	601	301	T	1000	5002	7 26,	\vdash	%		-	3		-	200	_		+	77	27			28	Н		25,	H	52	Kathenstota-Kahawatta		မ			10	_		7,	-
Node	Node-Node	T.	Dd.	- 9d	601 -	3(301 5001	5001	5002	7	.97	3	301	301		5001	5001 -	200	;	1	20	27	27) 	27, 27	28	6	36.	25	25,	Kath	7	601	9	9	9	10	9	9	-

Appendix 5.12 Hydraulic Calculation for Transmission Pipeline (2010Year)

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Output	(kw/set)			100000000000000000000000000000000000000					167.9						3000.0000000								200000000000000000000000000000000000000		3.4			85.4			11 8	1 1		348.0								
set	20	Stend-by	-									1			000000000000000000000000000000000000000													-	4		-	•		E	2							
	H(m)			7.000			-		144.2						00 - 00 00 00 00 00 00 00 00 00 00 00 00										25			122.2	700.0		50 0	2		158.7								
dmil anna	Type		000	2	351		5.545	o	200	╀		388	14.178	000	000.5	389		63.914	41 688	800	63.914		55.178	900	5.363 R	5.000		341	5.000 P		59.864	5.000	200	158.705 R	+		74.462	5.000	90,	797-79	35.482	
Danamic Pressure Fumb	He(m)		u		120.951		Ś	144 190	144.	131.526		110,389	14.		C	110.389		63.	17	.1.	63.		55.		c	2		133.341	ĸ		59.	2	i.	128.	115.980		74.	5.	7.0	(4)	35.	
GT.	T		000	000.000	460.000		570.000	000 001	430.000	450.000		470.000	560,000		565.000	470.000		510.000	299 000	332.000	510.000		510.000	300	438.000	438.000		438.000	533,000		533.000	578,000	000	438.000	480.000		520.000	589,000	000	520.000	555.000	
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	HACKSI,)	Voc Lear	5/5.000	580.951	-	575.545		282.189	581.526		580.389	574.178		570.000	580.389		573.914	000 643	3/3.086	573.914		565.178		443.328	443 000		571.341	538.000		592.864	583.000	1	596.705	595.980		594.462	594 000		594.462	590.482	
Ī	h(#)		5.951			5.406			0 200	0.000	1.137		6.212	4.178			6.476		0.226			8,736			066 0	0.353		6	33,341		1000	9.004		204 0	671.0	1.519	007	0.462		3 480	00.0	
4. 0 Las	nya. wru	7 (200)	2.705			5.406			270	146.0	0.947		1.816	1.816			3.598		0.098			87.364			.007	180-1		***	12.441		404	4.932		010	1.318	0.633	V. C	0.839		9 745	- A	
	velocity	יו מברי	0.677			0.626			01.0	0.553	0.553		0.655	0.655			0.789		0.113	200000000000000000000000000000000000000		2.819	200			0.540			1.465		0.0	0.752		000	1.020	0.686		0.725		0 210	0.013	
⊢	rength '	-	2,200			1.000				3)	1.200		3,420	2,300			1,800	 	2,300		-	100	3		000	300			2,680			2,000		i i	050	2,400		220		1 450	1,400	
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	te Dia.		1			400 07	1					ļ_	Ц		ļ.		_	L	300				3	Kulugana		300								Ш	200 700	00 700	Н	009 00				
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	B/6	+	(B)			(a)		ta-Bduw	-	23.	1201	+	14' (B)	17N (B)	+		1309 (11)		15 (B)	-		Ť	(g)	ta-Kend		5, B			9 P			14 B	ts-KFG.		17° B	AG ² (R)		Y€ (B)		11	282	-
•	Node	e-Node	- 4	7	1	+	o)	Katugastota-Eduwawala	be.	- 1	-	1301		14.	171		1301		-	15		+	1 5	Katugastota-Kondadeniya, Kulugamana	ЬG	+	, C	53,3	\vdash	2	5	+	Katugastota-KFG, R2	PG	1 1	+	Ye	$\left \cdot \right $	Als	\vdash	582	
		Nog	7,	_	-	6	-	3		PG	îr	-	1301	14,	╁		1301		1302	-		7	202	1.		PG		-	2,			S	3	4 4	PG	1.73	╁	ĄĘ,			YE.	

Appendix 5.12 Hydraulic Calculation for Transmission Pipeline (2010Year)

Output Remark (kw/set)		55.3								-3.3				13.9 Exist Pipe \$200	Exist Pipe \$250	15 no			Exist Pipe Ø75			- 1 - 1	Exist Pipe \$200	Exist Pipe \$250		Exist Pipe Ø150		Exist Pipe & 250	
Set C Excluding (K		T												2															
Pump Head Type H(m)		B 45.2								IB -1.3				B 27.1		-				8	7.	6	7		r c	6	0	4	2
Dynamic Pressure Pump He(m) Type	45,199	5.000	115,980	44.606	108.481	47,468	44.606	25.751	977 YUL	764 - EOT	28.044	5.000	27.063		50,889	31.128	5.000	000 00	20.00	7.088	28.044	63.259	73 034	V60 69	\$00.00 00.00	03.60	20.370	73.034	32.692
19 °	589,000			545.000	480.000	3 540,000	545.000	 		-{}	520.000	540.000	3 540 000	╅╌┼	9 200,000	8 510 000	534 000		200.000	8 517.000	4 520.000	9 480.000	\vdash	╁╌┼	-14			4 470.000	32 510.000
Dynamic Pressure Hd(MSL)	634.199	633.000	595.980	589.606	588.481	587.468	589,606	587 751	77	254,447	548.044	545.000	587 063		550.889	541.128	239 000	2000	550.889	524.088	548.044	543.259	K49 034	20.040	46.04	545.239	525.370	543.034	542.692
Loss h(m)		3 1.199		0 6.374	0 1.125	0 1.013		2 1.855		9 6.397	3.044	\sqcup		1 16.174	H	11	2.128		S 96 901	+4		38 4.786	49 0.224	00 0.000		778 17.889		78 0.342	1
3 Hyd. 6rd		1.713		2.550	38 0.750	38 0.750		53 18.552		1.279	11 3 383			64 5.391			72 10.638		319 00 618	1		05 0.938	558 0.449	000 0 000		35.		185 0 178	
th Velocity		700 0.758		00 1.022	00 0.338	50 0.338		100 2.263		00 0.749	1 01	-		3,000 1.164		2,150 1.03	200 1.472		1 910	1.3000		5,100 0.505	500 0.258	150 0.00		500 2.292		1 050 0 185	
Ixist. Length				2,500	1,500	1,350				5,000				259 Atten 3,(Z50 Atten Z,	210 Atten			100 Atten 1,			X	×		×		Δ	4
Dia. Mixed Dia Ixist. D(mm) Du(mm)	OT.	0 350		0 400	198 198	198 198		198 258		500 500	Ц	000		198 259		0007 0	198 210			6)		350 350	200 200	250 250		150 150			067 G57
Dia.	2,000 6,1	350		400	0	0		198		0				0	,	0	0 0			0		0 0	0 04	0 0		0			0 00
B/G Flow Rate Q(m3/d)		B 6,300		(B) 11,100	(B) 900	(B) 900		(B) 10,200	mdesale	TR 12.700	11	(18) 8,400		R 5.300		(B) 4,400	(8) 4,400			(B) 900		(IB) 4,200	(IB) 700	(IB)		(TR) 3 500	İ		17. (81)
Node B/G		Av 57	5/	1702	18,	18	10	1702	17 Katugastota-Kundasale	5002	10	KBS KBS	OTT	KR8 - K709	cq.	- K701	- KR7	KB7	K702	KT2	2001	K601	K503	K503 - K502	K502	11		31 L	KT1 KT1
NON		ΑĜ		17	1702	18,		1702		2003	11	12.		VDO	+-	X702	K701		1	K702		K801	K601		1 10	1000	VOOL		K503

Appendix 5.12 Hydraulic Calculation for Transmission Pipeline (2010Year)

N. CELON					語言第一番 よいのうの外	筑政 高無仇 ゆ100人6米	既設管無視 ゆ225		既設簡無視		1	Exist Fipe @200		1	Exist Pipe $\phi 200$		1	既設管無視 φ160		- 1	既設實無視 φ160,φ110	2017 - 1070 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 -		1	筑政官無免。 Ø225			Exist Pipe Ø110								
Output (KW/Set)				42.8																		000000000000000000000000000000000000000				200000000000000000000000000000000000000		0.7	т.			8.89		64 1,180.8		
Set	Stand-by !			7																		and the second second				0.000/0.000/0.000		-				32		- 64		
H(m)	╁╌			105.0	+	-	-				+	-										2000 0000000000000000000000000000000000	-	-	+	000000000000000000000000000000000000000		37.1								
Type				œ.		1			-												1			1				e	⊢	-						
Dynzmic Pressure Pump He(m) Type			104.972		49.458	27.592		80.882		5.000	49.458		11.315	27.592		11.008	80.882	-	73.278	00.00	000	40.583	40 583	30.00	700	0.10	37 150		5.000							
75			438.000		490.000	510.000		455.000		530.000	490.000		528.000	510.000		526.000	455.000		460.000	512.000		460.000	480 000	200.002	000	400.00g	530,000		562.000							-
Dynamic Pressure Hd(MSL)			542.972		539.458	537 502	1	535.882		535.000	539.458		539, 315	537.592		537.008	535.882	-	533.278	512.000	000	500.583	500 583	200 200	106 701	400 (01	587, 150		567.000							
P(B)				3.514		1.300	1.710		0.882			0.143			0.583			2.604			11.417	200000000000000000000000000000000000000		400	14.796	0.0000000000000000000000000000000000000		0.150								
Hyd. 6rd				1.714	100	1.03/	1.368		1,130			0.714			5.833			3,175			15,223	200000000000000000000000000000000000000			4.932	000000000000000000000000000000000000000		0.416								
Velocity V(m/sec)				0.688		0.524	0.376		0.236			0.332			1.032			0.470			1.096	000000000000000000000000000000000000000		0	0.752			0.157			- :					
L(m)				2,050		1,800	1.250		780			200			100			820			750			300	3,000	000000000000000000000000000000000000000	_	360					-			
Zxist.			į									×			K											000000000000000000000000000000000000000		2								
Dia. Mixed Die Exist. D(ma) Dasma)				300	0	205	140		7.9			200			200			97			97				\$	200000000000000000000000000000000000000		97								
Dia.	2,010			0	•		140		79			200			200	÷		97			97				9	000000000000000000000000000000000000000		46								
Dia.	2,005			300	4	300	C		0						0			0			٥				0			C								
B/G Flow Eate		ap.		4,200	4,00	3,200	500		100			906			2,800			300	-		3				1,000	000000000000000000000000000000000000000		100								
8/6		-Gohage	Ðd	B	-	(<u>R</u>)	(8)	1	(B)			(3)		_	(e)			(B)			5			-+	<u>a</u>	-		~	╁							
3	 -	stots		65,		6501	6401	+	64S	Н		929			92	_	-	64,			64,			-	946	200000000000000000000000000000000000000		64R	╀	_		[8])tal		
Node-Node	_	Katus	9d	PG -	9	65' -	6501 -	20	6401 -	64S	65,	65,	656	6501	6501	65	6401	6401 -	64,	64		64,	(*3	+	. 79	040	BAC	- 645	9			Sub Tota		Grand Total		

Appendix 5.9and12and13.xlsNewKandyTra.Pipe (FS2015)

Appendix 5.13 Hydraulic Calculation for Transmission Pipeline (2015Year)

nt Bemark et)	32.4 Exist Pipe Ø200		95.3			Exist Pipe 6450	1 1	881	38.6 Exist Pipe \$200	Exist Pipe Ø150	Prict Dine 4950	1 1	Exist Pipe Ø350		1 1	Exist Pipe \$400			20.4					The description of the second			Exist Pipe 6500	Exist Pipe 6400	1 1			
Output or (kw/set)	2 32	+	3 95	$\left \cdot \right $		-			38		-							_	7 7	-								-				4
Set Excluding Signd-by	,							_				-		888										_						-		
Head H(m)	167.1		107.6						52.4								-	_	1001									-				
Saure Pump Type	167.065 F 000 B	25.000	100 01e	0 0	2.000	100.016	22.298	52.373	200	64.455	95.764	99.630		5.000	99.630	202	88.005	100.110	8 000 E	.000	0.000	8.634	000	000	48.884	0.00		81.053	79.448	787	49.932	
Dynamic Pressure Pump He(m) Type	167.	i li	700	TOO	Ċ	100	22	52	8	3	95	66		5	96	100	S	100	ľ	9		000		2	48	0		001	7/9		. 4	
G TO	475.000	635.500	475.000	400.000	560.000	480.000	545.000	545,000		510.000	490.000	480.000		565.000	480.000	000	480.000	545.000	000 268	0.00	625.000	575,000	000	000.629	545.000	582.000		500.000	500.000	000	560,000	
	₩-1-1	-184	-1-1-			1-1-		-	╅╌╂		\vdash					├ ─╁	- 1	H	-+-	-				-	-	#	 		+	╀		┨
Oynumic Pressure Hd(MSL)	642.065	640.500	582.555	910.08c	565.000	580,016	567.298	507 373		593.353	585.764	579 630		570.000	579,630		579.565	645.110	000 060	p30.1	625.000	583, 634		625.000	593.884	582 000	2	581.053	579.448		503.504	• • • • • • • • • • • • • • • • • • • •
Loss h(m)	1.565		2.539	15.016		0.77	14.110		4.021	7.589		6.134	9.630	000000000000000000000000000000000000000		0.065			15.110			41.366		91 116	011.10		0.947	202	cha-1	9.864		
Hyd. 6rd I (%)	3.130		1.269	4.058		o la	0.339		5.969	3.892		2.104	2.105			0.048			3.598			41.366		9010	3.115		0.677	900 8	7.000	4.932		
Velocity v(m/sec)	0.737		0.808	0.677		,	1.54U		0.994	1.110		0.863	0.782			0.111			0.789			1.653		047	0.410		0.531		0.828	0.752		
Length	500		2,000	3,700			2,000		1,354	1.950		2,915	4.575			1,350			4,200			1,000		0	8,800		1,400	0	008	2,000		_
Taxis!	K								Atten	319 Atten		360 Atten	-	Н		K				-							У Х	<u> </u>	X			-
Nined Dia Brigi. Dm(mm)	200		200	140			320		336	318	2	398	350			400	- 3		198		_	7.9		,	97		200		400	140		_
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te Dia.	1000										_					8	80000			-		700			300		00		00	00		-
B/G Flow Rate Q(m3/d)	2.000		13,700	006			12,800		7.600	7 800	170	7,600	6 500	6		1,200			2,100			7			ಣ		000 6	2	9,000	1,000		
B/G	9	1 . 123		8	1-6		(E)		2 B			e	(1		(E)	1-8		9			co	-		5	7.8	- C	+	20	(6)		
loge log	KMC-Primrose KMC - 63	1.0	36,	╁┼	┼	<u> </u>	98		3602	1	+	22	6	+	.	24,			37			39		Н	200	Nillambe Oya	NO -	+	- 23,	- 2301	1-101	5
Node Node-Node	KMC-P KMC	33	KMC KMC	36, 36	-	** ***	36,	8	36	35	3601	3601	22,	22		22, -2		¥.	36	37	37	37 -	88	37	37	N. J	y. Ga	+	21,	23,		2301

Appendix 5.13 Hydraulic Calculation for Transmission Pipeline (2015Year)

nt Remark	(A)	7.8		7 100 100 100 100 100 100 100 100 100 100	EXIST FIRE WANG	Exist Pipe 夕150巻り	Exist Pipe 6200 % h			89.2				32 5 Prist Pipe \$280, \$250			15 9 Rejet Dine 4995	מאומי האים		0 61	0.27			83.9 EXIST Fibe @500	Exist Pipe $\phi500$	Prist Pine 0500		Exist Pipe @500								10.0	7.7	
\Box	/KZ	1								8				- 6	7		c	-		-	7			20		-						- 30					7	
	m) excluding Stand-by	40.3			_			-		14.9		-		0 34	0.5		4	0.10			S TO			94.0		-		-						-			8-70	,
Punp Head		IB 40						-		117	+-+			ŭ e	-			9		+	20		Н	es es							-						20	
58.27.6	He(n)		5.000	79.448	90 000	31.334	73.268	8.816	700 777	114.904	97.906	000 5	00.0	55.801	5.000		81.574	5.000		61.905	2 000		93.983	88 937	07.00	82.393	66.047	10 000	000.04	88.237	162 21	15.564	82.393	2 309	4.000	62.766	5.000	
7.9			600,000	500.000	000 001	480.000	500.000	560,000		475.000	490.000	000 001	300.000	580.000	630.000		630.000	700 000	20000	700.000	750 000	100.000	475.000	400 004	400.000	485.000	500.000	000 333	300.000	480.000	900	535.000	485.000	580 000	300.000	560.000	613.000	
ynamic Pressure	Hd(MSL)		605,000	579.448	000	577.992	573.268	568 816	22000	589.904	587.906	000 000	965.000	635.801	635 000		711.574	705 000	200.00	761.905	000	133.000	568.983	568 997	107.000	567.393	566.047	000 292	000.000	568.237		550.584	567,393	569 200	562.309	622.766	618,000	
	h(m)	4.932			1.457	4 793	2	4.453	- 33	000	1.996	2.906			0.801			6.574			6.905			0.746	0.844		1.346	1.047			17.653	0.0000000000000000000000000000000000000		5.084			4.766	
lvd. Grd	I(%)	4.932		-	1.613	806 9	0.4.0	8.905			1.810	1.816			0.534			3.287			4.932			1.492	1.206		0.748	0.748			19.615			6.125	- 3000000000000000000000000000000000000		3.287	
Velocity	m/sec)	0.752			0.737	066 1	1.000	1.533			0.655	0.655			0.370			0.752			0.752			0.813	0.725		0.560	0.560			1.461	000000000000000000000000000000000000000		1.053		-	0.752	
I wath V	+	1.000	222		903	750	0.0	200	-		1,100	1,600			1,500			2,000			1,400		-	200	700		1,800	1,400			006			830	- 0000000		1,450	
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4 17 17	Da(140	-		400						300	300			346	200000000000000000000000000000000000000		198	- 000		140			200	200	_	200	500			0 13		4	0			0 1	
12		0 2,015	0 140		0 400	Н	300	0 250	- 80		0 300	0 300			0 346			0 198	500000000000000000000000000000000000000		0 140			0 500	002	n n	0 200	0 500			-		-	0			0	-
		2,005 2,010	- -		0		0	0		-	0	0			0	00000		0			٥			0	•	0	-	0			123			198			198	'
	8/u riow mate D Q(m3/d) D	T	1,000		8,000		9,100	9,100	300000000000000000000000000000000000000		4,000	4.000			3,000			2,000	000000000000000000000000000000000000000		1,000			13,800	000	12,300	9,500	9,500			1.500	222		2,800			2,000	
(11)	2/2	f	91		(9)		(6)	(6)		78.	B	(B)			æ					-	æ			A		20	(e)	(B)			(8)			(8)			20	-
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	Node-Node	\vdash	2301	3	24,	2	24' -	2401 -	24	Z X	KNC -	66.	.9	23	67 79	89	00	89	69	9	69		KMC-KFG	KAIC	5401	5401	54'	57	582	9	5401	9			54	7	54 -	ร์

Appendix 5.9and12and13.xlsNewKandyTra.Pipe (FS2015)

Appendix 5.13 Hydraulic Calculation for Transmission Pipeline (2015Year)

set Output Remark Reluding (kw/set)	1 15.2		2 55.1 Exist Pipe ¢250×2	2 29.2	9 11 9 Prict Pine 6225				19.3	Rviet Dina 6350	Exist Pine \$300			1 10.6		1 10.6	1 9 R Prist Pine 675	22.2	i d	0 1 S	Exist Pipe Ø150
Dynamic Pressure Fump Head Bx Head Pressure Pressure Read	73.059 73.1	3.000 82 416	5.000 B 68.4	93.961 5.000 B 94.0	52.529 E3 E	a	0.000		5.000 8 99.5	0.000	56,557	44.297		54.789 B 54.8	78.354	5.000 B 78.4	65.922	5,000	66.027	41.131 8 66.0	5,000
Oyninic Pressure GL Hd(MSL)	686.059	6/3.300 6/4.300	622.000		687.529	.9 684.000 679.000	679,000 679,000 89 672,101 660,000	 		617.000 617.000	616.557 560.000	614.297 570.000	588.636	89 634.789 580.000	- III	653,000	713.922 648.000	705.000 700.000	646.027 580.000	4.896 641.131 600.000	
Velocity Hyd. Grd Loss V(m/sec) I(%) h(m)	0.752 4.932 6.559		1.155 4.719 1.416	1.179 7.467 8.961		0.827 3.921 3.529	0.677 4.058 6.899		0.752 4.932 3.502		0.818	1.733	1.611 14.217 25.661	0.752 4.932 15.289		0.526 2.549 5.354		0.524 5.248 8.922		0.601 3.264 4.8	0.524 2.332 1.
Nixed Dis Exist. Length Velo	1,330		325 K 300 1	200 1,200 1		198 K 900 0	140 1,700 0		140 710 0		K 541	1,304	189 Atten 1,805	140 3,100		140 2,100		75 K 1,700		140 K 1,500	150 K 485
Dia. Dia. Dia. Nixed D(am) D	0		0 0 325	200 0 0 20		0 0 198 19	0 140 0 1-2		0 140 0 1		0 0 320 3	0 0 300 3	140 0 0 1	140 0 0 1		140 0 0 1		0 0 75		0 0 140	0 0 150
B/G Flow Rate Q(m3/d)	56 8 1.000		583 B 8,300	61S B 3,200		61 B 2,200	61H 6 900		HT B 1,000		6001 6 3,900	6002 (6) 3,900	60 (6) 3,900	60E B 1,000		60° B 700		60, 8 200		6002 B 800	60M (B) 800
Node-Node	55 55	1 🔯	582 - 583	582	618	618 -	61	61H	61 -	282	583 -	6001 - 6002	6002 - 60	09 09		60 50	90,	60' -	00	09	6002 - 6002 - 60M

Appendix 5.13 Hydraulic Calculation for Transmission Pipeline (2015Year)

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