1.3 Existing Pipe Connection

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE C)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
100	101	H 2	1350.	110.	1820.	173702.9	1.40	1.51	2.74
100	102	H 2	800.	110.	1820.	45025.4	1.04	1.58	2.88
101	104	H 2	1350.	110.	1030.	149827.1	1.21	1.15	1.18
104	105	H 2	1350.	110.	1900.	146803.7	1.19	1.10	2.10
105	106	H 2	1200.	105.	2500.	147743.1	1.51	2.16	5.40
105	108	H 2	750.	110.	1440.	-8328.2	-.22	-.10	-.14
105	110	H 2	525.	110.	35.	-10038.9	-.54	-.77	-.03
105	150	H 2	450.	110.	1200.	16726.6	1.22	4.18	5.01
150	115	H 2	450.	110.	1300.	7309.3	.53	.90	1.17
106	107	H 2	1200.	105.	3420.	92273.8	.94	.90	3.09
107	143	H 2	375.	80.	1435.	4438.2	.47	1.57	2.26
107	146	H 2	375.	80.	825.	14938.4	1.57	14.85	12.25
107	237	H 2	1050.	100.	2400.	64166.7	.86	.97	2.32
237	307	H 2	1050.	100.	1600.	54493.8	.73	.72	1.14
108	109	H 2	750.	115.	1810.	30158.3	.79	.95	1.72
108	113	H 2	800.	115.	2280.	-41636.0	-.96	-1.26	-2.88
109	143	H 2	375.	80.	2315.	7322.3	.77	3.97	9.19
109	208	H 2	600.	115.	1530.	18539.2	.76	1.15	1.75
110	111	H 2	525.	115.	1535.	-17043.0	-.91	-1.88	-2.89
110	117	H 2	150.	95.	55.	1512.5	.99	13.54	.74
111	112	H 2	825.	115.	940.	-22797.1	-.49	-.36	-.34
114	142	H 2	375.	80.	1220.	2610.5	.27	.59	.72
115	116	H 2	150.	65.	2000.	983.3	.64	12.32	24.63
104	118	H 2	200.	115.	200.	3023.5	1.11	8.44	1.69
118	161	H 2	200.	115.	1600.	1997.6	.74	3.92	6.27
161	162	H 2	150.	115.	500.	1997.6	1.31	15.91	7.95
116	162	H 2	150.	65.	1700.	-879.8	-.58	-10.03	-17.04
115	117	H 2	200.	70.	2275.	-936.2	-.34	-2.42	-5.50
115	120	H 2	450.	120.	1000.	41165.9	3.00	18.82	18.82
115	128	H 2	200.	70.	1370.	2532.8	.93	15.23	20.86
115	141	H 2	200.	70.	700.	6589.2	2.43	89.30	62.51
117	118	H 2	150.	65.	1900.	-192.4	-.13	-.60	-1.14
120	121	H 2	250.	115.	1120.	11459.6	2.70	33.47	37.49
120	121	H 2	200.	110.	1120.	6095.2	2.25	33.50	37.52
121	124	H 2	200.	110.	1600.	2988.4	1.10	8.96	14.34
120	128	H 2	450.	120.	400.	19895.5	1.45	4.90	1.96
121	122	H 2	200.	100.	1255.	4133.4	1.52	19.48	24.45
122	151	H 2	200.	110.	500.	3388.2	1.25	11.31	5.65
151	152	H 2	200.	110.	300.	1722.8	.63	3.24	.97
152	153	H 2	200.	110.	500.	3018.4	1.11	9.13	4.56
153	123	H 2	150.	95.	1300.	1403.0	.92	11.78	15.31
151	154	H 2	150.	110.	800.	1665.4	1.09	12.33	9.87
153	154	H 2	125.	80.	750.	497.6	.47	5.78	4.34
123	154	H 2	150.	110.	1200.	-1417.8	-.93	-9.16	-10.99
152	124	H 2	150.	80.	1200.	-1295.6	-.85	-13.97	-16.77
123	155	H 2	150.	80.	1500.	585.2	.38	3.21	4.82
155	124	H 2	150.	80.	1300.	-2023.1	-1.33	-31.86	-41.42

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE C)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=	======	===M==	=CUM/D=	=M/S=	=1/1000=	==M=
124	125	H 2	100.	75.	545.	-85.6	-.13	-.74	-.41
124	127	H 2	150.	80.	1800.	-1362.5	-.89	-15.34	-27.60
125	126	H 2	150.	80.	1040.	-1203.4	-.79	-12.19	-12.68
126	127	H 2	150.	80.	650.	-1669.9	-1.09	-22.34	-14.52
127	128	H 2	200.	70.	700.	-3777.6	-1.39	-31.90	-22.33
128	129	H 2	300.	70.	950.	6214.6	1.02	11.12	10.57
128	131	H 2	150.	65.	1050.	2718.9	1.78	80.84	84.88
128	132	H 2	300.	100.	1430.	7119.3	1.17	7.39	10.57
129	126	H 2	100.	60.	2640.	278.7	.41	9.99	26.36
129	132	H 2	400.	110.	480.	247.6	.02	.00	.00
130	131	H 2	150.	65.	850.	119.0	.08	.25	.21
130	147	H 2	200.	70.	350.	-3453.7	-1.27	-27.03	-9.46
147	141	H 2	200.	70.	600.	-5107.1	-1.88	-55.73	-33.44
147	148	H 2	150.	115.	1600.	-1806.1	-1.18	-13.20	-21.12
148	149	H 2	150.	115.	400.	-5957.5	-3.90	-120.08	-48.03
149	150	H 2	200.	115.	950.	-5957.5	-2.19	-29.58	-28.10
131	129	H 2	150.	65.	725.	-3090.6	-2.02	-102.47	-74.29
132	133	H 2	400.	110.	200.	7367.1	.68	1.63	.33
133	144	H 2	300.	70.	1020.	2006.6	.33	1.37	1.40
133	137	H 2	150.	65.	1540.	151.3	.10	.39	.59
133	145	H 2	150.	65.	1740.	334.9	.22	1.68	2.92
134	160	H 2	400.	110.	500.	1601.3	.15	.10	.05
160	135	H 2	400.	110.	330.	6577.0	.61	1.32	.44
156	225	H 2	150.	75.	850.	-1594.3	-1.04	-23.11	-19.64
137	158	H 2	200.	75.	750.	962.2	.35	2.24	1.68
157	158	H 2	200.	75.	600.	334.2	.12	.32	.19
158	159	H 2	150.	75.	750.	281.5	.18	.93	.70
134	144	H 2	300.	70.	1025.	6823.0	1.12	13.22	13.55
134	146	H 2	400.	110.	1005.	-13436.9	-1.24	-4.95	-4.97
134	224	H 2	200.	90.	1160.	-1451.8	-.53	-3.42	-3.96
135	136	H 2	150.	75.	640.	1143.2	.75	12.49	7.99
135	137	H 2	250.	80.	940.	4792.5	1.13	13.06	12.27
136	138	H 2	150.	65.	600.	838.7	.55	9.18	5.51
136	225	H 2	150.	65.	340.	-1919.0	-1.26	-42.43	-14.43
137	138	H 2	150.	65.	420.	446.0	.29	2.85	1.20
138	156	H 2	200.	70.	410.	-484.9	-.18	-.72	-.29
139	156	H 2	200.	70.	250.	139.1	.05	.07	.02
139	157	H 2	200.	70.	350.	779.2	.29	1.72	.60
140	157	H 2	200.	70.	680.	-445.1	-.16	-.61	-.42
139	225	H 2	150.	65.	850.	-1381.1	-.90	-23.09	-19.63
140	159	H 2	150.	65.	1140.	157.8	.10	.42	.48
145	159	H 2	150.	65.	600.	68.2	.04	.09	.05
200	201	H 2	525.	115.	3650.	22824.2	1.22	3.23	11.78
200	202	H 2	525.	115.	3650.	22240.4	1.19	3.08	11.23
200	210	H 2	600.	115.	5000.	30910.6	1.27	2.95	14.76
201	203	H 2	525.	115.	900.	20050.5	1.07	2.54	2.29
202	204	H 2	525.	115.	970.	20119.4	1.08	2.56	2.48
203	205	H 2	525.	115.	100.	17429.4	.93	1.96	.20
205	229	H 2	400.	115.	990.	2286.9	.21	.17	.17
205	207	H 2	525.	115.	460.	14782.3	.79	1.45	.66

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE C)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
207	230	H 2	525.	115.	1125.	2564.6	.14	.06	.06
207	236	H 2	600.	115.	800.	10520.6	.43	.40	.32
236	209	H 2	600.	115.	3000.	-5882.4	-.24	-.14	-.41
209	210	H 2	600.	110.	400.	-6369.7	-.26	-.17	-.07
208	231	H 2	525.	115.	1970.	16005.5	.86	1.67	3.30
210	218	H 2	450.	110.	2700.	18858.5	1.37	5.22	14.09
210	233	H 2	300.	95.	2920.	5194.9	.85	4.54	13.25
211	212	H 2	400.	110.	1890.	-2320.7	-.21	-.19	-.36
211	233	H 2	300.	95.	2925.	-5059.9	-.83	-4.32	-12.64
212	213	H 2	150.	100.	1145.	310.3	.20	.66	.75
212	214	H 2	400.	110.	1875.	-3188.9	-.29	-.35	-.65
212	232	H 2	250.	100.	1895.	-689.9	-.16	-.24	-.45
215	216	H 2	400.	110.	1435.	4670.9	.43	.70	1.00
216	304	H 2	300.	100.	2385.	1755.9	.29	.55	1.32
217	232	H 2	250.	100.	1990.	-1603.8	-.38	-1.14	-2.27
217	304	H 2	300.	100.	1655.	-296.7	-.05	-.02	-.03
218	214	H 2	400.	110.	2100.	13695.0	1.26	5.12	10.76
220	231	H 2	525.	115.	1970.	-7028.3	-.38	-.37	-.72
221	222	H 2	300.	90.	645.	-5047.0	-.83	-4.75	-3.07
237	221	H 2	300.	90.	1000.	329.9	.05	.03	.03
237	223	H 2	300.	90.	625.	9343.2	1.53	14.86	9.29
223	224	H 2	300.	90.	1125.	2690.9	.44	1.49	1.67
224	241	H 2	300.	90.	900.	-1004.6	-.16	-.24	-.22
224	226	H 2	200.	90.	435.	-1443.5	-.53	-3.38	-1.47
225	240	H 2	250.	95.	400.	-1859.4	-.44	-1.65	-.66
226	240	H 2	250.	95.	675.	-1929.3	-.45	-1.76	-1.19
225	240	H 2	550.	115.	400.	-17902.5	-.87	-1.64	-.66
240	307	H 2	550.	115.	1675.	-29981.3	-1.46	-4.26	-7.14
225	240	H 2	300.	100.	400.	-3161.5	-.52	-1.65	-.66
240	325	H 2	300.	100.	1600.	-5342.7	-.87	-4.35	-6.96
240	241	H 2	300.	90.	350.	6207.1	1.02	6.97	2.44
240	241	H 2	250.	90.	350.	3842.7	.91	6.98	2.44
135	241	H 2	250.	90.	600.	-4069.5	-.96	-7.76	-4.66
160	241	H 2	250.	90.	850.	-3197.6	-.75	-4.97	-4.22
160	241	H 2	200.	90.	850.	-1778.1	-.66	-4.97	-4.23
225	312	H 2	400.	110.	1245.	12917.1	1.19	4.60	5.72
226	234	H 2	250.	100.	1775.	-3389.8	-.80	-4.55	-8.08
228	304	H 2	300.	100.	645.	-4358.5	-.71	-2.98	-1.92
300	331	H 2	375.	75.	50.	2956.5	.31	.84	.04
331	310	H 2	250.	70.	2415.	1415.0	.33	1.75	4.23
302	303	H 2	200.	75.	700.	-4488.7	-1.65	-38.64	-27.05
303	309	H 2	200.	75.	800.	-4920.7	-1.81	-45.80	-36.64

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE C)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
304	308	H 2	550.	115.	275.	28501.7	1.39	3.88	1.07
304	309	H 2	300.	100.	420.	5489.9	.90	4.57	1.92
305	306	H 2	375.	75.	600.	-7523.3	-.79	-4.70	-2.82
305	311	H 2	200.	70.	1415.	1091.6	.40	3.21	4.54
305	321	H 2	375.	75.	1475.	2430.2	.25	.58	.86
306	307	H 2	375.	75.	700.	-10720.0	-1.12	-9.06	-6.34
306	322	H 2	150.	65.	850.	1371.4	.90	22.79	19.37
308	326	H 2	350.	115.	1100.	27948.7	3.36	33.83	37.21
311	312	H 2	200.	70.	2485.	-130.7	-.05	-.06	-.16
312	323	H 2	400.	110.	1050.	7709.2	.71	1.77	1.86
312	324	H 2	200.	70.	1600.	3465.7	1.28	27.20	43.52
313	314	H 2	200.	100.	950.	4961.5	1.83	27.31	25.94
313	330	H 2	400.	110.	1900.	-5171.6	-.48	-.85	-1.61
330	323	H 2	400.	110.	1450.	-5171.6	-.48	-.85	-1.23
314	315	H 2	200.	100.	1000.	4211.1	1.55	20.16	20.16
317	324	H 2	200.	70.	1365.	-910.8	-.34	-2.30	-3.13
320	328	H 2	150.	85.	1100.	2528.7	1.66	43.03	47.34
302	328	H 2	150.	85.	1150.	2494.6	1.63	41.97	48.26
328	329	H 2	150.	65.	1100.	2107.2	1.38	50.45	55.49
301	329	H 2	150.	85.	550.	-3778.0	-2.47	-90.45	-49.75
302	320	H 2	150.	115.	1500.	345.8	.23	.62	.93
320	318	H 2	200.	75.	800.	1694.0	.62	6.37	5.10
326	320	H 2	350.	115.	1200.	22908.7	2.76	23.42	28.10
320	318	H 2	350.	115.	1400.	8365.6	1.01	3.63	5.09
327	319	H 2	350.	115.	600.	-2499.6	-.30	-.39	-.23
350	351	H 2	200.	115.	4015.	4039.5	1.49	14.42	57.88
350	353	H 2	75.	115.	5000.	257.8	.68	10.53	52.66
351	352	H 2	150.	65.	985.	1031.4	.68	13.45	13.25
315	316	H 2	200.	75.	3600.	4033.0	1.49	31.69	114.10
103	203	H 2	525.	110.	60.	16130.3	.86	1.84	.11
106	115	H 2	450.	110.	20.	55470.1	4.04	38.39	.77
203	236	H 2	600.	110.	1100.	17120.2	.70	1.07	1.18
236	219	H 2	600.	110.	4100.	33523.1	1.37	3.73	15.27
219	304	H 2	600.	110.	2500.	37529.4	1.54	4.59	11.48
218	219	H 2	400.	110.	3200.	4006.4	.37	.53	1.69
101	112	H 2	825.	115.	100.	23875.6	.52	.39	.04
102	113	H 2	800.	115.	100.	42714.7	.98	1.32	.13
109	206	H 2	400.	110.	100.	1748.7	.16	.11	.01
220	222	H 2	300.	110.	100.	6037.6	.99	4.57	.46
307	234	H 2	300.	110.	100.	4585.0	.75	2.75	.27
307	325	H 2	400.	110.	100.	8343.4	.77	2.05	.20
318	329	H 2	150.	65.	500.	4378.6	2.87	195.19	97.60
300	319	H 2	350.	115.	150.	2840.5	.34	.49	.07
103	204	H 2	525.	115.	100.	-19793.0	-1.06	-2.48	-.25

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE C)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
103	114	H 2	525.	115.	100.	3137.2	.17	.08	.01
214	232	H 2	300.	110.	100.	3813.6	.62	1.95	.20
214	215	H 2	400.	110.	100.	5681.7	.52	1.01	.10
303	326	H 2	250.	110.	200.	-1593.6	-.38	-.94	-.19

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE C)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY. -VE IN)
100	.800	63.300	-218728.400
200	1.900	128.400	-75975.160
300	36.600	75.100	-5796.939
350	60.000	98.500	-4297.331
101	22.582	60.582	.320
102	22.448	60.448	2310.698
103	56.606	114.606	525.507
104	36.413	59.413	-.098
105	37.335	57.335	701.067
106	36.984	51.984	-.793
107	31.923	48.923	8730.495
108	30.871	57.471	3149.507
109	17.768	55.768	2548.126
110	37.362	57.362	5491.563
111	26.913	60.213	5754.057
112	22.544	60.544	1078.502
113	22.317	60.317	1078.707
114	56.598	114.598	526.697
115	36.224	51.224	12444.440
116	23.992	26.992	1863.042
117	36.629	56.629	768.777
118	34.751	57.751	833.498
120	20.104	32.604	3715.581
121	-12.400	-4.400	10433.020
122	-32.497	-28.497	745.208
123	-63.583	-54.583	2235.650
124	-22.522	-18.522	1117.816
125	-22.125	-18.125	1117.826
126	-10.154	-5.654	745.213
127	.643	8.643	745.210
128	16.666	30.666	2597.809
129	14.238	20.238	2597.693
130	-68.799	-52.799	3334.695
131	-61.506	-53.006	5928.514
132	17.236	20.236	-.178
133	13.915	19.915	4874.300
134	19.412	31.912	6464.348
135	21.435	31.435	4710.924
136	13.071	23.571	2223.406
137	13.332	19.332	3535.599
138	11.155	18.155	1769.566
139	11.961	18.461	462.737
140	12.461	17.461	287.292
141	-25.978	-10.478	1482.069
142	65.890	113.890	2610.481
143	20.699	46.699	11760.430
144	8.035	18.535	8829.639
145	13.547	17.047	266.705
146	30.819	36.819	1501.525
147	-59.472	-43.472	3459.528

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE C)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
148	-45.691	-22.691	4151.378
149	3.674	24.674	.013
150	40.383	52.383	3459.734
151	-37.065	-34.065	-.011
152	-40.020	-35.020	.004
153	-45.516	-39.516	1117.824
154	-49.774	-43.774	745.217
155	-65.316	-59.316	2608.259
156	11.943	18.443	1248.580
157	11.369	17.869	-.011
158	11.183	17.683	1014.879
159	11.995	16.995	507.445
160	21.864	31.864	-.034
161	42.582	51.582	.000
162	40.756	43.756	1117.826
201	28.256	116.756	2773.698
202	28.801	117.301	2121.027
203	56.497	114.497	1631.218
204	56.851	114.851	326.351
205	61.803	114.303	360.275
206	21.757	55.757	1748.731
207	61.147	113.647	1696.985
208	18.535	54.035	2533.678
209	63.735	113.735	487.374
210	43.303	113.803	487.446
211	31.771	88.271	7380.574
212	35.628	88.628	1247.830
213	33.890	87.890	310.291
214	40.566	89.266	1010.745
215	40.467	89.167	1010.840
216	50.477	88.177	2915.031
217	51.541	86.841	1900.477
218	56.888	99.888	1157.128
219	72.726	98.226	.003
220	30.068	50.068	990.631
221	20.593	46.593	5376.907
222	29.617	49.617	990.624
223	17.457	37.457	6652.222
224	19.811	35.811	3687.303
225	26.282	37.782	5111.970
226	20.758	37.258	3875.575
228	50.979	84.979	4358.535
229	66.136	114.136	2286.857
230	68.584	113.584	2564.634
231	22.778	50.778	8977.279
232	40.074	89.074	1519.932
233	20.737	100.737	135.020
234	23.720	45.220	1195.165
236	63.329	113.329	.078
237	24.623	46.623	-.096

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE C)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY. -VE IN)
240	25.431	38.431	421.402
241	23.024	36.024	-.028
301	-161.592	-129.092	3778.000
302	-3.832	22.168	1648.252
303	18.842	48.842	2025.659
304	53.575	86.875	638.458
305	18.945	36.445	4001.483
306	20.730	39.230	1825.359
307	26.491	45.491	864.186
308	51.220	85.820	553.032
309	50.182	84.982	569.218
310	48.400	70.900	1414.949
311	15.477	31.977	1222.246
312	24.131	32.131	1611.523
313	12.008	27.508	210.143
314	-6.072	1.928	750.414
315	-27.945	-17.945	178.043
316	-142.959	-130.459	4033.032
317	-29.363	-13.863	910.834
318	-24.260	16.240	5680.901
319	36.527	75.027	340.859
320	-12.744	21.256	10666.300
321	14.600	35.600	2430.203
322	-3.340	20.160	1371.362
323	17.799	30.299	2537.582
324	-27.280	-10.780	2554.837
325	26.289	45.289	3000.677
326	14.028	49.028	3446.335
327	34.798	74.798	2499.591
328	-51.376	-25.376	2916.136
329	-112.051	-80.051	2707.827
330	12.091	29.091	-.001
331	38.059	75.059	1541.517
351	-17.031	41.469	3008.132
352	-33.070	28.430	1031.395
353	-14.639	46.861	257.803

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE C)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
100	101	H 2	1350.	110.	1820.	46322.3	.37	.13	.24
100	102	H 2	800.	110.	1820.	12007.0	.28	.14	.25
101	104	H 2	1350.	110.	1030.	39955.7	.32	.10	.10
104	105	H 2	1350.	110.	1900.	39149.6	.32	.10	.18
105	106	H 2	1200.	105.	2500.	39399.2	.40	.19	.47
105	108	H 2	750.	110.	1440.	-2221.8	-.06	-.01	-.01
105	110	H 2	525.	110.	35.	-2676.8	-.14	-.07	-.00
105	150	H 2	450.	110.	1200.	4460.5	.32	.36	.43
150	115	H 2	450.	110.	1300.	1949.2	.14	.08	.10
106	107	H 2	1200.	105.	3420.	24606.9	.25	.08	.27
107	143	H 2	375.	80.	1435.	1183.5	.12	.14	.20
107	146	H 2	375.	80.	825.	3983.7	.42	1.29	1.06
107	237	H 2	1050.	100.	2400.	17111.4	.23	.08	.20
237	307	H 2	1050.	100.	1600.	14531.9	.19	.06	.10
108	109	H 2	750.	115.	1810.	8041.8	.21	.08	.15
108	113	H 2	800.	115.	2280.	-11103.5	-.26	-.11	-.25
109	143	H 2	375.	80.	2315.	1952.7	.20	.34	.80
109	208	H 2	600.	115.	1530.	4943.9	.20	.10	.15
110	111	H 2	525.	115.	1535.	-4545.0	-.24	-.16	-.25
110	117	H 2	150.	95.	55.	403.3	.26	1.17	.06
111	112	H 2	825.	115.	940.	-6079.6	-.13	-.03	-.03
114	142	H 2	375.	80.	1220.	696.1	.07	.05	.06
115	116	H 2	150.	65.	2000.	262.2	.17	1.07	2.14
104	118	H 2	200.	115.	200.	806.3	.30	.73	.15
118	161	H 2	200.	115.	1600.	532.7	.20	.34	.54
161	162	H 2	150.	115.	500.	532.7	.35	1.38	.69
116	162	H 2	150.	65.	1700.	-234.6	-.15	-.87	-1.48
115	117	H 2	200.	70.	2275.	-249.6	-.09	-.21	-.48
115	120	H 2	450.	120.	1000.	10977.9	.80	1.63	1.63
115	128	H 2	200.	70.	1370.	675.4	.25	1.32	1.81
115	141	H 2	200.	70.	700.	1757.2	.65	7.74	5.42
117	118	H 2	150.	65.	1900.	-51.3	-.03	-.05	-.10
120	121	H 2	250.	115.	1120.	3056.0	.72	2.90	3.25
120	121	H 2	200.	110.	1120.	1625.5	.60	2.91	3.25
121	124	H 2	200.	110.	1600.	796.9	.29	.78	1.24
120	128	H 2	450.	120.	400.	5305.6	.39	.43	.17
121	122	H 2	200.	100.	1255.	1102.3	.41	1.69	2.12
122	151	H 2	200.	110.	500.	903.6	.33	.98	.49
151	152	H 2	200.	110.	300.	459.4	.17	.28	.08
152	153	H 2	200.	110.	500.	804.9	.30	.79	.40
153	123	H 2	150.	95.	1300.	374.2	.25	1.02	1.33
151	154	H 2	150.	110.	800.	444.1	.29	1.07	.86
153	154	H 2	125.	80.	750.	132.7	.13	.50	.38
123	154	H 2	150.	110.	1200.	-378.1	-.25	-.79	-.95
152	124	H 2	150.	80.	1200.	-345.5	-.23	-1.21	-1.45
123	155	H 2	150.	80.	1500.	156.1	.10	.28	.42
155	124	H 2	150.	80.	1300.	-539.5	-.35	-2.76	-3.59

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE C)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
		===	=MM=	======	===M==	=CUM/D=	=M/S=	=1/1000=	==M=
124	125	H 2	100.	75.	545.	-22.8	-.03	-.06	-.04
124	127	H 2	150.	80.	1800.	-363.4	-.24	-1.33	-2.39
125	126	H 2	150.	80.	1040.	-320.9	-.21	-1.06	-1.10
126	127	H 2	150.	80.	650.	-445.3	-.29	-1.94	-1.26
127	128	H 2	200.	70.	700.	-1007.4	-.37	-2.77	-1.94
128	129	H 2	300.	70.	950.	1657.3	.27	.96	.92
128	131	H 2	150.	65.	1050.	725.1	.47	7.01	7.36
128	132	H 2	300.	100.	1430.	1898.5	.31	.64	.92
129	126	H 2	100.	60.	2640.	74.3	.11	.87	2.28
129	132	H 2	400.	110.	480.	66.5	.01	.00	.00
130	131	H 2	150.	65.	850.	31.7	.02	.02	.02
130	147	H 2	200.	70.	350.	-921.0	-.34	-2.34	-.82
147	141	H 2	200.	70.	600.	-1361.9	-.50	-4.83	-2.90
147	148	H 2	150.	115.	1600.	-481.7	-.32	-1.14	-1.83
148	149	H 2	150.	115.	400.	-1588.7	-1.04	-10.41	-4.16
149	150	H 2	200.	115.	950.	-1588.7	-.59	-2.56	-2.44
131	129	H 2	150.	65.	725.	-824.2	-.54	-8.88	-6.44
132	133	H 2	400.	110.	200.	1964.6	.18	.14	.03
133	144	H 2	300.	70.	1020.	535.1	.09	.12	.12
133	137	H 2	150.	65.	1540.	40.4	.03	.03	.05
133	145	H 2	150.	65.	1740.	89.3	.06	.15	.25
134	160	H 2	400.	110.	500.	427.0	.04	.01	.00
160	135	H 2	400.	110.	330.	1754.0	.16	.11	.04
156	225	H 2	150.	75.	850.	-425.2	-.28	-2.00	-1.70
137	158	H 2	200.	75.	750.	256.6	.09	.19	.15
157	158	H 2	200.	75.	600.	89.1	.03	.03	.02
158	159	H 2	150.	75.	750.	75.1	.05	.08	.06
134	144	H 2	300.	70.	1025.	1819.5	.30	1.15	1.18
134	146	H 2	400.	110.	1005.	-3583.3	-.33	-.43	-.43
134	224	H 2	200.	90.	1160.	-387.2	-.14	-.30	-.34
135	136	H 2	150.	75.	640.	304.9	.20	1.08	.69
135	137	H 2	250.	80.	940.	1278.0	.30	1.13	1.06
136	138	H 2	150.	65.	600.	223.7	.15	.80	.48
136	225	H 2	150.	65.	340.	-511.7	-.34	-3.68	-1.25
137	138	H 2	150.	65.	420.	118.9	.08	.25	.10
138	156	H 2	200.	70.	410.	-129.3	-.05	-.06	-.03
139	156	H 2	200.	70.	250.	37.1	.01	.01	.00
139	157	H 2	200.	70.	350.	207.8	.08	.15	.05
140	157	H 2	200.	70.	680.	-118.7	-.04	-.05	-.04
139	225	H 2	150.	65.	850.	-368.3	-.24	-2.00	-1.70
140	159	H 2	150.	65.	1140.	42.1	.03	.04	.04
145	159	H 2	150.	65.	600.	18.2	.01	.01	.00
200	201	H 2	525.	115.	3650.	6085.9	.33	.28	1.02
200	202	H 2	525.	115.	3650.	5930.3	.32	.27	.97
200	210	H 2	600.	115.	5000.	8242.4	.34	.26	1.28
201	203	H 2	525.	115.	900.	5346.3	.29	.22	.20
202	204	H 2	525.	115.	970.	5364.6	.29	.22	.21
203	205	H 2	525.	115.	100.	4647.8	.25	.17	.02
205	229	H 2	400.	115.	990.	609.8	.06	.01	.01
205	207	H 2	525.	115.	460.	3942.4	.21	.13	.06

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE C)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
207	230	H 2	525.	115.	1125.	684.1	.04	.00	.01
207	236	H 2	600.	115.	800.	2806.1	.11	.03	.03
236	209	H 2	600.	115.	3000.	-1567.8	-.06	-.01	-.04
209	210	H 2	600.	110.	400.	-1698.2	-.07	-.01	-.01
208	231	H 2	525.	115.	1970.	4268.3	.23	.15	.29
210	218	H 2	450.	110.	2700.	5029.2	.37	.45	1.22
210	233	H 2	300.	95.	2920.	1385.4	.23	.39	1.15
211	212	H 2	400.	110.	1890.	-618.8	-.06	-.02	-.03
211	233	H 2	300.	95.	2925.	-1349.4	-.22	-.37	-1.10
212	213	H 2	150.	100.	1145.	82.7	.05	.06	.07
212	214	H 2	400.	110.	1875.	-850.4	-.08	-.03	-.06
212	232	H 2	250.	100.	1895.	-184.0	-.04	-.02	-.04
215	216	H 2	400.	110.	1435.	1245.6	.11	.06	.09
216	304	H 2	300.	100.	2385.	468.3	.08	.05	.11
217	232	H 2	250.	100.	1990.	-427.7	-.10	-.10	-.20
217	304	H 2	300.	100.	1655.	-79.2	-.01	-.00	-.00
218	214	H 2	400.	110.	2100.	3652.2	.34	.44	.93
220	231	H 2	525.	115.	1970.	-1874.2	-.10	-.03	-.06
221	222	H 2	300.	90.	645.	-1346.0	-.22	-.41	-.27
237	221	H 2	300.	90.	1000.	87.9	.01	.00	.00
237	223	H 2	300.	90.	625.	2491.6	.41	1.29	.81
223	224	H 2	300.	90.	1125.	717.6	.12	.13	.14
224	241	H 2	300.	90.	900.	-267.9	-.04	-.02	-.02
224	226	H 2	200.	90.	435.	-385.0	-.14	-.29	-.13
225	240	H 2	250.	95.	400.	-495.8	-.12	-.14	-.06
226	240	H 2	250.	95.	675.	-514.5	-.12	-.15	-.10
225	240	H 2	550.	115.	400.	-4774.1	-.23	-.14	-.06
240	307	H 2	550.	115.	1675.	-7995.1	-.39	-.37	-.62
225	240	H 2	300.	100.	400.	-843.1	-.14	-.14	-.06
240	325	H 2	300.	100.	1600.	-1424.7	-.23	-.38	-.60
240	241	H 2	300.	90.	350.	1655.3	.27	.60	.21
240	241	H 2	250.	90.	350.	1024.8	.24	.61	.21
135	241	H 2	250.	90.	600.	-1085.2	-.26	-.67	-.40
160	241	H 2	250.	90.	850.	-852.7	-.20	-.43	-.37
160	241	H 2	200.	90.	850.	-474.2	-.17	-.43	-.37
225	312	H 2	400.	110.	1245.	3444.6	.32	.40	.50
226	234	H 2	250.	100.	1775.	-904.0	-.21	-.39	-.70
228	304	H 2	300.	100.	645.	-1162.3	-.19	-.26	-.17
300	331	H 2	375.	75.	50.	788.6	.08	.07	.00
331	310	H 2	250.	70.	2415.	377.3	.09	.15	.37
302	303	H 2	200.	75.	700.	-1197.0	-.44	-3.35	-2.35
303	309	H 2	200.	75.	800.	-1312.2	-.48	-3.97	-3.18

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE C)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
304	308	H 2	550.	115.	275.	7600.9	.37	.34	.09
304	309	H 2	300.	100.	420.	1464.1	.24	.40	.17
305	306	H 2	375.	75.	600.	-2006.2	-.21	-.41	-.24
305	311	H 2	200.	70.	1415.	291.1	.11	.28	.39
305	321	H 2	375.	75.	1475.	648.1	.07	.05	.07
306	307	H 2	375.	75.	700.	-2858.7	-.30	-.79	-.55
306	322	H 2	150.	65.	850.	365.7	.24	1.98	1.68
308	326	H 2	350.	115.	1100.	7453.3	.90	2.93	3.23
311	312	H 2	200.	70.	2485.	-34.9	-.01	-.01	-.01
312	323	H 2	400.	110.	1050.	2055.8	.19	.15	.16
312	324	H 2	200.	70.	1600.	924.2	.34	2.36	3.77
313	314	H 2	200.	100.	950.	1323.1	.49	2.37	2.25
313	330	H 2	400.	110.	1900.	-1379.1	-.13	-.07	-.14
330	323	H 2	400.	110.	1450.	-1379.1	-.13	-.07	-.11
314	315	H 2	200.	100.	1000.	1123.0	.41	1.75	1.75
317	324	H 2	200.	70.	1365.	-242.9	-.09	-.20	-.27
320	328	H 2	150.	85.	1100.	674.3	.44	3.73	4.10
302	328	H 2	150.	85.	1150.	665.3	.44	3.64	4.19
328	329	H 2	150.	65.	1100.	561.9	.37	4.37	4.81
301	329	H 2	150.	85.	550.	-1007.5	-.66	-7.84	-4.31
302	320	H 2	150.	115.	1500.	92.2	.06	.05	.08
320	318	H 2	200.	75.	800.	451.7	.17	.55	.44
326	320	H 2	350.	115.	1200.	6109.2	.73	2.03	2.44
320	318	H 2	350.	115.	1400.	2230.9	.27	.31	.44
327	319	H 2	350.	115.	600.	-666.6	-.08	-.03	-.02
350	351	H 2	200.	115.	4015.	1077.2	.40	1.25	5.02
350	353	H 2	75.	115.	5000.	68.7	.18	.91	4.56
351	352	H 2	150.	65.	985.	275.0	.18	1.17	1.15
315	316	H 2	200.	75.	3600.	1075.5	.40	2.75	9.89
103	203	H 2	525.	110.	60.	4302.5	.23	.16	.01
106	115	H 2	450.	110.	20.	14792.1	1.08	3.33	.07
203	236	H 2	600.	110.	1100.	4565.9	.19	.09	.10
236	219	H 2	600.	110.	4100.	8940.1	.37	.32	1.32
219	304	H 2	600.	110.	2500.	10008.5	.41	.40	1.00
218	219	H 2	400.	110.	3200.	1068.4	.10	.05	.15
101	112	H 2	825.	115.	100.	6366.7	.14	.03	.00
102	113	H 2	800.	115.	100.	11390.9	.26	.11	.01
109	206	H 2	400.	110.	100.	466.2	.04	.01	.00
220	222	H 2	300.	110.	100.	1610.1	.26	.40	.04
307	234	H 2	300.	110.	100.	1222.7	.20	.24	.02
307	325	H 2	400.	110.	100.	2225.0	.20	.18	.02
318	329	H 2	150.	65.	500.	1167.7	.76	16.93	8.46
300	319	H 2	350.	115.	150.	757.5	.09	.04	.01
103	204	H 2	525.	115.	100.	-5278.3	-.28	-.22	-.02

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE C)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
103	114	H 2	525.	115.	100.	835.7	.04	.01	.00
214	232	H 2	300.	110.	100.	1017.0	.17	.17	.02
214	215	H 2	400.	110.	100.	1515.3	.14	.09	.01
303	326	H 2	250.	110.	200.	-425.0	-.10	-.08	-.02

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE C)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY. -VE IN)
100	7.700	70.200	-58329.340
200	9.400	135.900	-20258.600
300	36.600	75.100	-1546.127
350	60.000	98.500	-1145.988
101	31.965	69.965	-.088
102	31.953	69.953	616.124
103	76.707	134.707	140.064
104	46.864	69.864	-.103
105	49.684	69.684	188.416
106	54.221	69.221	.213
107	51.956	68.956	2328.313
108	43.096	69.696	839.871
109	31.549	69.549	679.004
110	49.686	69.686	1464.883
111	36.633	69.933	1534.595
112	31.962	69.962	287.088
113	31.942	69.942	287.412
114	76.706	134.706	139.533
115	54.155	69.155	3318.276
116	64.059	67.059	496.825
117	49.623	69.623	205.009
118	46.720	69.720	222.262
120	55.045	67.545	990.836
121	56.344	64.344	2782.227
122	58.260	62.260	198.731
123	51.003	60.003	596.190
124	59.123	63.123	298.096
125	59.157	63.157	298.095
126	59.736	64.236	198.729
127	57.472	65.472	198.731
128	53.377	67.377	692.764
129	60.475	66.475	692.279
130	44.158	60.158	889.288
131	51.640	60.140	1580.986
132	63.475	66.475	.348
133	60.447	66.447	1299.814
134	54.985	67.485	1723.860
135	57.444	67.444	1256.330
136	56.264	66.764	592.926
137	60.397	66.397	942.859
138	59.295	66.295	471.909
139	59.822	66.322	123.402
140	61.235	66.235	76.610
141	48.318	63.818	395.234
142	86.645	134.645	696.143
143	42.764	68.764	3136.204
144	55.828	66.328	2354.636
145	62.699	66.199	71.126
146	61.909	67.909	400.419
147	44.964	60.964	922.576

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE C)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
148	39.762	62.762	1107.065
149	45.859	66.859	.002
150	57.256	69.256	922.585
151	58.778	61.778	-.002
152	56.696	61.696	.005
153	55.307	61.307	298.094
154	54.938	60.938	198.729
155	53.594	59.594	695.556
156	59.820	66.320	332.967
157	59.770	66.270	-.003
158	59.754	66.254	270.651
159	61.195	66.195	135.323
160	57.481	67.481	.004
161	60.186	69.186	-.001
162	65.510	68.510	298.096
201	46.393	134.893	739.664
202	46.440	134.940	565.618
203	76.698	134.698	435.030
204	76.728	134.728	86.387
205	82.181	134.681	95.574
206	35.548	69.548	466.196
207	82.124	134.624	452.286
208	33.899	69.399	675.651
209	84.632	134.632	130.425
210	64.138	134.638	129.602
211	75.929	132.429	1968.203
212	79.460	132.460	332.820
213	78.396	132.396	82.747
214	83.815	132.515	269.585
215	83.807	132.507	269.626
216	94.721	132.421	777.379
217	97.005	132.305	506.882
218	90.434	133.434	308.567
219	107.790	133.290	.047
220	49.055	69.055	264.097
221	42.755	68.755	1433.891
222	49.017	69.017	264.149
223	47.965	67.965	1773.982
224	51.822	67.822	983.311
225	56.493	67.993	1363.192
226	51.447	67.947	1033.507
228	98.144	132.144	1162.335
229	86.666	134.666	609.837
230	89.619	134.619	684.057
231	41.117	69.117	2394.055
232	83.498	132.498	405.282
233	53.507	133.507	36.007
234	47.136	68.636	318.743
236	84.597	134.597	-.366
237	46.758	68.758	.011

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE C)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
240	55.049	68.049	112.302
241	54.841	67.841	-.037
301	81.127	113.627	1007.499
302	100.711	126.711	439.554
303	99.018	129.018	540.170
304	99.008	132.308	170.304
305	50.377	67.877	1067.092
306	49.618	68.118	486.798
307	49.660	68.660	230.324
308	97.617	132.217	147.598
309	97.344	132.145	151.817
310	52.237	74.737	377.330
311	50.991	67.491	325.941
312	59.504	67.504	429.737
313	51.604	67.104	56.031
314	56.892	64.892	200.116
315	53.173	63.173	47.482
316	40.940	53.440	1075.507
317	48.026	63.526	242.898
318	85.698	126.198	1514.959
319	36.594	75.094	90.982
320	92.632	126.632	2844.453
321	46.804	67.804	648.076
322	42.969	66.469	365.707
323	54.846	67.346	676.707
324	47.292	63.792	681.311
325	49.642	68.642	800.263
326	94.035	129.035	919.060
327	35.074	75.074	666.572
328	96.599	122.599	777.659
329	85.869	117.869	722.114
330	50.241	67.241	-.012
331	38.096	75.096	411.252
351	35.067	93.567	802.192
352	30.939	92.439	275.047
353	32.533	94.033	68.749

1.4 Additional Main Pipe

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE D)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
100	101	H 2	1350.	110.	1820.	173716.9	1.40	1.51	2.74
100	102	H 2	800.	110.	1820.	45015.4	1.04	1.58	2.88
101	104	H 2	1350.	110.	1030.	149839.5	1.21	1.15	1.18
104	105	H 2	1350.	110.	1900.	146813.2	1.19	1.10	2.10
105	106	H 2	1200.	105.	2500.	148778.4	1.52	2.19	5.47
105	108	H 2	750.	110.	1440.	-8440.1	-.22	-.10	-.14
105	110	H 2	525.	110.	35.	-10025.9	-.54	-.77	-.03
105	150	H 2	450.	110.	1200.	15800.0	1.15	3.76	4.51
150	115	H 2	450.	110.	1300.	9366.1	.68	1.43	1.86
106	107	H 2	1200.	105.	3420.	89135.2	.91	.85	2.90
107	143	H 2	375.	80.	1435.	4470.5	.47	1.59	2.29
107	146	H 2	375.	80.	825.	13149.3	1.38	11.73	9.67
107	237	H 2	1050.	100.	2400.	62784.7	.84	.93	2.23
237	307	H 2	1050.	100.	1600.	53914.7	.72	.70	1.12
108	109	H 2	750.	115.	1810.	30035.8	.79	.94	1.71
108	113	H 2	800.	115.	2280.	-41625.6	-.96	-1.26	-2.88
109	143	H 2	375.	80.	2315.	7289.9	.76	3.94	9.12
109	208	H 2	600.	115.	1530.	18448.9	.76	1.14	1.74
110	111	H 2	525.	115.	1535.	-17044.5	-.91	-1.88	-2.89
110	117	H 2	150.	95.	55.	1527.0	1.00	13.78	.76
111	112	H 2	825.	115.	940.	-22798.5	-.49	-.36	-.34
114	142	H 2	375.	80.	1220.	2610.5	.27	.59	.72
115	116	H 2	150.	65.	2000.	981.4	.64	12.27	24.54
104	118	H 2	200.	115.	200.	3026.3	1.11	8.45	1.69
118	161	H 2	200.	115.	1600.	1999.5	.74	3.93	6.28
161	162	H 2	150.	115.	500.	1999.5	1.31	15.93	7.97
116	162	H 2	150.	65.	1700.	-881.7	-.58	-10.07	-17.11
115	117	H 2	200.	70.	2275.	-951.6	-.35	-2.49	-5.66
115	120	H 2	450.	120.	1000.	18059.7	1.31	4.10	4.10
115	128	H 2	200.	70.	1370.	1217.2	.45	3.93	5.38
115	141	H 2	200.	70.	700.	1437.1	.53	5.34	3.74
117	118	H 2	150.	65.	1900.	-193.4	-.13	-.61	-1.16
120	121	H 2	250.	115.	1120.	6527.1	1.54	11.81	13.23
120	121	H 2	200.	110.	1120.	3471.7	1.28	11.83	13.25
121	124	H 2	200.	110.	1600.	-1794.3	-.66	-3.49	-5.58
120	128	H 2	450.	120.	400.	15656.9	1.14	3.15	1.26
121	122	H 2	200.	100.	1255.	1360.0	.50	2.49	3.13
122	151	H 2	200.	110.	500.	614.8	.23	.48	.24
151	152	H 2	200.	110.	300.	165.3	.06	.04	.01
152	153	H 2	200.	110.	500.	1088.9	.40	1.38	.69
153	123	H 2	150.	95.	1300.	-115.2	-.08	-.12	-.15
151	154	H 2	150.	110.	800.	449.5	.29	1.09	.87
153	154	H 2	125.	80.	750.	86.3	.08	.23	.17
123	154	H 2	150.	110.	1200.	209.4	.14	.27	.32
152	124	H 2	150.	80.	1200.	-923.6	-.60	-7.47	-8.96
123	155	H 2	150.	80.	1500.	-651.4	-.43	-3.92	-5.87
155	124	H 2	150.	80.	1300.	-543.4	-.36	-2.80	-3.64

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE D)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
124	125	H 2	100.	75.	545.	466.0	.69	17.10	9.32
124	127	H 2	150.	80.	1800.	-494.8	-.32	-2.35	-4.24
125	126	H 2	150.	80.	1040.	-651.8	-.43	-3.92	-4.08
126	127	H 2	150.	80.	650.	-1324.8	-.87	-14.56	-9.46
127	128	H 2	200.	70.	700.	-1075.8	-.40	-3.12	-2.19
128	129	H 2	300.	70.	950.	5856.0	.96	9.97	9.47
128	131	H 2	150.	65.	1050.	612.3	.40	5.13	5.38
128	132	H 2	300.	100.	1430.	6796.6	1.11	6.79	9.70
129	126	H 2	100.	60.	2640.	72.2	.11	.82	2.17
129	132	H 2	400.	110.	480.	3833.2	.35	.49	.23
130	131	H 2	150.	65.	850.	562.8	.37	4.39	3.73
130	147	H 2	200.	70.	350.	-803.5	-.30	-1.82	-.64
147	141	H 2	200.	70.	600.	-1299.0	-.48	-4.43	-2.66
147	148	H 2	150.	115.	1600.	387.4	.25	.77	1.22
148	149	H 2	150.	115.	400.	-978.9	-.64	-4.25	-1.70
149	150	H 2	200.	115.	950.	-2974.3	-1.10	-8.18	-7.77
131	129	H 2	150.	65.	725.	647.3	.42	5.68	4.12
132	133	H 2	400.	110.	200.	10629.8	.98	3.21	.64
133	144	H 2	300.	70.	1020.	4386.5	.72	5.84	5.96
133	137	H 2	150.	65.	1540.	703.1	.46	6.62	10.20
133	145	H 2	150.	65.	1740.	665.8	.44	5.99	10.42
134	160	H 2	400.	110.	500.	1936.7	.18	.14	.07
160	135	H 2	400.	110.	330.	6391.8	.59	1.25	.41
156	225	H 2	150.	75.	850.	-1476.9	-.97	-20.06	-17.05
137	158	H 2	200.	75.	750.	906.4	.33	2.00	1.50
157	158	H 2	200.	75.	600.	211.9	.08	.14	.08
158	159	H 2	150.	75.	750.	103.4	.07	.15	.11
134	144	H 2	300.	70.	1025.	4443.2	.73	5.98	6.13
134	146	H 2	400.	110.	1005.	-11647.7	-1.07	-3.80	-3.82
134	224	H 2	200.	90.	1160.	-1196.5	-.44	-2.39	-2.77
135	136	H 2	150.	75.	640.	1096.6	.72	11.56	7.40
135	137	H 2	250.	80.	940.	4258.0	1.00	10.49	9.86
136	138	H 2	150.	65.	600.	712.2	.47	6.78	4.07
136	225	H 2	150.	65.	340.	-1839.0	-1.20	-39.22	-13.33
137	138	H 2	150.	65.	420.	519.1	.34	3.78	1.59
138	156	H 2	200.	70.	410.	-538.3	-.20	-.87	-.36
139	156	H 2	200.	70.	250.	310.0	.11	.31	.08
139	157	H 2	200.	70.	350.	504.1	.19	.77	.27
140	157	H 2	200.	70.	680.	-292.2	-.11	-.28	-.19
139	225	H 2	150.	65.	850.	-1276.8	-.84	-19.97	-16.97
140	159	H 2	150.	65.	1140.	4.9	.00	.00	.00
145	159	H 2	150.	65.	600.	399.1	.26	2.32	1.39
200	201	H 2	525.	115.	3650.	22824.3	1.22	3.23	11.78
200	202	H 2	525.	115.	3650.	22240.5	1.19	3.08	11.23
200	210	H 2	600.	115.	5000.	30910.7	1.27	2.95	14.77
201	203	H 2	525.	115.	900.	20050.6	1.07	2.54	2.29
202	204	H 2	525.	115.	970.	20119.5	1.08	2.56	2.48
203	205	H 2	525.	115.	100.	17429.4	.93	1.96	.20
205	229	H 2	400.	115.	990.	2286.9	.21	.17	.17
205	207	H 2	525.	115.	460.	14782.3	.79	1.45	.66

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE D)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
207	230	H 2	525.	115.	1125.	2564.7	.14	.06	.06
207	236	H 2	600.	115.	800.	10520.8	.43	.40	.32
236	209	H 2	600.	115.	3000.	-5882.4	-.24	-.14	-.41
209	210	H 2	600.	110.	400.	-6369.7	-.26	-.17	-.07
208	231	H 2	525.	115.	1970.	15915.2	.85	1.66	3.26
210	218	H 2	450.	110.	2700.	18858.7	1.37	5.22	14.09
210	233	H 2	300.	95.	2920.	5195.0	.85	4.54	13.25
211	212	H 2	400.	110.	1890.	-2320.6	-.21	-.19	-.36
211	233	H 2	300.	95.	2925.	-5060.0	-.83	-4.32	-12.64
212	213	H 2	150.	100.	1145.	310.3	.20	.66	.75
212	214	H 2	400.	110.	1875.	-3188.9	-.29	-.35	-.65
212	232	H 2	250.	100.	1895.	-689.8	-.16	-.24	-.45
215	216	H 2	400.	110.	1435.	4670.9	.43	.70	1.00
216	304	H 2	300.	100.	2385.	1755.9	.29	.55	1.32
217	232	H 2	250.	100.	1990.	-1603.8	-.38	-1.14	-2.27
217	304	H 2	300.	100.	1655.	-296.7	-.05	-.02	-.03
218	214	H 2	400.	110.	2100.	13695.1	1.26	5.12	10.76
220	231	H 2	525.	115.	1970.	-6937.9	-.37	-.36	-.70
221	222	H 2	300.	90.	645.	-4956.8	-.81	-4.60	-2.97
237	221	H 2	300.	90.	1000.	420.2	.07	.05	.05
237	223	H 2	300.	90.	625.	8449.8	1.38	12.34	7.71
223	224	H 2	300.	90.	1125.	1797.5	.29	.70	.79
224	241	H 2	300.	90.	900.	-1754.6	-.29	-.67	-.61
224	226	H 2	200.	90.	435.	-1331.7	-.49	-2.91	-1.27
225	240	H 2	250.	95.	400.	-1178.2	-.28	-.71	-.28
226	240	H 2	250.	95.	675.	-2346.0	-.55	-2.53	-1.71
225	240	H 2	550.	115.	400.	-11344.4	-.55	-.71	-.28
240	307	H 2	550.	115.	1675.	-23078.1	-1.12	-2.63	-4.40
225	240	H 2	300.	100.	400.	-2003.4	-.33	-.71	-.28
240	325	H 2	300.	100.	1600.	-4099.2	-.67	-2.66	-4.26
240	241	H 2	300.	90.	350.	6104.4	1.00	6.76	2.37
240	241	H 2	250.	90.	350.	3779.2	.89	6.77	2.37
135	241	H 2	250.	90.	600.	-3673.8	-.87	-6.42	-3.85
160	241	H 2	250.	90.	850.	-2863.1	-.68	-4.05	-3.44
160	241	H 2	200.	90.	850.	-1592.1	-.59	-4.05	-3.44
225	312	H 2	400.	110.	1245.	4821.1	.44	.74	.92
226	234	H 2	250.	100.	1775.	-2861.3	-.67	-3.33	-5.91
228	304	H 2	300.	100.	645.	-4358.6	-.71	-2.98	-1.92
300	331	H 2	375.	75.	50.	2956.4	.31	.84	.04
331	310	H 2	250.	70.	2415.	1415.0	.33	1.75	4.23
302	303	H 2	200.	75.	700.	-1978.5	-.73	-8.49	-5.94
303	309	H 2	200.	75.	800.	-1628.2	-.60	-5.92	-4.74

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE D)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
304	308	H 2	550.	115.	275.	9519.1	.46	.51	.14
304	309	H 2	300.	100.	420.	2197.5	.36	.84	.35
305	306	H 2	375.	75.	600.	-3786.0	-.40	-1.32	-.79
305	311	H 2	200.	70.	1415.	909.4	.34	2.29	3.24
305	321	H 2	375.	75.	1475.	2430.2	.25	.58	.86
306	307	H 2	375.	75.	700.	-4560.9	-.48	-1.86	-1.30
306	322	H 2	150.	65.	850.	236.3	.15	.88	.75
308	326	H 2	350.	115.	1100.	8966.1	1.08	4.13	4.54
311	312	H 2	200.	70.	2485.	182.3	.07	.12	.29
312	323	H 2	400.	110.	1050.	2533.2	.23	.23	.24
312	324	H 2	200.	70.	1600.	858.7	.32	2.06	3.29
313	314	H 2	200.	100.	950.	899.0	.33	1.16	1.10
313	330	H 2	400.	110.	1900.	-5171.6	-.48	-.85	-1.61
330	323	H 2	400.	110.	1450.	2611.5	.24	.24	.35
314	315	H 2	200.	100.	1000.	1003.8	.37	1.42	1.42
317	324	H 2	200.	70.	1365.	-910.8	-.34	-2.30	-3.13
320	328	H 2	150.	85.	1100.	1162.6	.76	10.22	11.24
302	328	H 2	150.	85.	1150.	967.6	.63	7.28	8.37
328	329	H 2	150.	65.	1100.	-785.9	-.51	-8.14	-8.95
301	329	H 2	150.	85.	550.	-199.1	-.13	-.39	-.21
302	320	H 2	150.	115.	1500.	-637.4	-.42	-1.92	-2.88
320	318	H 2	200.	75.	800.	978.9	.36	2.31	1.85
326	320	H 2	350.	115.	1200.	7380.9	.89	2.88	3.46
320	318	H 2	350.	115.	1400.	4834.1	.58	1.32	1.84
327	319	H 2	350.	115.	600.	-2499.6	-.30	-.39	-.23
350	351	H 2	200.	115.	4015.	1540.8	.57	2.42	9.73
350	353	H 2	75.	115.	5000.	106.1	.28	2.04	10.19
351	352	H 2	150.	65.	985.	158.1	.10	.42	.41
315	316	H 2	200.	75.	3600.	766.7	.28	1.47	5.29
103	203	H 2	525.	110.	60.	16130.6	.86	1.84	.11
106	115	H 2	450.	110.	20.	59643.3	4.34	43.91	.88
115	120	H 2	500.	110.	1000.	21840.6	1.29	4.10	4.10
120	128	H 2	400.	110.	400.	10529.0	.97	3.15	1.26
128	127	H 2	400.	110.	700.	10464.6	.96	3.11	2.18
127	124	H 2	400.	110.	1800.	8975.4	.83	2.34	4.22
124	155	H 2	300.	110.	1300.	4625.1	.76	2.79	3.63
155	123	H 2	200.	110.	1500.	1908.8	.70	3.91	5.87
115	141	H 2	400.	110.	700.	13979.8	1.29	5.32	3.72
141	147	H 2	400.	110.	600.	12635.9	1.16	4.41	2.65
130	147	H 2	400.	110.	300.	-8494.8	-.78	-2.12	-.64
130	131	H 2	300.	110.	1000.	5400.7	.88	3.72	3.72
147	148	H 2	200.	110.	1600.	789.6	.29	.76	1.22
148	149	H 2	200.	110.	400.	-1995.4	-.74	-4.25	-1.70
304	326	H 2	500.	110.	1100.	22275.5	1.31	4.25	4.67

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE D)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
326	320	H 2	500.	110.	1200.	18038.3	1.06	2.88	3.45
320	318	H 2	400.	110.	1200.	7139.8	.66	1.54	1.84
318	329	H 2	400.	110.	300.	7032.7	.65	1.49	.45
329	301	H 2	400.	110.	500.	3578.9	.33	.43	.21
307	306	H 2	500.	110.	700.	14255.2	.84	1.86	1.30
306	305	H 2	500.	110.	600.	11833.3	.70	1.32	.79
305	311	H 2	400.	110.	1600.	8278.2	.76	2.02	3.23
311	330	H 2	400.	110.	100.	7783.1	.72	1.80	.18
306	322	H 2	200.	110.	500.	1135.0	.42	1.49	.75
323	324	H 2	250.	110.	1300.	2607.0	.61	2.35	3.05
313	314	H 2	300.	110.	500.	4062.5	.67	2.20	1.10
314	315	H 2	300.	110.	1000.	3207.3	.53	1.42	1.42
315	316	H 2	300.	110.	3600.	3266.4	.53	1.47	5.28
350	351	H 2	250.	110.	4015.	2650.4	.62	2.42	9.72
351	352	H 2	250.	110.	985.	1025.0	.24	.42	.41
352	353	H 2	250.	110.	100.	151.6	.04	.01	.00
203	236	H 2	600.	110.	1100.	17120.2	.70	1.07	1.18
236	219	H 2	600.	110.	4100.	33523.4	1.37	3.73	15.27
219	304	H 2	600.	110.	2500.	37529.8	1.54	4.59	11.48
218	219	H 2	400.	110.	3200.	4006.4	.37	.53	1.69
101	112	H 2	825.	115.	100.	23877.3	.52	.39	.04
102	113	H 2	800.	115.	100.	42704.4	.98	1.32	.13
109	206	H 2	400.	110.	100.	1748.8	.16	.11	.01
220	222	H 2	300.	110.	100.	5947.4	.97	4.44	.44
307	234	H 2	300.	110.	100.	4056.4	.66	2.19	.22
307	325	H 2	400.	110.	100.	7099.9	.65	1.52	.15
318	329	H 2	150.	65.	500.	239.1	.16	.90	.45
300	319	H 2	350.	115.	150.	2840.5	.34	.49	.07
103	204	H 2	525.	115.	100.	-19793.4	-1.06	-2.48	-.25
103	114	H 2	525.	115.	100.	3136.4	.17	.08	.01
214	232	H 2	300.	110.	100.	3813.7	.62	1.95	.20
214	215	H 2	400.	110.	100.	5681.7	.52	1.01	.10
303	326	H 2	250.	110.	200.	-2376.0	-.56	-1.98	-.40

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE D)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY. -VE IN)
100	.800	63.300	-218732.300
200	1.900	128.400	-75975.470
300	36.600	75.100	-5796.849
350	60.000	98.500	-4297.318
101	22.582	60.582	.008
102	22.449	60.449	2310.960
103	56.606	114.606	526.336
104	36.412	59.412	.010
105	37.334	57.334	700.703
106	36.914	51.914	-.027
107	32.043	49.043	8730.608
108	30.874	57.474	3149.647
109	17.783	55.783	2548.170
110	37.361	57.361	5491.609
111	26.912	60.212	5754.021
112	22.544	60.544	1078.865
113	22.319	60.319	1078.875
114	56.598	114.598	525.898
115	36.045	51.045	12445.050
116	23.897	26.897	1863.046
117	36.615	56.615	768.773
118	34.748	57.748	833.502
120	34.496	46.996	3715.703
121	25.947	33.947	10433.060
122	26.872	30.872	745.214
123	21.090	30.090	2235.656
124	35.438	39.438	1117.824
125	26.281	30.281	1117.828
126	29.788	34.288	745.218
127	35.601	43.601	745.209
128	31.752	45.752	2597.877
129	30.410	36.410	2597.904
130	28.126	44.126	3334.753
131	31.960	40.460	5928.548
132	33.181	36.181	.013
133	29.548	35.548	4874.368
134	23.219	35.719	6464.341
135	25.244	35.244	4710.954
136	17.463	27.963	2223.414
137	19.521	25.521	3535.614
138	16.962	23.962	1769.569
139	17.889	24.389	462.749
140	18.937	23.937	287.280
141	31.867	47.367	1482.093
142	65.890	113.890	2610.481
143	20.788	46.788	11760.460
144	19.174	29.674	8829.668
145	21.806	25.306	266.705
146	33.485	39.485	1501.561
147	28.752	44.752	3459.576

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DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE D)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
148	20.551	43.551	4151.374
149	24.222	45.222	.000
150	40.878	52.878	3459.571
151	27.635	30.635	-.006
152	25.623	30.623	-.021
153	23.943	29.943	1117.830
154	23.777	29.777	745.221
155	29.862	35.862	2608.263
156	17.812	24.312	1248.585
157	17.624	24.124	.009
158	17.544	24.044	1014.884
159	18.937	23.937	507.458
160	25.651	35.651	.013
161	42.568	51.568	.000
162	40.728	43.728	1117.827
201	28.256	116.756	2773.698
202	28.801	117.301	2121.025
203	56.497	114.497	1631.550
204	56.851	114.851	326.103
205	61.803	114.303	360.275
206	21.772	55.772	1748.771
207	61.147	113.647	1696.764
208	18.566	54.066	2533.707
209	63.735	113.735	487.314
210	43.303	113.803	487.347
211	31.771	88.271	7380.591
212	35.628	88.628	1247.839
213	33.890	87.890	310.291
214	40.566	89.266	1010.836
215	40.467	89.167	1010.820
216	50.476	88.176	2915.038
217	51.541	86.841	1900.515
218	56.887	99.887	1157.151
219	72.725	98.225	.018
220	30.150	50.150	990.591
221	20.787	46.787	5376.960
222	29.712	49.712	990.595
223	19.224	39.224	6652.253
224	22.445	38.445	3687.331
225	29.596	41.096	5112.205
226	23.191	39.691	3875.581
228	50.978	84.978	4358.543
229	66.136	114.136	2286.857
230	68.584	113.584	2564.719
231	22.842	50.842	8977.305
232	40.073	89.073	1519.969
233	20.736	100.736	135.021
234	24.008	45.508	1195.159
236	63.329	113.329	.031
237	24.834	46.834	.004

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE D)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
240	28.375	41.375	421.688
241	26.041	39.041	.006
301	43.876	76.376	3778.023
302	50.015	76.015	1648.271
303	51.866	81.866	2025.704
304	53.574	86.874	638.376
305	26.156	43.656	4001.525
306	25.937	44.437	1825.384
307	26.723	45.723	864.230
308	52.136	86.736	553.052
309	51.727	86.527	569.207
310	48.400	70.900	1414.951
311	23.970	40.470	1222.232
312	32.185	40.185	1611.555
313	23.210	38.710	210.140
314	29.628	37.628	750.414
315	26.232	36.232	178.050
316	18.532	31.032	4033.045
317	18.364	33.864	910.843
318	36.529	77.029	5680.951
319	36.527	75.027	340.896
320	44.845	78.845	10666.380
321	21.812	42.812	2430.213
322	20.202	43.702	1371.365
323	27.452	39.952	2537.599
324	20.446	36.946	2554.849
325	26.574	45.574	3000.719
326	47.255	82.255	3446.401
327	34.798	74.798	2499.582
328	41.785	67.785	2916.144
329	44.587	76.587	2707.867
330	23.293	40.293	.024
331	38.059	75.059	1541.414
351	30.429	88.929	3008.135
352	27.025	88.525	1031.447
353	27.024	88.524	257.736

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE D)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
100	101	H 2	1350.	110.	1820.	46326.5	.37	.13	.24
100	102	H 2	800.	110.	1820.	12005.1	.28	.14	.25
101	104	H 2	1350.	110.	1030.	39958.2	.32	.10	.10
104	105	H 2	1350.	110.	1900.	39151.6	.32	.10	.18
105	106	H 2	1200.	105.	2500.	39674.9	.41	.19	.47
105	108	H 2	750.	110.	1440.	-2250.7	-.06	-.01	-.01
105	110	H 2	525.	110.	35.	-2673.2	-.14	-.07	-.00
105	150	H 2	450.	110.	1200.	4213.4	.31	.33	.39
150	115	H 2	450.	110.	1300.	2497.7	.18	.12	.16
106	107	H 2	1200.	105.	3420.	23769.8	.24	.07	.25
107	143	H 2	375.	80.	1435.	1192.2	.12	.14	.20
107	146	H 2	375.	80.	825.	3506.5	.37	1.02	.84
107	237	H 2	1050.	100.	2400.	16742.9	.22	.08	.19
237	307	H 2	1050.	100.	1600.	14377.5	.19	.06	.10
108	109	H 2	750.	115.	1810.	8009.5	.21	.08	.15
108	113	H 2	800.	115.	2280.	-11100.1	-.26	-.11	-.25
109	143	H 2	375.	80.	2315.	1944.0	.20	.34	.79
109	208	H 2	600.	115.	1530.	4919.8	.20	.10	.15
110	111	H 2	525.	115.	1535.	-4545.4	-.24	-.16	-.25
110	117	H 2	150.	95.	55.	407.2	.27	1.19	.07
111	112	H 2	825.	115.	940.	-6079.7	-.13	-.03	-.03
114	142	H 2	375.	80.	1220.	696.2	.07	.05	.06
115	116	H 2	150.	65.	2000.	261.7	.17	1.06	2.13
104	118	H 2	200.	115.	200.	807.0	.30	.73	.15
118	161	H 2	200.	115.	1600.	533.2	.20	.34	.54
161	162	H 2	150.	115.	500.	533.2	.35	1.38	.69
116	162	H 2	150.	65.	1700.	-235.1	-.15	-.87	-1.48
115	117	H 2	200.	70.	2275.	-253.8	-.09	-.22	-.49
115	120	H 2	450.	120.	1000.	4816.1	.35	.36	.36
115	128	H 2	200.	70.	1370.	324.6	.12	.34	.47
115	141	H 2	200.	70.	700.	383.2	.14	.46	.32
117	118	H 2	150.	65.	1900.	-51.6	-.03	-.05	-.10
120	121	H 2	250.	115.	1120.	1740.6	.41	1.02	1.15
120	121	H 2	200.	110.	1120.	925.8	.34	1.03	1.15
121	124	H 2	200.	110.	1600.	-478.5	-.18	-.30	-.48
120	128	H 2	450.	120.	400.	4175.3	.30	.27	.11
121	122	H 2	200.	100.	1255.	362.7	.13	.22	.27
122	151	H 2	200.	110.	500.	163.9	.06	.04	.02
151	152	H 2	200.	110.	300.	44.1	.02	.00	.00
152	153	H 2	200.	110.	500.	290.4	.11	.12	.06
153	123	H 2	150.	95.	1300.	-30.7	-.02	-.01	-.01
151	154	H 2	150.	110.	800.	119.9	.08	.09	.08
153	154	H 2	125.	80.	750.	23.0	.02	.02	.01
123	154	H 2	150.	110.	1200.	55.8	.04	.02	.03
152	124	H 2	150.	80.	1200.	-246.3	-.16	-.65	-.78
123	155	H 2	150.	80.	1500.	-173.7	-.11	-.34	-.51
155	124	H 2	150.	80.	1300.	-144.9	-.09	-.24	-.32

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE D)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
124	125	H 2	100.	75.	545.	124.3	.18	1.48	.81
124	127	H 2	150.	80.	1800.	-132.0	-.09	-.20	-.37
125	126	H 2	150.	80.	1040.	-173.8	-.11	-.34	-.35
126	127	H 2	150.	80.	650.	-353.3	-.23	-1.26	-.82
127	128	H 2	200.	70.	700.	-286.9	-.11	-.27	-.19
128	129	H 2	300.	70.	950.	1561.7	.26	.86	.82
128	131	H 2	150.	65.	1050.	163.3	.11	.44	.47
128	132	H 2	300.	100.	1430.	1812.5	.30	.59	.84
129	126	H 2	100.	60.	2640.	19.3	.03	.07	.19
129	132	H 2	400.	110.	480.	1022.2	.09	.04	.02
130	131	H 2	150.	65.	850.	150.1	.10	.38	.32
130	147	H 2	200.	70.	350.	-214.3	-.08	-.16	-.06
147	141	H 2	200.	70.	600.	-346.4	-.13	-.38	-.23
147	148	H 2	150.	115.	1600.	103.3	.07	.07	.11
148	149	H 2	150.	115.	400.	-261.1	-.17	-.37	-.15
149	150	H 2	200.	115.	950.	-793.2	-.29	-.71	-.67
131	129	H 2	150.	65.	725.	172.6	.11	.49	.36
132	133	H 2	400.	110.	200.	2834.6	.26	.28	.06
133	144	H 2	300.	70.	1020.	1169.7	.19	.51	.52
133	137	H 2	150.	65.	1540.	187.5	.12	.57	.88
133	145	H 2	150.	65.	1740.	177.6	.12	.52	.90
134	160	H 2	400.	110.	500.	516.4	.05	.01	.01
160	135	H 2	400.	110.	330.	1704.5	.16	.11	.04
156	225	H 2	150.	75.	850.	-393.9	-.26	-1.74	-1.48
137	158	H 2	200.	75.	750.	241.7	.09	.17	.13
157	158	H 2	200.	75.	600.	56.5	.02	.01	.01
158	159	H 2	150.	75.	750.	27.6	.02	.01	.01
134	144	H 2	300.	70.	1025.	1184.9	.19	.52	.53
134	146	H 2	400.	110.	1005.	-3106.1	-.29	-.33	-.33
134	224	H 2	200.	90.	1160.	-319.1	-.12	-.21	-.24
135	136	H 2	150.	75.	640.	292.4	.19	1.00	.64
135	137	H 2	250.	80.	940.	1135.5	.27	.91	.86
136	138	H 2	150.	65.	600.	189.9	.12	.59	.35
136	225	H 2	150.	65.	340.	-490.4	-.32	-3.40	-1.16
137	138	H 2	150.	65.	420.	138.4	.09	.33	.14
138	156	H 2	200.	70.	410.	-143.6	-.05	-.08	-.03
139	156	H 2	200.	70.	250.	82.7	.03	.03	.01
139	157	H 2	200.	70.	350.	134.4	.05	.07	.02
140	157	H 2	200.	70.	680.	-77.9	-.03	-.02	-.02
139	225	H 2	150.	65.	850.	-340.5	-.22	-1.73	-1.47
140	159	H 2	150.	65.	1140.	1.3	.00	.00	.00
145	159	H 2	150.	65.	600.	106.4	.07	.20	.12
200	201	H 2	525.	115.	3650.	6086.6	.33	.28	1.02
200	202	H 2	525.	115.	3650.	5930.9	.32	.27	.97
200	210	H 2	600.	115.	5000.	8243.2	.34	.26	1.28
201	203	H 2	525.	115.	900.	5346.9	.29	.22	.20
202	204	H 2	525.	115.	970.	5365.4	.29	.22	.22
203	205	H 2	525.	115.	100.	4647.8	.25	.17	.02
205	229	H 2	400.	115.	990.	609.8	.06	.01	.01
205	207	H 2	525.	115.	460.	3942.4	.21	.13	.06

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE D)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
207	230	H 2	525.	115.	1125.	683.8	.04	.00	.01
207	236	H 2	600.	115.	800.	2806.1	.11	.03	.03
236	209	H 2	600.	115.	3000.	-1568.0	-.06	-.01	-.04
209	210	H 2	600.	110.	400.	-1698.2	-.07	-.01	-.01
208	231	H 2	525.	115.	1970.	4244.1	.23	.14	.28
210	218	H 2	450.	110.	2700.	5029.0	.37	.45	1.22
210	233	H 2	300.	95.	2920.	1385.3	.23	.39	1.15
211	212	H 2	400.	110.	1890.	-618.9	-.06	-.02	-.03
211	233	H 2	300.	95.	2925.	-1349.3	-.22	-.37	-1.10
212	213	H 2	150.	100.	1145.	82.7	.05	.06	.07
212	214	H 2	400.	110.	1875.	-850.4	-.08	-.03	-.06
212	232	H 2	250.	100.	1895.	-184.0	-.04	-.02	-.04
215	216	H 2	400.	110.	1435.	1245.7	.11	.06	.09
216	304	H 2	300.	100.	2385.	468.3	.08	.05	.11
217	232	H 2	250.	100.	1990.	-427.7	-.10	-.10	-.20
217	304	H 2	300.	100.	1655.	-79.1	-.01	-.00	-.00
218	214	H 2	400.	110.	2100.	3652.0	.34	.44	.93
220	231	H 2	525.	115.	1970.	-1850.1	-.10	-.03	-.06
221	222	H 2	300.	90.	645.	-1321.8	-.22	-.40	-.26
237	221	H 2	300.	90.	1000.	112.1	.02	.00	.00
237	223	H 2	300.	90.	625.	2253.3	.37	1.07	.67
223	224	H 2	300.	90.	1125.	479.3	.08	.06	.07
224	241	H 2	300.	90.	900.	-467.9	-.08	-.06	-.05
224	226	H 2	200.	90.	435.	-355.1	-.13	-.25	-.11
225	240	H 2	250.	95.	400.	-314.2	-.07	-.06	-.02
226	240	H 2	250.	95.	675.	-625.6	-.15	-.22	-.15
225	240	H 2	550.	115.	400.	-3025.0	-.15	-.06	-.02
240	307	H 2	550.	115.	1675.	-6154.0	-.30	-.23	-.38
225	240	H 2	300.	100.	400.	-534.2	-.09	-.06	-.02
240	325	H 2	300.	100.	1600.	-1093.1	-.18	-.23	-.37
240	241	H 2	300.	90.	350.	1627.9	.27	.59	.21
240	241	H 2	250.	90.	350.	1007.8	.24	.59	.21
135	241	H 2	250.	90.	600.	-979.7	-.23	-.56	-.33
160	241	H 2	250.	90.	850.	-763.5	-.18	-.35	-.30
160	241	H 2	200.	90.	850.	-424.6	-.16	-.35	-.30
225	312	H 2	400.	110.	1245.	1285.7	.12	.06	.08
226	234	H 2	250.	100.	1775.	-763.0	-.18	-.29	-.51
228	304	H 2	300.	100.	645.	-1162.3	-.19	-.26	-.17
300	331	H 2	375.	75.	50.	788.4	.08	.07	.00
331	310	H 2	250.	70.	2415.	377.3	.09	.15	.37
302	303	H 2	200.	75.	700.	-527.6	-.19	-.74	-.52
303	309	H 2	200.	75.	800.	-434.2	-.16	-.51	-.41

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE D)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
304	308	H 2	550.	115.	275.	2538.8	.12	.04	.01
304	309	H 2	300.	100.	420.	586.0	.10	.07	.03
305	306	H 2	375.	75.	600.	-1009.6	-.11	-.11	-.07
305	311	H 2	200.	70.	1415.	242.5	.09	.20	.28
305	321	H 2	375.	75.	1475.	648.1	.07	.05	.07
306	307	H 2	375.	75.	700.	-1216.2	-.13	-.16	-.11
306	322	H 2	150.	65.	850.	63.0	.04	.08	.06
308	326	H 2	350.	115.	1100.	2390.9	.29	.36	.39
311	312	H 2	200.	70.	2485.	48.6	.02	.01	.03
312	323	H 2	400.	110.	1050.	675.5	.06	.02	.02
312	324	H 2	200.	70.	1600.	229.0	.08	.18	.29
313	314	H 2	200.	100.	950.	239.7	.09	.10	.10
313	330	H 2	400.	110.	1900.	-1379.2	-.13	-.07	-.14
330	323	H 2	400.	110.	1450.	696.4	.06	.02	.03
314	315	H 2	200.	100.	1000.	267.7	.10	.12	.12
317	324	H 2	200.	70.	1365.	-242.9	-.09	-.20	-.27
320	328	H 2	150.	85.	1100.	310.0	.20	.89	.97
302	328	H 2	150.	85.	1150.	258.0	.17	.63	.73
328	329	H 2	150.	65.	1100.	-209.6	-.14	-.71	-.78
301	329	H 2	150.	85.	550.	-53.1	-.03	-.03	-.02
302	320	H 2	150.	115.	1500.	-170.0	-.11	-.17	-.25
320	318	H 2	200.	75.	800.	261.0	.10	.20	.16
326	320	H 2	350.	115.	1200.	1968.2	.24	.25	.30
320	318	H 2	350.	115.	1400.	1289.1	.16	.11	.16
327	319	H 2	350.	115.	600.	-666.6	-.08	-.03	-.02
350	351	H 2	200.	115.	4015.	410.9	.15	.21	.84
350	353	H 2	75.	115.	5000.	28.3	.07	.18	.88
351	352	H 2	150.	65.	985.	42.2	.03	.04	.04
315	316	H 2	200.	75.	3600.	204.5	.08	.13	.46
103	203	H 2	525.	110.	60.	4301.6	.23	.16	.01
106	115	H 2	450.	110.	20.	15905.3	1.16	3.81	.08
115	120	H 2	500.	110.	1000.	5824.4	.34	.36	.36
120	128	H 2	400.	110.	400.	2807.8	.26	.27	.11
128	127	H 2	400.	110.	700.	2790.6	.26	.27	.19
127	124	H 2	400.	110.	1800.	2393.5	.22	.20	.37
124	155	H 2	300.	110.	1300.	1233.4	.20	.24	.31
155	123	H 2	200.	110.	1500.	509.0	.19	.34	.51
115	141	H 2	400.	110.	700.	3728.0	.34	.46	.32
141	147	H 2	400.	110.	600.	3369.6	.31	.38	.23
130	147	H 2	400.	110.	300.	-2265.3	-.21	-.18	-.06
130	131	H 2	300.	110.	1000.	1440.2	.24	.32	.32
147	148	H 2	200.	110.	1600.	210.6	.08	.07	.11
148	149	H 2	200.	110.	400.	-532.1	-.20	-.37	-.15
304	326	H 2	500.	110.	1100.	5940.1	.35	.37	.41

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE D)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
326	320	H 2	500.	110.	1200.	4810.2	.28	.25	.30
320	318	H 2	400.	110.	1200.	1903.9	.18	.13	.16
318	329	H 2	400.	110.	300.	1875.4	.17	.13	.04
329	301	H 2	400.	110.	500.	954.4	.09	.04	.02
307	306	H 2	500.	110.	700.	3801.4	.22	.16	.11
306	305	H 2	500.	110.	600.	3155.6	.19	.11	.07
305	311	H 2	400.	110.	1600.	2207.4	.20	.17	.28
311	330	H 2	400.	110.	100.	2075.4	.19	.16	.02
306	322	H 2	200.	110.	500.	302.7	.11	.13	.06
323	324	H 2	250.	110.	1300.	695.2	.16	.20	.26
313	314	H 2	300.	110.	500.	1083.4	.18	.19	.10
314	315	H 2	300.	110.	1000.	855.3	.14	.12	.12
315	316	H 2	300.	110.	3600.	871.1	.14	.13	.46
350	351	H 2	250.	110.	4015.	706.9	.17	.21	.84
351	352	H 2	250.	110.	985.	273.4	.06	.04	.04
352	353	H 2	250.	110.	100.	40.4	.01	.00	.00
203	236	H 2	600.	110.	1100.	4565.9	.19	.09	.10
236	219	H 2	600.	110.	4100.	8939.7	.37	.32	1.32
219	304	H 2	600.	110.	2500.	10008.1	.41	.40	1.00
218	219	H 2	400.	110.	3200.	1068.4	.10	.05	.15
101	112	H 2	825.	115.	100.	6366.7	.14	.03	.00
102	113	H 2	800.	115.	100.	11387.8	.26	.11	.01
109	206	H 2	400.	110.	100.	466.2	.04	.01	.00
220	222	H 2	300.	110.	100.	1586.0	.26	.39	.04
307	234	H 2	300.	110.	100.	1081.7	.18	.19	.02
307	325	H 2	400.	110.	100.	1893.2	.17	.13	.01
318	329	H 2	150.	65.	500.	63.8	.04	.08	.04
300	319	H 2	350.	115.	150.	757.5	.09	.04	.01
103	204	H 2	525.	115.	100.	-5278.8	-.28	-.22	-.02
103	114	H 2	525.	115.	100.	835.7	.04	.01	.00
214	232	H 2	300.	110.	100.	1017.0	.17	.17	.02
214	215	H 2	400.	110.	100.	1515.3	.14	.09	.01
303	326	H 2	250.	110.	200.	-633.6	-.15	-.17	-.03

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE D)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
100	7.700	70.200	-58331.570
200	9.400	135.900	-20260.830
300	36.600	75.100	-1545.899
350	60.000	98.500	-1146.081
101	31.965	69.965	1.630
102	31.953	69.953	617.302
103	76.707	134.707	141.514
104	46.864	69.864	-.443
105	49.684	69.684	187.072
106	54.215	69.215	-.137
107	51.967	68.967	2328.174
108	43.096	69.696	839.949
109	31.550	69.550	679.480
110	49.686	69.686	1464.970
111	36.633	69.933	1534.372
112	31.962	69.962	286.978
113	31.942	69.942	287.646
114	76.706	134.706	139.510
115	54.140	69.140	3318.698
116	64.051	67.051	496.826
117	49.622	69.622	205.017
118	46.720	69.720	222.271
120	56.290	68.790	990.964
121	59.661	67.661	2782.223
122	63.395	67.395	198.726
123	58.327	67.327	596.193
124	64.136	68.136	298.096
125	63.344	67.344	298.095
126	63.191	67.691	198.729
127	60.496	68.496	198.734
128	54.682	68.682	692.795
129	61.874	67.874	692.796
130	52.541	68.541	889.304
131	59.724	68.224	1580.989
132	64.854	67.854	.053
133	61.800	67.800	1299.869
134	55.314	67.814	1723.834
135	57.773	67.773	1256.265
136	56.643	67.143	592.926
137	60.932	66.932	942.859
138	59.797	66.797	471.895
139	60.334	66.834	123.393
140	61.795	66.795	76.633
141	53.322	68.822	395.222
142	86.645	134.645	696.166
143	42.772	68.772	3136.208
144	56.791	67.291	2354.645
145	63.414	66.914	71.125
146	62.140	68.140	400.436
147	52.596	68.596	922.528

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE D)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
148	45.492	68.492	1107.057
149	47.636	68.636	.005
150	57.299	69.299	922.565
151	64.375	67.375	-.020
152	62.374	67.374	-.009
153	61.315	67.315	298.092
154	61.300	67.300	198.729
155	61.827	67.827	695.557
156	60.328	66.828	332.963
157	60.311	66.811	.007
158	60.305	66.805	270.640
159	61.795	66.795	135.326
160	57.809	67.809	.012
161	60.185	69.185	-.001
162	65.507	68.507	298.094
201	46.393	134.893	739.741
202	46.440	134.940	565.562
203	76.697	134.697	434.713
204	76.728	134.728	86.605
205	82.181	134.681	95.574
206	35.549	69.549	466.196
207	82.124	134.624	452.546
208	33.901	69.401	675.685
209	84.631	134.631	130.148
210	64.137	134.637	130.748
211	75.929	132.429	1968.223
212	79.460	132.460	332.776
213	78.396	132.396	82.750
214	83.815	132.515	269.349
215	83.806	132.506	269.596
216	94.721	132.421	777.392
217	97.005	132.305	506.774
218	90.434	133.434	308.578
219	107.790	133.290	.000
220	49.063	69.063	264.138
221	42.772	68.772	1433.902
222	49.025	69.025	264.173
223	48.118	68.118	1773.983
224	52.050	68.050	983.304
225	56.779	68.279	1362.994
226	51.658	68.158	1033.510
228	98.144	132.144	1162.306
229	86.666	134.666	609.837
230	89.618	134.618	683.797
231	41.122	69.122	2393.991
232	83.498	132.498	405.268
233	53.507	133.507	36.008
234	47.161	68.661	318.684
236	84.596	134.596	.347
237	46.776	68.776	-.029

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE D)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY. -VE IN)
240	55.304	68.304	112.240
241	55.102	68.102	.008
301	98.900	131.400	1007.453
302	105.369	131.369	439.554
303	101.875	131.875	540.181
304	99.008	132.308	170.020
305	51.001	68.501	1067.170
306	50.068	68.568	486.760
307	49.680	68.680	231.036
308	97.696	132.296	147.865
309	97.478	132.278	151.774
310	52.237	74.737	377.330
311	51.725	68.225	325.926
312	60.201	68.201	429.759
313	52.573	68.073	56.059
314	59.980	67.980	200.107
315	57.859	67.859	47.486
316	54.909	67.409	1075.506
317	52.154	67.654	242.898
318	90.957	131.457	1514.916
319	36.594	75.094	90.964
320	97.614	131.614	2844.375
321	47.428	68.428	648.077
322	45.005	68.505	365.711
323	55.681	68.181	676.688
324	51.421	67.921	681.314
325	49.667	68.667	800.158
326	96.909	131.909	919.011
327	35.074	75.074	666.589
328	104.657	130.657	777.658
329	99.418	131.418	722.113
330	51.210	68.210	-.156
331	38.096	75.096	411.026
351	39.172	97.672	802.189
352	36.137	97.637	275.182
353	36.137	97.637	68.710

1.5 Setting up Middle Zone

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE E)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
100	101	H 2	1350.	110.	1820.	173709.1	1.40	1.51	2.74
100	102	H 2	800.	110.	1820.	45013.2	1.04	1.58	2.88
101	104	H 2	1350.	110.	1030.	149833.4	1.21	1.15	1.18
104	105	H 2	1350.	110.	1900.	146807.7	1.19	1.10	2.10
105	106	H 2	1200.	105.	2500.	148771.3	1.52	2.19	5.47
105	108	H 2	750.	110.	1440.	-8440.1	-.22	-.10	-.14
105	110	H 2	525.	110.	35.	-10024.8	-.54	-.77	-.03
105	150	H 2	450.	110.	1200.	15799.4	1.15	3.76	4.51
150	115	H 2	450.	110.	1300.	9365.5	.68	1.43	1.86
106	107	H 2	1200.	105.	3420.	89131.9	.91	.85	2.90
107	143	H 2	375.	80.	1435.	4470.5	.47	1.59	2.29
107	146	H 2	375.	80.	825.	13148.9	1.38	11.73	9.67
107	237	H 2	1050.	100.	2400.	62782.3	.84	.93	2.23
237	307	H 2	1050.	100.	1600.	53912.6	.72	.70	1.12
108	109	H 2	750.	115.	1810.	30034.9	.79	.94	1.71
108	113	H 2	800.	115.	2280.	-41624.1	-.96	-1.26	-2.88
109	143	H 2	375.	80.	2315.	7289.7	.76	3.94	9.12
109	208	H 2	600.	115.	1530.	18448.5	.76	1.14	1.74
110	111	H 2	525.	115.	1535.	-17043.8	-.91	-1.88	-2.89
110	117	H 2	150.	95.	55.	1526.9	1.00	13.78	.76
111	112	H 2	825.	115.	940.	-22798.0	-.49	-.36	-.34
114	142	H 2	375.	80.	1220.	2610.5	.27	.59	.72
115	116	H 2	150.	65.	2000.	981.4	.64	12.27	24.54
104	118	H 2	200.	115.	200.	3026.3	1.11	8.45	1.69
118	161	H 2	200.	115.	1600.	1999.5	.74	3.93	6.28
161	162	H 2	150.	115.	500.	1999.5	1.31	15.93	7.97
116	162	H 2	150.	65.	1700.	-881.6	-.58	-10.06	-17.11
115	117	H 2	200.	70.	2275.	-951.5	-.35	-2.49	-5.66
115	120	H 2	450.	120.	1000.	18059.3	1.31	4.10	4.10
115	128	H 2	200.	70.	1370.	1217.2	.45	3.93	5.38
115	141	H 2	200.	70.	700.	1437.1	.53	5.34	3.74
117	118	H 2	150.	65.	1900.	-193.3	-.13	-.61	-1.15
120	121	H 2	250.	115.	1120.	6527.0	1.54	11.81	13.23
120	121	H 2	200.	110.	1120.	3471.6	1.28	11.83	13.25
121	124	H 2	200.	110.	1600.	-1794.3	-.66	-3.49	-5.58
120	128	H 2	450.	120.	400.	15656.6	1.14	3.15	1.26
121	122	H 2	200.	100.	1255.	1360.0	.50	2.49	3.13
122	151	H 2	200.	110.	500.	614.8	.23	.48	.24
151	152	H 2	200.	110.	300.	165.3	.06	.04	.01
152	153	H 2	200.	110.	500.	1088.9	.40	1.38	.69
153	123	H 2	150.	95.	1300.	-115.2	-.08	-.12	-.15
151	154	H 2	150.	110.	800.	449.5	.29	1.09	.87
153	154	H 2	125.	80.	750.	86.3	.08	.23	.17
123	154	H 2	150.	110.	1200.	209.4	.14	.27	.32
152	124	H 2	150.	80.	1200.	-923.6	-.60	-7.47	-8.96
123	155	H 2	150.	80.	1500.	-651.4	-.43	-3.92	-5.87
155	124	H 2	150.	80.	1300.	-543.4	-.36	-2.80	-3.64

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE E)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
124	125	H 2	100.	75.	545.	466.0	.69	17.10	9.32
124	127	H 2	150.	80.	1800.	-494.8	-.32	-2.35	-4.24
125	126	H 2	150.	80.	1040.	-651.8	-.43	-3.92	-4.08
126	127	H 2	150.	80.	650.	-1324.8	-.87	-14.56	-9.46
127	128	H 2	200.	70.	700.	-1075.7	-.40	-3.12	-2.19
128	129	H 2	300.	70.	950.	5855.9	.96	9.97	9.47
128	131	H 2	150.	65.	1050.	612.3	.40	5.13	5.38
128	132	H 2	300.	100.	1430.	6796.4	1.11	6.79	9.70
129	126	H 2	100.	60.	2640.	72.2	.11	.82	2.17
129	132	H 2	400.	110.	480.	3833.1	.35	.49	.23
130	131	H 2	150.	65.	850.	562.8	.37	4.39	3.73
130	147	H 2	200.	70.	350.	-803.5	-.30	-1.82	-.64
147	141	H 2	200.	70.	600.	-1299.0	-.48	-4.43	-2.66
147	148	H 2	150.	115.	1600.	387.4	.25	.77	1.22
148	149	H 2	150.	115.	400.	-978.9	-.64	-4.25	-1.70
149	150	H 2	200.	115.	950.	-2974.3	-1.10	-8.18	-7.77
131	129	H 2	150.	65.	725.	647.2	.42	5.68	4.12
132	133	H 2	400.	110.	200.	10629.5	.98	3.21	.64
133	144	H 2	300.	70.	1020.	4386.3	.72	5.84	5.96
133	137	H 2	150.	65.	1540.	703.1	.46	6.62	10.20
133	145	H 2	150.	65.	1740.	665.8	.44	5.99	10.42
134	160	H 2	400.	110.	500.	1936.6	.18	.14	.07
160	135	H 2	400.	110.	330.	6391.7	.59	1.25	.41
156	225	H 2	150.	75.	850.	-1476.9	-.97	-20.06	-17.05
137	158	H 2	200.	75.	750.	906.4	.33	2.00	1.50
157	158	H 2	200.	75.	600.	211.9	.08	.14	.08
158	159	H 2	150.	75.	750.	103.4	.07	.15	.11
134	144	H 2	300.	70.	1025.	4443.1	.73	5.98	6.13
134	146	H 2	400.	110.	1005.	-11647.5	-1.07	-3.80	-3.82
134	224	H 2	200.	90.	1160.	-1196.5	-.44	-2.39	-2.77
135	136	H 2	150.	75.	640.	1096.6	.72	11.56	7.40
135	137	H 2	250.	80.	940.	4257.9	1.00	10.49	9.86
136	138	H 2	150.	65.	600.	712.2	.47	6.78	4.07
136	225	H 2	150.	65.	340.	-1838.9	-1.20	-39.21	-13.33
137	138	H 2	150.	65.	420.	519.1	.34	3.78	1.59
138	156	H 2	200.	70.	410.	-538.3	-.20	-.87	-.36
139	156	H 2	200.	70.	250.	310.0	.11	.31	.08
139	157	H 2	200.	70.	350.	504.1	.19	.77	.27
140	157	H 2	200.	70.	680.	-292.2	-.11	-.28	-.19
139	225	H 2	150.	65.	850.	-1276.8	-.84	-19.97	-16.97
140	159	H 2	150.	65.	1140.	4.9	.00	.00	.00
145	159	H 2	150.	65.	600.	399.1	.26	2.32	1.39
200	239	H 2	525.	115.	2400.	23546.8	1.26	3.42	8.21
200	239	H 2	525.	115.	2400.	23546.8	1.26	3.42	8.21
239	201	H 2	525.	115.	1250.	2773.7	.15	.07	.08
239	202	H 2	525.	115.	1250.	2121.0	.11	.04	.05
239	401	H 2	700.	110.	100.	42198.6	1.27	2.69	.27
200	210	H 2	600.	115.	5000.	7690.4	.31	.23	1.13

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE E)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
203	205	H 2	525.	115.	100.	27682.5	1.48	4.61	.46
205	229	H 2	400.	115.	990.	2286.8	.21	.17	.17
205	207	H 2	525.	115.	460.	25035.6	1.34	3.83	1.76
207	230	H 2	525.	115.	1125.	2564.7	.14	.06	.06
207	236	H 2	600.	115.	800.	20774.2	.85	1.42	1.13
236	209	H 2	600.	115.	3000.	22078.8	.90	1.58	4.75
208	231	H 2	525.	115.	1970.	15914.8	.85	1.66	3.26
235	218	H 2	450.	110.	2700.	9514.4	.69	1.47	3.97
210	233	H 2	300.	95.	2920.	7202.9	1.18	8.31	24.26
238	212	H 2	400.	110.	1890.	-312.5	-.03	-.00	-.01
211	233	H 2	300.	95.	2925.	-7067.9	-1.16	-8.02	-23.46
212	213	H 2	150.	100.	1145.	310.3	.20	.66	.75
212	214	H 2	400.	110.	1875.	-1983.0	-.18	-.14	-.27
212	232	H 2	250.	100.	1895.	112.1	.03	.01	.02
215	216	H 2	400.	110.	1435.	7191.0	.66	1.56	2.23
216	304	H 2	300.	100.	2385.	4276.0	.70	2.88	6.87
217	232	H 2	250.	100.	1990.	-3263.4	-.77	-4.24	-8.45
217	304	H 2	300.	100.	1655.	1363.0	.22	.35	.57
218	214	H 2	400.	110.	2100.	5670.0	.52	1.00	2.10
220	231	H 2	525.	115.	1970.	-6937.8	-.37	-.36	-.70
221	222	H 2	300.	90.	645.	-4956.4	-.81	-4.60	-2.97
237	221	H 2	300.	90.	1000.	420.2	.07	.05	.05
237	223	H 2	300.	90.	625.	8449.6	1.38	12.34	7.71
223	224	H 2	300.	90.	1125.	1797.5	.29	.70	.79
224	241	H 2	300.	90.	900.	-1754.6	-.29	-.67	-.61
224	226	H 2	200.	90.	435.	-1331.6	-.49	-2.91	-1.27
225	240	H 2	250.	95.	400.	-1178.2	-.28	-.71	-.28
226	240	H 2	250.	95.	675.	-2346.0	-.55	-2.53	-1.71
225	240	H 2	550.	115.	400.	-11344.3	-.55	-.71	-.28
240	307	H 2	550.	115.	1675.	-23077.5	-1.12	-2.63	-4.40
225	240	H 2	300.	100.	400.	-2003.3	-.33	-.71	-.28
240	325	H 2	300.	100.	1600.	-4099.1	-.67	-2.66	-4.26
240	241	H 2	300.	90.	350.	6104.2	1.00	6.76	2.37
240	241	H 2	250.	90.	350.	3779.1	.89	6.77	2.37
135	241	H 2	250.	90.	600.	-3673.7	-.87	-6.42	-3.85
160	241	H 2	250.	90.	850.	-2863.0	-.68	-4.05	-3.44
160	241	H 2	200.	90.	850.	-1592.0	-.59	-4.05	-3.44
225	312	H 2	400.	110.	1245.	4821.1	.44	.74	.92
226	234	H 2	250.	100.	1775.	-2861.2	-.67	-3.33	-5.91
228	304	H 2	300.	100.	645.	-4358.5	-.71	-2.98	-1.92
300	331	H 2	375.	75.	50.	2956.3	.31	.84	.04
331	310	H 2	250.	70.	2415.	1414.9	.33	1.75	4.22
302	303	H 2	200.	75.	700.	-1978.5	-.73	-8.49	-5.94

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE E)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
303	309	H 2	200.	75.	800.	-1628.2	-.60	-5.92	-4.74
304	308	H 2	550.	115.	275.	9519.0	.46	.51	.14
304	309	H 2	300.	100.	420.	2197.4	.36	.84	.35
305	306	H 2	375.	75.	600.	-3785.9	-.40	-1.32	-.79
305	311	H 2	200.	70.	1415.	909.4	.34	2.29	3.24
305	321	H 2	375.	75.	1475.	2430.2	.25	.58	.86
306	307	H 2	375.	75.	700.	-4560.8	-.48	-1.86	-1.30
306	322	H 2	150.	65.	850.	236.3	.15	.88	.75
308	326	H 2	350.	115.	1100.	8965.8	1.08	4.13	4.54
311	312	H 2	200.	70.	2485.	182.3	.07	.12	.29
312	323	H 2	400.	110.	1050.	2533.1	.23	.23	.24
312	324	H 2	200.	70.	1600.	858.6	.32	2.06	3.29
313	314	H 2	200.	100.	950.	899.0	.33	1.16	1.10
313	330	H 2	400.	110.	1900.	-5171.6	-.48	-.85	-1.61
330	323	H 2	400.	110.	1450.	2611.4	.24	.24	.35
314	315	H 2	200.	100.	1000.	1003.8	.37	1.42	1.42
317	324	H 2	200.	70.	1365.	-910.8	-.34	-2.30	-3.13
320	328	H 2	150.	85.	1100.	1162.6	.76	10.22	11.24
302	328	H 2	150.	85.	1150.	967.6	.63	7.28	8.37
328	329	H 2	150.	65.	1100.	-785.9	-.51	-8.14	-8.95
301	329	H 2	150.	85.	550.	-199.1	-.13	-.39	-.21
302	320	H 2	150.	115.	1500.	-637.3	-.42	-1.92	-2.88
320	318	H 2	200.	75.	800.	978.9	.36	2.31	1.85
326	320	H 2	350.	115.	1200.	7380.7	.89	2.88	3.46
320	318	H 2	350.	115.	1400.	4834.1	.58	1.32	1.84
327	319	H 2	350.	115.	600.	-2499.6	-.30	-.39	-.23
350	351	H 2	200.	115.	4015.	1540.8	.57	2.42	9.73
350	353	H 2	75.	115.	5000.	106.1	.28	2.04	10.19
351	352	H 2	150.	65.	985.	158.1	.10	.42	.41
315	316	H 2	200.	75.	3600.	766.7	.28	1.47	5.29
103	203	H 2	525.	110.	60.	-3989.0	-.21	-.14	-.01
106	115	H 2	450.	110.	20.	59640.8	4.34	43.90	.88
115	120	H 2	500.	110.	1000.	21840.1	1.29	4.10	4.10
120	128	H 2	400.	110.	400.	10528.8	.97	3.15	1.26
128	127	H 2	400.	110.	700.	10464.4	.96	3.11	2.18
127	124	H 2	400.	110.	1800.	8975.3	.83	2.34	4.22
124	155	H 2	300.	110.	1300.	4625.1	.76	2.79	3.63
155	123	H 2	200.	110.	1500.	1908.8	.70	3.91	5.87
115	141	H 2	400.	110.	700.	13979.6	1.29	5.32	3.72
141	147	H 2	400.	110.	600.	12635.7	1.16	4.41	2.65
130	147	H 2	400.	110.	300.	-8494.6	-.78	-2.12	-.64
130	131	H 2	300.	110.	1000.	5400.6	.88	3.72	3.72
147	148	H 2	200.	110.	1600.	789.6	.29	.76	1.22

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE E)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
148	149	H 2	200.	110.	400.	-1995.4	-.74	-4.25	-1.70
304	326	H 2	500.	110.	1100.	22275.0	1.31	4.25	4.67
326	320	H 2	500.	110.	1200.	18037.9	1.06	2.88	3.45
320	318	H 2	400.	110.	1200.	7139.7	.66	1.54	1.84
318	329	H 2	400.	110.	300.	7032.7	.65	1.49	.45
329	301	H 2	400.	110.	500.	3578.9	.33	.43	.21
307	306	H 2	500.	110.	700.	14254.8	.84	1.86	1.30
306	305	H 2	500.	110.	600.	11833.0	.70	1.32	.79
305	311	H 2	400.	110.	1600.	8278.1	.76	2.02	3.23
311	330	H 2	400.	110.	100.	7783.0	.72	1.80	.18
306	322	H 2	200.	110.	500.	1135.0	.42	1.49	.75
323	324	H 2	250.	110.	1300.	2607.0	.61	2.35	3.05
400	203	H 2	900.	110.	2800.	63388.5	1.15	1.68	4.71
209	235	H 2	600.	110.	400.	21591.4	.88	1.65	.66
235	218	H 2	500.	110.	2900.	12077.1	.71	1.37	3.97
218	214	H 2	500.	110.	2100.	10196.7	.60	1.00	2.10
313	314	H 2	300.	110.	500.	4062.5	.67	2.20	1.10
314	315	H 2	300.	110.	1000.	3207.3	.53	1.42	1.42
315	316	H 2	300.	110.	3600.	3266.3	.53	1.47	5.28
350	351	H 2	250.	110.	4015.	2650.4	.62	2.42	9.72
351	352	H 2	250.	110.	985.	1025.0	.24	.42	.41
352	353	H 2	250.	110.	100.	151.7	.04	.01	.00
203	236	H 2	600.	110.	1100.	30086.0	1.23	3.05	3.35
236	219	H 2	600.	110.	4100.	28781.5	1.18	2.81	11.52
219	304	H 2	600.	110.	2500.	33349.1	1.37	3.69	9.22
218	219	H 2	400.	110.	3200.	4567.8	.42	.67	2.15
101	112	H 2	825.	115.	100.	23875.6	.52	.39	.04
102	113	H 2	800.	115.	100.	42703.0	.98	1.32	.13
109	206	H 2	400.	110.	100.	1748.6	.16	.11	.01
220	222	H 2	300.	110.	100.	5947.0	.97	4.44	.44
307	234	H 2	300.	110.	100.	4056.3	.66	2.19	.22
307	325	H 2	400.	110.	100.	7099.8	.65	1.52	.15
318	329	H 2	150.	65.	500.	239.1	.16	.90	.45
300	319	H 2	350.	115.	150.	2840.5	.34	.49	.07
103	204	H 2	525.	115.	100.	326.3	.02	.00	.00
103	114	H 2	525.	115.	100.	3136.6	.17	.08	.01
214	232	H 2	300.	110.	100.	4671.0	.76	2.84	.28
214	215	H 2	400.	110.	100.	8201.9	.76	1.98	.20
303	326	H 2	250.	110.	200.	-2376.0	-.56	-1.98	-.40

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE E)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
100	.800	63.300	-218722.200
200	1.900	128.400	-54784.060
300	36.600	75.100	-5796.832
350	60.000	98.500	-4297.307
400	-5.000	95.000	-63388.480
401	20.022	120.022	42198.610
101	22.582	60.582	.102
102	22.450	60.450	2310.187
103	32.334	90.334	526.070
104	36.413	59.413	-.577
105	37.335	57.335	701.917
106	36.915	51.915	-1.410
107	32.044	49.044	8730.190
108	30.874	57.474	3149.057
109	17.784	55.784	2548.184
110	37.361	57.361	5491.988
111	26.913	60.213	5754.202
112	22.544	60.544	1077.578
113	22.319	60.319	1078.918
114	32.326	90.326	526.173
115	36.046	51.046	12443.220
116	23.899	26.899	1863.014
117	36.616	56.616	768.780
118	34.748	57.748	833.497
120	34.497	46.997	3715.364
121	25.949	33.949	10432.890
122	26.873	30.873	745.206
123	21.091	30.091	2235.625
124	35.440	39.440	1117.748
125	26.283	30.283	1117.817
126	29.789	34.289	745.204
127	35.602	43.602	745.180
128	31.754	45.754	2597.933
129	30.412	36.412	2597.740
130	28.127	44.127	3334.685
131	31.962	40.462	5928.500
132	33.183	36.183	.019
133	29.550	35.550	4874.307
134	23.221	35.721	6464.261
135	25.246	35.246	4710.857
136	17.465	27.965	2223.361
137	19.524	25.524	3535.532
138	16.965	23.965	1769.555
139	17.891	24.391	462.716
140	18.940	23.940	287.286
141	31.868	47.368	1482.037
142	41.618	89.618	2610.459
143	20.789	46.789	11760.180
144	19.176	29.676	8829.459
145	21.808	25.308	266.701

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE E)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
146	33.487	39.487	1501.375
147	28.753	44.753	3459.473
148	20.552	43.552	4151.333
149	24.224	45.224	-.019
150	40.879	52.879	3459.658
151	27.637	30.637	-.015
152	25.625	30.625	.001
153	23.944	29.944	1117.818
154	23.778	29.778	745.218
155	29.864	35.864	2608.225
156	17.814	24.314	1248.533
157	17.627	24.127	-.008
158	17.547	24.047	1014.897
159	18.939	23.939	507.441
160	25.653	35.653	-.107
161	42.569	51.569	.005
162	40.729	43.729	1117.822
201	31.708	120.208	2773.706
202	31.739	120.239	2120.990
203	32.342	90.342	1631.025
204	32.334	90.334	326.260
205	37.386	89.886	360.077
206	21.773	55.773	1748.568
207	35.645	88.145	1696.650
208	18.567	54.067	2533.672
209	32.329	82.329	487.411
210	56.790	127.290	487.494
211	23.710	80.210	7067.926
212	22.417	75.417	1248.087
213	20.679	74.679	310.290
214	26.982	75.682	1010.824
215	26.786	75.486	1010.822
216	35.585	73.285	2915.012
217	31.782	67.082	1900.457
218	34.757	77.757	1157.038
219	50.138	75.638	.160
220	30.151	50.151	990.727
221	20.788	46.788	5376.587
222	29.712	49.712	990.665
223	19.226	39.226	6652.049
224	22.446	38.446	3687.286
225	29.598	41.098	5112.204
226	23.192	39.692	3875.562
228	30.621	64.621	4358.483
229	41.719	89.719	2286.832
230	43.082	88.082	2564.674
231	22.843	50.843	8977.051
232	26.402	75.402	1519.663
233	23.357	103.357	135.017
234	24.009	45.509	1195.130

DAR-ES-SALAAM NETWORK ANALYSIS - MAXIMUM DEMAND IN 1995 (CASE E)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY. -VE IN)
235	31.677	81.677	-.137
236	37.026	87.026	.014
237	24.835	46.835	-.087
238	18.909	75.409	312.515
239	20.288	120.288	.313
240	28.376	41.376	421.423
241	26.043	39.043	-.065
301	23.519	56.019	3778.009
302	29.657	55.657	1648.247
303	31.508	61.508	2025.687
304	33.217	66.517	638.259
305	26.158	43.658	4001.333
306	25.939	44.439	1825.354
307	26.725	45.725	863.364
308	31.779	66.379	553.117
309	31.370	66.170	569.225
310	48.400	70.900	1414.933
311	23.972	40.472	1222.211
312	32.187	40.187	1611.540
313	23.211	38.711	210.133
314	29.630	37.630	750.411
315	26.233	36.233	178.045
316	18.534	31.034	4033.006
317	18.366	33.866	910.833
318	16.172	56.672	5680.873
319	36.527	75.027	340.933
320	24.488	58.488	10666.030
321	21.813	42.813	2430.181
322	20.204	43.704	1371.357
323	27.454	39.954	2537.566
324	20.448	36.948	2554.826
325	26.575	45.575	3000.754
326	26.898	61.898	3446.207
327	34.798	74.798	2499.562
328	21.428	47.428	2916.110
329	24.230	56.230	2707.845
330	23.294	40.294	-.080
331	38.059	75.059	1541.393
351	30.429	88.929	3008.106
352	27.025	88.525	1031.399
353	27.024	88.524	257.801

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE E)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
100	101	H 2	1350.	110.	1820.	46321.6	.37	.13	.24
100	102	H 2	800.	110.	1820.	12003.7	.28	.14	.25
101	104	H 2	1350.	110.	1030.	39956.5	.32	.10	.10
104	105	H 2	1350.	110.	1900.	39149.8	.32	.10	.18
105	106	H 2	1200.	105.	2500.	39674.2	.41	.19	.47
105	108	H 2	750.	110.	1440.	-2250.1	-.06	-.01	-.01
105	110	H 2	525.	110.	35.	-2673.2	-.14	-.07	-.00
105	150	H 2	450.	110.	1200.	4213.3	.31	.33	.39
150	115	H 2	450.	110.	1300.	2497.6	.18	.12	.16
106	107	H 2	1200.	105.	3420.	23770.4	.24	.07	.25
107	143	H 2	375.	80.	1435.	1192.2	.12	.14	.20
107	146	H 2	375.	80.	825.	3506.6	.37	1.02	.84
107	237	H 2	1050.	100.	2400.	16743.5	.22	.08	.19
237	307	H 2	1050.	100.	1600.	14377.8	.19	.06	.10
108	109	H 2	750.	115.	1810.	8009.6	.21	.08	.15
108	113	H 2	800.	115.	2280.	-11099.9	-.26	-.11	-.25
109	143	H 2	375.	80.	2315.	1944.0	.20	.34	.79
109	208	H 2	600.	115.	1530.	4919.8	.20	.10	.15
110	111	H 2	525.	115.	1535.	-4545.1	-.24	-.16	-.25
110	117	H 2	150.	95.	55.	407.2	.27	1.19	.07
111	112	H 2	825.	115.	940.	-6079.7	-.13	-.03	-.03
114	142	H 2	375.	80.	1220.	696.2	.07	.05	.06
115	116	H 2	150.	65.	2000.	261.7	.17	1.06	2.13
104	118	H 2	200.	115.	200.	807.0	.30	.73	.15
118	161	H 2	200.	115.	1600.	533.2	.20	.34	.54
161	162	H 2	150.	115.	500.	533.2	.35	1.38	.69
116	162	H 2	150.	65.	1700.	-235.1	-.15	-.87	-1.48
115	117	H 2	200.	70.	2275.	-253.7	-.09	-.22	-.49
115	120	H 2	450.	120.	1000.	4816.0	.35	.36	.36
115	128	H 2	200.	70.	1370.	324.6	.12	.34	.47
115	141	H 2	200.	70.	700.	383.2	.14	.46	.32
117	118	H 2	150.	65.	1900.	-51.6	-.03	-.05	-.10
120	121	H 2	250.	115.	1120.	1740.6	.41	1.02	1.15
120	121	H 2	200.	110.	1120.	925.8	.34	1.03	1.15
121	124	H 2	200.	110.	1600.	-478.5	-.18	-.30	-.48
120	128	H 2	450.	120.	400.	4175.3	.30	.27	.11
121	122	H 2	200.	100.	1255.	362.7	.13	.22	.27
122	151	H 2	200.	110.	500.	163.9	.06	.04	.02
151	152	H 2	200.	110.	300.	44.1	.02	.00	.00
152	153	H 2	200.	110.	500.	290.4	.11	.12	.06
153	123	H 2	150.	95.	1300.	-30.7	-.02	-.01	-.01
151	154	H 2	150.	110.	800.	119.9	.08	.09	.08
153	154	H 2	125.	80.	750.	23.0	.02	.02	.01
123	154	H 2	150.	110.	1200.	55.8	.04	.02	.03
152	124	H 2	150.	80.	1200.	-246.3	-.16	-.65	-.78
123	155	H 2	150.	80.	1500.	-173.7	-.11	-.34	-.51
155	124	H 2	150.	80.	1300.	-144.9	-.09	-.24	-.32

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE E)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
124	125	H 2	100.	75.	545.	124.3	.18	1.48	.81
124	127	H 2	150.	80.	1800.	-132.0	-.09	-.20	-.37
125	126	H 2	150.	80.	1040.	-173.8	-.11	-.34	-.35
126	127	H 2	150.	80.	650.	-353.3	-.23	-1.26	-.82
127	128	H 2	200.	70.	700.	-286.9	-.11	-.27	-.19
128	129	H 2	300.	70.	950.	1561.7	.26	.86	.82
128	131	H 2	150.	65.	1050.	163.3	.11	.44	.47
128	132	H 2	300.	100.	1430.	1812.5	.30	.59	.84
129	126	H 2	100.	60.	2640.	19.3	.03	.07	.19
129	132	H 2	400.	110.	480.	1022.2	.09	.04	.02
130	131	H 2	150.	65.	850.	150.1	.10	.38	.32
130	147	H 2	200.	70.	350.	-214.3	-.08	-.16	-.06
147	141	H 2	200.	70.	600.	-346.4	-.13	-.38	-.23
147	148	H 2	150.	115.	1600.	103.3	.07	.07	.11
148	149	H 2	150.	115.	400.	-261.0	-.17	-.37	-.15
149	150	H 2	200.	115.	950.	-793.2	-.29	-.71	-.67
131	129	H 2	150.	65.	725.	172.6	.11	.49	.36
132	133	H 2	400.	110.	200.	2834.6	.26	.28	.06
133	144	H 2	300.	70.	1020.	1169.8	.19	.51	.52
133	137	H 2	150.	65.	1540.	187.5	.12	.57	.88
133	145	H 2	150.	65.	1740.	177.6	.12	.52	.90
134	160	H 2	400.	110.	500.	516.5	.05	.01	.01
160	135	H 2	400.	110.	330.	1704.5	.16	.11	.04
156	225	H 2	150.	75.	850.	-393.8	-.26	-1.74	-1.48
137	158	H 2	200.	75.	750.	241.7	.09	.17	.13
157	158	H 2	200.	75.	600.	56.5	.02	.01	.01
158	159	H 2	150.	75.	750.	27.6	.02	.01	.01
134	144	H 2	300.	70.	1025.	1184.8	.19	.52	.53
134	146	H 2	400.	110.	1005.	-3106.2	-.29	-.33	-.33
134	224	H 2	200.	90.	1160.	-319.1	-.12	-.21	-.24
135	136	H 2	150.	75.	640.	292.4	.19	1.00	.64
135	137	H 2	250.	80.	940.	1135.5	.27	.91	.86
136	138	H 2	150.	65.	600.	189.9	.12	.59	.35
136	225	H 2	150.	65.	340.	-490.4	-.32	-3.40	-1.16
137	138	H 2	150.	65.	420.	138.4	.09	.33	.14
138	156	H 2	200.	70.	410.	-143.6	-.05	-.08	-.03
139	156	H 2	200.	70.	250.	82.7	.03	.03	.01
139	157	H 2	200.	70.	350.	134.4	.05	.07	.02
140	157	H 2	200.	70.	680.	-77.9	-.03	-.02	-.02
139	225	H 2	150.	65.	850.	-340.5	-.22	-1.73	-1.47
140	159	H 2	150.	65.	1140.	1.3	.00	.00	.00
145	159	H 2	150.	65.	600.	106.4	.07	.20	.12
200	239	H 2	525.	115.	2400.	21751.8	1.16	2.95	7.09
200	239	H 2	525.	115.	2400.	21751.8	1.16	2.95	7.09
239	201	H 2	525.	115.	1250.	739.7	.04	.01	.01
239	202	H 2	525.	115.	1250.	565.5	.03	.00	.00
239	401	H 2	700.	110.	100.	42198.6	1.27	2.69	.27
200	210	H 2	600.	115.	5000.	2050.9	.08	.02	.10

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE E)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
203	205	H 2	525.	115.	100.	7382.3	.39	.40	.04
205	229	H 2	400.	115.	990.	609.9	.06	.01	.01
205	207	H 2	525.	115.	460.	6676.4	.36	.33	.15
207	230	H 2	525.	115.	1125.	683.9	.04	.00	.01
207	236	H 2	600.	115.	800.	5540.0	.23	.12	.10
236	209	H 2	600.	115.	3000.	5887.9	.24	.14	.41
208	231	H 2	525.	115.	1970.	4244.2	.23	.14	.28
235	218	H 2	450.	110.	2700.	2537.3	.18	.13	.34
210	233	H 2	300.	95.	2920.	1920.9	.31	.72	2.10
238	212	H 2	400.	110.	1890.	-83.3	-.01	.00	.00
211	233	H 2	300.	95.	2925.	-1884.9	-.31	-.70	-2.03
212	213	H 2	150.	100.	1145.	82.7	.05	.06	.07
212	214	H 2	400.	110.	1875.	-528.8	-.05	-.01	-.02
212	232	H 2	250.	100.	1895.	29.9	.01	.00	.00
215	216	H 2	400.	110.	1435.	1917.7	.18	.13	.19
216	304	H 2	300.	100.	2385.	1140.3	.19	.25	.60
217	232	H 2	250.	100.	1990.	-870.3	-.21	-.37	-.73
217	304	H 2	300.	100.	1655.	363.5	.06	.03	.05
218	214	H 2	400.	110.	2100.	1512.1	.14	.09	.18
220	231	H 2	525.	115.	1970.	-1850.1	-.10	-.03	-.06
221	222	H 2	300.	90.	645.	-1321.8	-.22	-.40	-.26
237	221	H 2	300.	90.	1000.	112.0	.02	.00	.00
237	223	H 2	300.	90.	625.	2253.3	.37	1.07	.67
223	224	H 2	300.	90.	1125.	479.4	.08	.06	.07
224	241	H 2	300.	90.	900.	-467.9	-.08	-.06	-.05
224	226	H 2	200.	90.	435.	-355.1	-.13	-.25	-.11
225	240	H 2	250.	95.	400.	-314.2	-.07	-.06	-.02
226	240	H 2	250.	95.	675.	-625.6	-.15	-.22	-.15
225	240	H 2	550.	115.	400.	-3025.2	-.15	-.06	-.02
240	307	H 2	550.	115.	1675.	-6154.2	-.30	-.23	-.38
225	240	H 2	300.	100.	400.	-534.2	-.09	-.06	-.02
240	325	H 2	300.	100.	1600.	-1093.1	-.18	-.23	-.37
240	241	H 2	300.	90.	350.	1627.9	.27	.59	.21
240	241	H 2	250.	90.	350.	1007.8	.24	.59	.21
135	241	H 2	250.	90.	600.	-979.7	-.23	-.56	-.33
160	241	H 2	250.	90.	850.	-763.5	-.18	-.35	-.30
160	241	H 2	200.	90.	850.	-424.6	-.16	-.35	-.30
225	312	H 2	400.	110.	1245.	1285.8	.12	.06	.08
226	234	H 2	250.	100.	1775.	-763.0	-.18	-.29	-.51
228	304	H 2	300.	100.	645.	-1162.3	-.19	-.26	-.17
300	331	H 2	375.	75.	50.	788.2	.08	.07	.00
331	310	H 2	250.	70.	2415.	377.3	.09	.15	.37
302	303	H 2	200.	75.	700.	-527.6	-.19	-.74	-.52

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE E)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
303	309	H 2	200.	75.	800.	-434.2	-.16	-.51	-.41
304	308	H 2	550.	115.	275.	2538.5	.12	.04	.01
304	309	H 2	300.	100.	420.	586.0	.10	.07	.03
305	306	H 2	375.	75.	600.	-1009.6	-.11	-.11	-.07
305	311	H 2	200.	70.	1415.	242.5	.09	.20	.28
305	321	H 2	375.	75.	1475.	648.1	.07	.05	.07
306	307	H 2	375.	75.	700.	-1216.3	-.13	-.16	-.11
306	322	H 2	150.	65.	850.	63.0	.04	.08	.06
308	326	H 2	350.	115.	1100.	2391.0	.29	.36	.39
311	312	H 2	200.	70.	2485.	48.6	.02	.01	.03
312	323	H 2	400.	110.	1050.	675.7	.06	.02	.02
312	324	H 2	200.	70.	1600.	229.0	.08	.18	.29
313	314	H 2	200.	100.	950.	239.7	.09	.10	.10
313	330	H 2	400.	110.	1900.	-1379.1	-.13	-.07	-.14
330	323	H 2	400.	110.	1450.	696.3	.06	.02	.03
314	315	H 2	200.	100.	1000.	267.7	.10	.12	.12
317	324	H 2	200.	70.	1365.	-242.9	-.09	-.20	-.27
320	328	H 2	150.	85.	1100.	310.0	.20	.89	.97
302	328	H 2	150.	85.	1150.	258.0	.17	.63	.73
328	329	H 2	150.	65.	1100.	-209.6	-.14	-.71	-.78
301	329	H 2	150.	85.	550.	-53.1	-.03	-.03	-.02
302	320	H 2	150.	115.	1500.	-170.0	-.11	-.17	-.25
320	318	H 2	200.	75.	800.	261.0	.10	.20	.16
326	320	H 2	350.	115.	1200.	1968.3	.24	.25	.30
320	318	H 2	350.	115.	1400.	1289.1	.16	.11	.16
327	319	H 2	350.	115.	600.	-666.6	-.08	-.03	-.02
350	351	H 2	200.	115.	4015.	410.9	.15	.21	.84
350	353	H 2	75.	115.	5000.	28.3	.07	.18	.88
351	352	H 2	150.	65.	985.	42.1	.03	.04	.04
315	316	H 2	200.	75.	3600.	204.5	.08	.13	.46
103	203	H 2	525.	110.	60.	-1062.9	-.06	-.01	.00
106	115	H 2	450.	110.	20.	15904.0	1.16	3.81	.08
115	120	H 2	500.	110.	1000.	5824.3	.34	.36	.36
120	128	H 2	400.	110.	400.	2807.8	.26	.27	.11
128	127	H 2	400.	110.	700.	2790.6	.26	.27	.19
127	124	H 2	400.	110.	1800.	2393.5	.22	.20	.37
124	155	H 2	300.	110.	1300.	1233.4	.20	.24	.31
155	123	H 2	200.	110.	1500.	509.0	.19	.34	.51
115	141	H 2	400.	110.	700.	3728.0	.34	.46	.32
141	147	H 2	400.	110.	600.	3369.6	.31	.38	.23
130	147	H 2	400.	110.	300.	-2265.3	-.21	-.18	-.06
130	131	H 2	300.	110.	1000.	1440.2	.24	.32	.32
147	148	H 2	200.	110.	1600.	210.6	.08	.07	.11

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE E)

CONNECTOR RESULTS.

NODE	NODE	TYP	DIAM	CVALUE	LENGTH	FLOW.	VEL.	GRA.	LOSS
			=MM=		===M==	=CUM/D=	=M/S=	=1/1000=	==M=
148	149	H 2	200.	110.	400.	-532.1	-.20	-.37	-.15
304	326	H 2	500.	110.	1100.	5940.2	.35	.37	.41
326	320	H 2	500.	110.	1200.	4810.3	.28	.25	.30
320	318	H 2	400.	110.	1200.	1904.0	.18	.13	.16
318	329	H 2	400.	110.	300.	1875.4	.17	.13	.04
329	301	H 2	400.	110.	500.	954.4	.09	.04	.02
307	306	H 2	500.	110.	700.	3801.5	.22	.16	.11
306	305	H 2	500.	110.	600.	3155.7	.19	.11	.07
305	311	H 2	400.	110.	1600.	2207.6	.20	.18	.28
311	330	H 2	400.	110.	100.	2075.7	.19	.16	.02
306	322	H 2	200.	110.	500.	302.7	.11	.13	.06
323	324	H 2	250.	110.	1300.	695.2	.16	.20	.26
400	203	H 2	900.	110.	2800.	16903.2	.31	.15	.41
209	235	H 2	600.	110.	400.	5757.9	.24	.14	.06
235	218	H 2	500.	110.	2900.	3220.7	.19	.12	.34
218	214	H 2	500.	110.	2100.	2719.2	.16	.09	.18
313	314	H 2	300.	110.	500.	1083.4	.18	.19	.10
314	315	H 2	300.	110.	1000.	855.3	.14	.12	.12
315	316	H 2	300.	110.	3600.	871.1	.14	.13	.46
350	351	H 2	250.	110.	4015.	706.8	.17	.21	.84
351	352	H 2	250.	110.	985.	273.3	.06	.04	.04
352	353	H 2	250.	110.	100.	40.5	.01	.00	.00
203	236	H 2	600.	110.	1100.	8023.2	.33	.26	.29
236	219	H 2	600.	110.	4100.	7675.3	.31	.24	1.00
219	304	H 2	600.	110.	2500.	8893.4	.36	.32	.80
218	219	H 2	400.	110.	3200.	1218.1	.11	.06	.19
101	112	H 2	825.	115.	100.	6366.7	.14	.03	.00
102	113	H 2	800.	115.	100.	11386.7	.26	.11	.01
109	206	H 2	400.	110.	100.	466.7	.04	.01	.00
220	222	H 2	300.	110.	100.	1586.0	.26	.39	.04
307	234	H 2	300.	110.	100.	1081.7	.18	.19	.02
307	325	H 2	400.	110.	100.	1893.2	.17	.13	.01
318	329	H 2	150.	65.	500.	63.8	.04	.08	.04
300	319	H 2	350.	115.	150.	757.4	.09	.04	.01
103	204	H 2	525.	115.	100.	87.7	.00	.00	.00
103	114	H 2	525.	115.	100.	836.6	.04	.01	.00
214	232	H 2	300.	110.	100.	1245.7	.20	.25	.02
214	215	H 2	400.	110.	100.	2187.2	.20	.17	.02
303	326	H 2	250.	110.	200.	-633.6	-.15	-.17	-.03

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE E)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
100	7.700	70.200	-58325.340
200	9.400	135.900	-45554.550
300	36.600	75.100	-1545.661
350	60.000	98.500	-1145.960
400	.000	100.000	-16903.250
401	28.630	128.630	42198.610
101	31.965	69.965	-1.616
102	31.953	69.953	616.983
103	41.596	99.596	138.659
104	46.864	69.864	-.270
105	49.684	69.684	185.497
106	54.215	69.215	-.120
107	51.967	68.967	2328.078
108	43.096	69.696	840.181
109	31.550	69.550	679.151
110	49.686	69.686	1464.748
111	36.633	69.933	1534.598
112	31.962	69.962	286.978
113	31.942	69.942	286.844
114	41.596	99.596	140.456
115	54.140	69.140	3317.522
116	64.051	67.051	496.822
117	49.622	69.622	205.014
118	46.720	69.720	222.269
120	56.290	68.790	990.785
121	59.661	67.661	2782.214
122	63.395	67.395	198.735
123	58.328	67.328	596.193
124	64.136	68.136	298.077
125	63.344	67.344	298.094
126	63.191	67.691	198.730
127	60.496	68.496	198.698
128	54.682	68.682	692.862
129	61.874	67.874	692.840
130	52.542	68.542	889.314
131	59.725	68.225	1580.979
132	64.854	67.854	.042
133	61.800	67.800	1299.765
134	55.314	67.814	1723.935
135	57.773	67.773	1256.278
136	56.644	67.144	592.921
137	60.932	66.932	942.851
138	59.798	66.798	471.892
139	60.334	66.834	123.397
140	61.795	66.795	76.608
141	53.322	68.822	395.263
142	51.535	99.535	696.148
143	42.772	68.772	3136.172
144	56.792	67.292	2354.617
145	63.414	66.914	71.122

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE E)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
146	62.140	68.140	400.393
147	52.596	68.596	922.463
148	45.492	68.492	1107.049
149	47.636	68.636	-.003
150	57.299	69.299	922.559
151	64.375	67.375	-.031
152	62.374	67.374	-.009
153	61.315	67.315	298.087
154	61.300	67.300	198.738
155	61.827	67.827	695.562
156	60.328	66.828	332.958
157	60.312	66.812	.008
158	60.305	66.805	270.634
159	61.795	66.795	135.315
160	57.809	67.809	.178
161	60.185	69.185	.001
162	65.507	68.507	298.095
201	40.389	128.889	739.719
202	40.392	128.892	565.534
203	41.597	99.597	434.781
204	41.596	99.596	87.670
205	47.058	99.558	96.046
206	35.549	69.549	466.688
207	46.907	99.407	452.460
208	33.901	69.401	675.616
209	48.904	98.904	129.976
210	65.304	135.804	129.997
211	75.232	131.732	1884.854
212	45.306	98.306	332.763
213	44.242	98.242	82.746
214	49.629	98.329	269.557
215	49.612	98.312	269.543
216	60.422	98.122	777.361
217	62.285	97.585	506.811
218	55.509	98.509	308.567
219	72.825	98.325	.017
220	49.063	69.063	264.135
221	42.772	68.772	1433.826
222	49.025	69.025	264.189
223	48.118	68.118	1773.968
224	52.050	68.050	983.302
225	56.780	68.280	1363.064
226	51.658	68.158	1033.510
228	63.372	97.372	1162.304
229	51.543	99.543	609.846
230	54.402	99.402	683.931
231	41.123	69.123	2394.022
232	49.305	98.305	405.324
233	53.734	133.734	36.009
234	47.161	68.661	318.729

DAR-ES-SALAAM NETWORK ANALYSIS - MINIMUM DEMAND IN 1995 (CASE E)

NODE RESULTS.

NODE	REL. HEAD(M.)	HEAD(M.)	SUPPLY(CUM./DAY.-VE IN)
235	48.848	98.848	-.015
236	49.310	99.310	.009
237	46.776	68.776	.330
238	41.805	98.305	83.345
239	28.896	128.896	-.172
240	55.304	68.304	112.327
241	55.102	68.102	-.005
301	64.128	96.628	1007.499
302	70.597	96.597	439.548
303	67.103	97.103	540.201
304	64.236	97.536	170.201
305	51.001	68.501	1067.123
306	50.068	68.568	486.819
307	49.680	68.680	230.896
308	62.924	97.524	147.493
309	62.706	97.506	151.795
310	52.237	74.737	377.328
311	51.725	68.225	325.844
312	60.201	68.201	429.691
313	52.573	68.073	56.028
314	59.980	67.980	200.117
315	57.859	67.859	47.476
316	54.909	67.409	1075.506
317	52.154	67.654	242.898
318	56.185	96.685	1514.954
319	36.594	75.094	90.857
320	62.842	96.842	2844.409
321	47.428	68.428	648.064
322	45.005	68.505	365.709
323	55.681	68.181	676.799
324	51.421	67.921	681.304
325	49.667	68.667	800.119
326	62.137	97.137	919.042
327	35.074	75.074	666.568
328	69.885	95.885	777.656
329	64.646	96.646	722.107
330	51.210	68.210	.227
331	38.096	75.096	410.911
351	39.172	97.672	802.188
352	36.137	97.637	274.990
353	36.137	97.637	68.782

D.

DATA TO CHAPTER 6

1. EFFECT OF METER INSTALLATION ON WATER CONSERVATION

TABLED.1.1 FLUCTUATION OF CONSUMPTION BY METER INSTALLATION (HOUSE-HIGH)

Sr. No.	House Number	Street Name	Meter Size	No. of people in house hold	Monthly Average Water Consumption(m3/day)				
					Until September	October	November	December	January
Kinondoni									
34	145	Ada Estate	3/4"	10	5.60	5.42	6.68	6.34	6.25
35	34	Ada Estate	3/4"	3	2.59	2.25	1.94	1.51	2.17
36	33	Ada Estate	3/4"	5	1.60	1.92	1.50	1.59	1.59
37	24	K. Shamba	3/4"	14	3.33	3.34	2.38	2.19	2.61
38	23	K. Shamba	3/4"	7	5.01	3.81	1.94	1.45	1.63
39	SIDA C	Ada Estate	3/4"	2	0.43	0.55	0.34	0.30	0.42
41	63	Ada Estate	3/4"	8	1.17	0.43	1.43	1.51	1.70
42	60	Ada Estate	3/4"	9	1.24	1.45	1.20	2.24	1.95
43	58	Ada Estate	3/4"	3	0.67	0.62	0.91	0.86	0.70
		No. of House =	9	61	21.6	19.8	18.3	18.0	19.0

TABLED.1.2 FLUCTUATION OF CONSUMPTION BY METER INSTALLATION (HOUSE-MIDDLE)

Sr. No.	House Number	Street Name	Meter Size	No. of people in house hold	Monthly Average Water Consumption(m3/day) Until September	October	November	December	January
City Centre									
2	1287/84	Zaramo	3/4"	3	0.39	0.37	0.32	0.35	0.28
3	927/17	Zanaki	3/4"	5	0.68	0.65	0.52	0.88	0.63
4		Market	3/4"	2	0.12	0.10	0.10	0.09	0.08
5	1311/78	Jamhuri	3/4"	4	0.98	0.99	1.01	1.09	1.02
6	819/82	Libya	3/4"	2	0.46	0.45	0.41	0.55	0.50
7	727/797	Market/Asia	3/4"	6	0.92	0.94	0.79	1.04	0.92
8		Mansfield	3/4"	3	0.26	0.34	0.27	0.29	0.16
9	724/11	Mkwepu	3/4"	8	0.99	0.89	0.89	0.51	0.45
10	705/24	Mkwepu	3/4"	3	0.91	1.27	1.55	1.24	1.23
11	149	Indira Gandhi	3/4"	6	3.22	4.48	4.07	2.17	1.89
12	1017	Kitumbini	3/4"	4	1.21	1.19	1.23	2.06	1.77
13	1017(02	Kitumbini	3/4"	4	1.82	1.89	1.91	2.29	2.05
14	1574	Mosque	3/4"	5	1.07	1.58	2.14	1.19	0.80
15	Karim 3	Mshihiri	3/4"	3	0.70	0.91	1.66	1.18	1.21
16	Karim B	Mshihiri/Morogoro	3/4"	1	0.24	0.29	0.24	0.26	0.22
17	2201/14	Libya/Fupi	3/4"	2	0.49	0.42	0.38	0.36	0.32
19	2119	Jamati	3/4"	3	1.58	0.99	0.54	0.73	1.14
20	1973/10	India	3/4"	3	0.52	0.47	0.39	0.47	0.41
21	9/A	India	3/4"	5	0.46	0.41	0.37	0.49	0.44
22	465-141	Aggrey/Indira Gandh	3/4"	4	1.80	1.09	0.84	0.88	0.84
23	154	Indira Gande	3/4"	11	4.69	4.64	4.81	4.92	4.85
		No. of House =	21	87	23.5	24.4	24.5	23.0	21.2

TABLED.1.3 FLUCTUATION OF CONSUMPTION BY METER INSTALLATION (HOUSE-LOW)

Sr. No.	House Number	Street Name	Meter Size	No. of people in house hold	Monthly Average Water Consumption(m3/day)				
					Until September	October	November	December	January
Ilala									
24	29	Moshi	3/4"	18	1.30	1.08	0.23	0.30	0.26
25	90	Tanga	3/4"	11	1.04	1.03	1.28	1.66	0.93
26	28	Lindi	1/2"	10	1.30	1.60	1.80	1.58	1.48
27	20	Saadani	3/4"	8	1.37	0.97	0.68	0.80	1.08
28	19	Saadani	3/4"	7	1.36	1.82	2.03	2.01	1.53
29	24	Songea	3/4"	7	1.42	1.31	1.23	1.30	1.19
30	10	Nzasa	3/4"	6	3.03	2.69	2.60	1.76	2.30
Kariakoo									
31	42	Swahili	3/4"	10	1.61	1.84	2.06	2.00	1.83
32	A2/81	Matumbi	1/2"	10	3.15	3.78	2.61	3.46	3.24
33	NHC F61	Nyati	3/4"	5	0.95	0.93	0.75	0.97	0.67
44	B 206	Matombo Street	3/4"	10	1.72	1.64	1.43	1.63	1.48
45	E 8	Matombo Street	3/4"	9	1.03	0.95	1.24	1.26	1.23
47	B 300	B (Area)	3/4"	3	1.78	2.18	3.04	3.04	3.71
Mikocheni									
48	Plot 34	Block A	1/2"	10	1.23	1.26	1.18	1.05	1.11
49	Plot 34	Mikocheni A	3/4"	7	0.83	0.84	1.04	1.28	1.81
50	Plot 41	Block A	3/4"	12	1.36	1.32	1.46	1.53	1.51
51	Plot 25	Block A	3/4"	7	0.38	0.36	0.72	0.44	0.42
53	Plot 32	Block A	3/4"	6	0.51	0.80	0.86	0.96	0.96
54	Plot 28	Block A	3/4"	5	0.52	0.58	0.63	0.78	0.49
57	Plot 30	Block A	3/4"	6	2.82	1.12	1.60	1.11	0.95
58	Plot 31	Block A	3/4"	8	0.74	0.71	0.92	0.81	0.53
59	Plot 35	Block A	3/4"	6	1.21	1.27	1.10	1.05	1.14
60	Plot 35	Block A	3/4"	10	2.73	3.39	4.03	4.38	4.67
		No. of House =	23	191	33.4	33.5	34.5	35.1	34.5

TABLED.1.4 FLUCTUATION OF CONSUMPTION BY METER INSTALLATION (YARD) (1)

Sr. No.	House Number	Street Name	Meter Size	No. of people in house hold	Monthly Average Water Consumption(m3/day)				
					Until September	October	November	December	January
Ilala									
1	32	Tabora	1/2"	8	0.82	0.94	0.93	0.87	0.79
2	40	Nzasa	3/4"	17	1.04	1.04	1.13	1.34	0.86
3	69	Bukoba	3/4"	8	0.38	0.44	0.53	0.49	0.42
4	33	Arusha	3/4"	13	1.29	1.07	1.68	1.36	0.80
6	28	Nzasa	3/4"	9	0.58	0.69	0.87	0.89	1.11
7	63	Moshi	3/4"	15	1.58	2.02	2.10	1.86	1.69
8	5	Moshi/	1/2"	10	0.27	0.18	0.06	0.15	0.06
9	27	Iringa/Kilwa	1/2"	7	1.07	1.09	0.92	1.47	1.46
10	21	Aangani	3/4"	10	0.82	0.94	1.01	0.75	0.78
11	17	Arusha	3/4"	10	1.31	0.97	1.32	0.93	1.57
Kariakoo									
12	44	Nyamwezi	1/2"	19	3.05	1.84	1.39	1.84	0.60
13	10	Swahili/Nyati	1/2"	20	0.99	1.25	1.27	1.85	1.33
14	16	Faru	3/4"	15	0.78	0.84	0.95	0.92	0.69
15	27	Swahili	1/2"	10	1.32	1.25	1.05	1.14	1.08
16	22	Kongo	3/4"	25	1.67	1.56	1.47	2.22	2.61
17	41	Nyamwezi	1/2"	11	1.12	0.96	1.53	1.16	0.87
18	11	Jangwani	3/4"	9	0.50	0.63	0.93	0.57	0.53
19	31	Kongo	3/4"	10	1.34	1.36	1.58	1.27	1.18
20	16	Swahili	3/4"	25	2.24	2.52	2.22	2.64	2.47
21	37	Nyamwezi	1/2"	4	0.50	0.62	0.58	0.72	0.56
23	4	Mbuni	1/2"	7	0.89	1.09	1.13	1.18	0.97
24	8	Matumbi	1/2"	20	0.98	0.92	0.88	1.00	0.67
25	52	Kongo	3/4"	13	0.32	0.42	0.39	0.43	0.39
26	29	Kongo	3/4"	6	0.97	1.25	1.13	1.75	0.93
44	5	Mhoro	3/4	30	1.26	1.51	1.36	1.20	1.07
45	8	Mhoro	3/4	8	0.49	0.58	0.84	0.39	0.50
46	6	Mhoro	3/4	10	0.63	0.66	0.63	0.69	0.50
47	18	Jangwani	3/4	10	0.70	0.57	0.55	1.03	0.75
48	18	Mclcrl	3/4	18	2.44	2.17	1.35	2.55	2.09
49	7	Mhoro	3/4	11	1.37	1.37	0.84	0.89	0.77
50	15	Jangwani	3/4	15	1.75	1.95	1.75	1.97	1.34
51	42	Congo	3/4	2	0.82	0.81	0.44	0.51	0.54
52	4	Mhoro	3/4	20	1.86	2.32	2.04	2.09	1.53
53	17	Jangwani	3/4	13	1.18	1.27	1.03	0.81	0.71
54	44	Congo	3/4	21	0.95	0.72	0.83	1.16	0.89

TABLED.1.4 FLUCTUATION OF CONSUMPTION BY METER INSTALLATION (YARD) (2)

Sr. No.	House Number	Street Name	Meter Size	No. of people in house hold	Monthly Average Water Consumption(m3/day) Until September	October	November	December	January
Magomeni									
27	A 156	Kagera Street	3/4"	13	0.91	0.99	0.91	0.98	0.67
28	D 18	Kapera Street	3/4"	26	3.97	3.81	4.11	4.49	5.04
29	G 16	Chidia Street	3/4"	12	0.68	0.60	0.74	0.61	0.62
30	G 40	Chidia Street	3/4"	18	0.67	0.80	0.93	0.90	1.16
31	G 17	Matombo Street	3/4"	10	1.32	1.19	1.21	0.86	1.18
33	B 204	Matombo Street	3/4"	11	1.04	1.12	1.04	1.68	1.00
35	305	Mkwawa	1/2"	10	0.53	0.50	0.48	0.50	0.74
36	E 14	Chole Street	3/4"	15	1.15	1.37	1.47	1.14	1.33
37	F 26	Mengo Street	3/4"	18	0.75	0.75	0.93	0.49	1.33
39	G 41	Matombo Street	3/4"	16	1.05	1.25	1.35	1.33	1.44
41	B 44	Matombo Street	3/4"	23	1.19	1.04	1.10	1.07	1.37
55	1	Gombero	3/4	8	0.86	0.67	0.97	1.02	1.09
56	153	Gombero	3/4	10	1.59	1.73	2.01	2.18	2.63
57	27	Gombero	3/4	20	1.69	1.68	1.67	2.34	1.73
58	15	Gombero	3/4	19	1.29	0.96	1.07	0.89	1.35
59	11	Gombero	3/4	14	1.09	1.23	1.52	1.56	1.29
60	30	Matombo	1/2	16	1.12	1.24	1.43	0.98	1.38
61	21B	Gombero	1/2	8	2.96	2.89	3.10	1.66	2.77
62	156	Mkwawa	3/4	28	2.53	2.90	3.24	3.15	3.21
63	17	Gombero	3/4	13	0.91	1.05	1.05	0.59	1.12
64	9	Gombero	1/2	11	0.73	0.67	0.86	0.70	0.88
65	19	Gombero	3/4	20	0.74	0.77	1.05	1.27	1.05
66	13	Gombero	3/4	16	1.03	1.07	1.37	1.17	1.33
67	333	Gombero	3/4	8	0.36	0.27	0.18	0.25	0.37
68	305	Gombero	3/4	12	0.51	0.49	0.47	0.52	0.62
69	7	Gombero	1/2	16	1.27	1.26	1.80	2.11	1.81
Mikocheni									
43	Plot 24 Block A		1/2"	9	0.70	0.78	0.66	0.62	0.64
		No. of House =	62	859	71.9	72.9	75.4	77.1	74.2