REPUBLIC OF THE PHILIPPINES

NATIONAL POWER CORPORATION

FEASIBILITY REPORT ON AGOS RIVER HYDROPOWER PROJECT

APPENDIX F
COMPUTER OUTPUTS

MARCH 1981

JAPAN INTERNATIONAL COOPERATION AGENCY

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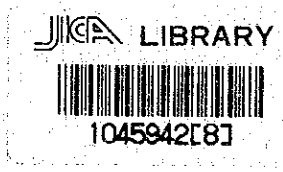
FEASIBILITY REPORT
ON
AGOS RIVER HYDROPOWER PROJECT



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AGOS RIVER HYDROPOWER PROJECT

FEASIBILITY REPORT

Main Report

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APPENDIX F COMPUTER OUTPUTS

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ABBREVIATIONS AND UNIT

JICA	Japan International Cooperation Agency
NAPOCOR (NPC)	National Power Corporation of Philippines
NK	Nippon Koei Co., Ltd.
PICOREM	Presidencial Inter-Agency Committee for re-study of the Marikina River Multi-purpose Project
NEA	National Electrification Administration
MOE	Ministry of Energy
MERALCO (MECO)	Manila Electric Company
MWSS	Metropolitan Waterworks and Sewerage System
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
BPW	Bureau of Public Works
ECAFE	Economic Commission for Asia and the Far East
CDM	Camp, Dresser and McKee International, Inc.
M + E (M & E)	Metcalf and Eddy, Ltd.
$	United States Dollars
₱ (P)	Philippines Pesos
¥	Japanese Yen
FC	Foreign Currency
LC	Local Currency
EIRR	Economic Internal Rate of Return
FIRR	Financial Internal Rate of Return
O & M	Operation and Maintenance
L.F.	Load Factor

AMSL	Above mean sea level
EL.	Elevation in m AMSL
W.L. (WL)	Water level in m AMSL
H.W.L. (HWL)	High water level in m AMSL
L.W.L. (LWL)	Low water level in m AMSL
F.W.L. (FWL)	Flood water level in m AMSL
D.F.W.L. (DFWL)	Design flood water level in m AMSL
P.M.F.W.L. (PMFWL)	Probable maximum flood water level in m AMSL
mm	millimeter(s)
cm	centimeter (s)
m	meter(s)
km	kilometer(s)
m^3	cubic meter
km^2	square kilometer(s)
ha	hectare
m^3/sec (cms)	cubic meter per second
m^3/sec.month	Water volume equivalent to the discharge of 1 m^3/sec for the duration of 1 month
kg	kilogram
t (ton)	metric ton
l	liter
%	percent
°C	centigrade
°	degree
N	north
rpm	revolution per minute

Hz	Hertz (cycles per second)
kcal	kilocalorie
kV	kilovolt
kVA	kilovolt ampere
MVA	megavolt ampere
W	Watt
kW	kilowatt
MW	megawatt
kWh	kilowatt hour
MWh	megawatt hour
GWh	gigawatt hour
V	volt
BTU	British Thermal Unit

CHAPTER 1

STABILITY ANALYSIS OF AGOS DAM

Case No.	Condition	Slope
1-1	Reservoir water surface at H.W.L. and steady seepage in dam	Upstream & downstream
1-2	Immediately after completion (no storage but pore water pressure developed)	Upstream
1-3	Rapid reservoir drawdown from H.W.L. to L.W.L. and unsteady seepage in dam	Upstream
1-4	Reservoir water surface at probable maximum water level and steady seepage in dam	Upstream

*** CASE 1 NORMAL HIGH WATER LEVEL / UPSTREAM ***

CENTER X	CENTER Y	SF	RADIUS	SF-E	RADIUS	CENTER X	CENTER Y	SF	RADIUS	SF-E	RADIUS
-50.0	-20.0	2.72	48.0	1.40	48.0	-100.0	-20.0	2.75	68.0	1.39	68.0
-150.0	-20.0	2.71	88.0	1.38	88.0	-200.0	-20.0	2.77	108.0	1.27	192.0
-250.0	-20.0	3.08	192.0	1.25	192.0	-300.0	-20.0	3.13	192.0	1.26	192.0
-350.0	-20.0	2.77	160.0	1.23	164.0	-50.0	-70.0	3.08	98.0	1.63	98.0
-100.0	-70.0	2.65	118.0	1.36	118.0	-150.0	-70.0	2.67	138.0	1.36	138.0
-200.0	-70.0	2.79	158.0	1.28	218.0	-250.0	-70.0	2.81	242.0	1.20	242.0
-300.0	-70.0	2.94	242.0	1.23	242.0	-50.0	-120.0	4.87	148.0	2.07	148.0
-100.0	-120.0	2.78	168.0	1.46	168.0	-150.0	-120.0	2.64	188.0	1.35	188.0
-200.0	-120.0	2.76	208.0	1.36	266.0	-250.0	-120.0	2.70	286.0	1.20	284.0
-300.0	-120.0	2.83	290.0	1.21	292.0	-50.0	-170.0	7.84	198.0	2.52	198.0
-100.0	-170.0	3.53	218.0	1.69	218.0	-150.0	-170.0	2.69	238.0	1.41	238.0
-200.0	-170.0	2.73	258.0	1.39	258.0	-250.0	-170.0	2.27	324.0	1.25	330.0
-300.0	-170.0	2.74	342.0	1.20	342.0	-50.0	-220.0	12.91	248.0	2.94	248.0
-100.0	-220.0	4.65	268.0	1.95	268.0	-150.0	-220.0	3.12	288.0	1.55	288.0
-200.0	-220.0	2.73	308.0	1.41	308.0	-250.0	-220.0	2.98	364.0	1.32	376.0
-50.0	-270.0	23.32	298.0	3.32	298.0	-100.0	-270.0	6.15	318.0	2.22	318.0
-150.0	-270.0	3.77	338.0	1.73	338.0	-200.0	-270.0	3.02	358.0	1.50	358.0
-250.0	-270.0	2.92	390.0	1.42	422.0	-50.0	-320.0	56.55	348.0	3.67	348.0
-100.0	-320.0	8.16	368.0	2.48	368.0	-150.0	-320.0	4.59	388.0	1.92	388.0
-200.0	-320.0	3.46	408.0	1.63	408.0	-250.0	-320.0	2.81	410.0	1.43	410.0
-50.0	-370.0	*****	542.0	3.69	542.0	-100.0	-370.0	10.98	418.0	2.72	418.0
-150.0	-370.0	5.59	438.0	2.11	438.0	-200.0	-370.0	4.02	458.0	1.78	458.0

MINIMUM VALUE OF SF 2.6371

MINIMUM VALUE OF SF-E 1.1979

Note: Sliding direction, when the safety factor SF is expressed as *****, is from the upstream side to downstream side.

*** CASE 1 NORMAL HIGH WATER LEVEL / DOWNSTREAM ***

CENTER X	CENTER Y	SF	RADIUS	SF-E	RADIUS	CENTER X	CENTER Y	SF	RADIUS	SF-E	RADIUS
50.0	-20.0	2.21	48.0	1.55	48.0	100.0	-20.0	1.98	74.0	1.39	74.0
150.0	-20.0	1.96	102.0	1.32	172.0	200.0	-20.0	1.82	164.0	1.24	168.0
250.0	-20.0	1.79	160.0	1.24	162.0	50.0	-70.0	2.69	98.0	1.70	104.0
100.0	-70.0	2.06	124.0	1.45	124.0	150.0	-70.0	1.93	152.0	1.31	242.0
200.0	-70.0	1.82	226.0	1.24	230.0	250.0	-70.0	1.80	210.0	1.25	216.0
50.0	-120.0	4.41	150.0	1.90	292.0	100.0	-120.0	2.44	174.0	1.51	292.0
150.0	-120.0	2.00	202.0	1.33	292.0	200.0	-120.0	1.89	262.0	1.28	274.0
250.0	-120.0	1.81	262.0	1.25	268.0	50.0	-170.0	5.02	342.0	1.94	342.0
100.0	-170.0	2.78	224.0	1.56	342.0	150.0	-170.0	2.23	252.0	1.38	342.0
200.0	-170.0	1.96	278.0	1.31	324.0	50.0	-220.0	5.27	392.0	1.96	392.0
100.0	-220.0	3.15	274.0	1.61	392.0	150.0	-220.0	2.42	302.0	1.43	392.0
200.0	-220.0	2.09	362.0	1.35	374.0	50.0	-270.0	5.61	442.0	1.99	442.0
100.0	-270.0	3.48	442.0	1.67	442.0	150.0	-270.0	2.63	352.0	1.48	442.0
200.0	-270.0	2.21	410.0	1.40	440.0	50.0	-320.0	5.20	492.0	1.93	492.0
100.0	-320.0	3.73	492.0	1.73	492.0	150.0	-320.0	2.85	402.0	1.54	492.0
200.0	-320.0	2.35	460.0	1.44	486.0	50.0	-370.0	5.24	542.0	1.92	542.0
100.0	-370.0	4.02	542.0	1.79	542.0	150.0	-370.0	3.06	532.0	1.59	542.0

MINIMUM VALUE OF SF 1.7911

MINIMUM VALUE OF SF-E 1.2401

Case No. 1-2
Case No. 1-3

*** CASE 2 IMMEDIATELY AFTER COMPLETION , UPSTREAM ***

CENTER X	CENTER Y	SF	RADIUS	SF-E	RADIUS	CENTER X	CENTER Y	SF	RADIUS	SF-E	RADIUS
-50.0	-20.0	2.82	48.0	2.26	48.0	-100.0	-20.0	2.75	68.0	2.22	68.0
-150.0	-20.0	2.71	88.0	2.07	192.0	-200.0	-20.0	3.07	178.0	2.26	186.0
-250.0	-20.0	3.07	192.0	2.24	192.0	-300.0	-20.0	3.13	192.0	2.27	192.0
-350.0	-20.0	2.76	160.0	2.11	162.0	-50.0	-70.0	2.83	98.0	2.24	98.0
-100.0	-70.0	2.68	118.0	2.17	118.0	-150.0	-70.0	2.67	138.0	2.14	234.0
-200.0	-70.0	2.72	242.0	2.03	242.0	-250.0	-70.0	2.81	242.0	2.10	242.0
-300.0	-70.0	2.94	240.0	2.17	242.0	-50.0	-120.0	3.38	148.0	2.54	148.0
-100.0	-120.0	2.69	168.0	2.17	168.0	-150.0	-120.0	2.65	188.0	2.15	188.0
-200.0	-120.0	2.70	276.0	2.03	290.0	-250.0	-120.0	2.66	292.0	2.01	292.0
-300.0	-120.0	2.82	290.0	2.11	292.0	-50.0	-170.0	4.10	198.0	2.93	198.0
-100.0	-170.0	2.90	218.0	2.28	218.0	-150.0	-170.0	2.65	238.0	2.15	238.0
-200.0	-170.0	2.79	316.0	2.10	328.0	-250.0	-170.0	2.59	334.0	1.97	340.0
-300.0	-170.0	2.74	338.0	2.07	342.0	-50.0	-220.0	4.86	248.0	3.29	248.0
-100.0	-220.0	3.24	268.0	2.48	268.0	-150.0	-220.0	2.76	288.0	2.20	288.0
-200.0	-220.0	2.77	310.0	2.19	372.0	-250.0	-220.0	2.61	376.0	1.99	378.0
-50.0	-270.0	5.63	298.0	3.63	298.0	-100.0	-270.0	3.62	318.0	2.69	318.0
-150.0	-270.0	2.96	338.0	2.32	338.0	-200.0	-270.0	2.84	360.0	2.26	360.0
-250.0	-270.0	2.70	424.0	2.04	426.0	-50.0	-320.0	6.41	348.0	3.95	348.0
-100.0	-320.0	4.02	368.0	2.91	368.0	-150.0	-320.0	3.20	388.0	2.46	388.0
-200.0	-320.0	2.97	410.0	2.34	410.0	-250.0	-320.0	2.81	470.0	2.11	472.0
-50.0	-370.0	7.19	398.0	4.23	398.0	-100.0	-370.0	4.43	418.0	3.11	418.0
-150.0	-370.0	3.46	438.0	2.61	438.0	-200.0	-370.0	3.15	460.0	2.44	460.0

MININUM VALUE OF SF 2.5896

MINIMUM VALUE OF SF-E 1.9705

*** CASE 3 RAPID DRAWDOWN , UPSTREAM ***.

CENTER X	CENTER Y	SF	RADIUS	SF-E	RADIUS	CENTER X	CENTER Y	SF	RADIUS	SF-E	RADIUS
-50.0	-20.0	2.82	48.0	2.14	90.0	-100.0	-20.0	2.50	78.0	1.86	126.0
-150.0	-20.0	2.37	180.0	1.61	184.0	-200.0	-20.0	2.68	192.0	1.70	192.0
-250.0	-20.0	2.90	192.0	1.74	192.0	-300.0	-20.0	3.08	192.0	1.79	192.0
-350.0	-20.0	2.74	160.0	1.72	164.0	-50.0	-70.0	3.01	98.0	2.39	98.0
-100.0	-70.0	2.45	144.0	1.86	154.0	-150.0	-70.0	2.36	138.0	1.70	212.0
-200.0	-70.0	2.33	242.0	1.56	242.0	-250.0	-70.0	2.55	242.0	1.62	242.0
-300.0	-70.0	2.86	242.0	1.72	242.0	-50.0	-120.0	3.58	148.0	2.70	148.0
-100.0	-120.0	2.61	180.0	2.01	192.0	-150.0	-120.0	2.36	190.0	1.80	216.0
-200.0	-120.0	2.32	270.0	1.59	276.0	-250.0	-120.0	2.37	292.0	1.57	292.0
-300.0	-120.0	2.65	292.0	1.66	292.0	-50.0	-170.0	4.34	198.0	3.11	198.0
-100.0	-170.0	2.91	222.0	2.21	238.0	-150.0	-170.0	2.42	242.0	1.86	254.0
-200.0	-170.0	2.44	314.0	1.67	316.0	-250.0	-170.0	2.28	336.0	1.54	340.0
-300.0	-170.0	2.51	342.0	1.63	342.0	-50.0	-220.0	5.15	248.0	3.49	248.0
-100.0	-220.0	3.27	268.0	2.42	288.0	-150.0	-220.0	2.55	288.0	1.96	298.0
-200.0	-220.0	2.46	308.0	1.78	362.0	-250.0	-220.0	2.32	376.0	1.57	378.0
-50.0	-270.0	5.96	298.0	3.85	298.0	-100.0	-270.0	3.66	318.0	2.63	338.0
-150.0	-270.0	2.75	338.0	2.08	344.0	-200.0	-270.0	2.50	358.0	1.89	358.0
-250.0	-270.0	2.42	424.0	1.64	424.0	-50.0	-320.0	6.22	348.0	4.18	348.0
-100.0	-320.0	4.08	368.0	2.83	386.0	-150.0	-320.0	2.98	388.0	2.21	394.0
-200.0	-320.0	2.63	408.0	1.96	408.0	-250.0	-320.0	2.57	470.0	1.72	472.0
-50.0	-370.0	7.59	398.0	4.48	398.0	-100.0	-370.0	4.50	418.0	3.03	436.0
-150.0	-370.0	3.24	438.0	2.35	444.0	-200.0	-370.0	2.79	458.0	2.05	458.0

MININUM VALUE OF SF 2.2801

MINIMUM VALUE OF SF-E 1.5391

*** CASE 4 MAX HIGH WATER LEVEL / UPSTREAM ***

CENTER X	CENTER Y	SF	RADIUS	SF-E	RADIUS	CENTER X	CENTER Y	SF	RADIUS	SF-E	RADIUS
-50.0	-20.0	2.81	48.0	1.91	48.0	-100.0	-20.0	2.75	68.0	1.88	68.0
-150.0	-20.0	2.71	88.0	1.86	88.0	-200.0	-20.0	2.77	108.0	1.81	192.0
-250.0	-20.0	3.03	192.0	1.78	192.0	-300.0	-20.0	3.08	192.0	1.79	192.0
-350.0	-20.0	2.74	160.0	1.72	164.0	-50.0	-70.0	3.31	98.0	2.25	98.0
-100.0	-70.0	2.68	118.0	1.84	118.0	-150.0	-70.0	2.67	138.0	1.84	138.0
-200.0	-70.0	2.79	158.0	1.80	218.0	-250.0	-70.0	2.77	242.0	1.69	242.0
-300.0	-70.0	2.90	242.0	1.74	242.0	-50.0	-120.0	5.16	148.0	3.01	148.0
-100.0	-120.0	2.89	168.0	1.99	168.0	-150.0	-120.0	2.65	188.0	1.83	188.0
-200.0	-120.0	2.76	208.0	1.89	208.0	-250.0	-120.0	2.68	284.0	1.68	284.0
-300.0	-120.0	2.79	292.0	1.70	292.0	-50.0	-170.0	8.34	198.0	3.93	198.0
-100.0	-170.0	3.64	218.0	2.35	218.0	-150.0	-170.0	2.76	238.0	1.91	238.0
-200.0	-170.0	2.74	258.0	1.87	258.0	-250.0	-170.0	2.76	324.0	1.74	330.0
-300.0	-170.0	2.71	342.0	1.68	342.0	-50.0	-220.0	13.97	248.0	4.92	248.0
-100.0	-220.0	4.78	268.0	2.82	268.0	-150.0	-220.0	3.18	288.0	2.12	288.0
-200.0	-220.0	2.78	308.0	1.91	308.0	-250.0	-220.0	2.97	366.0	1.86	372.0
-50.0	-270.0	26.27	298.0	5.97	298.0	-100.0	-270.0	6.32	318.0	3.34	318.0
-150.0	-270.0	3.83	338.0	2.42	338.0	-200.0	-270.0	3.06	358.0	2.06	358.0
-250.0	-270.0	2.92	360.0	1.97	360.0	-50.0	-320.0	73.55	348.0	7.08	348.0
-100.0	-320.0	8.41	368.0	3.89	368.0	-150.0	-320.0	4.66	388.0	2.76	388.0
-200.0	-320.0	3.50	408.0	2.27	408.0	-250.0	-320.0	2.83	410.0	1.93	410.0
-50.0	-370.0	*****	542.0	8.20	542.0	-100.0	-370.0	11.36	418.0	4.46	418.0
-150.0	-370.0	5.68	438.0	3.12	438.0	-200.0	-320.0	4.06	458.0	2.52	458.0

MINIMUM VALUE OF SF 2.6477

MINIMUM VALUE OF SF-E 1.6752

Note: Sliding direction, when the safety factor SF is expressed as *****, is from the upstream side to downstream side.

CHAPTER 2

FLOOD ROUTING OF AGOS DAM

2.1 Discharge Capacity of 4 Spillway Alternatives

Case No.	Alter-native	Radial Gate			Side Overflow Weir		
		High	Wide	Nos.	Long	Hd	Nos.
2-1	I	12.5	12.0	10	-	-	-
2-2	II	12.5	12.0	6	100.0	4.5	2
2-3	III	12.5	12.0	6	185.0	3.0	2
2-4	IV	14.0	14.0	4	210.0	3.0	2

2.2 Reservoir Routing of P.M.F. for 2 Spillway Alternatives

Case No.	Alternative
2-5	I
2-6	II
2-7	III
2-8	IV

2.3 Reservoir Routing of Other Floods for Spillway Alternative IV

Case No.	Flood	Remarks
2-9	Reference Flood A (Qp = 17,700 m^3/sec)	Fletcher's Rain by Combined Unitgraph B
2-10	Reference Flood B (Qp = 15,700 m^3/sec)	P.M.P. by Combined Unitgraph A
2-11	200-Year Flood (Qp = 8,830 m^3/sec)	
2-12	Recorded Maximum (Qp = 6,490 m^3/sec)	

2.4 Incidental Gate Operation for Spillway Alternative I and IV

Case No.	Alternative	Flood
2-13	I	200-Year Flood (Qp = 8,830 m^3/sec)
2-14	II	Recorded Maximum (Qp = 6,490 m^3/sec)
2-15	IV	200-Year Flood (Qp = 8,830 m^3/sec)
2-16	IV	Recorded Maximum (Qp = 6,490 m^3/sec)

Note: All gates are assumed to be kept closed.

Case No. 2-1
Case No. 2-2

DISCHARGE CAPACITY ALTERNATIVE 1

	GATED CREST		NONGATED CREST		
WL	C	Q	C	Q	Q TOTAL
165.0	-	-	-	-	-
165.2	2.016	10948.3	-	-	10948.3
165.4	2.014	11196.7	-	-	11196.7
165.6	2.012	11446.8	-	-	11446.8
165.8	2.010	11698.3	-	-	11698.3
166.0	2.008	11951.3	-	-	11951.3
166.2	2.006	12205.9	-	-	12205.9
166.4	2.004	12461.8	-	-	12461.8
166.6	2.002	12719.3	-	-	12719.3
166.8	2.000	12978.2	-	-	12978.2
167.0	1.998	13238.4	-	-	13238.4
167.2	1.996	13500.1	-	-	13500.1
167.4	1.994	13763.2	-	-	13763.2
167.6	1.992	14027.6	-	-	14027.6
167.8	1.990	14293.4	-	-	14293.4
168.0	1.988	14560.5	-	-	14560.5
168.2	1.986	14828.9	-	-	14828.9
168.4	1.985	15098.6	-	-	15098.6
168.6	1.983	15369.6	-	-	15369.6
168.8	1.981	15641.9	-	-	15641.9
169.0	1.979	15915.4	-	-	15915.4
169.2	1.977	16190.2	-	-	16190.2
169.4	1.975	16466.2	-	-	16466.2
169.6	1.973	16743.4	-	-	16743.4
169.8	1.971	17021.8	-	-	17021.8
170.0	1.969	17301.4	-	-	17301.4
170.2	1.968	17582.2	-	-	17582.2
170.4	1.966	17864.1	-	-	17864.1
170.6	1.964	18147.2	-	-	18147.2
170.8	1.962	18431.5	-	-	18431.5
171.0	1.960	18716.8	-	-	18716.8
171.2	1.958	19003.3	-	-	19003.3
171.4	1.956	19290.9	-	-	19290.9
171.6	1.955	19579.5	-	-	19579.5
171.8	1.953	19869.3	-	-	19869.3
172.0	1.951	20160.1	-	-	20160.1
172.2	1.949	20451.9	-	-	20451.9
172.4	1.947	20744.8	-	-	20744.8
172.6	1.946	21038.8	-	-	21038.8
172.8	1.944	21333.7	-	-	21333.7
173.0	1.942	21629.7	-	-	21629.7

DISCHARGE CAPACITY ALTERNATIVE 2

	GATED CREST		NONGATED CREST		
WL	C	Q	C	Q	Q TOTAL
165.0	-	-	-	-	-
165.2	-	-	1.640	29.3	29.3
165.4	-	-	1.678	84.9	84.9
165.6	-	-	1.714	159.3	159.3
165.8	-	-	1.748	250.1	250.1
166.0	-	-	1.780	356.0	356.0
166.2	-	-	1.811	476.0	476.0
166.4	-	-	1.840	609.6	609.6
166.6	-	-	1.868	756.0	756.0
166.8	-	-	1.894	914.8	914.8
167.0	-	-	1.919	1085.7	1085.7
167.2	-	-	1.943	1268.3	1268.3
167.4	-	-	1.966	1462.1	1462.1
167.6	-	-	1.988	1667.0	1667.0
167.8	-	-	2.009	1882.6	1882.6
168.0	-	-	2.029	2108.6	2108.6
168.2	-	-	2.048	2344.7	2344.7
168.4	-	-	2.066	2590.8	2590.8
168.6	-	-	2.084	2846.5	2846.5
168.8	-	-	2.100	3111.6	3111.6
169.0	-	-	2.116	3386.0	3386.0
169.2	-	-	2.131	3669.3	3669.3
169.4	-	-	2.146	3961.3	3961.3
169.6	2.026	6525.7	2.152	4247.1	10772.8
169.8	2.025	6675.6	2.151	4524.4	11200.0
170.0	2.023	6826.6	2.150	4807.3	11633.8
170.2	2.021	6978.4	2.149	5095.6	12074.1
170.4	2.019	7131.3	2.147	5389.3	12520.6
170.6	2.017	7285.0	2.146	5688.3	12973.3
170.8	2.016	7439.7	2.145	5992.3	13432.0
171.0	2.014	7595.3	2.144	6301.5	13896.7
171.2	2.012	7751.8	2.143	6615.5	14367.3
171.4	2.010	7909.1	2.141	6934.4	14843.5
171.6	2.008	8067.4	2.140	7258.0	15325.4
171.8	2.007	8226.5	2.139	7586.4	15812.9
172.0	2.005	8386.5	2.138	7919.3	16305.8
172.2	2.003	8547.3	2.137	8256.8	16804.1
172.4	2.001	8709.0	2.136	8598.7	17307.7
172.6	2.000	8871.5	2.135	8945.0	17816.5
172.8	1.998	9034.8	2.134	9295.6	18330.4
173.0	1.996	9199.0	2.132	9650.4	18849.4

Case No. 2-3
Case No. 2-4

DISCHARGE CAPACITY ALTERNATIVE 3

WL	GATED CREST C	GATED CREST Q	NONGAYED CREST C	NONGAYED CREST Q	Q TOTAL
165.0	-	-	-	-	-
165.2	-	-	1.660	54.9	54.9
165.4	-	-	1.716	160.6	160.6
165.6	-	-	1.767	303.8	303.8
165.8	-	-	1.815	480.4	480.4
166.0	-	-	1.859	682.8	687.8
166.2	-	-	1.900	924.2	924.2
166.4	-	-	1.939	1188.3	1188.3
166.6	-	-	1.975	1478.8	1478.8
166.8	-	-	2.008	1794.6	1794.6
167.0	-	-	2.040	2135.0	2135.0
167.2	-	-	2.020	2498.9	2498.9
167.4	-	-	2.098	2885.6	2885.6
167.6	-	-	2.124	3294.4	3294.4
167.8	-	-	2.148	3724.4	3724.4
168.0	2.027	6451.1	2.172	4175.1	10626.2
168.2	2.026	6600.5	2.170	4597.1	11197.6
168.4	2.024	6751.0	2.169	5032.0	11783.0
168.6	2.022	6902.4	2.168	5479.7	12382.0
168.8	2.020	7054.7	2.167	5939.6	12994.3
169.0	2.018	7208.0	2.166	6411.4	13619.4
169.2	2.016	7362.2	2.165	6894.8	14257.0
169.4	2.015	7517.4	2.164	7389.4	14906.8
169.6	2.013	7673.4	2.163	7895.1	15568.5
169.8	2.011	7830.3	2.162	8411.6	16241.9
170.0	2.009	7988.1	2.161	8938.5	16926.7
170.2	2.008	8146.8	2.160	9475.7	17622.6
170.4	2.006	8306.4	2.159	10023.0	18329.4
170.6	2.004	8466.8	2.158	10580.1	19046.9
170.8	2.002	8628.1	2.157	11146.9	19774.9
171.0	2.001	8790.1	2.156	11723.1	20513.2
171.2	1.999	8953.1	2.155	12308.6	21261.7
171.4	1.997	9116.8	2.154	12903.3	22020.1
171.6	1.995	9281.4	2.153	13506.9	22788.2
171.8	1.994	9446.7	2.152	14119.3	23566.0
172.0	1.992	9612.9	2.151	14740.4	24353.3
172.2	1.990	9779.8	2.150	15370.0	25149.8
172.4	1.989	9947.5	2.149	16008.1	25955.6
172.6	1.987	10116.0	2.148	16654.3	26770.3
172.8	1.985	10285.2	2.147	17308.8	27594.0
173.0	1.984	10455.2	2.147	17971.2	28426.4

DISCHARGE CAPACITY ALTERNATIVE 4

WL	GATED CREST C	GATED CREST Q	NONGAYED CREST C	NONGAYED CREST Q	Q TOTAL
165.0	-	-	-	-	-
165.2	-	-	1.660	62.4	62.4
165.4	-	-	1.716	182.3	182.3
165.6	-	-	1.767	344.9	344.9
165.8	-	-	1.815	545.4	545.4
166.0	-	-	1.859	780.9	780.9
166.2	-	-	1.901	1049.4	1049.4
166.4	-	-	1.939	1349.2	1349.2
166.6	-	-	1.975	1679.1	1679.1
166.8	-	-	2.009	2037.9	2037.9
167.0	-	-	2.041	2424.5	2424.5
167.2	-	-	2.071	2837.9	2837.9
167.4	-	-	2.099	3277.3	3277.3
167.6	-	-	2.125	3741.7	3741.7
167.8	-	-	2.150	4230.4	4230.4
168.0	1.989	5834.9	2.173	4742.6	10577.5
168.2	1.987	5954.3	2.172	5222.0	11176.3
168.4	1.985	6074.4	2.171	5716.3	11790.7
168.6	1.983	6195.2	2.170	6224.9	12420.1
168.8	1.981	6316.6	2.169	6747.5	13064.1
169.0	1.979	6438.6	2.168	7283.7	13722.3
169.2	1.977	6561.3	2.167	7833.0	14394.3
169.4	1.975	6684.5	2.166	8395.2	15079.7
169.6	1.923	6808.6	2.165	8969.2	15778.3
169.8	1.971	6932.9	2.164	9556.9	16489.8
170.0	1.969	7058.0	2.163	10155.8	17213.8
170.2	1.967	7183.6	2.162	10766.4	17950.0
170.4	1.965	7309.9	2.161	11388.5	18698.3
170.6	1.963	7436.7	2.160	12021.7	19458.4
170.8	1.962	7564.1	2.159	12666.0	20230.0
171.0	1.960	7692.0	2.158	13321.0	21013.0
171.2	1.958	7820.5	2.157	13986.6	21807.2
171.4	1.956	7949.6	2.156	14662.6	22612.2
171.6	1.954	8079.2	2.155	15348.8	23428.1
171.8	1.952	8209.3	2.154	16045.1	24254.4
172.0	1.950	8340.0	2.154	16751.2	25091.3
172.2	1.948	8471.2	2.153	17467.1	25938.3
172.4	1.946	8602.9	2.152	18192.5	26795.4
172.6	1.945	8735.2	2.151	18927.3	27662.5
172.8	1.943	8867.9	2.150	19671.4	28539.4
173.0	1.941	9001.2	2.149	20424.7	29425.9

FLOOD ROUTING OF AGOS RESERVOIR : CASE 1

INFLOW=PMF , RESERVOIR EFFECT ON FLOOD LAG TIME CONSIDERED

H.W.L.=165.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
0	0	579.0	17.0	165.83	0.	579.0	579.0
1	0	1106.0	16.2	165.79	0.	1132.1	1132.1
2	0	1761.0	14.2	165.69	0.	2280.2	2280.2
3	0	2295.0	13.3	165.65	0.	2269.7	2269.7
4	0	2712.0	11.1	165.54	0.	3384.2	3384.2
5	0	3025.0	9.3	165.45	0.	3351.9	3351.9
6	0	3271.0	8.6	165.42	0.	3339.2	3339.2
7	0	3469.0	6.7	165.33	0.	4419.8	4419.8
8	0	3631.0	3.7	165.18	0.	4347.7	4347.7
9	0	3766.0	1.5	165.07	0.	4294.0	4294.0
10	0	3876.0	-0.2	164.99	0.	4254.8	4254.8
11	0	3968.0	-1.3	164.94	0.	4227.3	4227.3
12	0	4058.0	-2.1	164.90	0.	4209.6	4209.6
13	0	4158.0	-2.4	164.88	0.	4201.2	4201.2
14	0	4255.0	-2.4	164.88	0.	4201.7	4201.7
15	0	4334.0	-2.1	164.90	0.	4209.4	4209.4
16	0	4400.0	-1.5	164.93	0.	4222.5	4222.5
17	0	4467.0	-0.8	164.96	0.	4240.1	4240.1
18	0	4546.0	0.1	165.01	0.	5336.7	5336.7
19	0	4627.0	-2.4	164.88	0.	5259.7	5259.7
20	0	4690.0	-4.5	164.78	0.	5198.0	5198.0
21	0	4742.0	-6.1	164.70	0.	5148.6	5148.6
22	0	4796.0	-7.4	164.64	0.	5109.6	5109.6
23	0	4888.0	-8.3	164.59	0.	5082.2	5082.2
24	0	5050.0	-8.7	164.57	0.	5070.7	5070.7
25	0	5280.0	-8.3	164.59	0.	5080.6	5080.6
26	0	5559.0	-7.2	164.65	0.	5115.7	5115.7
27	0	5852.0	-5.2	164.75	0.	5176.5	5176.5
28	0	6128.0	-2.4	164.88	0.	5260.3	5260.3
29	0	6416.0	0.1	165.00	0.	6410.0	6410.0
30	0	6739.0	-2.1	164.90	0.	7392.5	7392.5
31	0	7082.0	-3.7	164.82	0.	7325.0	7325.0
32	0	7415.0	-3.9	164.81	0.	7314.8	7314.8
33	0	7713.0	-3.1	164.85	0.	7350.5	7350.5

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	OUTFLOW TOTAL (C.M.S.)
34	0	7959.0	-1.4	164.93	0.	7419.4	7419.4
35	0	8154.0	-0.2	164.99	0.	8541.8	8541.8
36	0	8309.0	-1.3	164.94	0.	8492.6	8492.6
37	0	8436.0	-1.7	164.92	0.	8473.7	8473.7
38	0	8542.0	-1.6	164.92	0.	8476.3	8476.3
39	0	8678.0	-1.2	164.94	0.	8498.0	8498.0
40	0	8937.0	-0.1	164.99	0.	8548.0	8548.0
41	0	9467.0	-0.6	164.97	0.	9592.2	9592.2
42	0	10298.0	0.3	165.02	0.	10721.9	10721.9
43	0	11161.0	0.4	165.02	0.	10726.3	10726.3
44	0	11879.0	3.0	165.15	0.	10884.0	10884.0
45	0	12611.0	7.5	165.37	0.	11153.4	11153.4
46	0	13624.0	13.9	165.68	0.	11543.2	11543.2
47	0	15299.0	23.4	166.14	0.	12125.4	12125.4
48	0	16960.0	36.4	166.76	0.	12926.3	12926.3
49	0	17291.0	50.0	167.40	0.	13765.8	13765.8
50	0	16539.0	60.1	167.88	0.	14394.6	14394.6
51	0	15496.0	65.3	168.12	0.	14717.0	14717.0
52	0	14018.0	65.3	168.12	0.	14719.8	14719.8
53	0	12241.0	60.1	167.88	0.	14394.0	14394.0
54	0	10620.0	50.5	167.42	0.	13794.3	13794.3
55	0	9382.0	38.1	166.84	0.	13032.4	13032.4
56	0	8426.0	24.8	166.20	0.	12208.8	12208.8
57	0	7687.0	11.3	165.55	0.	11386.5	11386.5
58	0	7088.0	-1.7	164.92	0.	10600.3	10600.3
59	0	6583.0	-13.8	164.32	0.	9861.7	9861.7
60	0	6156.0	-24.9	163.77	0.	9176.7	9176.7
61	0	5794.0	-35.0	163.26	0.	8548.8	8548.8
62	0	5478.0	-44.1	162.79	0.	7977.6	7977.6
63	0	5202.0	-52.2	162.37	0.	7460.4	7460.4
64	0	4970.0	-59.5	162.00	0.	6994.9	6994.9
65	0	4776.0	-66.0	161.66	0.	6578.9	6578.9
66	0	4600.0	-71.8	161.36	0.	6208.2	6208.2
67	0	4425.0	-76.9	161.09	0.	5875.7	5875.7
68	0	4264.0	-81.5	160.85	0.	5575.4	5575.4

FLOOD ROUTING OF AGOS RESERVOIR ; CASE 2

INFLOW=PMF , RESERVOIR EFECT ON FLOOD LAG TIME CONSIDERED

N.W.L.=165.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
0	0	400.0	22.1	166.07	400.0	0.	400.0
1	0	579.0	22.4	166.09	409.0	0.	409.0
2	0	1106.0	23.9	166.16	452.2	0.	452.2
3	0	1761.0	27.2	166.32	557.3	0.	557.3
4	0	2295.0	32.3	166.56	727.6	0.	727.6
5	0	2712.0	38.3	166.85	954.9	0.	954.9
6	0	3025.0	44.7	167.15	1223.3	0.	1223.3
7	0	3271.0	51.1	167.45	1516.0	0.	1516.0
8	0	3469.0	57.2	167.74	1817.8	0.	1817.8
9	0	3631.0	62.9	168.01	2115.3	0.	2115.3
10	0	3766.0	68.1	168.25	2401.4	0.	2401.4
11	0	3876.0	72.7	168.46	2667.4	0.	2667.4
12	0	3968.0	76.8	168.65	2909.7	0.	2909.7
13	0	4058.0	80.4	168.81	3127.8	0.	3127.8
14	0	4158.0	83.5	168.96	3326.5	0.	3326.5
15	0	4255.0	86.4	169.09	3508.2	0.	3508.2
16	0	4334.0	88.9	169.20	3671.9	0.	3671.9
17	0	4400.0	91.1	169.30	3820.0	0.	3820.0
18	0	4467.0	93.1	169.39	3950.7	0.	3950.7
19	0	4546.0	94.9	169.47	4066.8	0.	4066.8
20	0	4627.0	94.8	169.47	4064.6	1036.6	5101.2
21	0	4690.0	93.4	169.41	3969.8	1032.6	5002.3
22	0	4742.0	92.5	169.36	3908.9	1028.3	4937.2
23	0	4796.0	91.9	169.34	3873.5	1025.5	4898.9
24	0	4888.0	91.8	169.33	3861.8	1024.5	4886.3
25	0	5050.0	92.0	169.34	3880.0	1026.0	4906.0
26	0	5280.0	92.9	169.38	3936.1	1030.3	4966.4
27	0	5559.0	94.3	169.45	4034.2	1035.4	5069.6
28	0	5852.0	95.4	169.50	4108.7	2118.6	6227.3
29	0	6128.0	94.7	169.47	4059.2	2112.5	6171.7
30	0	6414.0	95.0	169.48	4081.7	2115.3	6197.0
31	0	6739.0	94.4	169.45	4041.3	3184.7	7226.0
32	0	7082.0	93.5	169.41	3976.7	3170.5	7147.1
33	0	7415.0	93.8	169.43	3999.5	3175.6	7175.1

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	TOTAL (C.M.S.)
34	0	7713.0	95.1	169.48	4083.0	3193.6	7276.6
35	0	7959.0	94.2	169.44	4025.7	4254.4	8280.2
36	0	8154.0	93.5	169.41	3980.2	4240.4	8220.6
37	0	8309.0	93.6	169.41	3983.3	4241.3	8224.6
38	0	8436.0	94.0	169.44	4014.7	4251.0	8265.7
39	0	8542.0	94.7	169.47	4061.8	4265.4	8327.2
40	0	8678.0	95.6	169.51	4120.8	5365.9	9486.7
41	0	8937.0	93.6	169.41	3982.7	5310.5	9293.2
42	0	9467.0	93.3	169.40	3966.9	5304.1	9271.0
43	0	10298.0	95.3	169.49	4097.7	5355.6	9453.3
44	0	11161.0	96.6	169.55	4184.0	6486.9	10670.9
45	0	11879.0	99.3	169.67	4347.7	6581.1	10928.7
46	0	12611.0	103.3	169.86	4603.5	6718.7	11322.3
47	0	13624.0	108.9	170.11	4958.0	6907.0	11865.0
48	0	15299.0	116.9	170.46	5482.6	7180.1	12662.6
49	0	16960.0	127.5	170.93	6197.8	7543.9	13741.7
50	0	17291.0	137.7	171.38	6906.1	7895.5	14801.6
51	0	16539.0	144.0	171.66	7350.3	8112.8	15463.2
52	0	15496.0	145.5	171.72	7462.4	8167.2	15629.6
53	0	14018.0	142.8	171.61	7266.5	8071.5	15338.0
54	0	12241.0	136.0	171.31	6787.6	7837.6	14625.2
55	0	10620.0	126.3	170.88	6114.0	7501.8	13615.8
56	0	9382.0	115.3	170.39	5374.8	7123.9	12498.8
57	0	8426.0	104.3	169.90	4663.4	6750.9	11414.3
58	0	7687.0	94.0	169.44	4013.6	6394.8	10408.4
59	0	7088.0	84.9	169.02	3411.8	6061.2	9473.0
60	0	6583.0	76.8	168.65	2912.2	5768.8	8681.0
61	0	6156.0	69.8	168.32	2495.6	5513.5	8009.1
62	0	5794.0	63.5	168.03	2146.9	5288.9	7435.8
63	0	5478.0	57.9	167.77	1853.1	5091.2	6944.3
64	0	5202.0	52.9	167.54	1603.8	4916.2	6520.0
65	0	4970.0	48.4	167.33	1391.7	4760.0	6151.8
66	0	4776.0	44.4	167.14	1211.7	4621.0	5832.7
67	0	4600.0	40.8	166.97	1058.1	4496.5	5554.6
68	0	4425.0	37.5	166.81	924.7	4383.2	5307.9

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	TOTAL (C.M.S.)
69	0	4264.0	34.4	166.67	807.0	4280.3	5087.3
70	0	4128.0	31.6	166.53	703.6	4184.5	4888.1
71	0	4015.0	29.0	166.41	613.4	4095.5	4708.9
72	0	3920.0	26.6	166.29	535.3	4017.6	4552.9
73	0	3827.0	24.4	166.19	467.4	3943.7	4411.1
74	0	3723.0	22.4	166.09	406.7	3877.0	4283.7
75	0	3610.0	20.4	165.99	350.9	3809.7	4160.7
76	0	3495.0	18.4	165.90	298.8	3746.5	4045.2
77	0	3386.0	16.4	165.80	250.2	3680.3	3930.5
78	0	3288.0	14.5	165.71	205.4	3619.3	3824.7
79	0	3184.0	12.5	165.61	164.4	3555.3	3719.7
80	0	3086.0	10.6	165.52	126.9	3495.1	3622.0
81	0	3008.0	8.7	165.43	93.6	3433.3	3526.9
82	0	2944.0	6.9	165.34	65.2	3376.4	3441.7
83	0	2892.0	5.1	165.25	41.8	3321.1	3362.8
84	0	2838.0	3.5	165.17	23.1	3268.7	3291.8
85	0	2767.0	1.8	165.09	8.8	3219.5	3228.3
86	0	2696.0	0.2	165.01	0.2	3163.6	3163.9
87	0	2639.0	-1.5	164.93	0.	3099.5	3099.5
88	0	2582.0	-3.1	164.85	0.	3036.1	3036.1
89	0	2512.0	-4.8	164.77	0.	2972.6	2972.6
90	0	2441.0	-6.4	164.68	0.	2908.3	2908.3
91	0	2385.0	-8.1	164.60	0.	2844.1	2844.1
92	0	2341.0	-9.7	164.52	0.	2781.7	2781.7
93	0	2294.0	-11.2	164.45	0.	2721.5	2721.5
94	0	2230.0	-12.8	164.37	0.	2661.9	2661.9
95	0	2165.0	-14.3	164.29	0.	2601.7	2601.7
96	0	2102.0	-15.9	164.22	0.	2541.0	2541.0
97	0	1967.0	-17.5	164.13	0.	2475.2	2475.2
98	0	1723.0	-19.6	164.03	0.	2393.2	2393.2
99	0	1463.0	-22.3	163.90	0.	2289.2	2289.2
100	0	1265.0	-25.3	163.74	0.	2169.1	2169.1
101	0	1114.0	-28.5	163.58	0.	2042.0	2042.0

FLOOD ROUTING OF AGOS RESERVOIR : CASE 3

INFLOW=PMF , RESERVOIR EFFECT ON FLOOD LAG TIME CONSIDERED

H.W.L.=165.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
0	0	400.0	14.5	165.71	400.0	0.	400.0
1	0	579.0	14.8	165.72	413.1	0.	413.1
2	0	1106.0	16.3	165.79	475.3	0.	475.3
3	0	1761.0	19.5	165.95	634.2	0.	634.2
4	0	2295.0	24.1	166.17	887.9	0.	887.9
5	0	2712.0	29.3	166.42	1217.9	0.	1217.9
6	0	3025.0	34.6	166.67	1592.8	0.	1592.8
7	0	3271.0	39.5	166.91	1974.6	0.	1974.6
8	0	3469.0	43.9	167.11	2339.4	0.	2339.4
9	0	3631.0	47.6	167.29	2671.8	0.	2671.8
10	0	3766.0	50.8	167.44	2963.7	0.	2963.7
11	0	3876.0	53.4	167.56	3215.1	0.	3215.1
12	0	3968.0	55.5	167.66	3427.9	0.	3427.9
13	0	4058.0	57.3	167.75	3606.5	0.	3606.5
14	0	4158.0	58.8	167.82	3761.3	0.	3761.3
15	0	4255.0	60.2	167.88	3902.5	0.	3902.5
16	0	4334.0	61.4	167.93	4026.7	0.	4026.7
17	0	4400.0	62.4	167.98	4134.5	0.	4134.5
18	0	4467.0	61.6	167.94	4047.8	1039.9	5087.7
19	0	4546.0	59.9	167.86	3867.1	1029.8	4896.9
20	0	4627.0	59.0	167.82	3772.3	1023.1	4795.4
21	0	4690.0	58.6	167.80	3731.0	1019.9	4750.9
22	0	4742.0	58.5	167.80	3720.8	1019.2	4740.1
23	0	4796.0	58.6	167.80	3730.2	1019.8	4750.0
24	0	4888.0	58.8	167.82	3759.2	1022.1	4781.3
25	0	5050.0	59.4	167.84	3818.3	1026.5	4844.9
26	0	5280.0	60.4	167.89	3919.6	1033.1	4952.8
27	0	5559.0	61.8	167.95	4068.6	1040.9	5109.5
28	0	5852.0	62.7	167.99	4161.7	2125.0	6286.7
29	0	6128.0	61.8	167.95	4071.5	2116.0	6187.5
30	0	6414.0	62.1	167.97	4100.6	2119.0	6219.5
31	0	6739.0	62.2	167.97	4117.4	3198.4	7315.8
32	0	7082.0	61.1	167.92	3996.0	3178.2	7174.2
33	0	7415.0	61.4	167.93	4022.3	3182.8	7205.1

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
34	0	7713.0	62.4	167.98	4136.6	3201.5	7338.0
35	0	7959.0	62.2	167.97	4107.8	4274.1	8381.8
36	0	8154.0	61.2	167.93	4010.6	4252.1	8262.6
37	0	8309.0	61.2	167.92	4002.8	4250.3	8253.1
38	0	8436.0	61.5	167.94	4040.6	4259.0	8299.6
39	0	8542.0	62.1	167.97	4099.7	4272.3	8372.0
40	0	8678.0	62.8	168.00	4174.5	4288.5	8463.0
41	0	8937.0	61.3	167.93	4021.7	5326.6	9348.3
42	0	9467.0	61.0	167.92	3983.8	5315.5	9299.3
43	0	10298.0	62.7	168.00	4170.0	5368.5	9538.5
44	0	11161.0	63.8	168.05	4272.0	6487.0	10759.1
45	0	11879.0	66.0	168.15	4493.1	6565.4	11058.5
46	0	12611.0	69.5	168.31	4839.2	6686.4	11525.6
47	0	13624.0	74.2	168.53	5313.7	6848.2	12161.9
48	0	15299.0	80.9	168.83	6020.0	7082.0	13101.9
49	0	16960.0	89.6	169.23	6973.2	7387.8	14361.0
50	0	17291.0	97.3	169.58	7854.4	7661.4	15515.8
51	0	16539.0	101.1	169.76	8295.9	7796.4	16092.2
52	0	15496.0	100.8	169.74	8257.1	7784.8	16041.9
53	0	14018.0	97.0	169.57	7822.6	7651.9	15474.4
54	0	12241.0	90.3	169.27	7055.6	7414.3	14469.9
55	0	10620.0	81.6	168.87	6098.5	7108.1	13206.6
56	0	9382.0	72.4	168.44	5131.5	6786.1	11917.5
57	0	8426.0	63.7	168.04	4262.6	6483.5	10746.1
58	0	7687.0	56.0	167.68	3470.9	6196.1	9667.0
59	0	7088.0	49.4	167.38	2836.7	5947.6	8784.3
60	0	6583.0	43.8	167.11	2327.5	5737.1	8064.6
61	0	6156.0	38.8	166.87	1912.7	5551.9	7464.6
62	0	5796.0	34.3	166.66	1571.5	5388.7	6960.2
63	0	5478.0	30.4	166.47	1288.0	5243.5	6531.5
64	0	5202.0	26.8	166.30	1050.1	5112.7	6162.9
65	0	4970.0	23.5	166.14	850.5	4993.4	5844.0
66	0	4776.0	20.5	166.00	683.7	4883.1	5566.8
67	0	4600.0	17.7	165.86	543.7	4788.2	5332.0
68	0	4425.0	15.2	165.74	424.4	4697.1	5121.5

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
69	0	4264.0	12.7	165.62	321.4	4608.3	4929.7
70	0	4128.0	10.4	165.51	233.7	4528.8	4762.5
71	0	4015.0	8.2	165.40	161.1	4446.8	4607.9
72	0	3920.0	6.1	165.30	102.4	4379.3	4481.6
73	0	3827.0	4.1	165.20	56.3	4305.6	4361.9
74	0	3723.0	2.2	165.11	21.4	4246.1	4267.6
75	0	3610.0	0.2	165.01	0.6	4171.1	4171.7
76	0	3495.0	-1.8	164.91	0.	4073.0	4073.0
77	0	3386.0	-3.9	164.81	0.	3972.1	3972.1
78	0	3288.0	-6.0	164.70	0.	3870.9	3870.9
79	0	3184.0	-8.1	164.60	0.	3769.7	3769.7
80	0	3086.0	-10.2	164.50	0.	3668.5	3668.5
81	0	3008.0	-12.2	164.40	0.	3569.5	3569.5
82	0	2944.0	-14.2	164.30	0.	3474.9	3474.9
83	0	2892.0	-16.0	164.21	0.	3386.2	3386.2
84	0	2838.0	-17.7	164.13	0.	3303.2	3303.2
85	0	2767.0	-19.3	164.04	0.	3223.4	3223.4
86	0	2696.0	-20.9	163.96	0.	3145.0	3145.0
87	0	2639.0	-22.4	163.89	0.	3068.9	3068.9
88	0	2582.0	-23.9	163.81	0.	2995.9	2995.9
89	0	2512.0	-25.4	163.74	0.	2924.3	2924.3
90	0	2441.0	-26.8	163.67	0.	2852.9	2852.9
91	0	2385.0	-28.2	163.60	0.	2782.8	2782.8
92	0	2341.0	-29.6	163.53	0.	2716.0	2716.0
93	0	2294.0	-30.9	163.46	0.	2652.5	2652.5
94	0	2230.0	-32.1	163.40	0.	2590.2	2590.2
95	0	2165.0	-33.4	163.34	0.	2527.6	2527.6
96	0	2102.0	-34.7	163.27	0.	2464.8	2464.8
97	0	1967.0	-36.0	163.20	0.	2396.1	2396.1
98	0	1723.0	-37.8	163.11	0.	2307.9	2307.9
99	0	1463.0	-40.1	163.00	0.	2193.6	2193.6
100	0	1265.0	-42.7	162.86	0.	2061.2	2061.2
101	0	1114.0	-45.5	162.72	0.	1922.2	1922.2

FLOOD ROUTING OF AGOS RESERVOIR ; CASE 4

INFLOW=PMF , RESERVOIR EFECT ON FLOOD LAG TIME CONSIDERED

H.W.L.=165.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	OUTFLOW TOTAL (C.M.S.)
0	0	400.0	13.4	165.65	400.0	0.	400.0
1	0	579.0	13.7	165.67	414.8	0.	414.8
2	0	1106.0	15.2	165.74	484.6	0.	484.6
3	0	1761.0	18.3	165.89	653.3	0.	653.3
4	0	2295.0	22.8	166.11	926.0	0.	926.0
5	0	2712.0	27.9	166.35	1276.4	0.	1276.4
6	0	3025.0	32.9	166.59	1666.1	0.	1666.1
7	0	3271.0	37.5	166.81	2060.8	0.	2060.8
8	0	3469.0	41.5	167.00	2431.0	0.	2431.0
9	0	3631.0	45.0	167.16	2764.4	0.	2764.4
10	0	3766.0	47.8	167.30	3053.2	0.	3053.2
11	0	3876.0	50.1	167.41	3293.9	0.	3293.9
12	0	3968.0	52.0	167.50	3498.8	0.	3498.8
13	0	4058.0	53.5	167.57	3666.7	0.	3666.7
14	0	4158.0	54.9	167.63	3814.1	0.	3814.1
15	0	4255.0	56.0	167.68	3947.6	0.	3947.6
16	0	4334.0	57.1	167.73	4065.6	0.	4065.6
17	0	4400.0	57.9	167.77	4168.0	0.	4168.0
18	0	4467.0	58.7	167.81	4259.5	0.	4259.5
19	0	4546.0	59.5	167.85	4346.8	0.	4346.8
20	0	4627.0	60.2	167.88	4431.5	0.	4431.5
21	0	4690.0	60.8	167.91	4511.6	0.	4511.6
22	0	4742.0	61.5	167.94	4583.7	0.	4583.7
23	0	4796.0	62.0	167.96	4649.1	0.	4649.1
24	0	4888.0	62.6	167.99	4717.6	0.	4717.6
25	0	5050.0	61.0	167.92	4528.2	1425.2	5953.3
26	0	5280.0	58.8	167.81	4260.9	1406.5	5667.3
27	0	5559.0	58.1	167.78	4180.0	1401.8	5581.8
28	0	5852.0	58.5	167.80	4225.6	1403.7	5629.3
29	0	6128.0	59.5	167.85	4351.4	1413.6	5765.0
30	0	6414.0	61.0	167.92	4529.0	1425.2	5954.2
31	0	6739.0	62.9	168.00	4750.1	2903.0	7653.0
32	0	7082.0	60.8	167.91	4498.8	2874.5	7373.3
33	0	7415.0	60.4	167.89	4460.6	2869.6	7330.2

Case No. 2-8

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	TOTAL (C.M.S.)
34	0	7713.0	61.1	167.92	4544.3	2880.0	7424.3
35	0	7959.0	62.3	167.98	4689.5	2896.4	7585.9
36	0	8154.0	61.4	167.93	4572.0	4339.0	8910.9
37	0	8309.0	59.5	167.85	4345.7	4295.4	8641.1
38	0	8436.0	58.7	167.81	4258.4	4277.1	8535.5
39	0	8542.0	58.6	167.81	4244.5	4274.1	8518.5
40	0	8678.0	58.9	167.82	4276.4	4280.9	8557.4
41	0	8937.0	59.6	167.85	4362.9	4298.9	8661.8
42	0	9467.0	61.2	167.93	4551.5	4335.3	8886.7
43	0	10298.0	62.9	168.00	4752.0	5837.4	10589.4
44	0	11161.0	63.4	168.03	4806.2	5851.8	10658.0
45	0	11879.0	65.9	168.14	5086.4	5922.4	11008.9
46	0	12611.0	69.5	168.31	5491.7	6022.1	11513.8
47	0	13624.0	74.1	168.52	6029.2	6150.8	12180.0
48	0	15299.0	80.7	168.83	6817.1	6333.4	13150.4
49	0	16960.0	89.1	169.21	7870.1	6569.9	14440.0
50	0	17291.0	96.6	169.55	8828.5	6779.3	15607.8
51	0	16539.0	100.1	169.71	9288.3	6877.7	16166.1
52	0	15496.0	99.5	169.68	9217.5	6862.7	16080.1
53	0	14018.0	95.7	169.51	8717.4	6755.8	15473.2
54	0	12241.0	89.1	169.21	7860.6	6567.7	14428.3
55	0	10620.0	80.6	168.82	6804.1	6330.2	13134.3
56	0	9382.0	71.7	168.41	5745.3	6081.8	11827.1
57	0	8426.0	63.3	168.02	4799.5	5850.1	10649.6
58	0	7687.0	56.0	167.68	3939.0	5631.1	9570.1
59	0	7088.0	49.7	167.39	3254.1	5440.9	8695.0
60	0	6583.0	44.4	167.14	2703.1	5281.9	7985.0
61	0	6156.0	39.6	166.91	2252.5	5141.5	7394.0
62	0	5794.0	35.5	166.71	1879.8	5017.3	6897.1
63	0	5478.0	31.7	166.53	1568.2	4905.9	6474.1
64	0	5202.0	28.3	166.37	1304.9	4804.0	6108.9
65	0	4970.0	25.2	166.22	1081.7	4712.5	5794.3
66	0	4776.0	22.4	166.09	893.6	4632.5	5526.0
67	0	4600.0	19.8	165.96	734.3	4555.9	5290.2
68	0	4425.0	17.4	165.85	596.1	4486.0	5082.1

TIME		INFLOW	SURCHARGE VOLUME	RESERVOIR WATER LEVEL	OUTFLOW NONGATED CREST	OUTFLOW GATED CREST	OUTFLOW TOTAL
(H.)	(M.)	(C.M.S.)	(M.C.M.)	(M.)	(C.M.S.)	(C.M.S.)	(C.M.S.)
69	0	4264.0	15.0	165.73	475.1	4420.1	4895.2
70	0	4128.0	12.8	165.63	369.8	4354.5	4724.3
71	0	4015.0	10.8	165.53	280.1	4297.3	4577.4
72	0	3920.0	8.8	165.43	204.8	4239.2	4444.0
73	0	3827.0	7.0	165.34	142.2	4188.6	4330.9
74	0	3723.0	5.2	165.25	89.3	4136.7	4226.1
75	0	3610.0	3.3	165.16	45.6	4085.2	4130.8
76	0	3495.0	1.4	165.07	12.2	4034.3	4046.5
77	0	3386.0	-0.6	164.97	0.	3958.2	3958.2
78	0	3288.0	-2.7	164.87	0.	3867.7	3867.7
79	0	3184.0	-4.8	164.76	0.	3775.6	3775.6
80	0	3086.0	-6.9	164.66	0.	3682.3	3682.3
81	0	3008.0	-9.0	164.56	0.	3589.8	3589.8
82	0	2944.0	-11.0	164.46	0.	3500.4	3500.4
83	0	2892.0	-13.0	164.36	0.	3415.6	3415.6
84	0	2838.0	-14.8	164.27	0.	3335.4	3335.4
85	0	2767.0	-16.5	164.18	0.	3257.8	3257.8
86	0	2696.0	-18.2	164.10	0.	3181.1	3181.1
87	0	2639.0	-19.9	164.01	0.	3106.3	3106.3
88	0	2582.0	-21.6	163.93	0.	3034.1	3034.1
89	0	2512.0	-23.1	163.85	0.	2963.2	2963.2
90	0	2441.0	-24.7	163.77	0.	2892.3	2892.3
91	0	2385.0	-26.3	163.69	0.	2822.5	2822.5
92	0	2341.0	-27.8	163.62	0.	2755.6	2755.6
93	0	2294.0	-29.2	163.55	0.	2691.8	2691.8
94	0	2230.0	-30.6	163.48	0.	2629.2	2629.2
95	0	2165.0	-32.0	163.41	0.	2566.3	2566.3
96	0	2102.0	-33.4	163.34	0.	2503.2	2503.2
97	0	1967.0	-34.9	163.26	0.	2434.8	2434.8
98	0	1723.0	-36.8	163.16	0.	2348.6	2348.6
99	0	1463.0	-39.3	163.04	0.	2238.3	2238.3
100	0	1265.0	-42.1	162.90	0.	2110.8	2110.8
101	0	1114.0	-45.0	162.74	0.	1976.5	1976.5

Case No. 2-9

FLOOD ROUTING OF AGOS RESERVOIR ; CASE 4

INFLOW=FLETCHER'S FLOOD

H.W.L.=165.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	TOTAL (C.M.S.)
0	0	400.0	13.4	165.65	400.0	0.	400.0
1	0	556.1	13.7	165.67	412.9	0.	412.9
2	0	1011.9	14.9	165.73	473.4	0.	473.4
3	0	1550.2	17.6	165.86	613.9	0.	613.9
4	0	1981.5	21.4	166.04	834.7	0.	834.7
5	0	2320.2	25.6	166.24	1115.7	0.	1115.7
6	0	2575.3	29.9	166.45	1427.4	0.	1427.4
7	0	2775.8	33.8	166.63	1741.7	0.	1741.7
8	0	2936.7	37.3	166.80	2037.9	0.	2037.9
9	0	3069.2	40.2	166.94	2310.3	0.	2310.3
10	0	3190.6	42.8	167.06	2548.8	0.	2548.8
11	0	3316.2	44.9	167.16	2758.9	0.	2758.9
12	0	3431.7	46.8	167.25	2947.9	0.	2947.9
13	0	3525.5	48.4	167.33	3113.9	0.	3113.9
14	0	3614.1	49.8	167.39	3256.6	0.	3256.6
15	0	3712.6	51.0	167.45	3388.9	0.	3388.9
16	0	3806.8	52.1	167.50	3510.3	0.	3510.3
17	0	3883.0	53.1	167.55	3619.7	0.	3619.7
18	0	3957.2	54.0	167.59	3718.0	0.	3718.0
19	0	4043.2	54.8	167.63	3813.4	0.	3813.4
20	0	4126.3	55.7	167.67	3905.9	0.	3905.9
21	0	4192.7	56.4	167.70	3992.2	0.	3992.2
22	0	4246.3	57.1	167.73	4069.5	0.	4069.5
23	0	4301.7	57.7	167.76	4139.1	0.	4139.1
24	0	4372.7	58.3	167.79	4206.8	0.	4206.8
25	0	4455.4	58.9	167.82	4279.5	0.	4279.5
26	0	4546.6	59.6	167.85	4358.0	0.	4358.0
27	0	4631.9	60.2	167.88	4439.8	0.	4439.8
28	0	4698.3	60.9	167.91	4519.4	0.	4519.4
29	0	4762.8	61.5	167.94	4593.9	0.	4593.9
30	0	4851.9	62.2	167.97	4669.6	0.	4669.6
31	0	4962.1	62.9	168.00	4753.0	1436.2	6189.2
32	0	5061.9	59.5	167.85	4346.3	1413.2	5759.5
33	0	5151.6	57.6	167.76	4126.0	1399.3	5525.3

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	OUTFLOW TOTAL (C.M.S.)
34	0	5259.4	56.2	167.71	4019.7	1393.5	5413.1
35	0	5383.2	56.4	167.70	3990.4	1391.7	5382.0
36	0	5517.6	56.6	167.71	4014.8	1393.2	5407.9
37	0	5686.0	57.2	167.74	4081.8	1397.0	5478.8
38	0	5869.9	58.1	167.78	4185.1	1402.0	5587.2
39	0	6037.5	59.2	167.83	4311.8	1410.6	5722.4
40	0	6217.3	60.4	167.89	4452.6	1420.6	5873.2
41	0	6434.3	61.7	167.95	4612.3	1429.7	6042.0
42	0	6692.5	62.0	167.96	4647.2	2891.8	7539.1
43	0	7020.0	60.1	167.87	4417.6	2864.1	7281.7
44	0	7415.7	59.9	167.87	4401.0	2861.8	7262.9
45	0	7909.1	61.1	167.92	4543.5	2879.9	7423.4
46	0	8702.8	62.5	167.99	4708.3	4362.7	9071.0
47	0	10037.8	62.3	167.98	4678.6	5820.2	10498.8
48	0	13125.9	65.7	168.13	5061.1	5916.3	10977.4
49	0	16988.1	77.6	168.68	6445.1	6248.4	12693.6
50	0	17687.9	90.6	169.28	8055.0	6611.8	14666.7
51	0	15820.9	96.1	169.53	8768.1	6766.6	15534.7
52	0	13930.4	94.1	169.44	8502.8	6708.9	15211.6
53	0	12088.9	87.8	169.15	7698.9	6532.8	14231.7
54	0	10456.6	79.4	168.77	6660.9	6297.6	12958.5
55	0	9106.9	70.3	168.35	5592.1	6046.0	11638.0
56	0	8085.5	61.6	167.95	4602.6	5802.1	10404.7
57	0	7289.5	53.9	167.59	3710.9	5567.7	9278.6
58	0	6660.0	47.3	167.28	3002.5	5371.0	8373.5
59	0	6154.5	41.6	167.01	2437.9	5197.6	7635.5
60	0	5756.9	36.7	166.77	1986.3	5051.8	7038.1
61	0	5417.8	32.4	166.57	1622.1	4924.4	6546.5
62	0	5119.0	28.5	166.38	1322.6	4810.3	6133.0
63	0	4859.2	25.1	166.22	1072.8	4708.3	5781.1
64	0	4643.0	21.9	166.06	863.9	4618.4	5482.3
65	0	4461.0	19.0	165.93	689.9	4535.3	5225.2
66	0	4306.8	16.4	165.80	545.0	4455.3	5000.3
67	0	4174.5	14.0	165.68	424.2	4390.5	4814.7
68	0	4060.6	11.8	165.58	324.0	4324.6	4648.6

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
69	0	3962.3	9.8	165.48	240.5	4268.8	4509.3
70	0	3877.2	7.9	165.39	172.1	4211.4	4383.4
71	0	3791.8	6.1	165.30	115.4	4164.6	4280.0
72	0	3693.2	4.3	165.21	68.5	4110.2	4178.7
73	0	3597.7	2.6	165.13	30.7	4067.0	4097.8
74	0	3519.6	0.8	165.04	5.0	4014.3	4019.2
75	0	3455.3	-1.0	164.95	0.	3941.8	3941.8
76	0	3402.1	-2.7	164.87	0.	3867.1	3867.1
77	0	3357.3	-4.3	164.79	0.	3796.1	3796.1
78	0	3319.2	-5.8	164.71	0.	3729.5	3729.5
79	0	3286.6	-7.3	164.64	0.	3667.4	3667.4
80	0	3258.6	-8.6	164.58	0.	3609.9	3609.9
81	0	3234.6	-9.8	164.52	0.	3557.0	3557.0
82	0	3214.1	-10.9	164.46	0.	3508.6	3508.6
83	0	3196.3	-11.9	164.41	0.	3464.5	3464.5
84	0	3181.0	-12.8	164.37	0.	3424.3	3424.3
85	0	3167.7	-13.6	164.33	0.	3387.9	3387.9
86	0	3144.2	-14.3	164.29	0.	3354.2	3354.2
87	0	3099.1	-15.1	164.25	0.	3320.3	3320.3
88	0	3049.9	-15.9	164.21	0.	3284.4	3284.4
89	0	3011.8	-16.8	164.17	0.	3247.5	3247.5
90	0	2982.3	-17.6	164.13	0.	3211.0	3211.0
91	0	2959.4	-18.4	164.09	0.	3176.1	3176.1
92	0	2940.7	-19.1	164.05	0.	3143.2	3143.2
93	0	2925.4	-19.8	164.02	0.	3112.6	3112.6
94	0	2912.5	-20.4	163.99	0.	3084.4	3084.4
95	0	2901.7	-21.0	163.96	0.	3058.6	3058.6
96	0	2892.6	-21.5	163.93	0.	3035.1	3035.1
97	0	2764.8	-22.2	163.90	0.	3004.9	3004.9
98	0	2407.8	-23.6	163.83	0.	2943.3	2943.3
99	0	1997.3	-26.0	163.71	0.	2834.9	2834.9
100	0	1687.7	-29.2	163.55	0.	2690.0	2690.0
101	0	1454.1	-32.9	163.36	0.	2526.9	2526.9
102	0	1277.7	-36.6	163.17	0.	2357.7	2357.7
103	0	1137.9	-40.3	162.98	0.	2190.2	2190.2

FLOOD ROUTING OF AGOS RESERVOIR ; CASE 4

INFLOW=REFERENCE FLOOD , RESERVOIR EFFECT ON FLOOD LAG TIME NEGLECTED

H.W.L.=165.0

TIME		INFLOW	SURCHARGE VOLUME	RESERVOIR WATER LEVEL	OUTFLOW NONGATED CREST	OUTFLOW GATED CREST	TOTAL
(H.)	(M.)	(C.M.S.)	(M.C.M.)	(M.)	(C.M.S.)	(C.M.S.)	(C.M.S.)
0	0	400.0	13.4	165.65	400.0	0.	400.0
1	0	510.1	13.6	165.66	409.1	0.	409.1
2	0	669.9	14.2	165.69	438.5	0.	438.5
3	0	1090.7	15.7	165.76	510.3	0.	510.3
4	0	1593.3	18.4	165.90	660.7	0.	660.7
5	0	2028.8	22.2	166.08	887.2	0.	887.2
6	0	2391.2	26.5	166.28	1175.3	0.	1175.3
7	0	2685.2	30.8	166.49	1500.0	0.	1500.0
8	0	2923.6	34.9	166.69	1835.0	0.	1835.0
9	0	3119.8	38.6	166.86	2158.3	0.	2158.3
10	0	3284.0	41.8	167.01	2454.8	0.	2454.8
11	0	3425.9	44.5	167.14	2723.1	0.	2723.1
12	0	3548.9	46.9	167.25	2957.0	0.	2957.0
13	0	3663.3	48.8	167.35	3160.0	0.	3160.0
14	0	3766.5	50.5	167.43	3336.4	0.	3336.4
15	0	3874.3	52.0	167.49	3494.7	0.	3494.7
16	0	3975.7	53.2	167.55	3635.5	0.	3635.5
17	0	4062.3	54.4	167.61	3761.8	0.	3761.8
18	0	4144.4	55.4	167.66	3878.0	0.	3878.0
19	0	4219.1	56.3	167.70	3981.3	0.	3981.3
20	0	4302.5	57.1	167.74	4076.6	0.	4076.6
21	0	4383.4	57.9	167.77	4167.4	0.	4167.4
22	0	4452.8	58.7	167.81	4253.7	0.	4253.7
23	0	4570.1	59.4	167.84	4335.9	0.	4335.9
24	0	4596.9	60.0	167.87	4414.6	0.	4414.6
25	0	4703.8	60.7	167.90	4498.3	0.	4498.3
26	0	4863.0	61.6	167.94	4599.8	0.	4599.8
27	0	5073.7	62.7	168.00	4731.1	0.	4731.1
28	0	5311.4	60.8	167.91	4498.8	1423.5	5922.2
29	0	5577.0	59.4	167.84	4337.9	1412.6	5750.4
30	0	5836.2	59.3	167.84	4326.1	1411.7	5737.7
31	0	6108.9	60.0	167.87	4409.6	1417.7	5827.4
32	0	6404.0	61.3	167.93	4561.5	1427.1	5988.5
33	0	6713.9	63.0	168.01	4763.2	2904.8	7668.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	OUTFLOW TOTAL (C.M.S.)
34	0	7010.6	60.7	167.90	4490.6	2873.6	7364.1
35	0	7283.9	60.1	167.88	4420.4	2864.4	7284.8
36	0	7519.9	60.5	167.89	4463.2	2870.0	7333.2
37	0	7716.6	61.3	167.93	4563.2	2882.3	7445.5
38	0	7881.6	62.3	167.98	4687.4	2896.2	7583.6
39	0	8021.5	61.1	167.92	4534.2	4332.1	8866.3
40	0	8170.6	58.9	167.82	4278.6	4281.4	8560.0
41	0	8344.3	58.1	167.78	4180.8	4262.5	8443.3
42	0	8685.6	58.3	167.79	4208.9	4267.4	8476.3
43	0	9146.2	59.6	167.85	4360.8	4298.5	8659.2
44	0	9827.4	62.0	167.96	4649.1	4352.6	9001.8
45	0	10562.0	62.2	167.97	4668.9	5817.9	10486.8
46	0	11239.7	63.4	168.03	4812.0	5853.3	10665.3
47	0	12029.7	66.3	168.16	5127.4	5932.2	11059.6
48	0	13123.8	70.7	168.37	5629.2	6054.6	11683.8
49	0	14167.8	76.3	168.62	6289.4	6211.1	12500.5
50	0	15450.5	82.9	168.93	7087.8	6395.9	13483.7
51	0	15733.4	88.8	169.20	7822.6	6559.1	14381.7
52	0	15244.1	91.8	169.33	8204.0	6644.3	14848.3
53	0	14422.9	91.6	169.33	8186.0	6640.5	14826.5
54	0	13342.5	88.9	169.20	7838.1	6562.4	14400.5
55	0	11974.4	83.9	168.97	7213.5	6423.6	13637.0
56	0	10701.6	77.4	168.67	6415.9	6241.5	12657.4
57	0	9672.7	70.3	168.35	5589.0	6045.2	11634.2
58	0	8847.0	63.5	168.03	4822.5	5856.1	10678.6
59	0	8170.2	57.4	167.75	4099.0	5672.7	9771.8
60	0	7611.9	52.0	167.50	3497.7	5511.7	9009.4
61	0	7128.3	47.3	167.27	2998.5	5369.8	8368.3
62	0	6702.6	43.1	167.08	2577.0	5243.6	7820.6
63	0	6333.7	39.3	166.89	2217.3	5130.1	7347.4
64	0	6000.3	35.8	166.73	1907.2	5026.4	6933.6
65	0	5707.9	32.6	166.58	1637.7	4929.6	6567.3
66	0	5458.6	29.6	166.43	1404.0	4842.9	6246.9
67	0	5239.3	26.9	166.30	1202.0	4764.8	5966.8
68	0	5046.0	24.4	166.18	1026.9	4688.7	5715.6

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	OUTFLOW TOTAL (C.M.S.)
69	0	4859.9	22.0	166.07	872.8	4622.7	5495.5
70	0	4688.4	19.8	165.96	736.2	4556.7	5292.9
71	0	4538.8	17.7	165.86	614.7	4496.4	5111.1
72	0	4406.8	15.7	165.77	508.4	4437.6	4946.0
73	0	4282.9	13.8	165.67	414.5	4384.5	4799.0
74	0	4169.6	12.0	165.59	332.2	4329.3	4661.5
75	0	4043.8	10.2	165.50	258.1	4281.9	4540.1
76	0	3921.1	8.4	165.41	191.2	4226.8	4418.0
77	0	3796.0	6.6	165.32	131.1	4179.1	4310.2
78	0	3671.9	4.7	165.23	78.3	4123.2	4201.5
79	0	3561.4	2.8	165.14	35.2	4072.9	4108.1
80	0	3448.1	0.8	165.04	5.2	4015.0	4020.2
81	0	3342.3	-1.3	164.94	0.	3929.1	3929.1
82	0	3252.0	-3.4	164.83	0.	3837.0	3837.0
83	0	3174.4	-5.5	164.73	0.	3746.2	3746.2
84	0	3100.0	-7.5	164.63	0.	3657.5	3657.5
85	0	3031.4	-9.4	164.53	0.	3571.3	3571.3
86	0	2953.4	-11.3	164.44	0.	3487.0	3487.0
87	0	2877.4	-13.2	164.35	0.	3403.7	3403.7
88	0	2804.9	-15.1	164.25	0.	3321.8	3321.8
89	0	2738.9	-16.9	164.16	0.	3241.7	3241.7
90	0	2664.0	-18.7	164.08	0.	3163.0	3163.0
91	0	2591.5	-20.4	163.99	0.	3085.0	3085.0
92	0	2530.2	-22.1	163.90	0.	3008.7	3008.7
93	0	2470.8	-23.8	163.82	0.	2934.7	2934.7
94	0	2415.9	-25.4	163.74	0.	2863.1	2863.1
95	0	2350.6	-26.9	163.66	0.	2793.2	2793.2
96	0	2278.9	-28.5	163.58	0.	2723.5	2723.5
97	0	2177.6	-30.1	163.50	0.	2651.3	2651.3
98	0	2053.7	-31.8	163.41	0.	2573.2	2573.2
99	0	1848.8	-33.9	163.31	0.	2482.4	2482.4
100	0	1634.7	-36.3	163.19	0.	2374.3	2374.3
101	0	1459.3	-38.9	163.06	0.	2253.7	2253.7
102	0	1315.4	-41.7	162.91	0.	2127.4	2127.4
103	0	1196.8	-44.5	162.77	0.	2000.5	2000.5

FLOOD ROUTING OF AGOS RESERVOIR I CASE 4

INFLOW=200 YEAR FLOOD

N.W.L.=165.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (H.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
0	0	499.7	15.5	165.75	499.7	0.	499.7
1	0	533.4	15.5	165.76	502.4	0.	502.4
2	0	544.9	15.7	165.76	508.3	0.	508.3
3	0	562.2	15.8	165.77	515.6	0.	515.6
4	0	591.1	16.0	165.78	525.5	0.	525.5
5	0	662.2	16.3	165.80	541.9	0.	541.9
6	0	699.5	16.8	165.82	567.2	0.	567.2
7	0	764.8	17.3	165.84	598.0	0.	598.0
8	0	817.1	18.0	165.88	633.8	0.	633.8
9	0	883.9	18.7	165.91	674.2	0.	674.2
10	0	1162.1	19.8	165.96	739.6	0.	739.6
11	0	1546.0	21.8	166.06	863.9	0.	863.9
12	0	1984.9	24.8	166.20	1053.0	0.	1053.0
13	0	2357.0	28.3	166.37	1309.8	0.	1309.8
14	0	2742.8	32.3	166.56	1615.4	0.	1615.4
15	0	3414.0	36.9	166.78	2003.1	0.	2003.1
16	0	4099.0	42.3	167.04	2504.1	0.	2504.1
17	0	6293.5	50.6	167.43	3350.4	0.	3350.4
18	0	8302.7	62.5	167.99	4710.1	0.	4710.1
19	0	8109.9	65.7	168.14	5069.9	4431.3	9501.2
20	0	8026.3	61.6	167.95	4602.2	4344.4	8946.6
21	0	8331.6	59.5	167.85	4348.0	4295.8	8643.8
22	0	8829.7	59.4	167.84	4333.6	4292.9	8626.5
23	0	7888.1	58.5	167.80	4232.7	4271.5	8504.2
24	0	6670.1	54.9	167.63	3817.5	4191.2	8008.7
25	0	6033.8	50.1	167.41	3290.5	4081.5	7372.0
26	0	5588.8	45.5	167.19	2818.2	3979.3	6797.5
27	0	5148.4	41.3	166.99	2406.6	3884.9	6291.5
28	0	4738.3	37.3	166.80	2038.2	3794.8	5833.1
29	0	4297.9	33.3	166.61	1698.6	3707.7	5406.3
30	0	3881.8	29.3	166.42	1380.6	3619.8	5000.4
31	0	3600.8	25.4	166.23	1099.1	3535.9	4635.0
32	0	3280.4	21.7	166.06	853.3	3455.9	4309.3
33	0	2978.2	18.0	165.88	633.2	3376.2	4009.4

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
34	0	2729.1	14.4	165.70	441.5	3297.5	3739.0
35	0	2543.8	10.8	165.53	283.1	3221.4	3504.5
36	0	2357.0	7.4	165.36	156.6	3146.9	3303.5
37	0	2202.1	4.0	165.20	61.4	3071.7	3133.1
38	0	2050.2	0.6	165.03	3.7	3005.1	3008.9
39	0	1898.4	-2.8	164.86	0.	2881.3	2881.3
40	0	1761.7	-6.4	164.69	0.	2751.6	2751.6
41	0	1625.0	-9.9	164.51	0.	2621.1	2621.1
42	0	1473.1	-13.5	164.33	0.	2488.9	2488.9
43	0	1412.4	-17.0	164.16	0.	2360.0	2360.0
44	0	1351.6	-20.2	164.00	0.	2239.5	2239.5
45	0	1324.3	-23.2	163.85	0.	2128.4	2128.4
46	0	1284.8	-25.9	163.71	0.	2026.9	2026.9
47	0	1253.2	-28.4	163.59	0.	1933.5	1933.5
48	0	1222.6	-30.7	163.47	0.	1847.8	1847.8
49	0	1207.4	-32.8	163.37	0.	1769.9	1769.9
50	0	1199.8	-34.6	163.27	0.	1700.1	1700.1
51	0	1222.6	-36.2	163.19	0.	1639.9	1639.9
52	0	1237.7	-37.5	163.13	0.	1589.5	1589.5
53	0	1253.2	-38.7	163.07	0.	1547.1	1547.1
54	0	1253.2	-39.6	163.02	0.	1510.9	1510.9
55	0	1245.3	-40.5	162.98	0.	1478.7	1478.7
56	0	1237.7	-41.2	162.94	0.	1449.5	1449.5
57	0	1237.7	-41.9	162.90	0.	1423.4	1423.4
58	0	1222.6	-42.5	162.87	0.	1399.6	1399.6
59	0	1222.6	-43.1	162.84	0.	1377.8	1377.8
60	0	1222.6	-43.6	162.82	0.	1358.7	1358.7
61	0	1192.2	-44.1	162.79	0.	1340.0	1340.0
62	0	1177.0	-44.6	162.77	0.	1320.8	1320.8
63	0	1154.8	-45.1	162.74	0.	1301.7	1301.7
64	0	1133.0	-45.6	162.71	0.	1282.3	1282.3
65	0	1111.1	-46.1	162.69	0.	1262.5	1262.5
66	0	1078.3	-46.7	162.66	0.	1241.8	1241.8
67	0	1067.3	-47.2	162.63	0.	1221.0	1221.0
68	0	1052.8	-47.8	162.60	0.	1201.1	1201.1

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	TOTAL (C.M.S.)
69	0	1038.2	-48.3	162.58	0.	1181.9	1181.9
70	0	1023.6	-48.7	162.55	0.	1163.3	1163.3
71	0	1004.9	-49.2	162.53	0.	1144.9	1144.9
72	0	1014.3	-49.7	162.51	0.	1128.3	1128.3
73	0	995.7	-50.1	162.49	0.	1113.1	1113.1
74	0	984.0	-50.5	162.47	0.	1097.9	1097.9
75	0	972.4	-50.8	162.45	0.	1083.1	1083.1
76	0	960.7	-51.2	162.43	0.	1068.8	1068.8
77	0	949.0	-51.6	162.41	0.	1054.7	1054.7
78	0	937.5	-51.9	162.39	0.	1041.0	1041.0
79	0	925.8	-52.3	162.37	0.	1027.5	1027.5
80	0	911.8	-52.6	162.35	0.	1014.1	1014.1
81	0	897.9	-53.0	162.34	0.	1000.6	1000.6
82	0	883.9	-53.3	162.32	0.	987.1	987.1
83	0	866.1	-53.7	162.30	0.	973.3	973.3
84	0	848.2	-54.1	162.28	0.	958.9	958.9
85	0	830.4	-54.5	162.26	0.	944.2	944.2
86	0	815.1	-54.9	162.24	0.	929.2	929.2
87	0	799.7	-55.2	162.22	0.	914.2	914.2
88	0	784.4	-55.6	162.20	0.	899.1	899.1

FLOOD ROUTING OF AGQS RESERVOIR : CASE 6

INFLOW=RECORDED MAXIMUM

H.W.L.=165.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
0	0	367.3	12.7	165.62	367.3	0.	367.3
1	0	392.0	12.8	165.62	369.3	0.	369.3
2	0	400.5	12.9	165.63	373.7	0.	373.7
3	0	413.3	13.0	165.63	379.0	0.	379.0
4	0	434.5	13.1	165.64	386.3	0.	386.3
5	0	486.7	13.4	165.65	398.3	0.	398.3
6	0	514.2	13.7	165.67	414.8	0.	414.8
7	0	562.2	14.1	165.69	434.7	0.	434.7
8	0	600.6	14.6	165.71	458.3	0.	458.3
9	0	649.7	15.2	165.74	485.2	0.	485.2
10	0	854.2	16.1	165.78	528.4	0.	528.4
11	0	1136.4	17.6	165.86	613.3	0.	613.3
12	0	1459.0	19.9	165.97	741.0	0.	741.0
13	0	1732.5	22.6	166.10	915.0	0.	915.0
14	0	2016.0	25.7	166.25	1122.3	0.	1122.3
15	0	2509.4	29.4	166.42	1388.0	0.	1388.0
16	0	3012.9	33.7	166.63	1734.3	0.	1734.3
17	0	4625.9	40.3	166.94	2314.5	0.	2314.5
18	0	6102.8	49.7	167.39	3247.5	0.	3247.5
19	0	5961.0	57.9	167.77	4167.1	0.	4167.1
20	0	5899.6	63.1	168.01	4777.9	1438.1	6216.0
21	0	6124.0	62.5	167.99	4711.8	1434.2	6146.0
22	0	6490.2	61.8	167.95	4621.9	2889.0	7510.9
23	0	5798.1	57.8	167.77	4150.6	2828.8	6979.4
24	0	4902.8	53.0	167.54	3608.6	2758.1	6366.7
25	0	4435.1	48.0	167.31	3074.7	2684.4	5759.1
26	0	4108.0	43.6	167.10	2630.6	2619.2	5249.8
27	0	3784.3	39.7	166.92	2260.0	2561.6	4821.6
28	0	3482.9	36.1	166.75	1938.7	2508.2	4446.9
29	0	3159.1	32.7	166.58	1649.4	2456.2	4105.6
30	0	2853.3	29.3	166.42	1382.2	2406.9	3789.1
31	0	2646.7	26.1	166.27	1145.4	2362.0	3507.4
32	0	2411.2	23.0	166.12	937.3	2318.1	3255.4
33	0	2189.1	20.0	165.97	748.8	2272.6	3021.4

TIME		INFLOW	SURCHARGE VOLUME	RESERVOIR WATER LEVEL	OUTFLOW NONGATED CREST	GATED CREST	TOTAL
(H.)	(M.)	(C.M.S.)	(M.C.M.)	(M.)	(C.M.S.)	(C.M.S.)	(C.M.S.)
34	0	2006.0	17.1	165.83	580.9	2230.6	2811.5
35	0	1869.8	14.3	165.70	436.8	2192.5	2629.3
36	0	1732.5	11.6	165.57	314.6	2152.5	2467.1
37	0	1618.6	9.0	165.44	211.5	2115.9	2327.4
38	0	1507.0	6.5	165.32	126.6	2082.4	2209.0
39	0	1395.4	3.9	165.19	59.0	2042.1	2101.1
40	0	1294.9	1.3	165.02	11.6	2013.6	2025.2
41	0	1194.4	-1.3	164.94	0.	1946.8	1946.8
42	0	1082.8	-4.1	164.80	0.	1865.7	1865.7
43	0	1038.2	-6.8	164.67	0.	1784.9	1784.9
44	0	993.5	-9.4	164.54	0.	1707.7	1707.7
45	0	973.4	-11.9	164.41	0.	1635.0	1635.0
46	0	944.4	-14.1	164.30	0.	1567.2	1567.2
47	0	921.2	-16.3	164.20	0.	1503.5	1503.5
48	0	898.6	-18.3	164.10	0.	1444.0	1444.0
49	0	887.5	-20.1	164.00	0.	1388.7	1388.7
50	0	881.9	-21.8	163.92	0.	1338.1	1338.1
51	0	898.6	-23.3	163.84	0.	1293.2	1293.2
52	0	909.8	-24.6	163.78	0.	1254.2	1254.2
53	0	921.2	-25.7	163.72	0.	1220.2	1220.2
54	0	921.2	-26.7	163.67	0.	1190.2	1190.2
55	0	915.4	-27.6	163.63	0.	1163.0	1163.0
56	0	909.8	-28.5	163.59	0.	1137.8	1137.8
57	0	909.8	-29.2	163.55	0.	1115.0	1115.0
58	0	898.6	-29.9	163.51	0.	1093.8	1093.8
59	0	898.6	-30.6	163.48	0.	1074.2	1074.2
60	0	898.6	-31.1	163.45	0.	1056.6	1056.6
61	0	876.3	-31.7	163.42	0.	1039.6	1039.6
62	0	865.1	-32.3	163.39	0.	1022.7	1022.7
63	0	848.8	-32.8	163.37	0.	1006.0	1006.0
64	0	832.8	-33.4	163.34	0.	989.5	989.5
65	0	816.7	-33.9	163.31	0.	972.9	972.9
66	0	792.6	-34.5	163.28	0.	956.0	956.0
67	0	784.5	-35.0	163.25	0.	939.2	939.2
68	0	773.8	-35.5	163.23	0.	923.2	923.2

FLOOD ROUTING OF AGOS RESERVOIR : CASE 1

INFLOW=200 YEAR FLOOD

H.W.L.=165.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
0	0	499.7	38.5	166.86	0.	499.7	499.7
1	0	533.4	38.5	166.86	0.	501.0	501.0
2	0	544.9	38.7	166.87	0.	504.1	504.1
3	0	562.2	38.8	166.87	0.	508.0	508.0
4	0	591.1	39.1	166.89	0.	513.5	513.5
5	0	662.2	39.5	166.90	0.	522.6	522.6
6	0	699.5	40.0	166.93	0.	535.2	535.2
7	0	766.8	40.7	166.96	0.	551.0	551.0
8	0	817.1	41.5	167.00	0.	570.2	570.2
9	0	883.9	42.5	167.05	0.	593.9	593.9
10	0	1162.1	44.0	167.12	0.	630.2	630.2
11	0	1546.0	46.5	167.24	0.	692.3	692.3
12	0	1984.9	50.2	167.41	0.	787.5	787.5
13	0	2357.0	54.9	167.63	0.	915.9	915.9
14	0	2742.8	60.5	167.90	0.	1074.5	1074.5
15	0	3414.0	67.4	168.21	0.	1278.0	1278.0
16	0	4099.0	75.9	168.61	0.	1543.4	1543.4
17	0	6293.5	88.3	169.18	0.	1960.3	1960.3
18	0	8302.7	106.4	170.00	0.	2613.1	2613.1
19	0	8109.9	125.2	170.83	0.	3343.2	3343.2
20	0	8026.3	141.1	171.53	0.	3993.3	3993.3
21	0	8331.6	155.0	172.14	0.	4592.1	4592.1
22	0	8829.7	168.3	172.71	0.	5180.8	5180.8
23	0	7888.1	178.9	173.16	0.	5658.5	5658.5
24	0	6670.1	184.2	173.39	0.	5904.1	5904.1
25	0	6033.8	185.6	173.46	0.	5971.9	5971.9
26	0	5588.8	185.1	173.42	0.	5946.2	5946.2
27	0	5148.4	183.2	173.34	0.	5856.6	5856.6
28	0	4738.3	180.1	173.21	0.	5715.8	5715.8
29	0	4297.9	176.1	173.04	0.	5532.8	5532.8
30	0	3881.8	171.3	172.84	0.	5314.3	5314.3
31	0	3600.8	166.1	172.61	0.	5078.2	5078.2
32	0	3280.4	160.6	172.38	0.	4836.0	4836.0
33	0	2978.2	154.9	172.13	0.	4586.3	4586.3

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
34	0	2729.1	149.1	171.88	0.	4336.0	4336.0
35	0	2543.8	143.4	171.63	0.	4093.8	4093.8
36	0	2357.0	137.9	171.39	0.	3862.8	3862.8
37	0	2202.1	132.6	171.16	0.	3643.6	3643.6
38	0	2050.2	127.6	170.94	0.	3436.6	3436.6
39	0	1898.4	122.6	170.72	0.	3239.9	3239.9
40	0	1761.7	117.9	170.51	0.	3053.0	3053.0
41	0	1625.0	113.3	170.30	0.	2875.6	2875.6
42	0	1473.1	108.9	170.10	0.	2705.1	2705.1
43	0	1412.4	104.6	169.91	0.	2545.5	2545.5
44	0	1351.6	100.7	169.74	0.	2400.6	2400.6
45	0	1324.3	97.1	169.58	0.	2270.1	2270.1
46	0	1284.8	93.9	169.43	0.	2153.4	2153.4
47	0	1253.2	90.9	169.29	0.	2048.2	2048.2
48	0	1222.6	88.1	169.17	0.	1952.7	1952.7
49	0	1207.4	85.6	169.05	0.	1867.1	1867.1
50	0	1199.8	83.4	168.95	0.	1790.9	1790.9
51	0	1222.6	81.4	168.86	0.	1725.1	1725.1
52	0	1237.7	79.7	168.78	0.	1669.3	1669.3
53	0	1253.2	78.3	168.72	0.	1622.3	1622.3
54	0	1253.2	77.0	168.66	0.	1581.4	1581.4
55	0	1245.3	75.9	168.61	0.	1544.6	1544.6
56	0	1237.7	74.9	168.56	0.	1511.7	1511.7
57	0	1237.7	73.9	168.52	0.	1482.1	1482.1
58	0	1222.6	73.1	168.48	0.	1454.8	1454.8
59	0	1222.6	72.3	168.44	0.	1429.7	1429.7
60	0	1222.6	71.6	168.41	0.	1407.3	1407.3
61	0	1192.2	70.9	168.38	0.	1386.1	1386.1
62	0	1177.0	70.2	168.34	0.	1364.9	1364.9
63	0	1154.8	69.5	168.31	0.	1343.9	1343.9
64	0	1133.0	68.9	168.28	0.	1322.9	1322.9
65	0	1111.1	68.2	168.25	0.	1301.7	1301.7
66	0	1078.3	67.5	168.22	0.	1279.9	1279.9
67	0	1067.3	66.8	168.18	0.	1258.4	1258.4
68	0	1052.8	66.1	168.15	0.	1238.1	1238.1

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	TOTAL (C.M.S.)
69	0	1038.2	65.4	168.12	0.	1218.4	1218.4
70	0	1023.6	64.8	168.09	0.	1199.3	1199.3
71	0	1004.9	64.2	168.06	0.	1180.3	1180.3
72	0	1014.3	63.6	168.04	0.	1162.9	1162.9
73	0	995.7	63.0	168.01	0.	1146.8	1146.8
74	0	984.0	62.5	167.99	0.	1131.0	1131.0
75	0	972.4	62.0	167.96	0.	1115.9	1115.9
76	0	960.7	61.5	167.94	0.	1101.1	1101.1
77	0	949.0	61.0	167.92	0.	1086.6	1086.6
78	0	937.5	60.5	167.89	0.	1072.4	1072.4
79	0	925.8	60.0	167.87	0.	1058.5	1058.5
80	0	911.8	59.5	167.85	0.	1044.6	1044.6
81	0	897.9	59.0	167.83	0.	1030.8	1030.8
82	0	883.9	58.6	167.80	0.	1016.9	1016.9
83	0	866.1	58.1	167.78	0.	1003.3	1003.3
84	0	848.2	57.6	167.76	0.	989.3	989.3
85	0	830.4	57.1	167.73	0.	974.9	974.9
86	0	815.1	56.5	167.71	0.	960.4	960.4
87	0	799.7	56.0	167.68	0.	945.7	945.7
88	0	784.4	55.5	167.66	0.	931.0	931.0

FLOOD ROUTING OF AGOS. RESERVOIR : CASE 1

INFLOW=RECORDED MAXIMUM

H.W.L.=165.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	OUTFLOW TOTAL (C.M.S.)
0	0	367.3	32.4	166.57	0.	367.3	367.3
1	0	392.0	32.4	166.57	0.	368.1	368.1
2	0	400.5	32.5	166.58	0.	370.1	370.1
3	0	413.3	32.7	166.58	0.	372.7	372.7
4	0	434.5	32.9	166.59	0.	376.3	376.3
5	0	486.7	33.1	166.60	0.	382.3	382.3
6	0	514.2	33.6	166.62	0.	391.2	391.2
7	0	562.2	34.1	166.65	0.	402.3	402.3
8	0	600.6	34.7	166.68	0.	415.8	415.8
9	0	649.7	35.4	166.71	0.	431.5	431.5
10	0	854.2	36.5	166.76	0.	455.7	455.7
11	0	1136.4	38.4	166.85	0.	497.9	497.9
12	0	1459.0	41.2	166.99	0.	561.9	561.9
13	0	1732.5	44.7	167.15	0.	648.8	648.8
14	0	2016.0	49.0	167.35	0.	756.0	756.0
15	0	2509.4	54.2	167.60	0.	893.9	893.9
16	0	3012.9	60.6	167.90	0.	1074.9	1074.9
17	0	4625.9	70.0	168.33	0.	1357.3	1357.3
18	0	6102.8	83.6	168.96	0.	1800.3	1800.3
19	0	5961.0	98.0	169.61	0.	2300.9	2300.9
20	0	5899.6	110.2	170.16	0.	2755.3	2755.3
21	0	6124.0	121.2	170.65	0.	3180.6	3180.6
22	0	6490.2	131.7	171.12	0.	3603.2	3603.2
23	0	5798.1	140.1	171.49	0.	3954.3	3954.3
24	0	4902.8	144.8	171.69	0.	4149.6	4149.6
25	0	4435.1	146.5	171.77	0.	4222.5	4222.5
26	0	4108.0	146.6	171.77	0.	4228.9	4228.9
27	0	3784.3	145.7	171.73	0.	4188.2	4188.2
28	0	3482.9	143.8	171.65	0.	4109.0	4109.0
29	0	3159.1	141.2	171.53	0.	3997.5	3997.5
30	0	2853.3	137.8	171.39	0.	3858.1	3858.1
31	0	2646.7	134.1	171.23	0.	3704.2	3704.2
32	0	2411.2	130.2	171.05	0.	3542.8	3542.8
33	0	2189.1	126.0	170.87	0.	3374.0	3374.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	TOTAL (C.M.S.)
34	0	2006.0	121.7	170.68	0.	3202.9	3202.9
35	0	1869.8	117.5	170.49	0.	3035.6	3035.6
36	0	1732.5	113.3	170.30	0.	2874.6	2874.6
37	0	1618.6	109.3	170.12	0.	2720.4	2720.4
38	0	1507.0	105.4	169.95	0.	2573.5	2573.5
39	0	1395.4	101.6	169.78	0.	2433.2	2433.2
40	0	1294.9	97.9	169.61	0.	2299.1	2299.1
41	0	1194.4	94.4	169.45	0.	2171.4	2171.4
42	0	1082.8	90.9	169.29	0.	2048.2	2048.2
43	0	1038.2	87.5	169.14	0.	1932.1	1932.1
44	0	993.5	84.4	169.00	0.	1825.8	1825.8
45	0	973.4	81.6	168.87	0.	1730.1	1730.1
46	0	944.4	78.9	168.75	0.	1643.5	1643.5
47	0	921.2	76.5	168.64	0.	1564.7	1564.7
48	0	898.6	74.3	168.53	0.	1493.3	1493.3
49	0	887.5	72.3	168.44	0.	1428.4	1428.4
50	0	881.9	70.4	168.35	0.	1370.5	1370.5
51	0	898.6	68.8	168.28	0.	1320.0	1320.0
52	0	909.8	67.4	168.21	0.	1276.2	1276.2
53	0	921.2	66.1	168.15	0.	1239.2	1239.2
54	0	921.2	65.0	168.10	0.	1206.7	1206.7
55	0	915.4	64.0	168.06	0.	1177.2	1177.2
56	0	909.8	63.1	168.02	0.	1150.2	1150.2
57	0	909.8	62.3	167.98	0.	1126.0	1126.0
58	0	898.6	61.6	167.94	0.	1104.1	1104.1
59	0	898.6	60.9	167.91	0.	1083.7	1083.7
60	0	898.6	60.2	167.88	0.	1065.4	1065.4
61	0	876.3	59.6	167.85	0.	1047.8	1047.8
62	0	865.1	59.0	167.82	0.	1030.3	1030.3
63	0	848.8	58.4	167.80	0.	1013.2	1013.2
64	0	832.8	57.8	167.77	0.	996.7	996.7
65	0	816.7	57.2	167.74	0.	980.2	980.2
66	0	792.6	56.6	167.71	0.	963.4	963.4
67	0	784.5	56.0	167.69	0.	946.7	946.7
68	0	773.8	55.5	167.66	0.	930.7	930.7

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	OUTFLOW GATED CREST (C.M.S.)	OUTFLOW TOTAL (C.M.S.)
69	0	763.1	54.8	167.63	0.	915.2	915.2
70	0	752.4	54.4	167.61	0.	900.1	900.1
71	0	738.7	53.8	167.58	0.	885.7	885.7
72	0	745.6	53.3	167.56	0.	872.5	872.5
73	0	731.8	52.9	167.54	0.	860.2	860.2
74	0	725.3	52.4	167.52	0.	848.0	848.0
75	0	714.8	52.0	167.50	0.	836.1	836.1
76	0	706.2	51.6	167.48	0.	824.5	824.5
77	0	697.6	51.1	167.46	0.	813.2	813.2
78	0	689.1	50.7	167.44	0.	802.2	802.2
79	0	680.5	50.3	167.42	0.	791.4	791.4
80	0	670.2	49.9	167.40	0.	780.7	780.7
81	0	660.0	49.5	167.38	0.	770.5	770.5
82	0	649.7	49.1	167.36	0.	760.3	760.3
83	0	636.6	48.7	167.34	0.	750.0	750.0
84	0	623.5	48.3	167.32	0.	739.4	739.4
85	0	610.4	47.9	167.30	0.	728.6	728.6
86	0	599.1	47.5	167.28	0.	717.6	717.6
87	0	587.8	47.0	167.26	0.	706.7	706.7
88	0	576.6	46.6	167.24	0.	695.7	695.7

FLOOD ROUTING OF AGOS RESERVOIR : CASE 4

INFLOW=200 YEAR FLOOD. ALL GATE CLOSED

H.W.L.=165.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
0	0	499.7	15.5	165.75	499.7	0.	499.7
1	0	533.4	15.5	165.76	502.5	0.	502.5
2	0	544.9	15.7	165.76	508.4	0.	508.4
3	0	562.2	15.8	165.77	515.7	0.	515.7
4	0	591.1	16.0	165.78	525.5	0.	525.5
5	0	662.2	16.3	165.80	541.9	0.	541.9
6	0	699.5	16.8	165.82	567.3	0.	567.3
7	0	764.8	17.3	165.84	598.0	0.	598.0
8	0	817.1	18.0	165.88	633.9	0.	633.9
9	0	883.9	18.7	165.91	674.2	0.	674.2
10	0	1162.1	19.8	165.96	739.6	0.	739.6
11	0	1546.1	21.8	166.06	863.9	0.	863.9
12	0	1985.0	24.8	166.20	1053.1	0.	1053.1
13	0	2357.1	28.3	166.37	1309.8	0.	1309.8
14	0	2742.9	32.3	166.56	1615.5	0.	1615.5
15	0	3414.1	36.9	166.78	2003.1	0.	2003.1
16	0	4099.1	42.3	167.04	2504.2	0.	2504.2
17	0	6293.7	50.6	167.43	3350.5	0.	3350.5
18	0	8303.0	62.5	167.99	4710.3	0.	4710.3
19	0	8110.1	72.8	168.46	5879.7	40.1	5919.8
20	0	8026.6	79.0	168.75	6620.1	79.7	6699.8
21	0	8331.9	83.3	168.95	7144.5	112.3	7256.8
22	0	8830.0	87.2	169.12	7623.7	144.8	7768.5
23	0	7888.4	88.8	169.20	7824.1	157.0	7981.1
24	0	6670.3	86.6	169.10	7554.7	140.2	7694.9
25	0	6034.0	82.7	168.92	7069.0	107.9	7176.8
26	0	5589.0	78.8	168.74	6584.7	77.9	6662.6
27	0	5148.6	75.0	168.56	6132.4	52.2	6184.6
28	0	4738.5	71.3	168.40	5705.1	29.8	5734.9
29	0	4298.1	67.7	168.23	5298.5	0.	5298.5
30	0	3881.9	64.1	168.06	4890.4	0.	4890.4
31	0	3601.0	60.7	167.90	4493.1	0.	4493.1
32	0	3280.5	57.6	167.76	4125.8	0.	4125.8
33	0	2978.3	54.6	167.62	3786.2	0.	3786.2

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
34	0	2729.2	51.8	167.49	3479.4	0.	3479.4
35	0	2543.9	49.3	167.37	3207.3	0.	3207.3
36	0	2357.1	47.0	167.26	2970.1	0.	2970.1
37	0	2202.2	44.9	167.16	2758.2	0.	2758.2
38	0	2050.3	43.0	167.07	2569.4	0.	2569.4
39	0	1898.4	41.1	166.98	2393.5	0.	2393.5
40	0	1761.7	39.4	166.90	2234.0	0.	2234.0
41	0	1625.1	37.7	166.82	2080.9	0.	2080.9
42	0	1473.2	36.1	166.74	1936.9	0.	1936.9
43	0	1412.4	34.5	166.67	1805.6	0.	1805.6
44	0	1351.7	33.2	166.61	1693.1	0.	1693.1
45	0	1324.3	32.1	166.55	1604.3	0.	1604.3
46	0	1284.9	31.2	166.51	1530.0	0.	1530.0
47	0	1253.3	30.4	166.47	1465.4	0.	1465.4
48	0	1222.6	29.6	166.44	1409.0	0.	1409.0
49	0	1207.4	29.0	166.41	1361.0	0.	1361.0
50	0	1199.8	28.5	166.38	1324.2	0.	1324.2
51	0	1222.6	28.2	166.37	1298.5	0.	1298.5
52	0	1237.8	28.0	166.36	1283.0	0.	1283.0
53	0	1253.3	27.8	166.35	1274.5	0.	1274.5
54	0	1253.3	27.8	166.35	1269.7	0.	1269.7
55	0	1245.4	27.7	166.34	1265.0	0.	1265.0
56	0	1237.8	27.6	166.34	1259.6	0.	1259.6
57	0	1237.8	27.6	166.34	1254.7	0.	1254.7
58	0	1222.6	27.5	166.33	1249.0	0.	1249.0
59	0	1222.6	27.4	166.33	1243.0	0.	1243.0
60	0	1222.6	27.3	166.33	1238.3	0.	1238.3
61	0	1192.2	27.2	166.32	1231.1	0.	1231.1
62	0	1177.0	27.1	166.31	1220.4	0.	1220.4
63	0	1154.9	26.9	166.31	1207.9	0.	1207.9
64	0	1133.0	26.7	166.30	1193.2	0.	1193.2
65	0	1111.1	26.5	166.29	1176.9	0.	1176.9
66	0	1078.3	26.2	166.27	1158.0	0.	1158.0
67	0	1067.4	25.9	166.26	1138.5	0.	1138.5
68	0	1052.8	25.7	166.25	1120.6	0.	1120.6

FLOOD ROUTING OF AGOS RESERVOIR : CASE 4

INFLOW=RECORDED MAXIMUM

H.W.L.=165.0

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
0	0	367.3	12.7	165.62	367.3	0.	367.3
1	0	392.0	12.8	165.62	369.3	0.	369.3
2	0	400.5	12.9	165.63	373.7	0.	373.7
3	0	413.3	13.0	165.63	379.0	0.	379.0
4	0	434.5	13.1	165.64	386.3	0.	386.3
5	0	486.7	13.4	165.65	398.3	0.	398.3
6	0	514.2	13.7	165.67	414.8	0.	414.8
7	0	562.2	14.1	165.69	434.7	0.	434.7
8	0	600.6	14.6	165.71	458.3	0.	458.3
9	0	649.7	15.2	165.74	485.2	0.	485.2
10	0	854.2	16.1	165.78	528.4	0.	528.4
11	0	1136.4	17.6	165.86	613.3	0.	613.3
12	0	1459.0	19.9	165.97	741.0	0.	741.0
13	0	1732.5	22.6	166.10	915.0	0.	915.0
14	0	2016.0	25.7	166.25	1122.3	0.	1122.3
15	0	2509.4	29.4	166.42	1388.0	0.	1388.0
16	0	3012.9	33.7	166.63	1734.3	0.	1734.3
17	0	4625.9	40.3	166.94	2314.5	0.	2314.5
18	0	6102.8	49.7	167.39	3247.5	0.	3247.5
19	0	5961.0	57.9	167.77	4167.1	0.	4167.1
20	0	5899.6	63.1	168.01	4778.4	0.	4778.4
21	0	6124.0	66.8	168.19	5188.3	0.	5188.3
22	0	6490.2	70.1	168.34	5565.7	25.9	5591.7
23	0	5798.1	71.7	168.41	5745.0	32.2	5777.1
24	0	4902.8	70.3	168.35	5590.5	26.8	5617.2
25	0	4435.1	67.5	168.22	5281.3	0.	5281.3
26	0	4108.0	64.5	168.08	4936.6	0.	4936.6
27	0	3784.3	61.5	167.94	4593.6	0.	4593.6
28	0	3482.9	58.7	167.81	4254.4	0.	4254.4
29	0	3159.1	55.9	167.68	3935.1	0.	3935.1
30	0	2853.3	53.1	167.55	3623.5	0.	3623.5
31	0	2646.7	50.5	167.43	3337.7	0.	3337.7
32	0	2411.2	48.1	167.31	3081.7	0.	3081.7
33	0	2189.1	45.7	167.20	2836.5	0.	2836.5

TIME (H.)	(M.)	INFLOW (C.M.S.)	SURCHARGE VOLUME (M.C.M.)	RESERVOIR WATER LEVEL (M.)	OUTFLOW NONGATED CREST (C.M.S.)	GATED CREST (C.M.S.)	TOTAL (C.M.S.)
34	0	2006.0	43.4	167.09	2615.7	0.	2615.7
35	0	1869.8	41.4	166.99	2414.1	0.	2414.1
36	0	1732.5	39.5	166.90	2240.7	0.	2240.7
37	0	1618.6	37.7	166.82	2080.9	0.	2080.9
38	0	1507.0	36.1	166.75	1940.7	0.	1940.7
39	0	1395.4	34.6	166.67	1810.3	0.	1810.3
40	0	1294.9	33.2	166.60	1686.5	0.	1686.5
41	0	1194.4	31.8	166.54	1576.3	0.	1576.3
42	0	1082.8	30.4	166.47	1467.5	0.	1467.5
43	0	1038.2	29.1	166.41	1366.7	0.	1366.7
44	0	993.5	28.0	166.36	1285.2	0.	1285.2
45	0	973.4	27.0	166.31	1216.3	0.	1216.3
46	0	944.4	26.2	166.27	1157.4	0.	1157.4
47	0	921.2	25.5	166.24	1106.1	0.	1106.1
48	0	898.6	24.9	166.21	1061.2	0.	1061.2
49	0	887.5	24.3	166.18	1025.3	0.	1025.3
50	0	881.9	23.9	166.16	996.1	0.	996.1
51	0	898.6	23.5	166.14	974.2	0.	974.2
52	0	909.8	23.3	166.13	959.7	0.	959.7
53	0	921.2	23.2	166.13	950.6	0.	950.6
54	0	921.2	23.1	166.12	944.5	0.	944.5
55	0	915.4	23.0	166.12	939.0	0.	939.0
56	0	909.8	22.9	166.11	933.5	0.	933.5
57	0	909.8	22.8	166.11	928.6	0.	928.6
58	0	898.6	22.8	166.11	923.5	0.	923.5
59	0	898.6	22.7	166.10	918.3	0.	918.3
60	0	898.6	22.6	166.10	914.2	0.	914.2
61	0	876.3	22.5	166.10	908.6	0.	908.6
62	0	865.1	22.4	166.09	900.7	0.	900.7
63	0	848.8	22.3	166.08	891.6	0.	891.6
64	0	832.8	22.1	166.07	881.0	0.	881.0
65	0	816.7	21.9	166.07	869.2	0.	869.2
66	0	792.6	21.7	166.06	855.7	0.	855.7
67	0	784.5	21.5	166.05	841.8	0.	841.8
68	0	773.8	21.3	166.04	828.7	0.	828.7

TIME		INFLOW	SURCHARGE VOLUME	RESERVOIR WATER LEVEL	OUTFLOW NONGATED CREST	GATED CREST	TOTAL
(H.)	(M.)	(C.M.S.)	(M.C.M.)	(M.)	(C.M.S.)	(C.M.S.)	(C.M.S.)
69	0	763.1	21.1	166.03	816.2	0.	816.2
70	0	752.4	20.9	166.02	804.0	0.	804.0
71	0	738.7	20.7	166.01	791.8	0.	791.8
72	0	745.6	20.6	166.00	781.5	0.	781.5
73	0	731.8	20.4	165.99	773.5	0.	773.5
74	0	723.3	20.3	165.99	765.0	0.	765.0
75	0	714.8	20.1	165.98	756.4	0.	756.4
76	0	706.2	20.0	165.97	747.9	0.	747.9
77	0	697.6	19.8	165.96	739.3	0.	739.3
78	0	689.1	19.7	165.96	730.8	0.	730.8
79	0	680.5	19.5	165.95	722.3	0.	722.3
80	0	670.2	19.4	165.94	713.5	0.	713.5
81	0	660.0	19.2	165.94	704.5	0.	704.5
82	0	649.7	19.0	165.93	695.3	0.	695.3
83	0	636.6	18.9	165.92	685.6	0.	685.6
84	0	623.5	18.7	165.91	675.3	0.	675.3
85	0	610.4	18.5	165.90	664.4	0.	664.4
86	0	599.1	18.3	165.89	653.4	0.	653.4
87	0	587.8	18.1	165.88	642.2	0.	642.2
88	0	576.6	17.9	165.87	631.1	0.	631.1